Exhibit 96.1

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Sibanye Stillwater

TECHNICAL REPORT SUMMARY OF

THE SIBANYE-STILLWATER US PGM OPERATIONS

SITUATED IN MONTANA, UNITED STATES

Report Date: 26 April 2024
Effective Date: 31 December 2023

Prepared by:

Qualified Persons at the Sibanye-Stillwater US PGM Operations

Important Notices

This Technical Report Summary (TRS), dated 26 April 2024, supports the Mineral Resources and Mineral Reserves for the Sibanye-Stillwater US PGM Operations reported at as 31 December 2023. This TRS updates the amended TRS for the Sibanye-Stillwater US PGM Operations effective 31 December 2021, which was filed with the United States Securities and Exchange Commission (the SEC) as Exhibit 96.1 to Sibanye-Stillwater's amended 2022 annual report filed on Form 20-F on 14 December 2023 to address comments received from the SEC's Staff. This TRS for the Sibanye-Stillwater US PGM Operations has been prepared in accordance with the disclosure requirements set out under Subpart 1300 of Regulation S-K (SK-1300).

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1 EXECUTIVE SUMMARY

1.1 Introduction

This TRS was prepared by in-house Qualified Persons for filing by Sibanye-Stillwater Limited (Sibanye-Stillwater), which is an independent international precious metals mining company with a diverse mineral asset portfolio. It covers Sibanye-Stillwater's wholly owned platinum group metal (PGM) operations in Montana in the United States of America (the Sibanye-Stillwater US PGM Operations). These operations comprise integrated mines and concentrator plants situated at the Stillwater and East Boulder Mines and mineral beneficiation facilities (a smelter, base metal refinery, PGM recycling plant and an analytical laboratory) at the Columbus Metallurgical Complex. Owing to the integrated nature of the mining, ore processing and mineral beneficiation operations, the Sibanye-Stillwater US PGM Operations constitute a single unit (material property).

Operations constitute a single unit (material property).

This TRS for the Sibanye-Stillwater US PGM Operations supports the disclosure of the Mineral Resource and Mineral Reserve estimates for the Stillwater and East Boulder Mines as at 31 December 2023. Due to Sibanye-Stillwater's listing on both the New York Stock Exchange (NYSE) and Johannesburg Stock Exchange (JSE or JSE Limited), the Mineral Resource and Mineral Reserve estimates were prepared and reported according to the SEC's Subpart 1300 of Regulation S-K (SK-1300) and following the guidelines of the 2016 Edition of the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (The SAMREC Code, 2016) and Section 12 of the JSE Listing Requirements. This TRS has been prepared according to the disclosure requirements set out under Sk-1300.

1.2 Property Description, Mineral Rights and Ownership

Stillwater and East Boulder Mines are well-established, ongoing mines situated 13 miles apart, extracting the J-M Reef in the Stillwater Complex and processing the ore at onsite concentrators to produce PGM concentrates which are further beneficiated at the Columbus Metallurgical Complex.

The Sibanye-Stillwater US PGM Operations have undergone two expansions in recent years, namely Fill The Mill Project at East Boulder Mine and the Blitz Project comprising expansions at Stillwater Mine and mineral beneficiation facilities at the Columbus Complex. The Blitz Project entailed an eastward expansion of the Stillwater Mine footprint (which is now termed the Stillwater East Section) which commenced in 2011 with the excavation of access adits and development of the capital infrastructure (access drifts, decline and ramps, and ventilation shafts). The production expansion necessitated modest capacity upgrades of the Stillwater Concentrator and various units of the smelter and refinery as well as engineering and bulk supplies infrastructure at Stillwater Mine and the Columbus Metallurgical Facility. Capital expenditure on the Blitz Project ended in FY2023 with the conclusion of the project and achievement of certain development milestones. The Fill The Mill Project entailed increasing monthly production at the East Boulder Mine commencing in 2017 to fully utilise the previously unused plant capacity (i.e., historically, 10 000-15 000 tons per month of capacity). The Full The Mill Project production target was achieved in FY2021 and subsequent production targets for East Boulder Mine have been set at this level.

A network comprising state roads and Sibanye-Stillwater-maintained mine access roads connect the mines, local towns and the Columbus Metallurgical Complex. Regional power infrastructure is already installed, providing adequate power supplies to the operations. In general, climatic conditions in this area do not significantly affect the operations at the three sites. However, a 500-year flood event in 2022 destroyed parts of State Highway 419 used to access Stillwater Mine and resulted in the temporary suspension of the mining operations for seven weeks. A temporary road was built to re-establish access to and from the mine to support full operations. Repairs were carried out on the damaged parts of the highway and access through the highway was restored in July 2023. Inclement weather in the form of heavy snow has temporarily restricted mine access, with no major impact on the operations, as snow removal and road maintenance have been adequate to quickly restore access.

Sibanye-Stillwater has title (leased or held Mining Claims) in perpetuity over the entirety of the known outcrop of the J-M Reef along the Beartooth Mountains in Montana. It also holds surface rights (Tunnel and Mill Site Claims) over key land parcels on which mining infrastructure is built at the Stillwater and East Boulder Mines or which provide servitude required to access the reef. The claims total 1 712 in number and cover an area of 24 091 acres. A total of 895 claims are subject to the Franco-Nevada Royalty and Mouat Royalty, with annual royalty payments based on Net Smelter Return for the palladium and platinum produced while considering the cost of production. There are no material legal proceedings in relation to the Sibanye-Stillwater US PGM Operations discussed in this TRS.

Despite the simplified regulatory framework for mining prevailing in the Unites States, the granting of permits and approvals for building a mine or expansions of existing mining operations in Montana is costly and can be a lengthy process. The 24-year-old Good Neighbor Agreement between Sibanye-Stillwater and the local authorities has facilitated seamless stakeholder participation in the scoping and review of applications for permits and approvals.

1.3 Geology and Mineralisation

The J-M Reef mined at Stillwater and East Boulder Mines is a world class primary magmatic reef-type Pd-Pt deposit occurring at a consistent stratigraphic level in the Stillwater Complex. It is a laterally continuous magmatic reef-type PGM deposit defined as the Pd-Pt rich stratigraphic interval, occurring mainly within a troctolite (OB-I zone) of the Lower Banded Series. At Stillwater Mine, the dip of the J-M Reef northwards varies from approximately vertical in the eastern part to approximately 62° in the central part and between 45° and 50° in the Upper West sector of the mine. However, dips at East Boulder Mine are less variable and are on average 50° towards the northeast.

Having retained most of its primary magmatic characteristics, the J-M Reef is laterally continuous, very coarse-grained and identified by the presence of 0.25% to 3% visible disseminated copper-nickel sulphide minerals within the OB-I zone and using hangingwall markers. However, sampling and laboratory analysis provide the definitive data used to confirm the presence of the J-M Reef and to determine its PGM tenor. A high thickness and grade variability over short ranges (stope level) characterises the J-M Reef and this is more pronounced at Stillwater Mine (West Section) where the mineralisation may occur as a unique mixture of "ballrooms", low-grade and normal J-M Reef mineralisation over short intervals. The combined effect of dip, thickness and grade variability affects

the way in which the J-M Reef is evaluated, but this resembles the conventional evaluation approaches employed for other PGM reefs in layered igneous complexes.

1.4 Exploration Status, Development and Operations and Mineral Resource Estimates

Extensive exploration for PGMs since the 1960s dominated by diamond drilling at Stillwater and East Boulder Mines produced data utilised for the evaluation of the J-M Reef. The exploration was focused on the appraisal and evaluation of the J-M Reef along the Beartooth Mountains in Montana within Sibanye-Stillwater's title areas and led to the establishment of Stillwater and East Boulder Mines in 1986 and 2002, respectively. The mines have been operational for most of the time except for a short-lived stoppage in 2008. The extensive drillhole database accumulated from moderately spaced surface diamond drilling and closely spaced underground definition diamond drilling from footwall lateral drifts, complemented by mining and ore processing information, was used for the estimation of Mineral Resources for Stillwater and East Boulder Mines. Geotechnical and hydrogeological data has also been collected in parallel with the geological data used for Mineral Resource estimation. In all cases, the approaches employed for the collection, validation, processing and interpretation of the drillhole data are in line with industry best practice.

A combination of long-range continuity, occurrence at a consistent stratigraphic position and within a consistent stratigraphic sequence, localised thickness and grade variability and steep dips influences the estimation approaches employed for the J-M Reef. The construction of three-dimensional geological models and the estimation of grades in areas supported by both surface and definition drillhole data classified as Measured Mineral Resources and the remainder of the areas supported by surface drillhole data classified as Indicated or Inferred Mineral Resources are appropriate for the style and variability of the J-M Reef. In both cases, the available drillhole data permitted grade interpolation into individual blocks through simple kriging and classification of the estimates as Inferred, Indicated or Measured on account of geological confidence.

The Mineral Resource estimates for Stillwater and East Boulder Mines in the tables below are reported from grade block models for the mines as at 31 December 2023 and as inclusive or exclusive of Mineral Reserves. These estimates are *in situ* estimates of tonnage and grades reported at a minimum mining width of 7.5ft applicable for the dominant mechanised ramp and fill (also referred to as cut and fill) mining method used at the mines, and at a Pt + Pd (2E) cut-off grade of 0.11opt (3.77g/t) at Stillwater Mine and 0.05opt (1.71g/t) at East Boulder Mine. In addition, these estimates account for geological losses due to disturbance of the J-M Reef continuity by geological structures.

Description	Mineral Resources Inclusive of Mineral Reserves
Imperial	

Category	Mine	Tons (Million)	Pd (opt)	Pt (opt)	2E (opt)	2E Content (Moz)
Measured	Stillwater	30.7	0.38	0.11	0.49	15.1
	East Boulder	18.3	0.28	0.08	0.36	6.6
	Subtotal/Average	**49.0**	**0.35**	**0.10**	**0.44**	**21.7**
Indicated	Stillwater	25.7	0.38	0.11	0.49	12.5
	East Boulder	28.4	0.27	0.08	0.35	10.0
	Subtotal/Average	**54.1**	**0.32**	**0.09**	**0.41**	**22.4**
Measured + Indicated	Stillwater	56.4	0.38	0.11	0.49	27.6
	East Boulder	46.8	0.28	0.08	0.35	16.6

Description		Mineral Resources Inclusive of Mineral Reserves				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (opt)**	**Pt (opt)**	**2E (opt)**	**2E Content (Moz)**
	Subtotal/Average	**103.1**	**0.33**	**0.09**	**0.43**	**44.1**
Inferred	Stillwater	64.0	0.27	0.08	0.35	22.4
	East Boulder	61.5	0.27	0.08	0.35	21.3
	Subtotal/Average	**125.5**	**0.27**	**0.08**	**0.35**	**43.7**
Metric						
Category	**Mine**	**Tonnes (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (g/t)**	**2E Content (Moz)**
Measured	Stillwater	27.8	13.15	3.75	16.90	15.1
	East Boulder	16.6	9.65	2.68	12.33	6.6
	Subtotal/Average	**44.5**	**11.84**	**3.35**	**15.19**	**21.7**
Indicated	Stillwater	23.3	12.96	3.69	16.65	12.5
	East Boulder	25.8	9.40	2.61	12.01	10.0
	Subtotal/Average	**49.1**	**11.09**	**3.12**	**14.21**	**22.4**
Measured + Indicated	Stillwater	51.1	13.06	3.72	16.79	27.6
	East Boulder	42.4	9.50	2.64	12.13	16.6
	Subtotal/Average	**93.6**	**11.45**	**3.23**	**14.68**	**44.1**
Inferred	Stillwater	58.0	9.35	2.66	12.01	22.4
	East Boulder	55.8	9.29	2.58	11.87	21.3
	Subtotal/Average	**113.8**	**9.32**	**2.62**	**11.94**	**43.7**
2E Cut-off Grade Stillwater Mine – 0.11opt (3.77g/t) 2E Cut-off Grade East Boulder Mine – 0.05opt (1.71g/t) Pd Price – $1 500/oz Pt Price – $1 500/oz 2E Recovery Stillwater Mine – 91.48% 2E Recovery East Boulder Mine – 90.33% Pd:Pt Ratio Stillwater Mine – 3.51:1 Pd:Pt Ratio East Boulder Mine – 3.60:1						

Description		Mineral Resources Exclusive of Mineral Reserves				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (opt)**	**Pt (opt)**	**2E (opt)**	**2E Content (Moz)**

Measured	Stillwater	16.1	0.27	0.08	0.34	5.5
	East Boulder	7.2	0.25	0.07	0.32	2.3
	Subtotal/Average	**23.2**	**0.26**	**0.07**	**0.34**	**7.8**
Indicated	Stillwater	11.4	0.20	0.06	0.26	3.0
	East Boulder	9.8	0.22	0.06	0.28	2.7
	Subtotal/Average	**21.3**	**0.21**	**0.06**	**0.27**	**5.7**
Measured + Indicated	Stillwater	27.5	0.24	0.07	0.31	8.5
	East Boulder	17.0	0.23	0.06	0.30	5.0
	Subtotal/Average	**44.5**	**0.24**	**0.07**	**0.30**	**13.5**
Inferred	Stillwater	64.0	0.27	0.08	0.35	22.4
	East Boulder	61.5	0.27	0.08	0.35	21.3
	Subtotal/Average	125.5	0.27	0.08	0.35	43.7
Metric						
Category	**Mine**	**Tonnes (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (g/t)**	**2E Content (Moz)**
Measured	Stillwater	14.6	9.15	2.61	11.76	5.5
	East Boulder	6.5	8.61	2.39	11.00	2.3
	Subtotal/Average	**21.1**	**8.99**	**2.54**	**11.53**	**7.8**
Indicated	Stillwater	10.4	6.98	1.99	8.96	3.0
	East Boulder	8.9	7.47	2.07	9.54	2.7
	Subtotal/Average	**19.3**	**7.20**	**2.03**	**9.23**	**5.7**
Measured + Indicated	Stillwater	24.9	8.25	2.35	10.60	8.5
	East Boulder	15.4	7.95	2.21	10.16	5.0
	Subtotal/Average	**40.4**	**8.13**	**2.30**	**10.43**	**13.5**
Inferred	Stillwater	58.0	9.35	2.66	12.01	22.4
	East Boulder	55.8	9.29	2.58	11.87	21.3
	Subtotal/Average	**113.8**	**9.32**	**2.62**	**11.94**	**43.7**

Description		**Mineral Resources Exclusive of Mineral Reserves**				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (opt)**	**Pt (opt)**	**2E (opt)**	**2E Content (Moz)**
2E Cut-off Grade Stillwater Mine – 0.11opt (3.77g/t) 2E Cut-off Grade East Boulder Mine – 0.05opt (1.71g/t) Pd Price – $1 500/oz Pt Price – $1 500/oz 2E Recovery Stillwater Mine – 91.48% 2E Recovery East Boulder Mine – 90.33% Pd:Pt Ratio Stillwater Mine – 3.51:1 Pd:Pt Ratio East Boulder Mine – 3.60:1						

1.5 Mining Methods, Ore Processing, Infrastructure and Mineral Reserve Estimates

Stillwater and East Boulder Mines are mature operations extracting the J-M Reef to produce PGMs and base metals using well-established mining and ore processing methods. Most of the permanent infrastructure required to access the underground operations is already established and has been being upgraded, where necessary, to accommodate production increases anticipated in the LoM plans for Stillwater Mine (Stillwater East Expansion). Detailed LoM plans for Stillwater and East Boulder Mines support the Mineral Reserve estimates presented below and reported as at December 31, 2023. The reference point for tonnage and grade estimates for the Mineral Reserve estimates is the mill head and the Mineral Reserve estimates are reported at the 2E cut-off grade of 0.20opt (6.86g/t) and 0.05opt (1.71g/t) at the Stillwater and East Boulder Mines, respectively.

Description		**Mineral Reserves**				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (opt)**	**2E Content (Moz)**
Proved	Stillwater	7.5	0.34	0.10	0.44	3.3
	East Boulder	4.6	0.25	0.07	0.32	1.5
	Subtotal/Average	12.1	0.31	0.09	0.39	4.8
Probable	Stillwater	27.5	0.35	0.10	0.45	12.4
	East Boulder	27.0	0.26	0.07	0.34	9.1
	Subtotal/Average	54.5	0.31	0.09	0.40	21.5
Proved + Probable	Stillwater	35.0	0.35	0.10	0.45	15.7
	East Boulder	31.6	0.26	0.07	0.33	10.6
	Total/Average	66.6	0.31	0.09	0.40	26.3
Metric						
Category	**Mine**	**Tonnes (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (g/t)**	**2E Content (Moz)**
Proved	Stillwater	6.8	11.73	3.34	15.07	3.3
	East Boulder	4.2	8.62	2.39	11.01	1.5
	Subtotal/Average	10.9	10.55	2.98	13.53	4.8
Probable	Stillwater	25.0	12.07	3.44	15.51	12.4
	East Boulder	24.5	9.05	2.51	11.56	9.1
	Subtotal/Average	49.5	10.57	2.98	13.55	21.5
Proved + Probable	Stillwater	31.7	12.00	3.42	15.41	15.7
	East Boulder	28.7	8.98	2.49	11.48	10.6
	Total/Average	60.4	10.57	2.98	13.55	26.3

2E Cut-off Grade Stillwater Mine – 0.20opt (6.86g/t)
2E Cut-off Grade East Boulder Mine – 0.05opt (1.71g/t)
Mineral Reserve Declaration Pd and Pt Price – $1 250/oz
Cut-off Determination Pd Price – $1 250/oz
Cut-off Determination Pt Price – $1 250/oz
2E Recovery Stillwater Mine – 91.48%
2E Recovery East Boulder Mine – 90.33%
Pd:Pt Ratio Stillwater Mine – 3.51:1
Pd:Pt Ratio East Boulder Mine – 3.60:1

The mechanised ramp and fill method, which is the dominant mining method (more than 80%), is well-understood at the mines and suited to the character and attitude of the J-M Reef. The remainder of the stopes are mined through the sub-level extraction long hole stoping, with the captive cut and fill mining method having been phased out for safety reasons. Mine designs for Stillwater and East Boulder Mines incorporate the hydrogeological and geotechnical models constructed from appropriate groundwater and geotechnical testwork, the extensive geotechnical database, and historical experiences at the mines. Ore extraction ratios of 60% to 95% for stopes and 40% to 50% for the entire mine are typical for the mining methods employed. Ground support designs and procedures employed at the mines, which have been refined through ongoing continuous improvement initiatives, have reduced occurrences of major fall of ground events. A higher-than-expected frequency of poor ground conditions at the Stillwater East Section has necessitated a revision of the mining plan, with fair and good ground types prioritised in the short to medium terms until a dedicated paste plant has been established in this area which would enable improved mining efficiencies when mining in areas of poor ground conditions. No significant groundwater inflows are experienced except when development extends into new areas, but these are addressed using existing procedures combining probe drilling, the use of drainholes and routine mine dewatering using cascading water pumps as well as grouting.

The LoM production plans for the Stillwater and East Boulder Mines were developed through Mineral Resources to Mineral Reserve conversion processes that utilised dilution factors and mining (stoping and development) parameters informed by historical reconciliation results and performance. The use of factors aligned to historical performance enhances the likely achievability of the plans. The LoM plan for Stillwater Mine envisages an important ore production tonnage ramp up from the current 729 thousand tons to a FY2029 steady state average of 1.2 million tons per annum milled associated with the Stillwater East Section and ongoing steady state production until FY2054. The mine has been on a progressive production ramp up trajectory, achieving a peak of 964 thousand tons in FY2020 after which the momentum was reversed by the COVID-19 pandemic and its restrictions, a 500-year flood event in FY2022 and a shaft incident (structural damage to the shaft headgear, winder house and winder rope preventing access to production areas below the 5000 Level for four weeks) in the Stillwater West Section in FY2023. The LoM plan for East Boulder Mine envisages a ramp up in production from the FY2023 level of 565 thousand tons to approximately 639 thousand tons per annum between FY2024 and FY2027, production at approximately 687 tons between FY2027 and FY2033 and ongoing production thereafter at the steady state average of approximately 706 thousand tons per annum milled until FY2068 and closure in FY2069. The Fill the Mill Project increased production levels for East Boulder Mine to a peak of 721 thousand tons in FY2021 but the COVID-19 pandemic and its restrictions as well as staff turnover affected production output in FY2022 and FY2023. Economic viability testing of the LoM plans demonstrated that extraction of the scheduled Indicated and Measured Mineral Resources is economically justified, and the declaration of Mineral Reserves is appropriate. In general, the LoM plans include appropriate staffing levels which are informed by historical experience.

Most of the key infrastructure for mining is already installed at the Stillwater and East Boulder Mines. Similarly, most of the mining equipment required for the execution of the LoM plans is already available at the mines. Bulk power and water supplies are secure, and the infrastructure upgrades required at both sites have been completed ahead of the achievement of steady state production levels.

The concentrators employed for ore processing at the Stillwater and East Boulder Mines have been operational for several decades and use proven technology and process routes. The forecast metallurgical recoveries of approximately 92% and 91% respectively for the Stillwater and East Boulder Concentrators, and production profiles employed in the LoM plans are informed by historical experience. A plant capacity upgrade from 1.1 million tons to 1.45 million tons per annum has been completed at Stillwater Mine to accommodate increasing RoM ore production from the Stillwater East Section. The East Boulder Concentrator has historically been operated below the 850 thousand tons per annum capacity, and sustainable ore processing at 631 thousand to 760 thousand tons per annum should be achievable with modest sustaining capital expenditure.

There is adequate storage capacity for the tailings resulting from ore processing at the concentrators at Stillwater and East Boulder Mines in the short to medium term. However, additional tailings storage capacity will be required for the remainder of the LoMs. Plans being considered for the upgrading of the tailings storage (TSF) capacities for the long-term disposal of the tailings include storage capacity upgrades at existing TSFs through elevation lifts and lateral expansions as well as the establishment of new TSFs. Sibanye-Stillwater is aware of the long timeframes for the granting of permits and related approvals of the upgrades and establishment of new TSFs. Accordingly, it will expedite the finalisation of the long-term tailings storage plans to enable the undertaking of the requisite studies needed for permit and approval applications.

The smelter and base metal refinery at the Columbus Metallurgical Complex utilise proven technology and process routes for the processing of concentrate and matte, respectively. There are no plans to introduce new processing technology at the processing facilities, with the modest capacity upgrades and debottlenecking projects implemented to accommodate the increased concentrate production at Stillwater and East Boulder Mines currently being concluded.

1.6 Capital and Operating Cost Estimates and Economic Analysis

The LoM plans for the Stillwater and East Boulder Mines and the Columbus Metallurgical Complex provide for appropriate capital expenditure budgets for the sustainability of the operations and for the various capacity upgrades and production expansions envisaged. Sustaining capital costs are benchmarked to historical capital expenditure. Similarly, the forecast operating costs included in the LoM plans are based on historical experience at the operations. Accordingly, the accuracy level in the capital and operating costs utilised for LoM budgeting is within ±15% at up to 10% contingency for Proved and Probable Mineral Reserves. All costs are presented in real terms and US$.

Sustaining capital costs cater for mine and surface equipment, capitalised development, projects, infrastructure and environmental capital expenditure. The capital budget for Stillwater Mine ranges between $13.50 million and $177.54 million (average $82.68 million) per annum from FY2024 to FY2051, totalling $2.34 billion over the FY2024 to FY2054 period (average of $75.32 million per annum over the LoM). In addition, the capital budget is dominated by the costs of capitalised development (on average approximately 55% of the annual capital costs), with surface equipment, projects, infrastructure and environmental capital expenditure accounting for the balance. With the conclusion

of the Blitz Project in FY2023, there is no capital provision for Stillwater Growth and Project in the LoM capital budget. For East Boulder Mine, the capital costs vary from approximately $12.74 million to $74.38million (average $41.55 million) annually from FY2024 to FY2056, totalling $1.56 billion over the FY2024 to FY2069 period (average of $38.08 million per annum over the LoM). The capital budget is dominated by capitalised development and mine and surface equipment costs (collectively making up 79% of the budget over the LoM) except for periods associated with TSF expansions or construction of new TSFs. Project, other and environmental capital expenditure account for the balance of East Boulder's capital budget.

With the finalisation of the various projects at the Columbus Metallurgical Complex in FY2023, sustaining capital becomes the single most significant capital cost element. The provision for sustaining capital ranges from $2.30 million to $32.86 million per annum (average of $13.08 million per annum over the LoM), with the lower amounts reflecting modest annual maintenance of the various units of the complex and larger amounts associated with cyclic major furnace rebuilds. The total capital budget for the Columbus Metallurgical Complex for the FY2024 to FY2061 period is approximately $601.81 million.

Stillwater Mine, which is ramping up production, has budgeted operating costs ranging from approximately $210/ton to $385/ton processed (LoM average of $297/ton processed), with mining contributing 86% to 90% of the total cost and surface facilities (concentrator, sand and paste plants, ore hoisting and tailings storage management) contributing the remainder. At steady state, after FY2028, the costs are set to decrease to an approximate average of $284/ton processed, with mining accounting for 88% of the total cost. Unit operating costs in FY2022 and FY2023 were affected by production disruptions relating to the 500-year flood event in FY2022 and a shaft incident in FY2023 as well as anomalous cost escalation resulting from supply chain disruptions induced by the COVID-19 pandemic restrictions. For East Boulder Mine, operating costs of $160/ton to $250/ton milled (LoM average of $227/ton processed) are forecast with mining accounting for 87% to 91% of the total cost, with surface facilities accounting for the remainder of the costs.

Credits from the recycling business and by-product metals exceed the operating cost for smelting and base metal refining for as long as both Stillwater and East Boulder Mines are producing ore at the steady state production levels. This underscores the importance of the catalyst recycling business and associated by-products to the Sibanye-Stillwater US PGM Operations. These credits and the 45X tax credit which is applicable to eligible to domestically produced clean energy components in the clean energy supply chain, result in negative unit operating costs for most of the years between FY2027 and FY2053 after which the costs become positive, stabilising at approximately $2 000/ton of concentrate smelted for the remainder of the LoM.

For business planning and Mineral Reserve estimation, Sibanye-Stillwater applies forward looking prices that it considers will stay stable for at least three to five years, and it also considers its general view of the market, the relative position of its operations on the cost curve, as well as its operational and company strategy. The prevailing market fundamentals for palladium and platinum are forecast to remain in place in the foreseeable future. The budgeted capital and operating costs, forecast metal prices and other economic assumptions utilised for economic viability testing of the LoM plans are

reasonable. The post-tax flows for Stillwater and East Boulder Mines and the integrated Sibanye-Stillwater US PGM Operations derive the DCF results (NPVs) contained in the table below. Sibanye-Stillwater's internal benchmark real discount rate as at 31 December 2023 is 5%, based on corporate planning guidance. The table also clearly indicates the discount rate sensitivity of the operations. The Internal Rate of Return (IRR) of the Sibanye-Stillwater US PGM Operations is 25%.

Description of Mineral Asset	Parameter	Unit	Real Discount Rate			
			0.00%	2.50%	5.00%	7.50%
East Boulder Mine	NPV	$ million	1 279	717	448	305
Stillwater Mine	NPV	$ million	3 077	1 785	1 061	640
Sibanye-Stillwater US PGM Operations	NPV	$ million	4 371	2 508	1 512	946

The table below shows two-variable sensitivity analysis of the $NPV_{5\%}$ to ±10% variance in both palladium and platinum price. This demonstrates robust results over material economic input range variances.

		$NPV_{5\%}$ $million				
		Palladium Price Variance from Base Assumption				
	Variance	-10%	-5%	0%	5%	10%
Platinum Price Variance from Base Assumption	-10%	$494	$888	$1 283	$1 677	$2 071
	-5%	$608	$1 003	$1 397	$1 792	$2 186
	0%	$723	$1 117	$1 512	$1 906	$2 301
	5%	$837	$1 232	$1 626	$2 021	$2 415
	10%	$952	$1 346	$1 741	$2 135	$2 530

With the results of the economic viability testing of the LoM plans demonstrating that extraction of the scheduled Indicated and Measured Mineral Resources is economically justified, the declaration of Mineral Reserves is appropriate.

1.7 Permitting Requirements

Sibanye-Stillwater has in place all the necessary rights and approvals to operate the mines, concentrators, TSFs, waste rock storage dumps, smelter and associated ancillary facilities associated with the operations. Appropriate additional studies, designs and permitting documents have been or are in the process of being completed to support the planned operational expansions. Current permit and license violations are being corrected and environmental impacts are being managed in close consultation with the appropriate agencies. There are reasonable prospects that the operator's licence to operate on these premises is secure for the foreseeable future, unless terminated by regulatory authorities for other reasons. Bonding amounts are deemed reasonable and appropriate for the permitted activities and obligations ($63 million for Stillwater Mine and $30 million for East Boulder Mine). Furthermore, based on assessment of the current permits, technical submittals, regulatory requirements and project compliance history, continued acquisition of permit approvals should be possible and there is low risk of rejections of permit applications by the regulatory for the foreseeable future.

1.8 Conclusions and Recommendations

Sibanye-Stillwater's risk management process has identified various material risks to LoM plans and Mineral Reserves relating to geotechnical and geohydrological uncertainties, inability to execute LoM plans, metal price downturns, inadequate tailings storage capacity, unplanned production cost escalation, unplanned power outages and restricted access to the operations caused by severe weather events. Sibanye-Stillwater has mitigated (and not eliminated) these risks as per its risk management protocols to reduce the likelihood of occurrence and/or impact (severity) when the risk occurs which resulted in a reclassification of the residual risks as low to medium risks.

The Qualified Persons consider the risk management process robust and sufficient to identify material risks that should be mitigated to enhance the achievability of the LoM plans. From their appraisal of the residual risks after mitigation, the Qualified Persons could not identify any unmitigated material risks to the LoM plans and Mineral Reserves associated with the modifying factors or resulting from changes to any aspect of the modifying factors.

Sibanye-Stillwater is fully aware of the low to medium risks identified and has mitigation measures in place to minimise the impact of the risks on the mining, ore processing and mineral beneficiation operations in Montana.

There are no specific recommendations for additional work at the East Boulder Mine or the Columbus Metallurgical Complex. However, the Qualified Persons recommend completion of further upgrades to the flotation circuits at the Stillwater Concentrator to increase plant capacity from 3 400 tons to 4 110 ton per day (i.e. 1.1 million tons to 1.4 million tons per year at 92% utilisation) prior to FY2029 when production targets set out in the LoM plan exceed the current 1.1-million-ton capacity. Mechanical equipment needed for the flotation circuit upgrades has already been procured as part of the Blitz Project. Sibanye-Stillwater has undertaken to complete this work at an additional cost of approximately $1.8 million (labour cost) a year before the capacity of 1.4 million tons is required. The Qualified Persons consider the timeframe and additional cost for the completion of this work to be reasonable.

2 INTRODUCTION

2.1 Registrant

This Technical Report Summary (TRS) was prepared for Sibanye-Stillwater Limited (Sibanye-Stillwater) and covers Sibanye-Stillwater's wholly owned platinum group metal (PGM) operations in Montana in the United States of America (the Sibanye-Stillwater US PGM Operations). Sibanye-Stillwater (the Registrant) is an independent international precious metals mining company with a diverse mineral asset portfolio including PGM operations in the United States and Southern Africa, gold operations and projects in South Africa, and copper, zinc, lithium, gold and PGM exploration properties and mining operations in Australia, North and South America and a lithium project in Finland as well as a nickel refinery in France. It is domiciled in South Africa and listed on both the Johannesburg Stock Exchange (JSE or JSE Limited) and New York Stock Exchange (NYSE). The Sibanye-Stillwater US PGM Operations, which are the subject of this TRS, comprise integrated mines and concentrator plants situated at the Stillwater and East Boulder mining complexes (Mines) as well as the mineral beneficiation facilities (a smelter, base metal refinery, PGM recycling plant and an analytical laboratory) at the Columbus Metallurgical Complex (Figure 1). Sibanye-Stillwater owns the Sibanye-Stillwater US PGM Operations through its wholly owned subsidiaries, Sibanye Platinum (Pty) Limited, Sibanye Platinum International Holdings (Pty) Limited, Thor US HoldCo Incorporated and Stillwater Mining Company (SMC).

2.2 Compliance

Due to listings on both the JSE (Code SSW) and NYSE (Code SBSW), Sibanye-Stillwater's Mineral Resources and Mineral Reserves have been compiled and reported following the guidelines of the 2016 Edition of the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (The SAMREC Code, 2016), Section 12 of the JSE Listing Requirements and SK-1300. The Qualified Person has prepared this TRS and the Mineral Resources and Mineral Reserves for the Sibanye-Stillwater US PGM Operations according to SK-1300.

2.3 Terms of Reference and Purpose of the Technical Report

This TRS for the Sibanye-Stillwater US PGM Operations, dated 26 April 2024, reports the Mineral Resource and Mineral Reserve estimates for Stillwater and East Boulder Mines as at 31 December 2023. This TRS updates the amended TRS for the Sibanye-Stillwater US PGM Operations effective 31 December 2021, which was filed with the SEC as Exhibit 96.1 to Sibanye-Stillwater's amended 2022 annual report filed on Form 20-F on 14 December 2023 to address comments received from the SEC's Staff. The Qualified Persons can confirm that this TRS for the Sibanye-Stillwater US PGM Operations has been prepared under the SK-1300 disclosure requirements.

Stillwater and East Boulder Mines are ongoing, established mines extracting the J-M Reef in the Stillwater Complex. The J-M Reef ore produced by the mines is processed at integrated concentrator plants situated at the mines to produce PGM-base metal concentrate which is beneficiated further at the smelter and base metal refinery situated at the Columbus Metallurgical Complex. The Sibanye-Stillwater US PGM Operations constitute a single unit (material property) owing to the integrated nature of the

mining and ore processing at the Stillwater and East Boulder Mines and the mineral beneficiation operations at the Columbus Metallurgical Complex.

The filing of this TRS follows the shaft incident in the Stillwater West Section of Stillwater Mine in 2023. Furthermore, both the Stillwater and East Boulder Mines of the Sibanye-Stillwater US PGM Operations have continued to be constrained by limited operational flexibility during FY2023 due to a reduced developed state and an ongoing shortage of critical skills, with the consequent reliance on contractors elevating operating costs. Production for FY2024 has been repositioned for a lower real PGM price environment, with cost structures being reassessed to maintain recent production levels rather than pursuing short-term growth and to suspend further growth capital in the Stillwater East Section of Stillwater Mine in terms of the August 2022 Repositioning Plan.

The financial and technical assumptions underlying the Mineral Resources and Mineral Reserves estimates contained in this report are current as at 31 December 2023, which marks the end of the period covered by this TRS.

This TRS has been compiled by in-house Qualified Persons for Mineral Resources and Mineral Reserves (Table 1) who were appointed by Sibanye-Stillwater. As shown in Table 1 these Qualified Persons are Technical Experts/Specialists registered with professional bodies that have enforceable codes of conduct. The Qualified Persons with responsibility for reporting and sign-off of the Mineral Resources for Stillwater and East Boulder Mines are Jeff Hughs and Jennifer Evans, respectively. Both Qualified Persons are Professional Geologists with more than five years of experience relevant to the estimation and reporting of Mineral Resources and the mining of the J-M Reef at Stillwater and East Boulder Mines. The Qualified Persons with responsibility for reporting and sign-off of the Mineral Reserves for Stillwater and

East Boulder Mines are Annette McFarland and Pat Hansen, respectively. Both Qualified Persons are Professional Engineers with more than five years of experience relevant to the estimation and reporting of Mineral Reserves and the mining of the J-M Reef at Stillwater and East Boulder Mines.

Other than normal compensation specified in their employment contracts, the Qualified Persons did not receive any professional fees for the preparation of this TRS for the Sibanye-Stillwater US PGM Operations. In addition, the Qualified Persons who contributed to this TRS do not have any material interest in either Sibanye-Stillwater or the Sibanye-Stillwater US PGM Operations beyond formal employment.

Table 1: Details of Qualified Persons Appointed by Sibanye-Stillwater US PGM Operations

Name	Position	Area of Responsibility	Academic and Professional Qualifications
Jeff Hughs	Technical Services Manager - Geology	Qualified Person Mineral Resources – Stillwater Mine	Bachelor of Science – Geology, Master of Business Administration American Institute of Professional Geologists - Certified Professional Geologist (AIPG CPG – 11792)
Jennifer Evans	Senior Geologist	Qualified Person Mineral Resources – East Boulder Mine	Bachelor of Science - Geology American Institute of Professional Geologists - Certified Professional Geologist (AIPG CPG – 11669)
Matt Ladvala	Senior Geologist	Qualified Person Mineral Resources – Stillwater Mine	Bachelor of Science - Geology American Institute of Professional Geologists - Certified Professional Geologist (AIPG CPG – 11941)

Name	Position	Area of Responsibility	Academic and Professional Qualifications
Kevin Butak	Senior Geologist	Qualified Person Mineral Resources – Stillwater Mine	Master of Science - Geology American Institute of Professional Geologists - Certified Professional Geologist (AIPG CPG – 12012)
Pat Hansen	Senior Engineer	Qualified Person Mineral Reserves – East Boulder Mine	Bachelor of Science – Mining Engineering Professional Engineer (PE MT 75419)
Annette McFarland	Chief Engineer	Qualified Person Mineral Reserves – Stillwater Mine	Bachelor of Science – Geological Engineering Professional Engineer (PE NV 023215)

2.4 Sources of Information

The J-M Reef outcrop is known from historical exploration and the Mineral Resource estimates for Stillwater and East Boulder Mines contained in this TRS have been estimated from the extensive surface and underground drillhole database for the Sibanye-Stillwater US PGM Operations. These Mineral Resources are the basis for the Mineral Reserve estimates reported for the mines. Furthermore, the Mineral Reserve estimates are based on detailed Life of Mine (LoM) plans and technical studies completed internally by the Sibanye-Stillwater US PGM Operations personnel utilising modifying factors and capital and operating costs which are informed by historical experience at the mines.

The Registrant provided most of the technical data and information utilised for the preparation of this TRS for the Sibanye-Stillwater US PGM Operations. The surface and underground drillhole data is stored in an electronic drillhole database. Much of the technical information is contained in a variety of internal reports documenting various internal technical studies undertaken in support of the current and planned operations, historical geological work and production performance at the Stillwater and East Boulder Mines and the Columbus Metallurgical Complex.

Furthermore, the Qualified Persons responsible for the preparation of this TRS have sought input from the Registrant's in-house Technical Experts/Specialists on aspects of the modifying factors and for the disciplines outside the Qualified Persons' expertise. The Registrant provided the forecast economic parameters and assumptions employed for cut-off grade determination, the assessment of prospects for economic extraction of the Mineral Resources and the assessment of economic viability of the LoM plans underlying the Mineral Reserves.

A list of the in-house Technical Specialists/Experts and their technical areas of competency are summarised in Table 2. Other supplementary information was sourced from the public domain and these sources are acknowledged in the body of the report and listed in the References Section of this TRS (Section 26).

Table 2: Technical Experts/Specialists Supporting the Qualified Persons

Name	Position	Area of Competency	Academic Qualifications
Matt O'Reilly	Vice President/General Manager – Stillwater Mine	Technical Expert - Mining	Bachelor of Science - Mining Engineering

Name	Position	Area of Competency	Academic Qualifications
Jason Palin	Vice President/General Manager – East Boulder Mine	Technical Expert - Mining	Bachelor of Science - Mining Engineering, Master of Business Administration
Dave Shuck	Vice President – Met Complex	Technical Expert - Refinery	Bachelor of Science - Metallurgical Engineering
Dave Johnson	Manager Smelting and Refining	Technical Expert - Smelting	Bachelor of Science – Environmental Engineering
Jarred Larson	Manager Lab and Refinery	Technical Expert – Lab and Recycling	Bachelor of Science – Chemical Engineering
Perry Finco	Maintenance Manager Metallurgical Complex	Technical Expert - Smelter and Refinery Maintenance	Certified Fluid Power Industrial Hydraulic Mechanic CFPIHM #6528, Certified Fluid Power Hydraulic Specialist CFPHS #8727 and Certified Fluid Power Accredited Instructor AFPI #10807
Randy Weimer	Corporate Environmental Manager	Technical Expert - Environmental and Governmental Affairs	Bachelor of Science - Environmental Engineering
Tyler Luxner	Technical Services Manager - Engineering	Technical Expert - Mine Engineering	Bachelor of Science - Mining Engineering
Graham Chancellor	Chief Engineer – East Boulder Mine	Technical Expert - Mine Engineering	Bachelor of Science - Mining Engineering
Matthew Deeks	Chief Geologist – Stillwater Mine	Technical Expert - Geology	Bachelor of Science - Geology
Paul Holick	Chief Geologist – East Boulder Mine	Technical Expert - Geology	Master of Science – Geology American Institute of Professional Geologists - Certified Professional Geologist (AIPG CPG – 11776)
Gretchen Moore	Senior Rock Mechanics Engineer	Technical Expert - Rock Mechanics	Bachelor of Science – Geological Sciences
James Nash	Senior Ventilation Engineer	Technical Expert – Ventilation	Bachelor of Science – Mining Engineering

2.5 Site Inspection by Qualified Persons

The Qualified Persons for Mineral Resources and Mineral Reserves, who authored this TRS, and the supporting Technical Experts/Specialists are all in-house employees who work at the Sibanye-Stillwater US PGM Operations. By virtue of their employment, the Qualified Persons visit Stillwater and East Boulder Mines and the Columbus Metallurgical Complex regularly in the course of carrying out their normal duties. Accordingly, confirmatory site visits for the specific purposes of this TRS were not warranted.

2.6 Units, Currencies and Survey Coordinate System

In the United States of America (USA or US), imperial units are utilised for all measurements and the reporting of quantities at the Sibanye-Stillwater US PGM Operations is also based on imperial units. Accordingly, the US imperial units are utilised throughout this TRS. However, the Mineral Resource and Mineral Reserve estimates are also reported in metric units.

All the metal prices and costs are quoted in the US$ currency and, as such, no exchange rates have been used in the TRS.

The coordinate system employed for all the surface surveys and maps shown in this TRS is based on the North American Datum of 1983 (NAD83) State Plane. However, the underground surface surveys and maps for Stillwater and East Boulder Mines are based on the local mine grid, which is in turn based on the North American Datum of 1927 (NAD27) State Plane with a 20° clockwise rotation for alignment of the eastings with the roughly east to west strike direction of the J-M Reef.

3 PROPERTY DESCRIPTION

3.1 Location and Operations Overview

The location of the Stillwater and East Boulder Mines and the surrounding PGM mining claims near Nye as well as that for the Columbus Metallurgical Complex in Montana, United States of America (US), are indicated in Figure 1. The Stillwater and East Boulder Mines are underground mines extracting the J-M Reef and situated approximately 13 miles apart.

Figure 1: Location of Sibanye-Stillwater US PGM Operations in Montana

The run of mine (RoM) ore from the mines is processed at the integrated onsite surface concentrator plants adjacent to the mine shaft at Stillwater Mine and main access adits at East Boulder Mine. PGM-base metal concentrate from the Stillwater and East Boulder Mines is transported to the Columbus Metallurgical Complex, which consists of a smelter, PGM recycling facility, base metal refinery and an analytical laboratory. The smelter processes the PGM-base metal concentrate from the mines and

PGM-bearing catalytic converter material from the onsite recycling facility to produce converter matte. The PGM-bearing catalytic converter material is either purchased from or toll processed on behalf of third parties. The converter matte produced is processed at the base metal refinery to recover base metals after which the remaining PGM matte is despatched to third-party PGM refineries to recover individual PGMs.

The Sibanye-Stillwater US PGM Operations have undergone two expansions in recent years, namely Fill The Mill Project at East Boulder Mine and the Blitz Project comprising expansions at Stillwater Mine and mineral beneficiation facilities at the Columbus Complex. The Blitz Project entailed an eastward expansion of the Stillwater Mine footprint (which is now termed the Stillwater East Section) which commenced in 2011 with the excavation of access adits and development of the capital infrastructure (access drifts, decline and ramps, and ventilation shafts). The production expansion necessitated modest capacity upgrades of the Stillwater Concentrator and various units of the smelter and refinery as well as engineering and bulk supplies infrastructure at Stillwater Mine and the Columbus Metallurgical Facility. Capital expenditure on the Blitz Project ended in FY2023 with the conclusion of the project and achievement of certain development milestones. The Fill The Mill Project entailed increasing monthly production at the East Boulder Mine commencing in 2017 to fully utilise the previously unused plant capacity (i.e., historically, 10 000-15 000 tons per month of capacity). The Full The Mill Project production target was achieved in FY2021 and subsequent production targets for East Boulder Mine have been set at this level.

3.2 Mineral Title

3.2.1 *Title Overview*

The General Mining Law of 1872 (May 10, 1872) is the major federal law that authorises and governs prospecting and mining for economic minerals on federal public lands. This law allows for US citizens (including corporate entities) to explore for, discover and purchase these economic minerals and provides for a formalised system of acquiring and protecting mineral title.

A Mining Claim is the title that provides a claimant with the right to extract minerals from a specific portion of land. There are two categories of Mining Claims, namely Unpatented and Patented Mining Claims. An Unpatented Mining Claim provides the claimant the right to mine and extract economic minerals (mineral title) for commercial purposes. However, a Patented Mining Claim gives a claimant exclusive title to the minerals and the land (mineral and surface title), with the Federal Government passing the title of the specific portion of land to the claimant, thereby making it private property. Mining Claims can also be permitted either as Lode Claims (for veins or vein-type deposits) that have well-defined boundaries and include other in situ rocks containing valuable mineral deposits or Placer Claims (for all those deposits not subject to Lode Claims).

A Mill Site is a form of title that provides surface rights for the establishment of mining-related infrastructure on non-mineralised land. A Tunnel Site, which is similar to servitude, is a form of title that provides a right of way under federal land. It is acquired for access to Lode Mining Claims or to conduct exploration when following a mineral deposit along strike.

The more recent Federal Land Policy and Management Act of 1976 (FLPMA) did not amend the General Mining Law of 1872 but affected the documentation and maintenance of all claims. The purpose of the FLPMA is to provide the Bureau of Land Management (BLM) with information on the locations and number of Mining Claims, Mill and Tunnel Sites. Under the FLPMA, claimants are required to record their claims (existing or new claims) with the BLM.

3.2.2 *Title and Tenure Held*

The Qualified Persons have considered mineral and surface title provisions of the General Mining Law of 1872 and FLPMA during the assessment of title for Sibanye-Stillwater US PGM Operations. Sibanye-Stillwater (through SMC) holds or leases 1 712 Patented and Unpatented Lode, Placer, Tunnel or Mill Site Claims in the Stillwater, Sweet Grass and Park Counties of south-central Montana which are shown in Figure 2. Table 3 presents a summary of Sibanye-Stillwater's Mining Claims (both leased and held claims) covering the Sibanye-Stillwater US PGM Operations as of December 31, 2023. Since December 2021, Sibanye-Stillwater acquired one Lode Claim (Stillwater Block), six Tunnel Sites and four Mill Sites (Sweet Grass Block) and relinquished three Lode Claims (Sweet Grass Block).

The 1 712 claims encompass an area of over 24 091 acres in two separate contiguous blocks situated east and west of the Stillwater River and cover the following:

- The entirety of the known J-M Reef apex;
- Areas to the north for the construction of ventilation and other shafts to the surface from lower levels in the northward-dipping J-M Reef;
- The east end of the Stillwater Complex;
- East Boulder Mine's access adits and the plant site;
- Benbow Decline access and surface portal;
- A leased group of claims east of the Stillwater Valley that cover a portion of the Basal Series; and
- A leased group of claims west of the Stillwater Valley that cover a portion of the Ultramafic Series.

Due to the sheer number of claims held or leased by Sibanye-Stillwater, the Qualified Persons grouped the claims shown in Figure 2 by type and location (county) in Table 3. Table 3 also highlights the Mining Claims covered by the Mouat Basal Zone Lease, Mouat Mountain View Lease, Mouat 'A' Claim Lease and Mouat 'B' Claim Lease Agreements. The Mouat Basal Zone Lease covers 60 claims over the copper and nickel occurrences in the Stillwater Complex located in the Benbow and Stillwater Valley areas. Of the 60 claims, 57 are Lode Claims (33 Patented), one is an Unpatented Placer Claim, one is a Patented Placer Claim and one is a Patented Mill Site Claim. The Mouat Mountain View Lease covers 77 claims of the chromite zones in the Stillwater Valley, of which 70 are Lode Claims (one Patented), two are Unpatented Mill Site Claims, one is an Unpatented Tunnel Site and four are Unpatented Placer Claims. Mouat 'A' Claim Lease covers 28 Lode Claims (nine of which have been issued a First Half Financial Certificate or FHFC), one Unpatented Mill Site Claim and four Placer Claims. The Mouat 'B' Claim Lease covers 145 Lode Claims of which 35 are Patented Claims.

A total of 895 Mining Claims are subject to the Franco-Nevada and Mouat Royalties. The royalty payments are discussed in Section 3.3.

Table 3: **Summary of Sibanye-Stillwater US PGM Operations Mineral Title and Tenure**

County	Type	No. of Claims	Area (Acres)	Status	Expiry Dates	Lease Agreement
Park	Lode Claims	33	622	Unpatented	N/A	-
Sweet Grass	Tunnel Sites	6	1	Unpatented	N/A	-
	Mill Site Claims	167	713	Unpatented	N/A	-
	Lode Claims	709	2 001	116 Patented	N/A	1 claim subject to the Mouat Basal Zone Lease
			10 143	609 Unpatented	N/A	17 claims subject to the Mouat Basal Zone Lease
Sweet Grass/Park	Lode Claims	17	Covered in other categories	Unpatented	N/A	
Sweet Grass/Stillwater	Lode Claims	26	Covered in other categories	3 Patented	N/A	1 claim subject to the Mouat 'B' claim
			Covered in other categories	13 Unpatented	N/A	11 claims subject to the Mouat 'B' claim
Stillwater	Tunnel Site	2	3	Unpatented	N/A	1 claim subject to the Mouat Mt View Lease
	Placer Claims	11	320	9 Unpatented (1 application for patent submitted)	N/A	4 claims subject to the Mouat 'A' claim 4 claims subject to the Mouat Mt View Lease 1 claim subject to the Mouat Basal Zone Lease
			124	2 Patented	N/A	
	Mill Site Claims	192	902	191 Unpatented	N/A	1 claim subject to the Mouat 'A' claim 2 claims subject to the Mouat Mt View Lease
			4	1 Patented	N/A	1 claim subject to the Mouat Basal Zone Lease
	Lode Claims	549	335.3	20 Applied for patent	N/A	20 claims subject to the Mouat Mt View Lease
			123.3	9 Final Certificate	N/A	9 claims subject to the Mouat 'A' claim
			721.7 (PGE) 20.7 (Mt View) 632.3 (Basal)	76 Patented	N/A	35 claims subject to the Mouat 'B' claim 32 claims subject to the Mouat Basal Zone Lease 1 claim subject to the Mouat Mt View Lease
			7 425	445 Unpatented	N/A	98 claims subject to the Mouat 'B' claim 19 claims subject to the Mouat 'A' claim 7 claims subject to the Mouat

			[illegible]	Unpatented	[illegible]	7 claims subject to the Mouat Basal Zone Lease 49 claims subject to the Mouat Mt View Lease
Total Number of Claims/Area		1 712	24 091			

3.2.3 *Title and Tenure Conditions and Compliance*

Compliance and maintenance of mineral and surface title can be achieved through payment of maintenance fees or by completing the required Annual Assessment Work.

An annual maintenance fee per claim is required to be paid on or before 1 September of the year preceding an assessment year. Placer Claims over 20 acres must pay an additional US$165 per year for each 20 acres or portion thereof. A FHFC can be issued for a claim signifying that the BLM has finished with the paperwork portion of the process and that the claim does not need the annual maintenance fee payment until the patent is issued or the claim is withdrawn from the patent process. Of the 1 712 claims, 1 503 Unpatented Claims in 2023 have been filed with the BLM and County Offices as required – with the acquisition of three Unpatented Claims in 2023, a total of 1 506 Unpatented Claims will be filed in 2024. Sibanye-Stillwater, through the SMC and Sibanye-Stillwater US PGM Operations, also pays the maintenance fee of $165 per claim to the BLM each year to keep the 1 503 claims valid. The Qualified Persons have confirmed that all payments to the BLM are up to date.

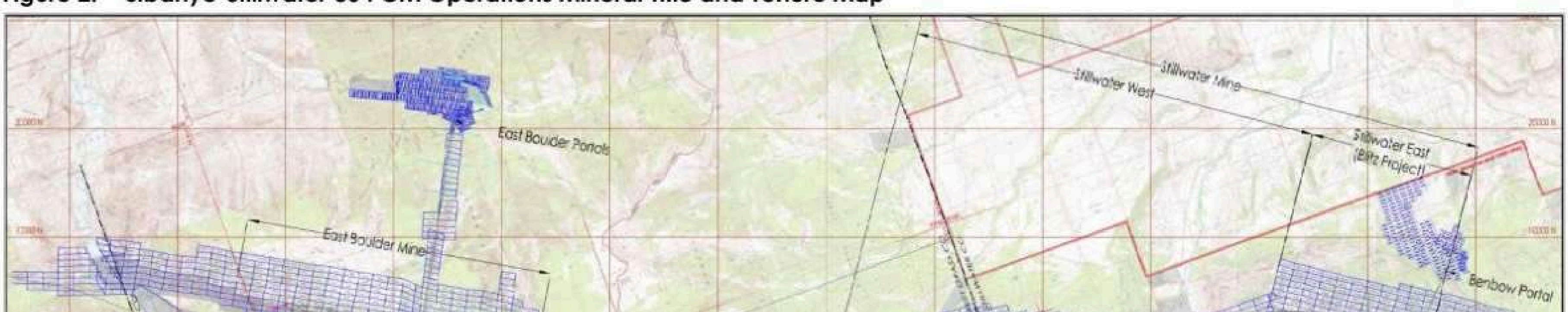
Annual Assessment Work is not necessary to maintain a claim if the maintenance fees have been paid. When required, the Annual Assessment Work must be performed within the period defined as the Assessment Year and a report submitted for record to the BLM. The assessment work includes, but is not limited to drilling, excavations, driving shafts and tunnels, sampling (geochemical or bulk), road construction on or for the benefit of the Mining Claim, and geological, geochemical and geophysical surveys. For operations involving more than 5 acres, a detailed Plan of Operations must be filed with the appropriate BLM field office. Sibanye-Stillwater has a Plan of Operations for Stillwater and East Boulder Mines which was approved by the US Forest Service (USFS) Custer Gallatin National Forest and the Montana Department of Environmental Quality (MTDEQ). Operating Permits were issued for the operations at Stillwater Mine (Permit #00118) and East Boulder Mine (Permit #00149). All necessary permits and approvals are in place, current, and adequate for existing operations at both Stillwater and East Boulder Mines.

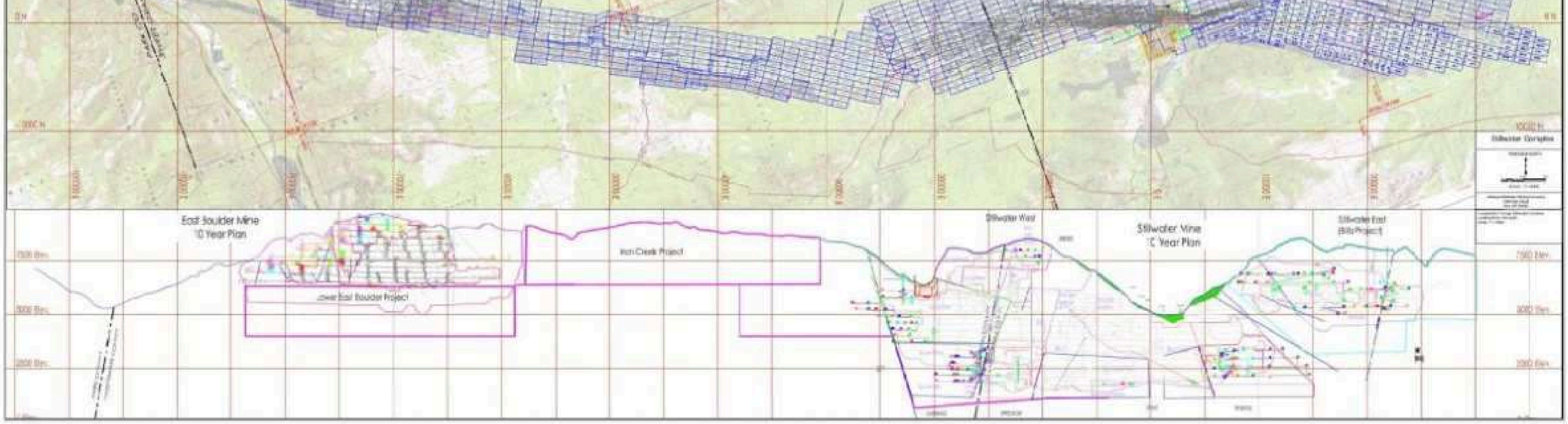
3.2.4 *Surface Rights and Servitudes*

The Patented and Unpatented Mill Site and Tunnel Sites held by Sibanye-Stillwater cover the predominant surface infrastructure required for the operations at Stillwater and East Boulder Mines. In addition to the Mill Site and Tunnel Claims, Sibanye-Stillwater owns several land parcels that have been purchased over the years. A number of these parcels are currently used for the operations while others are earmarked for future use. Assessment work is not a requirement for owners of Mill or Tunnel Sites. However, Sibanye-Stillwater is required to file an Annual Notice of Intent to hold each of the sites. The Qualified Persons have confirmed that this condition has been complied with for all the Mill Sites and Tunnel Sites held by Sibanye-Stillwater.

Title for the Columbus Metallurgical Complex is based on freehold owned by Sibanye-Stillwater. The building and stack heights at the complex are limited due to the proximity of a light aircraft field but these restrictions do not affect the current and planned mineral beneficiation operations.

Figure 2: Sibanye-Stillwater US PGM Operations Mineral Title and Tenure Map





3.3 Royalties

Of the 1 712 Sibanye-Stillwater owned Mining Claims, a total of 895 are subject to the Franco-Nevada and Mouat Royalties as indicated in Table 4. The Franco-Nevada Royalty is a 5% Net Smelter Return (NSR) royalty on all commercially recoverable metals produced from the 810 claims subject to the royalty, and the royalty is then reduced after the application of permissible "onward processing" deductions. The Mouat Royalty is a consequence of the 1984 Mining and Processing Agreement with SMC. The 180 Mouat Royalty claims are subject to a NSR royalty of 0.35%, which is payable to the Mouat family.

Table 4: Summary Details of Mining Claims Subject to Royalties

County	No. of Claims on the J-M Reef	Details of Royalties
	Claims Subject To Royalty	
Park	34	Claims subject to Franco-Nevada Royalty
Sweet Grass	633	Claims subject to Franco-Nevada Royalty
	85	Claims subject to Mouat Royalty
Stillwater	48	Claims subject to Franco-Nevada Royalty

	95	Claims subject to both Mouat Royalty and Franco-Nevada Royalty

The Qualified Persons have confirmed that the royalty payments by Sibanye-Stillwater are up to date and the annual royalty amounts paid since 2021 are indicated in Table 5. The differing annual royalty amounts paid in each of the previous years reflect changes in the key variables considered in the royalty calculations, which are metal prices, the number of troy ounces produced and mining claims where the production occurred.

Table 5: Details of Historical Royalty Payments to Franco-Nevada and Mouat

Counties	No. of Claims	Royalty Amounts Expensed (US$ Million)		
		FY2021	FY2022	FY2023
Park, Sweet Grass and Stillwater	895	59.6	36.8	25.0

3.4 Legal Proceedings and Significant Encumbrances to the Property

The Qualified Persons have been advised by Sibanye-Stillwater and the management team at the Sibanye-Stillwater US PGM Operations that there are no material legal proceedings in relation to the Sibanye-Stillwater US PGM Operations discussed in this TRS. It should, however, be noted that Sibanye-Stillwater and the Sibanye-Stillwater US PGM Operations may be involved in various non-material legal matters such as employment claims, third-party subpoenas and collection matters on an ongoing basis which are not material to the Mineral Resources and Mineral Reserves reported in this TRS.

The Good Neighbor Agreement is a significant legally binding contract between Sibanye-Stillwater, the Northern Plains Resource Council, the Cottonwood Resource Council and the Stillwater Protective Association. It formalises engagements between the various stakeholders and provides an innovative framework for the protection of the natural environment while encouraging responsible economic development in the area within which the Stillwater and East Boulder Mines are located. Pursuant to these objectives, the Good Neighbor Agreement stipulates clear and enforceable water quality standards, mine traffic restrictions and requirements for the monitoring of and adherence to the permitted traffic volumes and speed limits. The mine plans for the Stillwater and East Boulder Mines accommodate the commitments made in the Good Neighbor Agreement to ensure that these are not breached. Historical operations at these mines have honoured these commitments.

From the documentation reviewed and the input by the relevant Technical Specialists and Experts, the Qualified Persons could not identify any significant factors or risks with regards to the title permitting, surface ownership, environmental and community factors that would prevent the mining of the J-M Reef and the declaration and disclosure of the Mineral Resources and Mineral Reserves for the Stillwater and East Boulder Mines. The Qualified Persons concluded that the Sibanye-Stillwater US PGM Operations comply with all title and environmental permitting requirements of the Federal and State Governments. The Qualified Persons are not aware of any significant encumbrances to the Sibanye-Stillwater US PGM Operations as at 31 December 2023 and have confirmed this with the Registrant.

4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

4.1 Topography and Elevation

4.1.1 *Stillwater Mine and the Hertzler Tailing Storage Facility*

Stillwater Mine is located in a steep-sided mountainous valley where elevation exceeds 5 000ft above mean sea level (ftamsl). The valley drainage hosts the Stillwater River, which originates in a valley of the Beartooth Mountains within the Custer Gallatin National Forest between Miller Mountain and Wolverine Peak, approximately 25 miles to the south of the Stillwater Mine. Stillwater River generally flows from south to north and to the northeast (Figure 1) after leaving the mountains near the town of Nye, approximately 4.5 miles downstream of Stillwater Mine. It is a tributary to the Yellowstone River, which it joins approximately 36 miles downstream of the Stillwater Mine.

The Hertzler Tailings Storage Facility (TSF) is located approximately 6 miles north-northeast of Stillwater Mine (Figure 1) on a relatively flat bluff formed by an old glacial moraine deposit west of the Stillwater River. The Hertzler TSF sits approximately 170ft above the Stillwater River at an elevation of approximately 4 900ftamsl.

4.1.2 *East Boulder Mine*

East Boulder Mine is also located in a steep-sided mountainous valley where the elevation exceeds 6 200ft. The valley drainage hosts the East Boulder River, which originates in a valley of the Beartooth Mountains within the Custer Gallatin National Forest between Chrome Mountain and Iron Mountain, approximately 8.5 miles to the south of the East Boulder Mine (Figure 1). The East Boulder River generally flows from south to north. East Boulder Mine is located in the upper third of a roughly 3-mile reach where the river flows west-northwest around Long Mountain before resuming its northward flow to join the Boulder River approximately 14 miles downstream of the East Boulder Mine (Figure 1).

4.1.3 *Fauna and Flora*

Vegetation types are similar at Stillwater and East Boulder Mines. The Environmental Impact Statement (EIS) for Stillwater Mine compiled in 1985 identified thirteen vegetation types in the study area, along with water and disturbed areas with no vegetation (MDEQ and USFS, 1985). These vegetation types were described as follows: stony grassland, sagebrush and skunkbush shrubland, drainage bottomland, riparian woodland, ravine aspen-chokecherry, open forest-meadow understory, open forest-rocky understory, Douglas-fir forest, Lodgepole pine forest, sub-alpine forest and cultivated hay land. Timber resources in the mine areas are generally of low commercial value due to the poor quality of the timber and the rugged terrain's limits on harvest operations.

Wildlife studies indicate that the mine areas support diverse and abundant wildlife populations, which include bird, mammal, reptile, amphibian and aquatic species. The mine areas also provide winter ranges for elk, mule deer and bighorn sheep, and host moose, black bear, mountain goats and mountain lions. Wildlife habitat types correspond closely to vegetation types in this area. Both the Bald

Eagle and American Peregrine Falcon, which were identified as listed species in the 1985 EIS, have been de-listed due to the recovery of their populations.

Stillwater and East Boulder Rivers are the principal resources that may be adversely affected by mining operations at Stillwater and East Boulder Mines, but historical and cultural resources are also known to exist within the current and planned mine disturbance areas. The Qualified Persons noted that the river waters are of high quality and, although they have measurable loading of nitrate and dissolved solids from the mining operations with localized, minor periphyton and macroinvertebrate impairment, there has not been evidence of adverse impacts on aquatic or terrestrial wildlife populations. Stillwater and East Boulder Rivers are both considered "substantial fishery resources" and host brown trout, rainbow trout, brook trout and mountain whitefish (MDEQ and USFS, 1985). Both rivers have good insect and periphyton diversities and densities.

periphyton diversities and densities.

4.2 Access, Towns and Regional Infrastructure

The Sibanye-Stillwater US PGM Operations are situated in or near three geographic clusters, namely Stillwater Mine, East Boulder Mine and Columbus Metallurgical Complex, and are accessed from local towns through paved and unpaved roads (Figure 1). Stillwater Mine is located near Nye in Stillwater County while East Boulder Mine is located south of Big Timber in Sweet Grass County. Both counties are located in Montana. The Boe Ranch is located northwest of the East Boulder Mine while the Hertzler TSF is located approximately 6 miles north-northeast of Stillwater Mine.

Stillwater Mine is located approximately 30 miles southwest of Absarokee and 4 miles south-southwest of Nye. It is accessed from Absarokee by the mainly unpaved County Road 420, which passes the Hertzler Ranch TSF, or via the paved State Highway 78, State Highway 419 and Nye Road (Figure 1). East Boulder Mine is located approximately 25 miles south of Big Timber. It is accessed from Big Timber via the paved State Highway 298 and the unpaved East Boulder Road which is maintained by Sibanye-Stillwater.

PGM-base metal concentrate from Stillwater and East Boulder Mines is trucked to the smelter at the Columbus Metallurgical Complex. The town of Columbus is situated approximately 42 miles west of the town of Billings and the two towns are connected by the US Interstate Highway 90. The nearest regional airport is situated in Billings.

4.3 Climate

Stillwater and East Boulder Mines and the Columbus Metallurgical Complex are situated in a region where summer temperatures range from average highs of around 76°F to 82°F to winter average lows of approximately 12°F to 20°F. Extreme highs can reach 91°F and extreme lows can reach -15°F. East Boulder Mine tends to experience cooler overall temperatures due to its higher elevation when compared to Stillwater Mine. The cold period starts in November and ends in March followed by a warm season starting in April and ending in September. Monthly average precipitation ranges from highs of 3 inches to 4 inches in May to lows of 1 inch to 1.4 inches in late summer (July and August). Rainfall typically increases from March to May and decreases to lows around June through to September, with a short period of increased precipitation occurring around October due to autumn storms.

The Qualified Persons noted that, although the mine sites experience a wide range of climatic conditions, the mining operations have often proceeded all year round. Heavy snows, stream flooding or forest fires are the only significant environmental factors affecting site access, but these have not significantly hindered operations since mining commenced at Stillwater and East Boulder Mines until June 2022. On 13 June 2022, a 500-year flood resulting from the combination of warm weather triggering an unusual ice melt and incessant rains in Montana destroyed parts of State Highway 419 used to access the Stillwater Mine. Operations at the East Boulder Mine were not affected by this 500-year flood event. The damage caused restricted access to the mine, temporary suspension of the mining operations for seven weeks. A temporary road was built to reestablish access to and from the mine to support full operations. Repairs were carried out on the damaged parts of the highway and mine access through the highway was restored in July 2023.

Freezing temperatures in winter and snow can pose adverse operating conditions, although avalanches from the steep mountain slopes have never directly affected operations at the mines. However, snow can affect mine site access, especially to the Benbow Decline at Stillwater Mine which is accessed via a steep dirt road. This decline is roughly at a similar elevation as East Boulder Mine, which is 1 500ft higher than the elevation for the remainder of Stillwater Mine. Snow removal and road maintenance by Sibanye-Stillwater has effectively been used to maintain mine access even in winter storms. The combination of storm conditions and temporary loss of grid power and the need to move a number of personnel from the mine, could potentially pose challenges on occasions. Winter winds can move winter ice on the TSF pond surfaces and cause water storage pond and TSF liner damage, but these operational impacts from climate have been successfully mitigated through routine inspections, facilities maintenance, and installation of liner protection barriers.

4.4 Infrastructure and Bulk Service Supplies

Stillwater and East Boulder Mines and the Columbus Metallurgical Complex have been operational for decades and, as a result, most of the regional and onsite infrastructure required for mining and ore processing is all established at these sites. The engineering and bulk supplies infrastructure is summarised below and discussed in detail in Section 15.

Electrical power to both the Stillwater and East Boulder Mines is provided via the local electrical grid. East Boulder Mine has one 69kV power line owned by Park Electric, which is a local power co-operative that relays power from the Northwestern Energy grid. Stillwater Mine is served by a 100kV powerline and a 100kV power line both of which are owned by Northwestern Energy. The 100kV powerline ensures sufficient energy for increased production at the Stillwater Mine. Power supply to the Columbus Metallurgical Complex is from Northwestern Energy through a 100kV powerline.

Onsite surface infrastructure at the mine complexes includes PGM concentrators, workshops, warehouse, changing facilities, water treatment and storage facilities, offices and TSFs. Tailings deposition at Stillwater Mine has moved from the original Nye TSF to the Hertzler TSF. The TSF at East

Boulder Mine is located immediately adjacent to the PGM concentrator and this is being expanded to ensure sufficient tailings storage capacity for the current life of the operations at the mine.

Water supplies to Stillwater and East Boulder Mines are a mix of fresh water from onsite wells and recycled water from the onsite biological and reverse osmosis water treatment facilities. The treatment facilities process water from mine dewatering and process facilities. Bulk water from external sources is not required as the water supply from the onsite sources exceeds the daily water requirements for mining and ore processing. The surplus water is treated further to remove nitrates before it is discharged to the environment.

4.5 Personnel Sources

In-house personnel constitute the bulk of the manpower for Sibanye-Stillwater US PGM Operations, with contractors engaged to execute specific projects when required. Manpower is sourced from different areas of the US and beyond. While preference is given to manpower from local towns and local communities within the Montana State in support of local economic development, there are no restrictions imposed on Sibanye-Stillwater in terms of manpower sourcing.

5 HISTORY

5.1 Ownership History

Prior to the discovery of the J-M Reef in the fall of 1973, Lode Claims were staked by Johns-Manville Corporation (Manville) primarily to cover soil geochemical and geophysical anomalies in the area. The Stillwater Complex-wide contour soil sampling programme completed in 1974 prompted a claim staking blitz as palladium (Pd) and platinum (Pt) were discovered in the J-M Reef. By the end of 1978, Manville controlled 1 022 Lode Claims covering the J-M Reef.

In 1979, a Manville subsidiary (Manville Products) entered into a partnership agreement with Chevron USA Inc. (Chevron) to develop the PGMs discovered in the J-M Reef. In 1983, Anaconda Minerals (Anaconda) became a third member of the joint venture but sold its stake to LAC Minerals Ltd (LAC) in 1985. Manville, Chevron and LAC explored and developed the Stillwater property and commenced underground mining in 1986 at Stillwater Mine. By 1989, many shareholding changes had taken place and Manville and Chevron had become the only shareholders in the partnership, with equal shareholding.

In 1992, SMC was incorporated followed by the transfer of all Chevron and Manville assets, liabilities and operations at the Stillwater Mine property to SMC on 1 October 1993. As a result, Chevron and Manville each received a 50% ownership interest in the SMC's stock. In September 1994, SMC redeemed Chevron's entire 50% ownership. SMC completed an initial public offering in December 1994, which enabled Manville to dispose of a portion of its shares, thereby reducing its ownership percentage to approximately 27%. In August 1995, Manville sold its remaining ownership interest in SMC to institutional investors.

Production at the East Boulder Mine commenced in 2002. On 23 June 2003, SMC completed a stock purchase transaction with MMC Norilsk Nickel (Norilsk Nickel), whereby a subsidiary of Norilsk Nickel became a majority stockholder of the company. On that date, all the stockholders entered into a Stockholders' Agreement governing the terms of Norilsk Nickel's investment in SMC. In December 2010, Norilsk Nickel disposed of its entire ownership interest in SMC through a secondary offering of the SMC shares in the public market.

From 2010, SMC operated as a NYSE listed company until May 2017 when it was delisted following its acquisition by Sibanye Gold Limited. An internal restructuring exercise in 2019 resulted in Sibanye Gold Limited becoming a gold-focused subsidiary of Sibanye-Stillwater and the PGM mineral assets in Montana (i.e. the Sibanye-Stillwater US PGM Operations) forming part of Sibanye Platinum (Pty) Limited – the PGM portfolio, which is a wholly owned Sibanye-Stillwater subsidiary.

The Sibanye-Stillwater US PGM Operations are currently owned by Sibanye-Stillwater through its wholly owned subsidiaries, Sibanye Platinum (Pty) Limited, Sibanye Platinum International Holdings (Pty) Limited, Thor US HoldCo Incorporated and SMC.

5.2 Previous Exploration and Mine Development

5.2.1 *Previous Exploration*

The Stillwater Complex and adjacent areas have been known to host copper (Cu), nickel (Ni) and chromium (Cr) deposits since 1883. However, the complex was first geologically mapped and described in the 1930s by Princeton University Geologists operating out of a base camp in Red Lodge, Montana. Chromite was mined during World War II and processed at a plant on the site of the current Stillwater Mine. Sulphides containing PGMs were discovered in the early 1930s, but significant exploration only started in the 1960s by two separate groups, namely Anaconda Minerals Company (Anaconda) exploring for Cu and Ni, and Manville exploring for PGMs. Exploration by Manville identified the J-M Reef in 1973. This discovery was significant in that it laid the foundation for future exploration for PGMs in this area. Over the years, state agencies, mainly the United States Geological Survey (USGS), carried out significant regional geological survey work (regional surface mapping and gravity, aeromagnetic and topographic surveys) along the Beartooth Mountains which complemented the exploration work by private sector companies.

Surface exploration on the eastern part near the Stillwater Mine, which was initiated by Anaconda in 1977, led to the establishment of the Minneapolis Adit between 1979 and 1981. In 1983, SMC, then a partnership between Chevron, Manville and Anaconda, pursued exploration drilling westward and eastward along the J-M Reef from both the surface and underground from the Minneapolis Adit. By 1995, SMC and predecessor firms had drilled 908 diamond drillholes (Table 6) from the surface and from the Frog Pond and West Fork adits over a 28-mile strike distance in the Stillwater Complex. This work delineated the known 28-mile strike extent of the J-M Reef over which Sibanye-Stillwater holds mineral title. Furthermore, the results of the drilling were used to define the estimated mineralisation in the various blocks (sectors) delineated along the 28-mile strike length, which are bounded by major geological structures (mainly major faults).

In 1998, a drillhole located in the Stillwater River Valley at Stillwater Mine intersected the major thrust splay underlying Stillwater Mine, more than 4 000ft below surface. An additional deep drillhole further to the west allowed further delineation of the J-M Reef at depth and of the bounding thrust fault. These deep drillholes also allowed the projection of thrust fault positions that currently define the lower limits of the estimated Mineral Resources and Mineral Reserves in areas near the deep drilling.

Table 6: Historical Surface and Adit Exploration Drillholes

Sector	Number of Drillholes
Tecate	16
Boulder	29
Frog Pond West	128
Frog Pond Adit	94
Frog Pond East	72
Monkey West	43
Monkey East	84
West Fork West	32
West Fork East	84

Sector	Number of Drillholes
West Fork Adit	95
Dow	40
Stillwater West	92
Stillwater East	69
Blitz	30
Total Drillholes	**908**

No surface exploration drilling was carried out between 1995 and 2010 at the Stillwater Mine. However, significant surface exploration drilling was carried out between 2010 and 2017 in the easternmost part of the identified J-M Reef in support of the Blitz Project. The Blitz Project is an eastward expansion of the Stillwater Mine footprint, which is now termed the Stillwater East Section. There was one surface drillhole completed in 2020 in the "West Fork" area of Stillwater Mine and this intersected the JM Reef at elevation of approximately 1 500ft. There has not been any surface exploration drilling at East Boulder Mine since 1993 other than for geotechnical data gathering near vent raises and surface breakouts. In addition, limited deep drilling to approximately 4 000ft below surface was carried out to explore the depth continuity of the J-M Reef at East Boulder Mine.

Most of the post-1995 underground exploration drilling was focused on the brownfield areas within the Stillwater and East Boulder Mine footprints. In general, the ongoing exploration at both mines has entailed driving primary development footwall lateral (FWL) drifts along with drilling advance probe holes from these laterals to ensure that the J-M Reef is being appropriately followed. This has remained the primary drilling strategy employed to generate the close spaced data required for the evaluation of the J-M Reef and for detailed mine planning at Stillwater and East Boulder Mines.

Currently, Mineral Resources across the 28-mile strike length of the J-M Reef are reported within the footprints of Stillwater and East Boulder Mines. In addition to the ongoing infill underground drilling, surface exploration will be required in the long term to improve the geological confidence in the Mineral Resource area comprising the western part of Stillwater Mine and eastern part of East Boulder Mine.

5.2.2 Mine Development

Stillwater Mine has been in production since 1986 and was the epicentre for future PGM mining and ore processing operations at the time, whereas production at East Boulder Mine started in 2002. The development of the Stillwater Mine was spurred by a surge in platinum prices due to social and political instability in South Africa which affected global supplies. Stillwater Mine was originally planned to produce approximately 500 tons of RoM ore per day, but the production target was revised upwards initially to 1 000 tons per day and later to 2 500 tons of Run of Mine (RoM) ore per day, which was reached in 2001. Production at East Boulder was originally planned at 2 000 tons per day. However, with the development of the East Boulder Mine and a high skills turn-over due to the global competition for mining skills during the worldwide mineral commodity prices boom at the time, production could not be maintained at the steady state levels at both mines. This was exacerbated by labour unrest at the mines in 2007 and the PGM price decline in 2008. Production at East Boulder Mine was halted in 2008 for a month, and then resumed following organisational restructuring in 2008. Stillwater Mine continued to operate during this period. Production at both mines has continued without major interruptions until the

temporary suspension of mining operations at Stillwater Mine following the 13 July 2022 500-year flood event that destroyed parts of the State Highway 419 required to access the mine.

The production history for Stillwater and East Boulder Mines since 2004 is summarised in Table 7, which also indicates that the mines have been on progressive production ramp-up since 2015 until the ramp up momentum was disrupted by the COVID-19 pandemic and associated restrictions between 2020 and 2022 and the 500-year flood event in 2022. The mining footprint at Stillwater Mine has been increasing due to the development of the Stillwater East Section (the Blitz Project). At steady state which will be achieved in 2029, a RoM ore monthly production level of approximately 100 000 tons is planned for Stillwater Mine. Production at East Boulder Mine has also increased progressively since 2008 until 2017 at which point a new steady state target of approximately 65 000 tons per month (approximately 785 000 tons per annum) was set. The monthly production increase from approximately 54 000 tons in 2017 to 60 000 tons in 2021 followed the implementation of the Fill the Mill Project which required full utilisation of the previously unused plant capacity (i.e., historically, 10 000-15 000 tons per month of capacity). A combined monthly average production output for Stillwater and East Boulder Mines of approximately 159 000 tons is planned from 2029 onwards until 2052 when both mines operate at steady state. The combined production as per the current LoM plan will decline to a monthly average of approximately 58 000 tons following production ramp down at Stillwater Mine as the mine approaches closure in 2054.

Table 7: Historical Production for Stillwater and East Boulder Mines

Year	Stillwater Mine		East Boulder Mine		Total Montana Mines	
	New Mill Feed Tons	Pd +Pt Returnable Ounces	New Mill Feed Tons	Pd +Pt Returnable Ounces	New Mill Feed Tons	Pd +Pt Returnable Ounces
2023	728 563	262 923	565 820	164 350	1 294 383	427 273
2022	726 443	260 206	545 874	160 927	1 272 317	421 133
2021	898 229	346 556	720 953	223 842	1 619 181	570 399
2020	963 533	373 624	679 270	229 442	1 642 802	603 066
2019	886 264	376 395	669 169	217 579	1 555 433	593 974
2018	811 724	364 167	662 638	228 441	1 474 362	592 608
2017	745 240	328 515	643 028	218 676	1 388 267	547 191
2016	715 147	326 976	656 044	218 354	1 371 191	545 330
2015	747 965	319 822	583 452	200 984	1 331 417	520 806
2014	748 680	340 849	515 753	176 928	1 264 333	517 777
2013	800 868	366 061	472 944	157 824	1 273 811	523 885
2012	709 100	377 430	441 103	136 278	1 150 203	513 708
2011	793 826	386 871	416 160	131 001	1 209 986	517 872
2010	780 436	351 702	400 411	133 387	1 180 847	485 088
2009	777 151	393 837	407 393	136 091	1 184 544	529 928
2008	767 608	349 365	438 755	149 526	1 206 363	498 891
2007	714 680	359 269	528 962	178 204	1 243 642	537 473
2006	800 996	409 389	549 665	191 162	1 350 661	600 551

2005	790 020	381 054	495 778	172 495	1 285 799	553 549
2004	786 580	404 966	483 281	164 221	1 269 861	569 187

5.3 Plant, Property and Equipment

Sibanye-Stillwater owns extensive long-term assets at Stillwater and East Boulder Mines and the Columbus Metallurgical Complex. These assets include property, plants and equipment most of which

have been inherited from the previous owners and the remainder acquired or built after acquisition in 2017. Concentrators, smelter and base metal refinery (the plants) and surface infrastructure have significantly longer useful lives than equipment. Appropriate sustaining capital funding for maintenance and upgrades of major units for each of property, plant and equipment has been included in annual budgets to prolong their useful lives. The Blitz Project resulted in considerable expansion of property, plant and equipment at Stillwater Mine and the Columbus Metallurgical Complex.

A summary description highlighting the age and physical condition of the major units of property, plants and equipment at Stillwater and East Boulder Mines and the Columbus Metallurgical Complex is provided in Table 8. The Net Book Value estimates are reported as at 31 December 2023.

Table 8: Summary Description of Plant, Property and Equipment for the Sibanye-Stillwater US PGM Operations

Site	Description	Age Profile		Net Book Value ($ million)
		Period	Range	
	Category	Acquired/Built	Useful Life (Years)	
Stillwater Mine	Mine Development, Infrastructure and Other	1985-2023	1-40	647.0
	Land, Mineral Rights and Rehabilitation	1985-2023	20-40	21.5
	Total			**668.6**
East Boulder Mine	Mine Development, Infrastructure and Other	1996-2023	1-50	149.5
	Land, Mineral Rights and Rehabilitation	1996-2023	30-50	6.7
	Total			**156.2**
Columbus & Columbus Metallurgical Complex	Mine Development, Infrastructure and Other	1996-2023	1-40	41.4
	Land, Mineral Rights and Rehabilitation	1996-2023	10-40	1.2
	Total			[illegible]

	Total	42.6
Grand Total		867.4

6 GEOLOGICAL SETTING, MINERALISATION AND DEPOSIT

6.1 Regional Geology

The geology of the Stillwater Complex is fairly well-understood from state (US Geological Survey or USGS) and private sector companies driven regional and local exploration and mining as well as from academic research spanning decades. The following summary description of regional geology and geological structure of the Stillwater Complex is based on overviews provided by Page and Zientek (1985), Zientek et al. (1985), Boudreau (1999), McCallum (2002) and Jenkins et al. (2022).

The Stillwater Complex is a large layered igneous complex (Figure 3) resulting from magma intrusion through regional transverse faults into highly deformed Archaean sedimentary rocks at approximately 2.7 billion years ago (Ga). Intruded as a layered igneous complex with shallow dipping layers in a lopolithic form, the Stillwater Complex was exposed and partially eroded before burial by extensive sedimentary cover following substantial marine and continental sedimentation. Post burial, there were repeated phases of deformation of the Stillwater Complex and the underlying and overlying sedimentary rocks, the most notable being the Laramide Orogeny. The Laramide Orogeny, which started in the Late Cretaceous and lasted until the Early Tertiary, involved northward verging thrusting (Horseman Thrust Fault System) that resulted in the 20 000ft of uplift (Beartooth Uplift; Figure 4 and Figure 5) and erosion, which exposed the small part of the Stillwater Complex mapped in the Beartooth Mountains. The exposed portion of the complex has been the exploration and mining target for chromite and PGMs since the 1960s. However, the flat-lying part of the Stillwater Complex occurs at significant depth below surface, which makes the exploitation of the J-M Reef in this part of the complex uneconomic.

The magma intrusion and emplacement relating to the Stillwater Complex were accompanied by fractionation and accumulation of magmatic crystals that gave rise to the conspicuous magmatic layering observed in the complex (i.e. layered mafic and ultramafic cumulates). The magmatic layering is reflected by the changes in mineralogy, mode, grain size and texture across the stratigraphic profile of the complex. However, the overall texture of the lithological units in the Stillwater Complex is typified by subhedral to euhedral cumulate grains in a framework of post-cumulus interstitial material including oikocrysts. The mineralogical, modal, grain size and textural variations formed the basis for subdividing the Stillwater Complex into five major series (from bottom upwards) as follows: the Basal Series, Ultramafic Series, Lower Banded Series, Middle Banded Series and Upper Banded Series (Figure 6; McCallum, 2002). The Ultramafic Series (UMS) is further subdivided into the Bronzitite Zone and Peridotite Zone. The Lower Banded Series hosts the J-M Reef targeted at Stillwater and East Boulder Mines.

Figure 3: Regional Geology of the Stillwater Complex and Surrounds (Source: Montana Bureau of Mines and Geology)

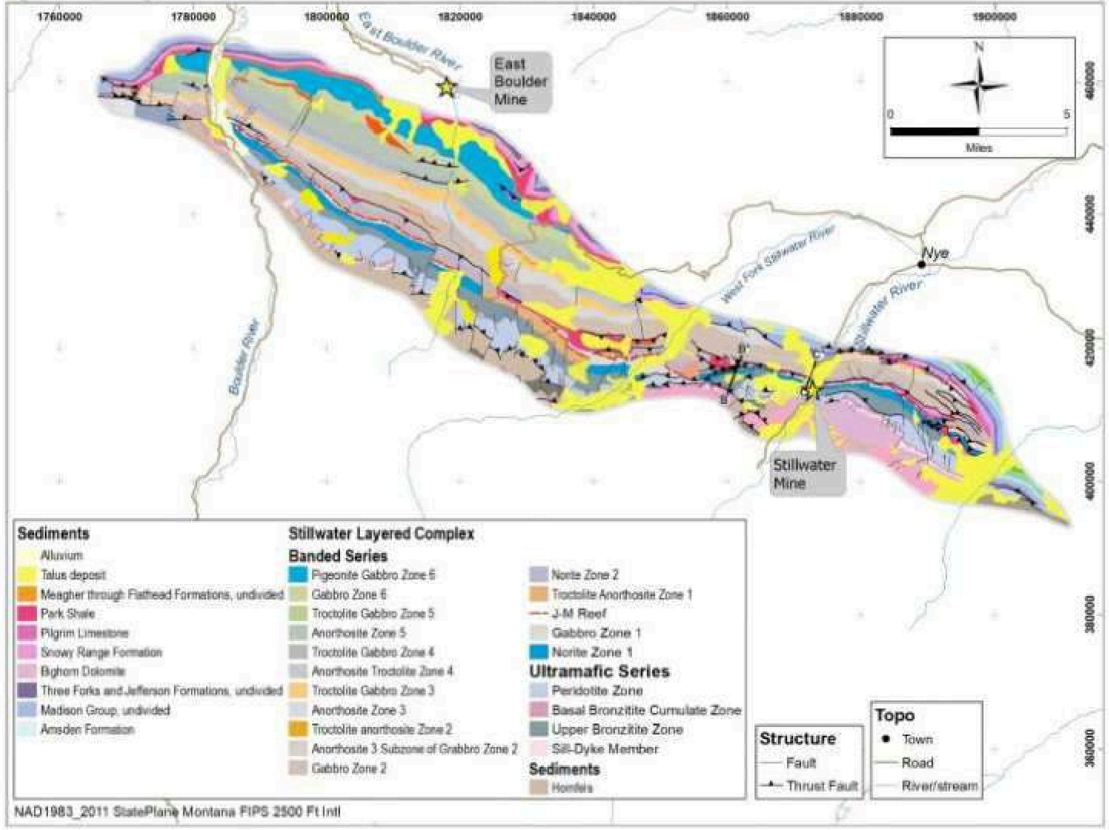

1760000
1780000
1800000
1820000
1840000
1860000
1880000
1900000
East Boulder River
East Boulder Mine
West Fork Stillwater River
Nye
Stillwater River
Boulder River
Stillwater Mine
N
0
5
Miles
Sediments
Alluvium
Talus deposit
Meagher through Flathead Formations, undivided
Park Shale
Pilgrim Limestone
Snowy Range Formation
Bighorn Dolomite
Three Forks and Jefferson Formations, undivided
Madison Group, undivided
Amsden Formation
Stillwater Layered Complex
Banded Series
Pigeonite Gabbro Zone 6
Gabbro Zone 6
Troctolite Gabbro Zone 5
Anorthosite Zone 5
Troctolite Gabbro Zone 4
Anorthosite Troctolite Zone 4
Troctolite Gabbro Zone 3
Anorthosite Zone 3
Troctolite anorthosite Zone 2
Anorthosite 3 Subzone of Grabbro Zone 2
Gabbro Zone 2
Norite Zone 2
Troctolite Anorthosite Zone 1
J-M Reef
Gabbro Zone 1
Norite Zone 1
Ultramafic Series
Peridotite Zone
Basal Bronzitite Cumulate Zone
Upper Bronzitite Zone
Sill-Dyke Member
Sediments
Hornfels
Structure
Fault
Thrust Fault
Topo
Town
Road
River/stream
NAD1983_2011 StatePlane Montana FIPS 2500 Ft Intl

Figure 4: South to North Sections Through Stillwater Mine Showing Subsurface Geology (Source: Montana Bureau of Mines and Geology)

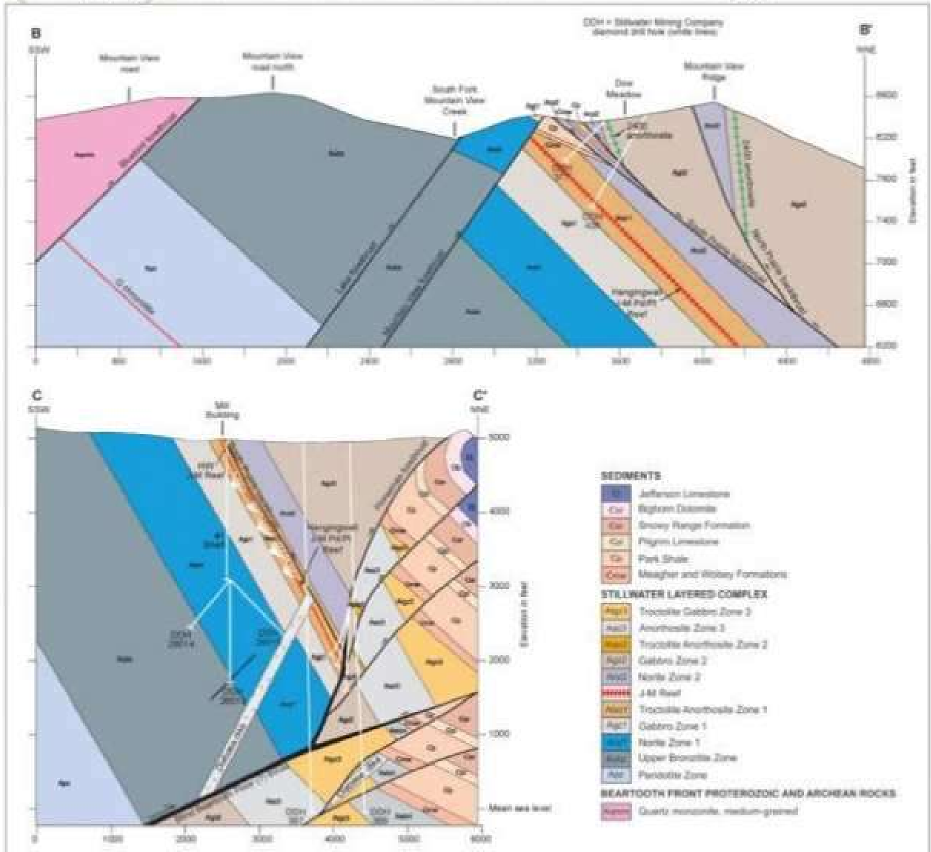
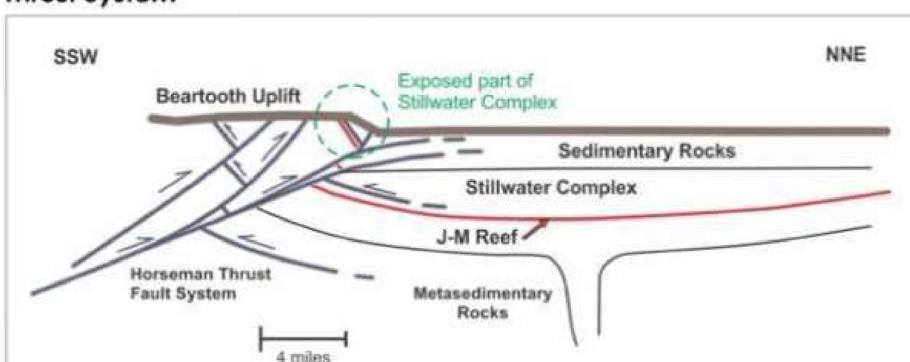


Figure 5: A Schematic Section through Stillwater Mine Depicting the Horseman Thrust System



The steep dipping nature of the lithological layers in the exposed part of the Stillwater Complex is due to uplift and tilting associated with the Laramide Orogeny. Faults and dykes are the most common geological structures. Most of the regional faults affecting the

Stillwater Complex have been ascribed to the Laramide Orogeny and are grouped according to trends as follows:

- Northwest to southeast striking thrust faults;
- East to west striking south dipping steep reverse faults; and
- East to west trending vertical faults.

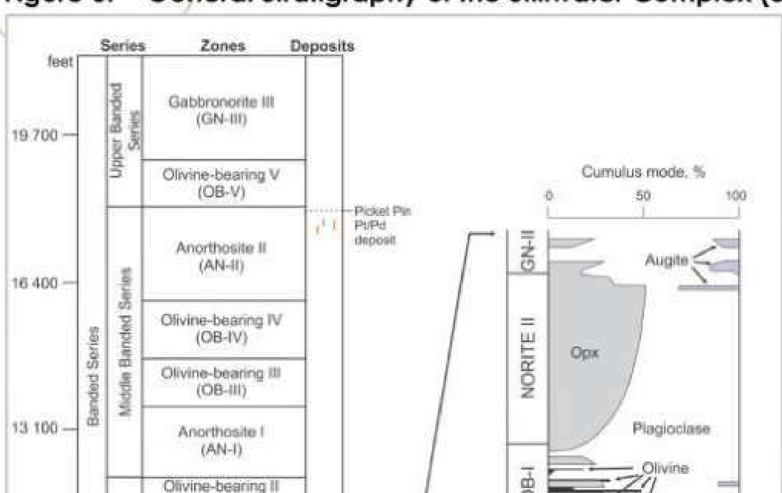
These are also the most common fault and dyke trends observed at Stillwater and East Boulder Mines. Numerous diabase and felsic dykes that cut and offset the J-M Reef at the mines are known from surface mapping, underground drilling and mining. These dykes dilate the J-M Reef, but do not destroy the PGM mineralisation and have limited (up to 30ft) contact alteration zones along which poor ground conditions are common. However, these ground conditions do not present significant obstacles to mining and are dealt with using established geotechnical support procedures.

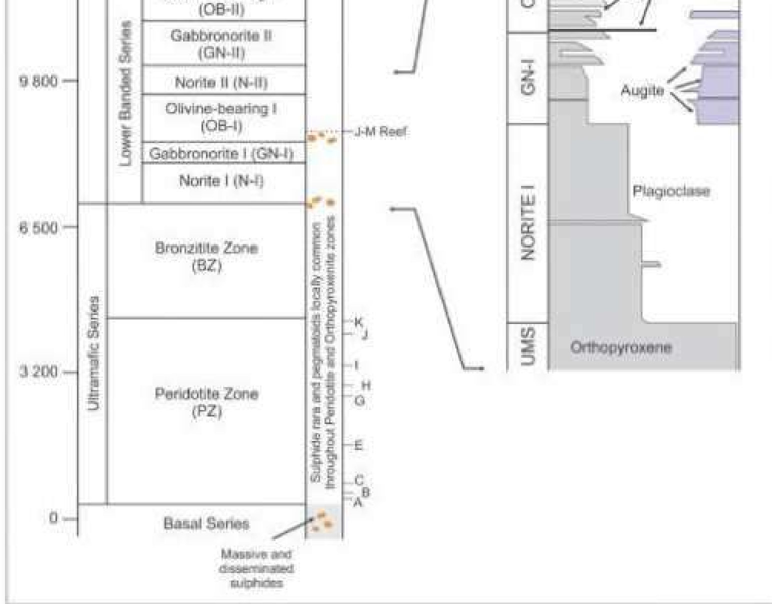
6.2 Local and Property Geology

6.2.1 *Local Stratigraphy*

The local stratigraphy at the Stillwater and East Boulder Mines resembles the regional stratigraphic sequence of the Stillwater Complex indicated in Figure 6. Much of the area covered by the Sibanye-Stillwater-held or leased Mining Claims is underlain by the Lower Banded Series that hosts the J-M Reef and, to a lesser extent, the Ultramafic and Middle Banded Series.

Figure 6: General Stratigraphy of the Stillwater Complex (Source: Boudreau, 1999)





The Lower Banded Series consists of norite and gabbronorite units and minor olivine-bearing cumulates that host the J-M Reef. The series has been subdivided into Norite I (N-I), Gabbronorite-I (GN-I), Olivine-bearing-I (OB-I), Norite-II (N-II), Gabbronorite-II (GN-II) and Olivine-bearing-II (OB-II) zones. While the J-M Reef is generally confined to the OB-I (troctolite) zone, it is not restricted to a particular stratigraphic position within this zone. It is in the OB-I zone that olivine first reappears above the Peridotite Zone, an attribute that makes this unit an important marker for lithological logging and stratigraphic modelling. The contact between the Lower Banded Series and the underlying Bronzitite Zone of the Ultramafic Series has been mapped over much of the Stillwater Complex.

The Bronzitite Zone is relatively uniform, consists of bronzitite and forms the upper part of the 2 756ft to 6 562ft thick Ultramafic Series. The Peridotite Zone constitutes the bottom part of the Ultramafic Series and is characterised by cyclic peridotite, harzburgite and bronzitite

units. This zone overlies a uniform, laterally extensive bronzitite cumulate layer, dominates the Basal Series and is underlain by norite units and subordinate anorthosite, gabbro and peridotite units. Layers of massive and disseminated chromite – referred to by the letters of the alphabet A to K from bottom upwards – occur in the peridotite member of the cyclic units (Figure 6). The thickness of chromitite layers ranges from a few inches to 3ft, and only layers G and H have historically been exploited at Mountain View by other parties. Sibanye-Stillwater targets only the PGM and associated base metal mineralisation in the J-M Reef and, as a result, the chromitite mineralisation in the Stillwater Complex will not be discussed further in this TRS.

The Middle Banded Series overlying the Lower Banded Series consists of anorthosite, olivine gabbro and troctolite units, which constitute the Anorthosite Zones I and II (AN-I and AN-II), which are separated by OB-III and OB-IV zones. A second but low-grade PGM-bearing zone (referred to as the Picket Pin deposit) occurs in the upper part of AN-II and close to the contact with the Upper Banded Series, approximately 9 850ft above the J-M Reef. The Upper Banded Series consists of gabbronorite units and minor troctolite and norite units making up the OB-V and GN-III subzones. The Picket Pin deposit is traceable at a similar stratigraphic position over 14 miles and consists of podiform and lenticular concentrations of sulphide minerals in anorthosite. Due to its low-grade nature, it has not been mined but is the subject of exploration and evaluation by other parties in areas adjacent to Sibanye-Stillwater mineral tenement and is therefore not discussed further in this TRS.

6.2.2 *J-M Reef Mineralisation*

6.2.2.1 *Mineralisation Style and Geological Controls*

The J-M Reef exploited at the Stillwater and East Boulder Mines is a world class primary magmatic stratiform PGM deposit occurring mainly within a troctolite (as well as dunite/harzburgite and anorthosite) in the OB-I zone of the Lower Banded Series. The reef package, which hosts the J-M Reef, is defined by rock fabric as well as lithology while the J-M Reef is identified as the high tenor, reef-type subzone comprising disseminated to massive sulphide mineralisation. The high tenor mineralisation may also occur in footwall lenses (footwall mineralisation) in gabbronorite and norite below the OB-I zone while some areas of the reef package are poorly mineralised (Jenkins et al., 2022).

The J-M Reef has retained most of its primary magmatic characteristics, particularly its broad lateral continuity, very coarse textures (e.g. pegmatoidal and poikilitic textures) and consistent ore and silicate mineral abundances. The combination of visible disseminated copper-nickel sulphide minerals (0.25% to 3% modal abundances) within a complex cumulate of silicate minerals, consistent stratigraphic location (OB-I zone) and lithological sequences (footwall, reef and hangingwall) as well as reliable lithological markers facilitate the visual identification and delineation of the J-M Reef for sampling purposes. Sampling and laboratory analysis provide the definitive data required to confirm the presence of the J-M Reef and to determine its PGM tenor. Historically, reef intersections that did not have visible sulphide minerals were not sampled but were assigned a zero grade. However, current protocols require the sampling of all reef intersections irrespective of the sulphide mineral abundance.

Hangingwall lithologies are typically fine-grained to medium-grained, poikilitic anorthosite and leucotroctolite as well as rare occurrences of fine-grained norite or gabbronorite (Jenkins et al., 2022). The contact between the J-M Reef and hangingwall is sub-planar or sharp and is identified based on the textural change from very coarse (pegmatoidal) in the reef to fine-grained to medium-grained in the hangingwall. Progression from the reef package to the hangingwall package does not necessarily coincide with a change in rock type.

The ore mineralogy of the J-M Reef is dominated by disseminated chalcopyrite, pyrrhotite and pentlandite, with minor pyrite, moncheite, cooperite, braggite, kotulskite, Pt-Fe alloy and various arsenides within a complex cumulate of olivine, plagioclase, bronzite and augite. Pd is the dominant PGM in the J-M Reef and occurs primarily (80%) as a solid-solution in pentlandite as well as in sulphides (15%) and moncheite (5%). Pt occurs primarily (67%) in sulphides, as a metal alloy (isoferroplatinum, 25%) and in moncheite (telluride mineral, 8%).

6.2.2.2 Length and Width

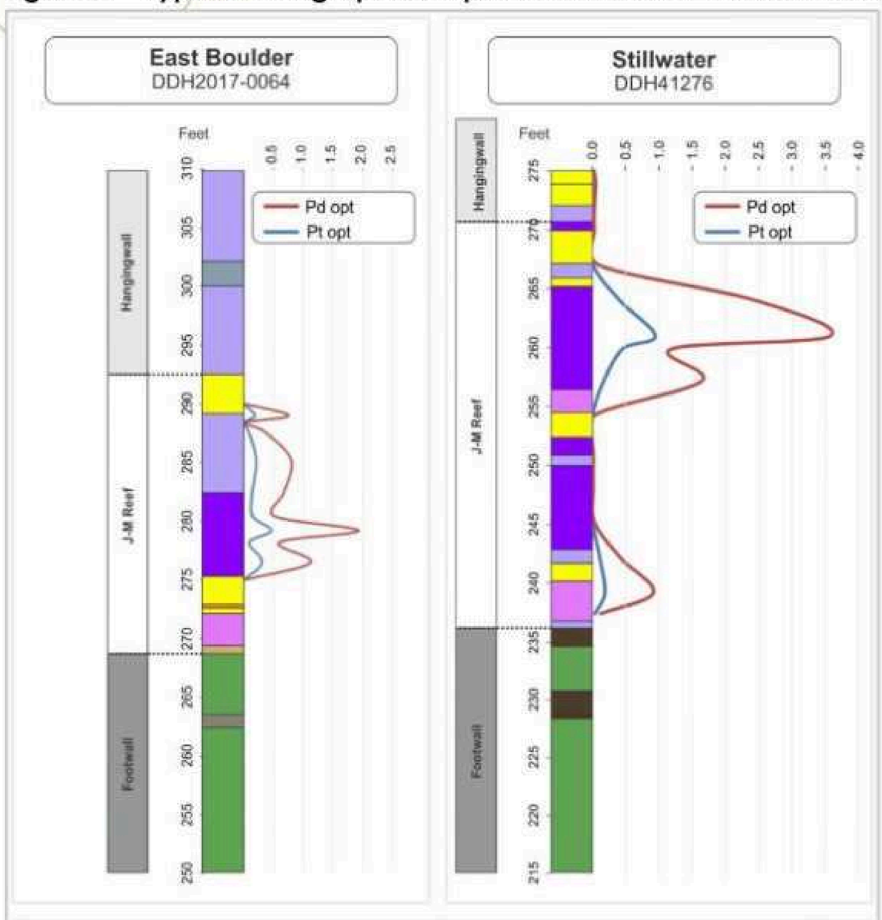
Sibanye-Stillwater holds title over the entire 28-mile strike length of the J-M Reef. For evaluation purposes, the J-M Reef is defined as the Pd-Pt rich stratigraphic interval mainly occurring within the OB-I zone and characterised by disseminated to massive sulphide mineralisation, a variable thickness ranging from 3ft to 9ft (average 6ft) and average combined Pd and Pt (2E) grades of 0.6oz per ton (opt) to 0.8opt. Locally, it forms keel-shaped footwall zones, which transgress the footwall mafic rocks, commonly reaching thicknesses of 18ft and greater. Of the two PGMs, Pd is the most significant resulting in average *in situ* Pd:Pt ratio of 3.4:1 and 3.6:1 for Stillwater and East Boulder Mines, respectively. Ongoing metallurgical accounting has determined Pd:Pt ratio of 3.5:1 and 3.6:1 for Stillwater and East Boulder Mines, respectively, which are used for all evaluations. Other associated PGMs (e.g., Rh, Ir, Ru and Os), Au and base metals (Cu and Ni) occur in low abundances and are generally not evaluated.

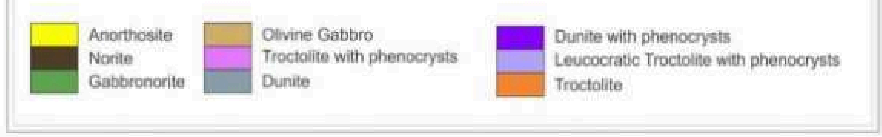
In general, the stratigraphy of the J-M Reef package is relatively consistent and is fairly well-understood from the extensive diamond core drilling and mining undertaken at Stillwater and East Boulder Mines. It consists of a sequence comprising the Footwall Zone, J-M Reef and Hangingwall Zone. The J-M Reef consists of mineralised troctolite or olivine-bearing rock units (dunite, harzburgite and anorthosite). The immediate Footwall Zone underlying the reef consists of bronzitite, norite and gabbro-norite units whereas the Hangingwall Zone consists of anorthosite, norite, gabbro-norite and troctolite units. Unlike the Hangingwall Zone which is present in most places, the Footwall Zone is not always present.

Figure 7 shows the stratigraphic sequence and two typical downhole Pd-Pt grade profiles of the J-M Reef intersected by drillhole DDH41276 at Stillwater Mine and DDH2017-0064 at East

Boulder Mine.

Figure 7: Typical Stratigraphic Sequence and Pd-Pt Grade Profiles of the J-M Reef





The basal contact of the J-M Reef is conformable, but irregular, with the irregularity depicted by local depressions and highs in the plane of the reef. It is also common for the hangingwall contact to cut across lithological contacts. Geological personnel at the mines employ textural changes in the footwall, J-M Reef and hangingwall lithologies to guide the visual delineation of the J-M Reef for sampling purposes. The textures include pegmatoidal pyroxene, rounded cumulus olivine, oikocrysts and fine to medium grained intercumulus pyroxene, as well as micro-rhythmic layering. The textures for hangingwall lithologies differ from the J-M Reef textures which are typified by pegmatoidal pyroxene, adcumulus pyroxene surrounding anhedral olivine and coarse grained intercumulus pyroxene. Furthermore, the hangingwall textural contact is always present and identifiable along the strike lengths of the J-M Reef and is, therefore, the most reliable marker. The reappearance of olivine cumulates or sulphide minerals above GN-I usually marks the lower boundary of the reef package. Accordingly, drilling information should facilitate accurate delineation of

the J-M Reef in space and it is unlikely that the reef will be incorrectly identified during logging or inaccurately correlated during modelling.

A high thickness and grade variability over short ranges (stope level) characterises the J-M Reef and this is more pronounced at Stillwater Mine (West Section) where the PGM mineralisation may occur as a unique mixture of "ballrooms", low-grade and normal J-M Reef mineralisation over short intervals. Ballrooms describe localised areas of thickened J-M Reef at Stillwater Mine where the Basal, Main and Upper Zones of the reef coalesce. The ballrooms are important to the economics of the J-M Reef as they contain significant (anomalous) reef tons and Pd-Pt metal content, but their location and size are unpredictable. In general, wider than normal J-M Reef intercepts from initial sparsely to moderately spaced drillholes are interpreted as indicative of the existence of ballrooms at Stillwater Mine. However, ballrooms can only be definitively identified through underground definition drilling at 50ft drillhole spacing whereas the actual ballroom dimensions can only be ascertained during mining.

6.2.2.3 J-M Reef Continuity

The attitude of the J-M Reef is variable and characterised by moderate to sub-vertical/vertical dips towards the north and northeast. At Stillwater Mine, the dip of the J-M Reef northwards varies from approximately vertical in the eastern part to approximately 62° in the central part and between 45° and 50° in the Upper West sector of the mine. However, at East Boulder Mine, the dip is less variable and is on average 50° towards northeast.

Being a magmatic reef-type deposit, the J-M Reef package is laterally continuous and located at a consistent stratigraphic level in the Stillwater Complex. Accordingly, the presence and relative location of the J-M Reef at a mine scale can be predicted accurately even from sparse drillhole information, such as that generated from surface drilling. The J-M Reef has been explored from surface outcrop to depths of approximately 4 000ft below surface mainly through diamond core drilling. The down dip continuity of the J-M Reef is interpreted to have been terminated by thrust faults relating to the Horseman Thrust Fault System. These faults have been intersected by deep drillholes at Stillwater Mine. These drillhole intersections of the faults have been used to constrain the depth limit of the Mineral Resources and Mineral Reserves reported for Stillwater Mine. However, similar deep drilling at East Boulder Mine has not intersected these faults and the location of the faults is currently unknown. Available deep drilling information at East Boulder Mine suggests that the elevation of these thrust faults decreases towards the west from Stillwater Mine. Therefore, there may be potential for generating additional Mineral Resources at depth at East Boulder Mine.

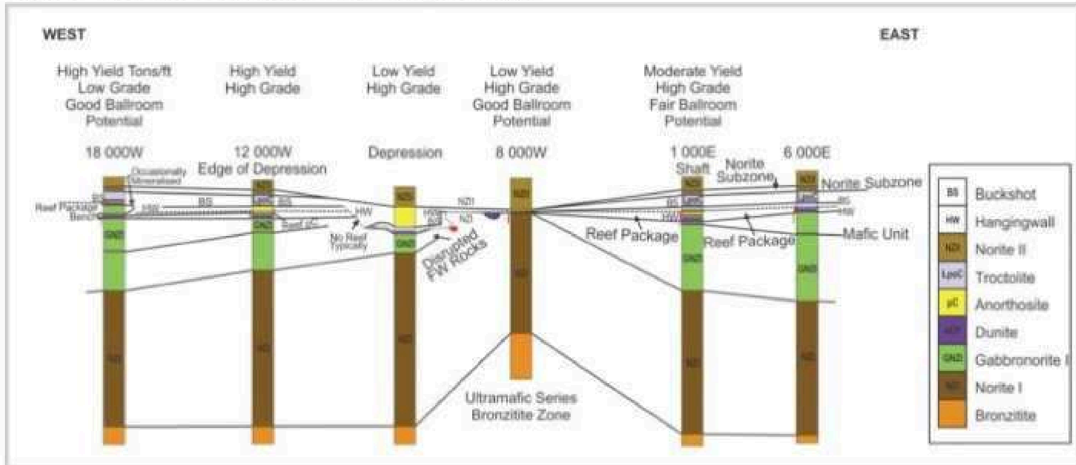
Results of geostatistical analysis also confirm the continuity of the Pd-Pt grades in the J-M Reef. At a local scale, the geological continuity of the J-M Reef is interrupted by geological structures such as mafic and felsic dykes and sills, and faults. There are clear lithological and textural differences between the J-M Reef and the dykes and sills, which facilitate the identification of these intrusives in drillcores and during mining. Locally, the sill-like behaviour of the intrusive geological structures resulted in reef splitting, but this has no material negative impact to the mining operations.

6.2.2.4 J-M Reef Variability and Implications for Evaluation

The combined effect of dip, thickness and grade variability affects the manner in which the

J-M Reef is evaluated. Comprehensive geological and geostatistical studies of the J-M Reef completed over the years undertaken in support of Mineral Resource estimation have confirmed that the Pd-Pt mineralisation is broadly continuous and predictable throughout the J-M Reef, except when the continuity is interrupted by faults, dykes and sills. However, these studies and mining experience have also identified high variability of the reef at a micro (stope) level. Trends in the thickness and grade variability also show a direct link between this localised variability and changes in local reef stratigraphy (Figure 8).

Figure 8: West to East Schematic Section Showing Variability in Stratigraphy and Impact on the J-M Reef at Stillwater Mine



The cumulative knowledge accumulated over the years has been used to delineate blocks of similar grade and thick signatures and stratigraphy. This knowledge has also been used to establish a yield (ore ton per ft of development), which was valuable metric used in historical Mineral Resource evaluations until FY2020 but remains a useful metric in stope evaluation during mine planning. Some of these blocks are bound by major geological features.

Geological blocks delineated at the Stillwater Mine are the following: Dow Lower, Dow Upper, Block 1 Lower West, Block 1 Lower East, Block 1 Upper, Block 2, Block 3, Block 6 Lower, Block 6 Upper, Block 7, Block 8, Blitz West and Blitz (Figure 9). Reef intersections at East Boulder Mine show less localised variability and, as a result, six broad geological blocks have been delineated, namely the lower-grade Frog Pond East (FPE), and Brass Monkey East (BME) and Brass Monkey West (BMW), and the higher-grade Frog Pond West (FPW), Boulder East (BOE) and Boulder West (BOW) shown in Figure 10. The J-M Reef is evaluated using these geological blocks. At the Stillwater Mine, some of the geological blocks are grouped into geological domains where adjacent blocks have a similar reef orientation. On this basis, Block 1 Lower West, Block 1 Lower East, Block 1 Upper, and Block 2 are grouped into the Upper West East (UWE) domain. Block 3 and Block 6 Lower are grouped into the Off-Shaft West Lower (OSWL) domain. Block 7 is the Off-Shaft East-West (OSEW) domain. Block 8 is the Off-Shaft East-East (OSEE) domain. At East Boulder Mine, the blocks and the domains are the same.

Figure 9: West to East Section Showing Geological Blocks of the J-M Reef at Stillwater Mine

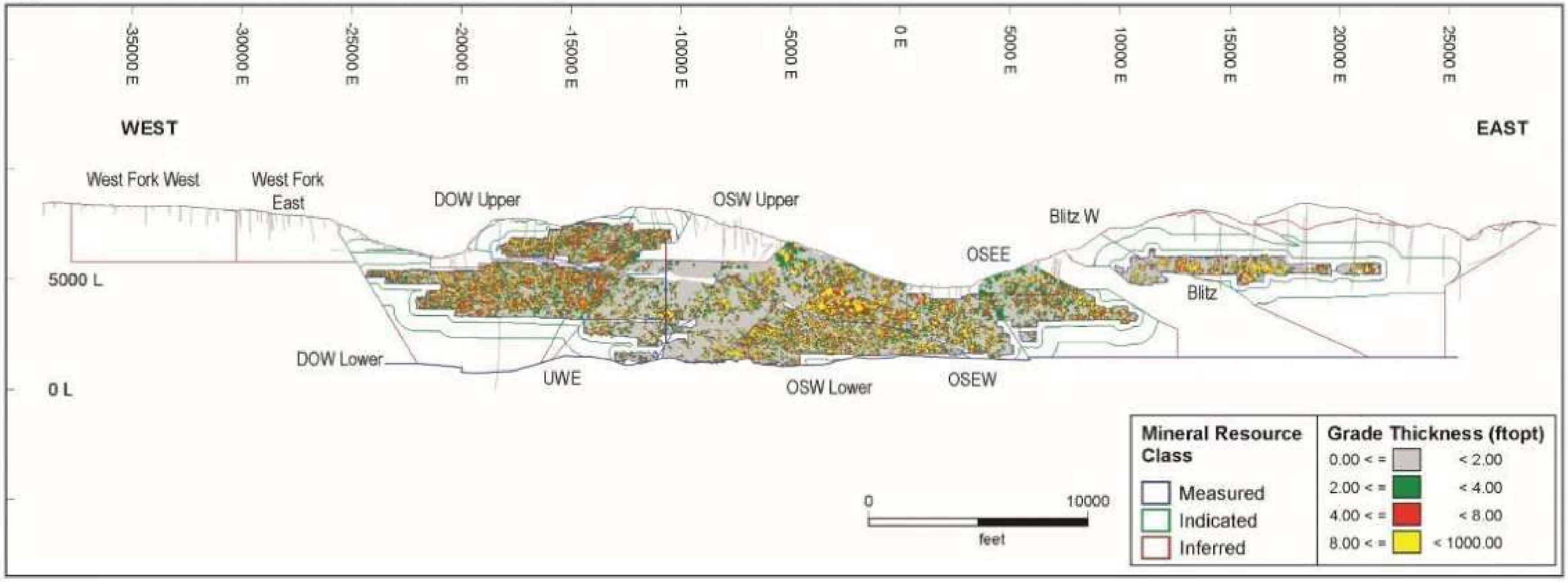
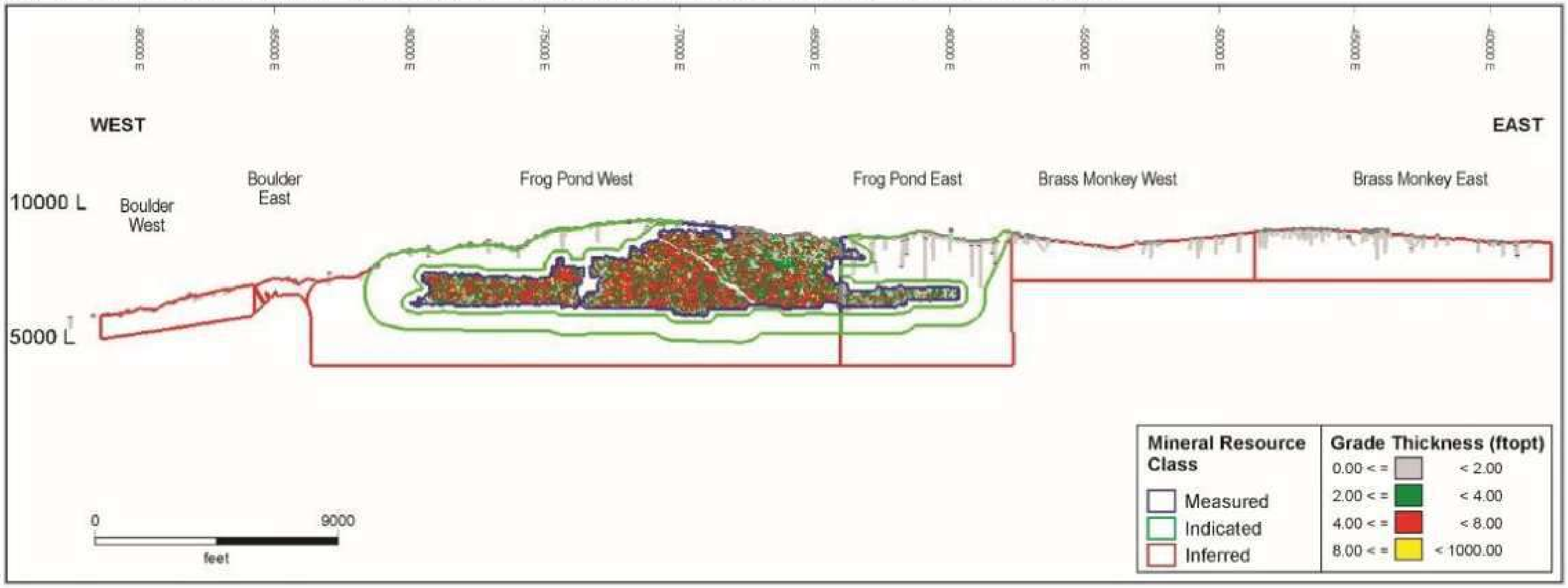


Figure 10: West to East Section Showing Geological Blocks of the J-M Reef at East Boulder Mine



7 EXPLORATION

7.1 Data Acquisition Overview

Exploration work completed in the Stillwater Complex, which led to the discovery of the J-M Reef in the 1970s and generated the geological data used to prepare the Mineral Resource estimates for Stillwater and East Boulder Mines, spans decades. Early exploration work mapped the entire outcrop of the J-M Reef of approximately 28 miles in the Beartooth Mountains and identified major geological structures disrupting the continuity of the reef. Much of this early exploration was driven by the USGS and academic research institutions. The geological information generated is publicly available, for instance, from the following organisations and their websites: Montana State Library website (http://geoinfo.msl.mt.gov/msdi.as), Montana Bureau of Mines and Geology (https://www.mbmg.mtech.edu/gmr/gmr.asp) and USGS (https://www.usgs.gov). Additional information was generated from exploration and mining activities completed by SMC and predecessor companies.

The historical exploration employed a variety of exploration techniques, namely aeromagnetic, gravity and soil geochemical surveys, surface mapping, excavation of adits and sampling, diamond core drilling and drillcore sampling. Of the exploration techniques, diamond core drilling has produced the most relevant data used for Mineral Resource estimation. It is also the dominant sampling technique for ongoing exploration and evaluation, and all mineralised drillcores are sampled and analysed at the laboratory. Accordingly, the Qualified Persons have focused on this relevant part of data collection while presenting overviews of the historical gravity, aeromagnetic and topographic surveys carried out within the Stillwater Complex by the USGS.

7.2 Gravity Surveys

Kleinkopf (1985) interpreted the Bouger gravity-anomaly map of the historical gravity survey data collected mainly by the USGS and US Defence Mapping Agency. The gravity data was based on helicopter and ground surveys, with an estimated precision of 2mGal. From the interpretation, it was noted that the Stillwater Complex occurs as a high-gradient gravity zone in the Beartooth Mountains, which is defined by -175mGal to -155mGal contours. This work facilitated the mapping of the Stillwater Complex and provided indications of the orientation at depth of the uplifted part of the complex.

7.3 Aeromagnetic Surveys

Blakely and Zientek (1985) described results of the aeromagnetic survey completed by Anaconda in 1978 to map the extent of the uplifted part of the Stillwater Complex along the Beartooth Mountains, the main magnetic lithological units and geological structures. The aeromagnetic survey campaign was based on 853ft helicopter flight line spacing at a mean terrain clearance of 249ft. Mafic and ultramafic lithological units of the Stillwater Complex associated with magnetic anomalies of between 50nT to 300nT were delineated. The magnetic survey data which facilitated the mapping of the Stillwater Complex is available at the USGS in the form of digital maps.

7.4 Topographic Surveys

For previous Mineral Resource evaluations until 2019, historical LandSat topographic survey data acquired by the USGS was used. However, the USGS generated high-resolution topographic data of the area in 2019, which was acquired by Sibanye-Stillwater for use at Stillwater and East Boulder Mines. This high-resolution topographic data has been used for Mineral Resource estimation at Stillwater and East Boulder Mines since 2019.

7.5 Exploration and Mineral Resource Evaluation Drilling

7.5.1 *Drilling*

The Mineral Resource estimates for Stillwater and East Boulder Mines contained in this TRS are based on an extensive drillhole database consisting of underground and surface diamond core drillhole data. The combination of localised grade and thickness variability, subvertical to vertical dips of the J-M Reef and rugged topography of the Beartooth Mountains has influenced the drilling strategy and evaluation approaches used at the mines. The diamond core drilling is based on the standard tube BQ-size drill bit to recover 1.4-inch diameter drill cores. The Qualified Persons are satisfied with the BQ drill bit size used as this is appropriate for the style of the mineralisation and is widely used in the PGM sector. Most of the underground and surface drillholes are inclined but not 'oriented' as this is not necessary given the style of the mineralisation, short drilling lengths and overall attitude of the J-M Reef which is well-understood.

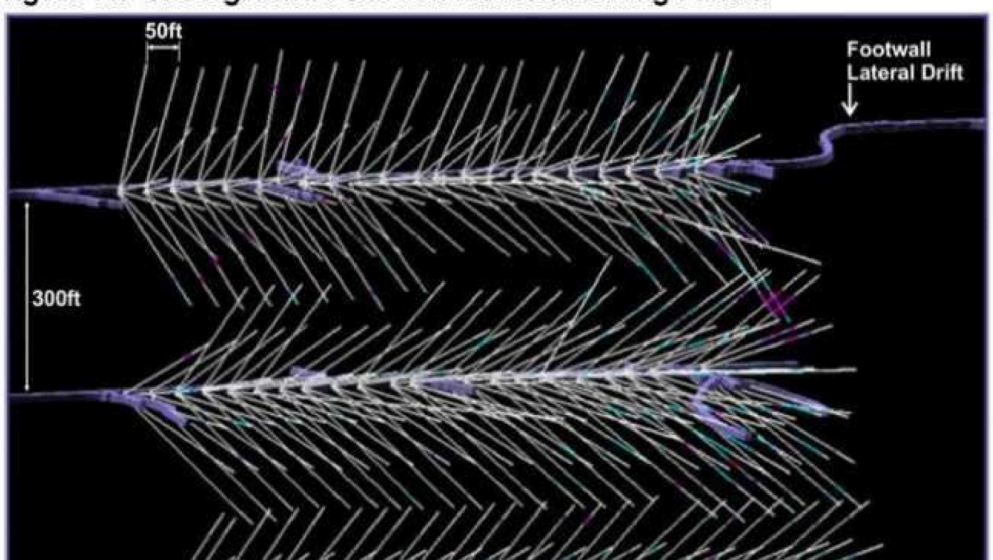
Surface drilling is only completed in areas where topography allows access and drilling activities can be safely completed. Owing to the broad lateral geological continuity and occurrence at a consistent stratigraphic location of the J-M Reef, the reef's presence and relative location can be predicted relatively accurately from moderately spaced surface drillhole data. The overall spacing utilised for the surface drillholes ranges from approximately 1 000ft to 2 000ft. The surface drillhole data is sufficient to confirm the presence and to determine the main characteristics of the reef critical for evaluation, namely thickness, grade and domain. Accordingly, surface drilling information generates the primary information that is utilised to plan underground access drives to be utilised for follow up underground drilling.

Geological information generated by public institutions, SMC and predecessor companies during the early exploration programmes was utilised for the planning of the 908 diamond core holes drilled between 1969 and 1995 from surface over the 28-mile strike of the J-M Reef and from the adits at the Frog Pond and West Fork. The historical exploration drilling data was also utilised to determine the depth

Frog Pond and West Fork. The historical exploration drilling data was also utilised to determine the depth continuity of the J-M Reef. The historical drillholes intersected the Horseman Thrust Fault, which is the regional fault that forms the lower boundary on the estimated Mineral Resources at Stillwater Mine. Surface drilling ceased from 1995 until 2010 but was resumed at the Stillwater East (Blitz) Section of Stillwater Mine until 2017. There was one surface drillhole completed in 2020 in the West Fork area of Stillwater Mine and this intersected the JM Reef at elevation of approximately 1 500ft. At both Stillwater and East Boulder Mines, underground drilling has been ongoing since 2002.

The localised grade and thickness variability necessitates follow up closely spaced underground drilling at 50ft spaced drill stations. Underground drilling is mainly aimed at increasing the confidence in the geological knowledge to a level that permits the estimation of Measured Mineral Resources and that generates the requisite data for detailed mine planning. The underground drill stations are situated in FWL drifts. At Stillwater Mine, the FWL drifts are spaced 300ft (West Section) and 400ft (East Section) vertically and established approximately 100ft to 250ft from the J-M Reef plane in the West Section and 200ft to 300ft in the East Section, with drill fans spaced approximately 50ft to 150ft along the drifts. In instances where drill stations are 150ft apart, three drill fans are drilled from these stations in order to maintain the 50ft spacing. Where drill stations are 50ft apart, a single fan is drilled from the station. At each drill station, a single radial drillhole fan is established to drill through the J-M Reef and perpendicular to its strike (Figure 11). This is achieved through drilling a sub-horizontal hole perpendicular to the reef plane, four to five up-holes and two down-holes. The drill fan configuration is intended to maintain reef intercepts spaced 50ft on the reef plane. Similar drilling strategy and drill fan configuration are followed at East Boulder Mine, with drill stations located 50ft to 100ft along FWL drifts vertically spaced 215ft and 300ft (i.e. 200ft to 300ft from the reef). Four to seven drillholes are drilled at each station based on similar drillhole orientation as at Stillwater Mine. In addition, at both mines, probe and off-angle drillholes are drilled when required to investigate local geological, geotechnical or groundwater conditions. Additional underground drillhole information is generated through development drilling. At Stillwater Mine, limited drilling of probe drillholes targeting the reef at distances of 500ft and 1 000ft has also been introduced. This is intended to achieve reef intercept spacing of 500ft in areas of low geological confidence.

Figure 11: Underground Definition Diamond Drilling Pattern



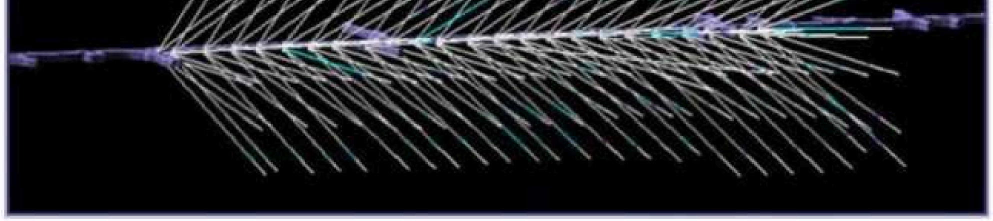


Figure 12 and Figure 13 are drillhole layouts for Stillwater and East Boulder Mines, respectively. These layouts show points at which the drillholes intersect the J-M Reef (pierce points) and not actual drillhole collar positions. The current drillhole database for Stillwater Mine contains data relating 51 289 drillholes (more than 12.7 million feet of drilling) whereas that for East Boulder Mine contains data relating to11 568 drillholes (more than 3.3 million feet of drilling).

The Qualified Persons are satisfied with the drilling strategy employed as well as the density and distribution of drillhole data generated at Stillwater and East Boulder Mines. While the intensity of the underground diamond drilling is remarkably high for PGM reef evaluation, generating between 0.5 million feet and one million feet of drillcore per annum at Stillwater and East Boulder Mines combined, this is necessary for the accurate definition of the reef especially in the areas earmarked for mining in the short to medium terms in light of the localised grade and thickness variability. Furthermore, this drilling provides the closely spaced data required to support the geological modelling and estimation approaches employed at Stillwater and East Boulder Mines. Extensive underground drilling is currently taking place in the Stillwater East (Blitz) Section owing to the requirement to generate Measured Mineral Reserves for the production ramp-up at Stillwater Mine, resulting in Stillwater Mine accounting for more than 80% of the 0.5 million feet and one million feet of drillcore drilling per annum.

The Qualified Persons are satisfied with the drilling management practices employed. Standard procedures are available for diamond core drilling management, with internal sign-off procedures and supervisory structures in place specifying areas of responsibility and oversight. The drillcore recovered is sequentially placed in core trays according to drilling depth, and the trays are transported by the drilling crews to surface drillcore processing and storage facilities once drilling has been completed. Geologists are responsible for drilling management and for ensuring that the drillers maintain the integrity of drillcores during drilling and the transportation of core trays to the core logging facilities. The drilling management protocols require high standards of drilling and cleanliness as well as high core recoveries, with any significant core loss resulting from the driller's negligence necessitating a re-drill of the hole.

All drillcores recovered are cleaned and placed in core trays, which are sealed and transported from drill sites to the core logging facilities from where core accounting, depth reconciliation, core depth marking, core photography, core logging and core sampling are undertaken by Geologists. Core recoveries are determined for each drill run on a pull-by-pull basis. Cases of re-drilling holes are infrequent, and the few cases are due to bad ground conditions affecting core recovery, which makes the re-drills unnecessary.

All drillhole collars are surveyed but drillhole traverse surveys are completed on selected drillholes to assess and quantify any deviation. All drillholes are logged by experienced geological personnel. Grade estimation is based entirely on validated surface and underground drillhole data. Typically, the drillhole data includes drillhole collar and traverse surveys, sample lengths, lithological descriptions, reef delimitations, reef facies (domain) descriptions and grades. The Qualified Persons are satisfied that this data is of sufficient quality to be relied upon, having been subjected to rigorous internal validations.

The drillhole data from surface and underground drilling has confirmed the presence, long range continuity and localised variability of the J-M Reef. This data has enabled the determination of the lateral and depth extents of the J-M Reef, reef facies, mineralisation tenor and structural disturbance which are invaluable for Mineral Resource evaluation.

Figure 12: Drillhole Layout for Stillwater Mine

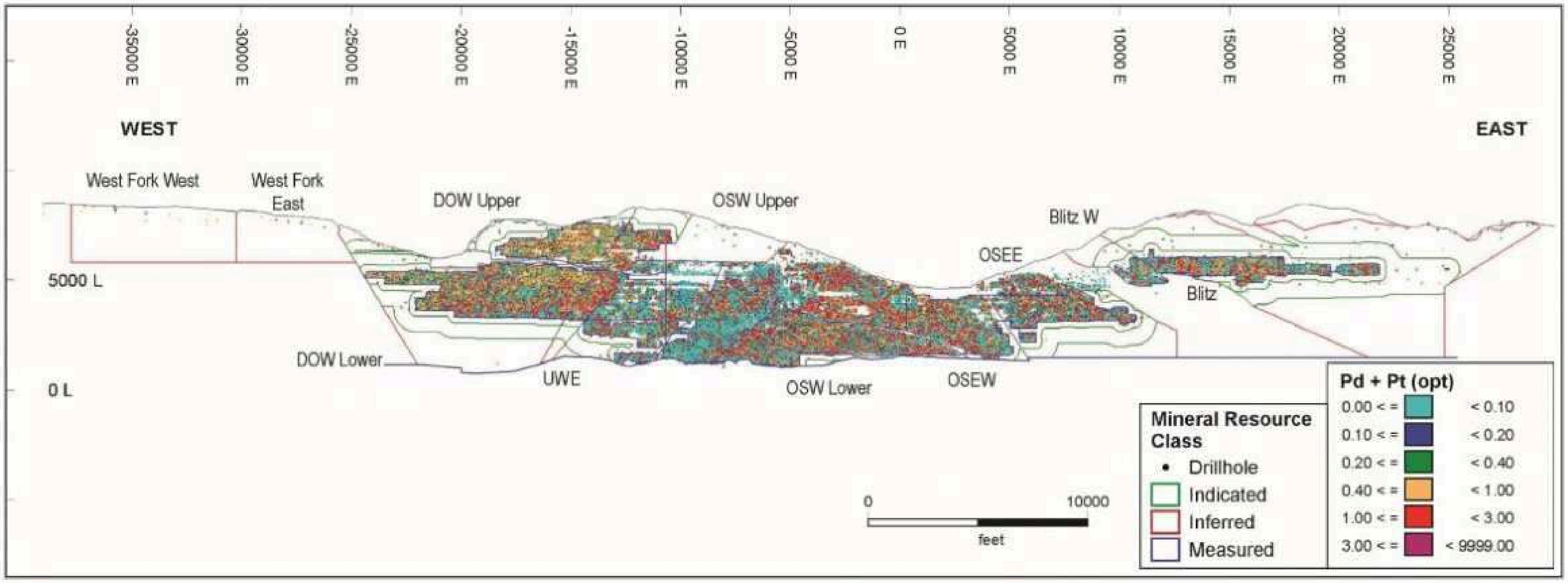
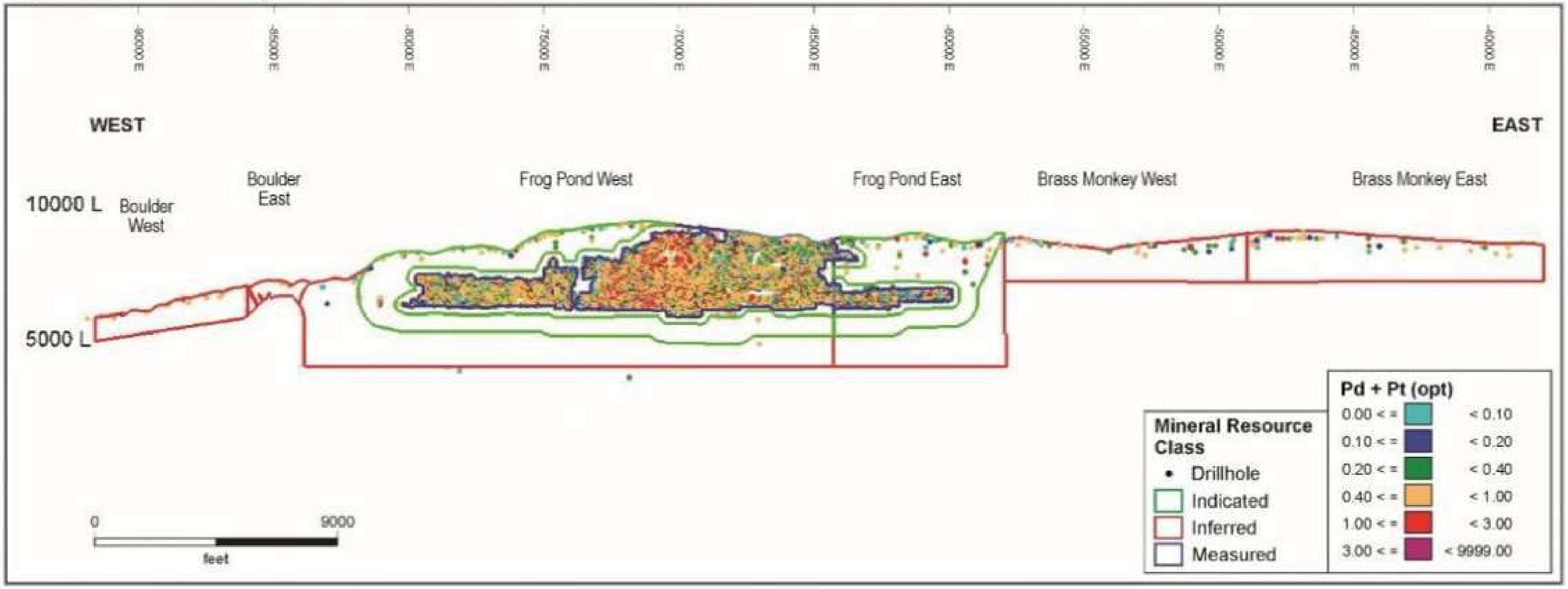


Figure 13: Drillhole Layout for East Boulder Mine



7.5.2 Core Logging and Reef Delineation

All drillcores are logged and sampled by experienced Geologists who are also responsible for the sampling of mineralised reef intersections. The Geologists perform core processing, marking, logging and sampling for surface and underground drillholes. A manual is in place to standardise the core logging and sampling processes. The Geologists at Stillwater and East Boulder Mines are trained to identify local stratigraphy, lithological units and the J-M Reef. Upon delivery of the core trays at the core storage facilities, the Geologists inspect the core trays and check the information on the driller's log sheets against the original drilling proposal, and this information includes the drillhole identification number, inclination and total length.

Core logging is undertaken for the entire rock core recovered and involves the capture of key geological and geotechnical attributes of the rocks as well as geological structures observed. It focuses on the identification and demarcation of reef intersections for sampling and the immediate footwall and hangingwall lithologies. In addition, occurrences of sulphide minerals are noted by way of marking with a yellow lumber crayon. Elevated sulphide mineral abundances are denoted with bold lines and trace sulphide mineralisation is marked using a dashed line. The Geologists estimate the proportion of sulphide mineral as a percentage of the total sample volume. Trace sulphide mineralisation is referred to using the following terminology as follows: trace minus (barely visible pyrite); trace (fleck or two of chalcopyrite, pyrrhotite or pentlandite); and trace plus (few sulphides flecks up to 0.25% of sample volume). Logging is completed on paper log sheets, but the log details are captured manually in the Core Logger system for onward electronic transmission into the Ore QMS database. After electronic capture, the paper logs are kept until the information in the Ore QMS is fully validated and archived on the central Information Technology (IT) server. Core recovery data is captured during geotechnical logging and available data indicates achievement of over 96% core recoveries by the drillers (Table 9).

As PGM minerals are not identifiable visually, their presence is inferred from their association with copper-nickel sulphide minerals. All visually identified mineralised intersections in drillcores are sampled and the samples collected are analysed at the in-house laboratory situated at the Columbus Metallurgical Complex. After the delineation of the J-M Reef, sample intervals are marked in 1ft to 3ft segments (previously 0.5ft to 3ft) and the marking is extended to 3ft and 1ft into the footwall and hangingwall of the mineralised intersection.

The Qualified Persons are satisfied with the core logging and reef delineation carried out at Stillwater and East Boulder Mines. These activities are performed by trained Geologists who are supervised by experienced Geologists. The use of a common manual for core logging and reef delineation and marking ensures consistent core logging and sampling at Stillwater Mine and East Boulder Mine, which facilitates the integration of the datasets during modelling.

7.6 Survey Data

The NAD83 State Plane is used for all surface surveys whereas a mine grid, which is based on the NAD27 State Plane rotated by 20° clockwise for alignment with the generally east to west strike direction of the

J-M Reef, is used for all underground surveys at Stillwater and East Boulder Mines. There is a conversion in place to work between these two coordinate systems.
In 2019, Sibanye-Stillwater US PGM Operations acquired recent high-resolution topographic data from the United States Geological Survey. The airborne LIDAR survey data was processed to yield topographic contours with 5ft vertical intervals. The airborne LIDAR survey data is more accurate than the LandSat survey data used for previous Mineral Resource evaluations. As a result, the processed high-resolution topographic data has been used to generate the topographic wireframe used as the upper constraint for geological modelling and Mineral Resource reporting.

The mines survey the collar coordinates, azimuth and inclination of each hole, and these surveys are completed by the Mine Surveyors. Initial collar locations of surface drillholes are established by GPS. After drilling, a total station is used to survey the drillhole collar, azimuth and inclination. Surveying of underground diamond drillholes consists of placing a rod into the drill collar to a depth of 2ft and collecting survey points at the collar and endpoint of the rod. From this data, the information is processed and stored in the database showing drillhole collar co-ordinates, azimuth and inclination.

Drillhole traverse (downhole) surveys are completed on selected drillholes to assess and quantify any deviation. Experience at the mines has shown that downhole surveys on definition holes do not significantly improve the modelling of the J-M Reef and are unnecessary as long as the holes are surveyed at the collar for azimuth and inclination. Furthermore, available data has shown up to 5ft of deviation on 300ft to 400ft long holes and up to 10ft on the 600ft to 650ft probe holes. As a result, the mines minimise the drilling of definition drillholes obliquely given that even 5ft of deviation can become exaggerated with off-section drilling. At Stillwater Mine, the downhole surveys are completed for probe holes designed to intersect the J-M Reef ahead of the footwall lateral advance, probe holes drilled straight ahead to check for ground conditions for development advance and the few holes drilled oblique to the J-M Reef plane from a single location to cover a wide area. The surveys are completed using a gyroscopic multi-shot downhole survey tool (DeviGyro) with accuracies of ±0.10° and ±0.10° on inclination and azimuth measurements, respectively. At East Boulder Mine, downhole surveys are completed on select probe holes. These surveys are completed using a Reflex EZ-TRAC tool that has an accuracy of ±0.25° on inclination and ±0.35° on azimuth. In poor ground conditions, where the downhole survey tool could be at risk, the mines will survey only the first 50ft into the hole. However, the entire hole is surveyed at 50ft depth intervals from the bottom of the hole towards the collar when it is situated in good ground conditions.

Five Leica stations are used for underground surveying at Stillwater Mine, with three of the total stations being TS13's one-second instruments and the other two being the other two units being Leica MS60 multi station instruments. At East Boulder Mine, two TS06 total stations and one Leica TS16 total station are used for underground surveying. Direction for development headings is design dependent. Linear drives use removable sleeved McGarf lasers. An as-built stope survey is performed typically once a month and when a stope cut is mined out. All data collected each day is processed and stored in a database at each site within the respective design programs.

Survey controls employed at both mines started with double, direct right angle survey points sectioning with an ongoing conversion effort to move to the resection method. Primary control points have tagged sequential numbers and there are more than 19 000 control points at Stillwater Mine and more than 5 000 control points at East Boulder Mine. Temporary control points are hung from ground support and number over 200 000 control points. Control points are generally advanced at 100ft to 200ft spacing. Groundlines, back spans and sill angles are collected while advancing control. At the distance of approximately 2 000ft, a closed loop traverse is performed. The results of the traverse must close within established parameters (less than 1ft per 50 000ft) and errors are balanced and applied to the control database.

The Qualified Persons are satisfied with the quantity and accuracy of the surface topography, collar and downhole survey data utilised for Mineral Resource evaluation. Given the insignificant drillhole deviation for the short definition drillholes at Stillwater and East Boulder Mines, there are no issues with the approach to complete downhole profiles for selected holes. Standard procedures are available for the execution of the survey work. Stillwater and East Boulder Mines each have a Lead Surveyor.

7.7 Density Determination

Stillwater and East Boulder Mines have previously used a historical density (tonnage) factor of 11.6ft³/ton (equivalent to 0.086 ton/ft³) determined in 2000 from a limited dataset of J-M Reef intersections for all in situ tonnage estimation. In 2017, Sibanye-Stillwater introduced routine relative density (RD) determinations on representative J-M Reef intersections from Stillwater and East Boulder Mines prior to submission to the laboratory for analysis. RD determinations are also performed on Footwall and Hangingwall Zone samples. The RD determinations are based on the Archimedes method and are performed by the Geologists. The mass of each sample is measured with a digital scale accurate to 0.1g and volume of displaced water is measured at 10ml accuracy.

An expanded RD dataset accumulated since 2017 (2 173 samples and 229 samples respectively for Stillwater and East Boulder Mines) has been used for tonnage estimation. This indicates highest frequency of density (tonnage) factors falling between 11.1ft³/ton (equivalent to 0.09 ton/ft³) and 11.3ft³/ton (equivalent to 0.09 ton/ft³) for the J-M Reef, with an average RD of 0.09 ton/ft³. Accordingly, the density factor used for tonnage estimation at both the Stillwater and East Boulder Mines is 11.30ft³/ton (i.e., 0.09ton/ft³). The Qualified Persons support the approach to carry out routine determinations of RD on J-M Reef intersections prior to submission to the laboratory for analysis and the use of the accumulated RD data for tonnage estimation for improved accuracy of the tonnage and metal content estimates reported.

7.8 Underground Mapping

Routine underground geological and structural mapping is performed by Geologists as part of stope observation which also includes grade control face evaluation. Underground geological structural mapping inter alia captures the exact locations of the faults and dykes exposed in underground excavations, and the mapping information is transferred into AutoCad and/or Vulcan (and Deswik in future). The new information is integrated with existing information from previous surface and underground mapping. The updated structural maps support the drillhole data used for Mineral

Resource estimation. This structural information is also utilised for short to long term rock engineering, hydrogeological, infrastructure and mine planning.

7.9 Hydrogeological Drilling and Testwork

7.9.1 Stillwater Mine

7.9.1.1 Hydrogeological Characterisation

A series of groundwater investigations at Stillwater Mine have been carried out since 2016 as part of the Blitz Dewatering Project. Itasca Denver, Inc. (Itasca) completed the groundwater studies on behalf of Sibanye-Stillwater. These studies focused on the Blitz Project (Stillwater East Section) and were concluded in 2021. The groundwater studies were extended to the Stillwater West Section (Off-Shaft West, Depression Zone, Far West and Off-Shaft East areas) in 2021. Until 2021, the Sibanye-Stillwater relied on actual experiences by the mine over the years in terms of groundwater inflows, impact of groundwater on geotechnical stability and mine dewatering requirements to prevent flooding in the Stillwater West Section. Inflows to the underground mine were not measured directly but indirectly through mine water discharge recording. In general, there have not been any significant prolonged groundwater issues encountered in the Stillwater West Section, with elevated inflows of groundwater only experienced during the initial development into new areas.

Subsurface development in the Stillwater East Section will take place beneath four surface drainage basins, which are – from west to east – Nye Creek, Burnt Creek, Prairie Creek, and Little Rocky Creek (Figure 14). As for the Stillwater West Section, subsurface development takes place beneath the Initial Creek, Iron Creek, Mountain View Creek and the Stillwater River (Figure 15). In both sections, key sources of groundwater inflows are areal recharge, recharge from surface water streams, deep regional groundwater flows and depletion of groundwater storage.

The Nye basin is a hanging, U-shaped valley formed during alpine glaciation in the Beartooth Mountains. The drifts and production areas of Stillwater East and West Sections are being established in the crystalline rocks of the Stillwater Complex, which typically have low permeability. The portal for the Benbow decline in the Stillwater East Section is located in the Triassic Chugwater Formation, and the decline traverses southwest through older sedimentary units that include several Palaeozoic carbonate-rock units. The carbonate rocks have greater permeability and more groundwater storage capacity than the crystalline rocks of the Stillwater Complex. At 3 615 ft from the portal, the decline traverses the unconformity between the sedimentary rocks and the Stillwater Complex. Groundwater flow in the carbonate rocks is largely disconnected from the groundwater-flow network in the crystalline rocks of the Stillwater Complex.

A number of north-south trending dykes and steeply dipping faults create secondary permeability and facilitate the flow of groundwater. Regional-scale, low-angle thrust faults striking roughly east-west (e.g., the Prairie Fault) are also present and tend to have substantial clay-rich (gouge) cores that impede the flow of water across the faults. However, these faults sometimes have damaged zones, which facilitate the flow of groundwater along the fault plane.

Figure 14: Sub-surface Water Basin in the Stillwater East Mine Area

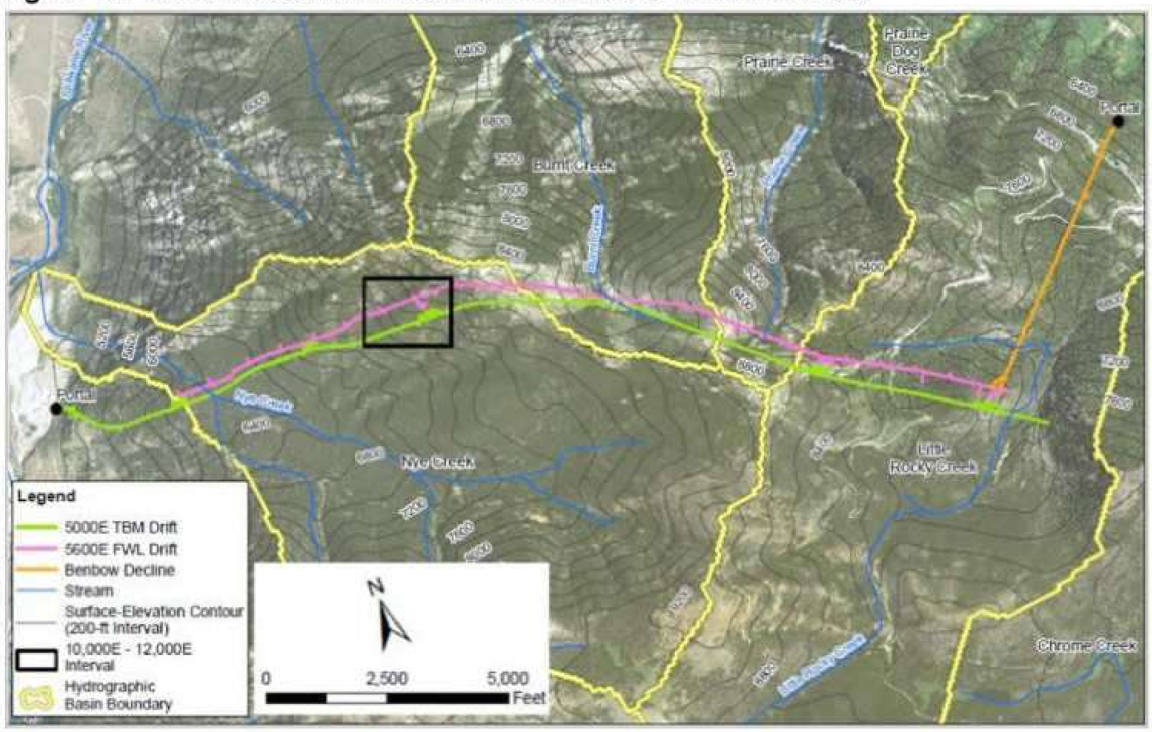


Figure 15: Sub-surface Water Basin in the Stillwater West Mine Area

Climatic conditions drive groundwater recharge over the long term and directly influence the discharge/flow rates of meteoric-sourced springs and streams that issue from shallow groundwater systems in the short term. Direct infiltration of the seasonal snowmelt and run-off in the vicinity of the decline produce a minor amount of recharge to the groundwater system.

7.9.1.2 Hydrogeological Testwork and Data Collection

For the groundwater investigations in the Stillwater East Section, Sibanye-Stillwater and Itasca recorded water pressures from underground drillholes, performed hydraulic (flow and shut-in) tests and collected groundwater samples for geochemical and isotopic analyses at eleven different locations indicated in Figure 16, and developed analytical models to estimate inflow rates to the development drifts and future production areas. Itasca also considered data from a network surface water monitoring locations and the Burnt Creek, Prairie Creek, and Little Rocky Creek drainages. The drillhole testwork data was collected since 2016 while the surface water (stream chemistry) data was collected since 1988. As for the Stillwater West Section, the groundwater inflow monitoring points for the Stillwater West Section are shown in Figure 17 (x-axis) together with the flow rate determined (RHS y-axis) – solid black triangles show inflows recorded by Itasca at the headings of active FWL drifts.

Figure 16: Hydrogeological Drillhole Locations along Adits in the Stillwater East Section

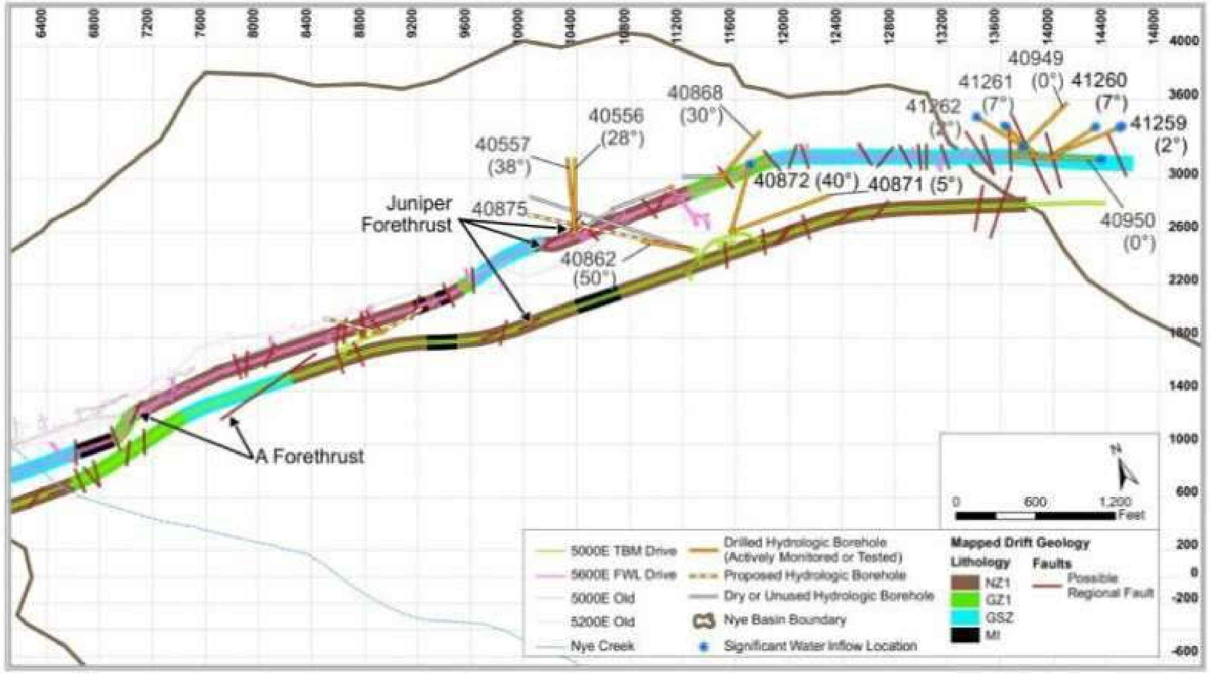
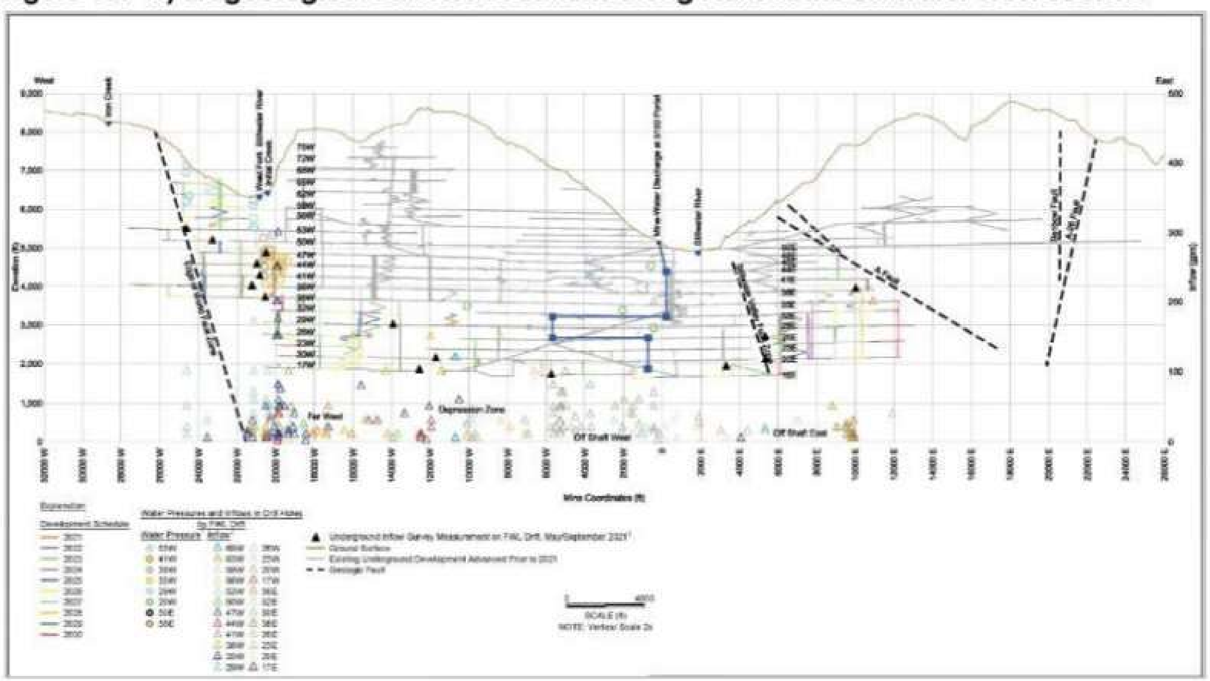


Figure 17: Hydrogeological Drillhole Locations along Adits in the Stillwater West Section



Sibanye-Stillwater and Itasca recorded water pressures and obtained water samples from twenty-two hydrogeological boreholes at the eleven sites in the Stillwater East Section to determine flow rates and hydraulic conductivity (K) values. All of the instrumented drillholes were sampled for water chemistry and isotopic analyses, along with one of the non-instrumented probe holes. Water-pressure time-series data was automatically recorded by pressure transducers equipped with dataloggers at each of the instrumented drillholes. Hydraulic flow and shut-in tests were conducted during drilling using a special drill-collar manifold constructed by Itasca. The drill-collar manifold apparatus included a manual pressure gauge for water-pressure readings and a valve for regulating the flow through the manifold. Discharge from the manifold during a flow test was routed into a tank with graduated volume markings and was timed to make flow measurements. As part of quality assurance and control, each instrumented location was retested post-drilling, and after installing monitoring manifolds while allowing the water pressures to re-equilibrate following the perturbations caused by drilling.

In the Stillwater West Section, Itasca performed seventeen hydraulic tests in four drillholes as per the procedure employed in the Stillwater East Section described above. Itasca also considered the quantity of mine water pumped to surface over a 15-year period to 2021 averaging 873gal per minute of which 466gal per minute is recirculated back to the underground mine and 407gal per minute is treated and discharged to percolation ponds or Land Application Disposal (LAD) sites.

7.9.1.3 Hydrogeological Results and Interpretation

Groundwater flow at Stillwater Mine is controlled by geological structures and lithological boundaries and not by local scale permeability. Inflows to the working areas are a result of groundwater intersection these structures and contacts. The South Prairie Fault is a hydrogeologically important feature in the immediate vicinity of the J-M Reef and future production areas in the Stillwater East Section. This fault appears to limit southward-directed groundwater flow across the fault into the development drifts and future production areas in the Nye Creek Basin, which is beneficial to the mining operations. However, this situation may be different in the basins to the east of the Nye Creek Basin, due to a possible reversal of groundwater flow directions in the headwater portions of those eastern basins.

The average hydraulic conductivity (K) values computed from the flow and shut-in/recovery tests for the Stillwater East Section vary between approximately 0.0009ft and 5ft per day and are consistent with a range of values for fractured igneous and metamorphic rocks. The K values for the Stillwater West Section vary from 0.003ft to 0.2ft per day and are consistent with those for the Stillwater East Section. The geometric mean K value for all the full-hole-length flow and shut-in/recovery tests in the Stillwater East Section is 0.01ft per day. The Qualified Persons note that the full-hole-length tests provide a good representation of the "effective K" value of the overall rock mass as they account for both the occasional high-permeability fracture zones and the predominant less-fractured bulk rock mass of very low permeability. Since the bulk of the water flow in the rock mass is taking place along discontinuities (i.e., in the fractured zones created by faulting), the average K values computed from the flow and shut-in tests are primarily controlled by the density, aperture size and persistence of the discontinuities intersected by the drillholes.

The previous conceptual hydrogeological model estimated average inflows of approximately 1 100gal per minute into the Stillwater East Section. Refinements to the model based on the Perrochet analytical modelling predicted inflow rates as high as 1 500gal per minute by the end of the 25-year life of mine. The predicted total inflows to the development and production areas in all the basins combined indicated that the LoM plan would generate higher inflow rates.

Itasca updated the conceptual hydrogeological model for the Stillwater East Section to account for the additional data collected since the previous update. Itasca also utilised the data and modelling insights from the Stillwater East Section to develop a conceptual model for the Stillwater West Section where there is limited data.

Based on the 2021 conceptual hydrogeological model and a 2021 base year, average inflows from groundwater to the Stillwater East Section are predicted to increase over the first two to seven years with the development of additional ramps and FWL drifts and opening up of new production areas. The total combined inflows to the planned development and production areas are estimated to increase from 940gal to 3 135 gal per minute in the first two years, increasing to approximately 3 663gal per minute in four years, reaching 3 790gal per minute in seven years and continue at rates between this peak and 3 600gal per minute. The largest predicted inflows to development and production areas are 2 000gal per minute and 1 800gal per minute, respectively. The predicted inflows to the Benbow Decline are estimated to increase from 90gal per minute to 135gal per minute.

The Qualified Person notes that the predicted maximum inflow rate of 3 800gal per minute is potentially overestimated. This view is shared by Piteau Associates Geotechnical and Hydrogeological Consultants who were commissioned by Sibanye-Stillwater in July 2021 to independently review the work and recommendation by Itasca. The estimates assume an infinite supply of groundwater, which is inconsistent with reality (i.e. local-scale structural compartmentalisation). Empirical data from the mine suggests inflows that are less than half this estimate (900gal per minute to 1 500 gal per minute). For the Stillwater East Section, the system is based on 900gal per minute of water pumped to surface of which 500gal per minute is recycled to the underground mine and the remainder treated and discharged. As a result, Sibanye-Stillwater determined that 2 500gal per minute would be the basis for the Stillwater Mine water treatment system.

7.9.2 East Boulder Mine

7.9.2.1 Hydrogeological Characterisation and Testwork

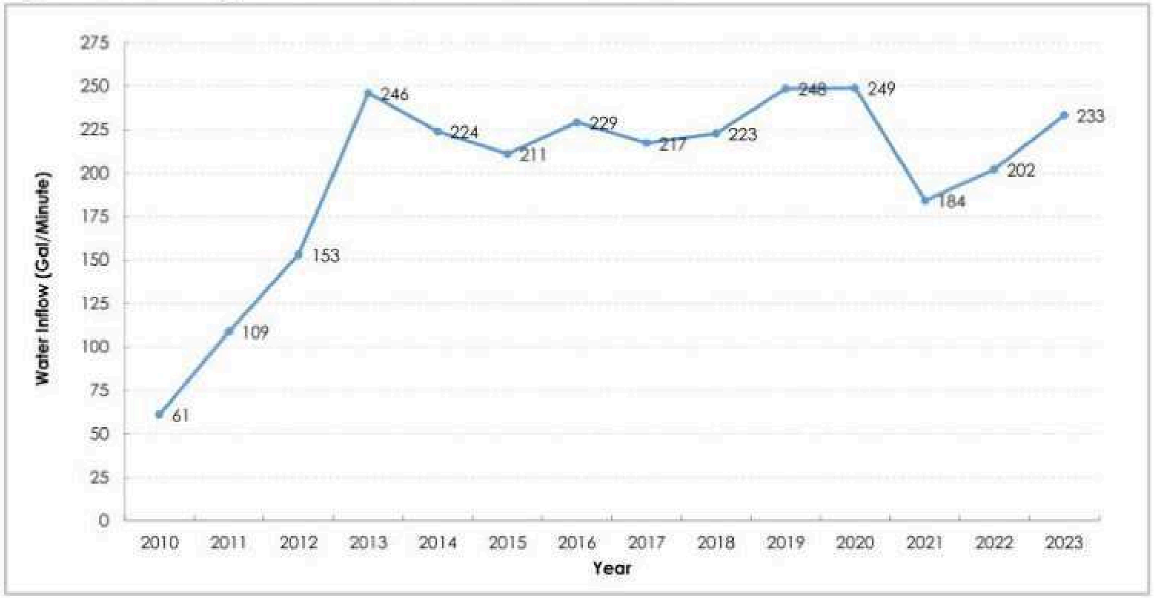
A groundwater investigation was conducted in 1992 during the planning stage of East Boulder Mine primarily focusing on the path of the access adit. The Qualified Persons could not locate any information on quality assurance and control in reference to this investigation. Furthermore, no updated hydrogeological investigation has been completed since the inception of the mine. The 1992 groundwater investigation has been superseded by actual experiences by the mine over the years in respect of groundwater inflows, impact of groundwater on geotechnical stability and the requirements for mine dewatering to prevent flooding.

The Qualified Persons note that the risk to encounter major inflows of groundwater is likely during the initial development into new areas and flows reduce with time with bleeding off and dewatering. During the development of the twin tunnels, the only significant water inflows were encountered where diamond drill water probes produced a maximum of 80gal to 100gal per minute of inflow. However, most of these holes bled off to flows less than 80gal per minute over time, with any holes that did not bleed off controlled through grouting.

Figure 18 shows the average water inflow into the mining operations at East Boulder Mine. Water inflows increased from 61gal per minute in 2010 to a peak of 246gal per minute in 2013 but have ranged from 211gal per minute to 249gal per minute thereafter until 2020 after which inflows receded to an average of 184gal per minute. There has been a progressive increase in water inflows to 233gal per minute in 2023, an inflow rate which is consistent with the average water inflow rate for the mine. The post 2012

2023, an inflow rate which is consistent with the average water inflow rate for the mine. The post-2012 levels of water inflow ranging from 184gal per minute to 249gal per minute (224gal per minute on average) should be expected at East Boulder Mine.

Figure 18: Average Water Inflow at East Boulder Mine



7.9.2.2 Hydrogeological Results and Interpretation

The Qualified Persons note that much of the area being mined at East Boulder Mine is adjacent to active mining fronts, which have historically had no issues with groundwater. The available data show a modest increase in the average mine-wide water inflow due to increase in development and production activity associated with the production increases since FY2017 when the Fill The Mill Project was implemented. The lowest level of the mine currently acts as a drawdown point for surrounding groundwater levels. Most of the mining areas continue to be above this drawdown point and the inflows are likely to be similar or lower than those experienced by historical mining operations.

All mining activity will remain within the crystalline rocks of the Stillwater Complex, which have very low permeability. Water will likely be encountered when it relates to the intersection of faults and joints. However, there is risk of encountering alluvial systems associated with surface channels as mining gets to within 500ft from surface. Standard practice during underground development at East Boulder Mine includes the diamond core drilling of water probe holes prior to any development work to mitigate the risk of encountering water. Prior to mining any area, diamond core drilling on 50ft centres is also completed resulting in a good understanding of water potential before mining activity begins.

7.10 Geotechnical Data, Testing and Analysis

7.10.1 *Geotechnical Characterisation*

The J-M Reef and its immediate hangingwall and footwall consist of varying assemblages of norite, anorthosite, leucotroctolite and peridotite. Mafic dykes traverse the J-M Reef, Footwall and Hangingwall Zones. The dyke material is generally blocky, slick and akin to the nature of the jointed host rock. Stillwater and East Boulder Mines constitute the two main geotechnical ground control districts. The J-M Reef is mined at the following depth ranges:

- Stillwater West Section: Shallow to intermediate, onset of stress fracturing deeper than 3 300ft below surface. At depths less than 3 300ft below surface, joint and structural lineament influence stability and tensile zone;
- Stillwater East Section: Shallow to intermediate depth of mining environment, joint and structural lineament influence stability, tensile zone and, in deeper areas, stress fracturing combines with micro fractures to stimulate mobilisation effects; and
- East Boulder Mine: Predominantly shallow environment.

The effects of mine seismicity have not had a significant influence on the mining operations at Stillwater and East Boulder Mines. This is because, at current mining depths at the Stillwater and East Boulder Mines, the propensity for mining induced seismicity (strong ground motion) is low. In addition, the probability of natural earthquake induced strong ground motion is also low. East Boulder Mine has a micro-seismic system installed and monitors blasts and seismic events daily.

7.10.2 *Geotechnical Testwork and Data Collection*

Rock engineering and support designs utilised at Stillwater and East Boulder Mines have been developed using a combination of geotechnical drillcore logging, underground evaluations by trained geotechnical engineers, and selective validation with numerical modelling software. Geotechnical drillcore logging is the primary method of gathering rock strength and quality parameters. Geotechnical logging is completed by Geologists on drillcores recovered from surface exploration and underground probe and definition diamond core drilling. The definition drillholes at Stillwater Mine that are considered for geotechnical logging include the first down hole and up hole at a drill station, sill holes and holes identified as low and high-grade mineralisation at the time of logging. Furthermore, drill core for straight-ahead and south-directed probe holes are geotechnically logged. At East Boulder Mine, geotechnical information is collected on all drillholes. In general, the geotechnical data is collected at a drillhole spacing of 50ft.

In general, the entire J-M Reef is geotechnically logged, with the logging extended 1ft to 15ft into the immediate Footwall and Hangingwall Zones. Geotechnical logging involves the determination of core recovery, Rock Quality Designation (RQD), fracture frequency, number of joint sets, joint roughness, joint alteration, nature of fracture fill and Point Load Index. As the drillcores are not oriented, the joint orientations and number of joint sets recorded are estimated through visual inspection of drillcores backed up by underground mapping information. Point load tests are performed on intact rock cores. Due to the destructive nature of this technique on the sample, it is impractical to perform a duplicate test. The most practical quality assurance and control entails comparing the new result to the existing data for a similar type and neighbouring drillholes. A new result that varies significantly (>10%) in the absence of shearing and a concomitant low RQD (<70%) is adjudged to be a spurious result which should be excluded from the database.

The geotechnical data is stored in the Ore QMS database and utilised for rock engineering. Other geotechnical parameters determined are the uniaxial compressive strengths (UCS) and the International Society for Rock Mechanics (ISRM) grading for intact strength of the J-M Reef and the immediate hangingwall and footwall zones. UCS is calculated from the Point Load Index through regression.

Barton's Q-system is exclusively used to classify the rock mass characteristics at Stillwater and East Boulder Mines. A combination of drillcore and underground ground evaluation data on the geotechnical parameters above is used for the computation of Q-values used to classify rock mass conditions.

Measurements of *in situ* stress were conducted at the mines in 1997, 2002 and 2016 using hollow inclusion stress cells. The initial (1997 and 2002) stress measurements were conducted under mountain and valley terrains within Stillwater Mine (Figure 19), whereas the most recent (2016) measurement at East Boulder Mine was performed at test sites where there has been minimal stoping (Figure 20). The Qualified Persons could not locate any information in relation the pre-2016 in situ stress. However, duplicate tests were performed as quality control and assurance for 2016 measurements. In most cases, the results were repeatable. The isolated incidences of significant variations between duplicate measurements were investigated and rectified during data collection.

Figure 19: Test Sites for In Situ stress Measurements at Stillwater Mine

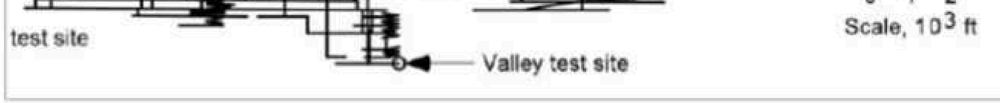
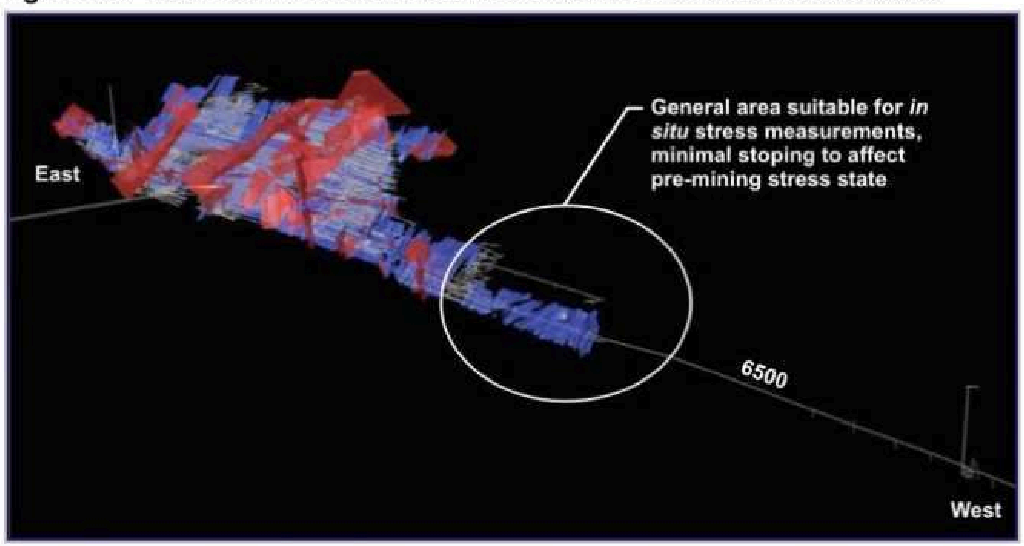


Figure 20: Test Sites for In Situ Stress Measurements at East Boulder Mine



7.10.3 *Geotechnical Results and Interpretation*

A recent geotechnical dataset indicates overall core recoveries for the J-M Reef, Footwall and Hangingwall Zones of above 96% (Table 9). Core recovery is the initial indicator used to predict potential ground control issues. The database also shows RQDs above 75% for most (over 69%) of the logged drillcore intersections, which indicates fair to good rock mass conditions. Over 78% of the sampled intervals have rock strengths above the 3 500Psi threshold considered weak rock. Sections with lower strengths than this threshold are commonly associated with olivine cumulates or geological structures. When these rock types and structures are identified in the drillcores, the mining and support designs are adjusted accordingly. The UCS of the rock units contained within the J-M Reef, Footwall and Hangingwall Zones range from 60Mpa to 85Mpa (overall mean of 70.45Mpa). The ISRM Grade R4 classification for the intact strength of all the stratigraphic units indicates a strong rock (i.e., UCS of 50MPa to 100Mpa).

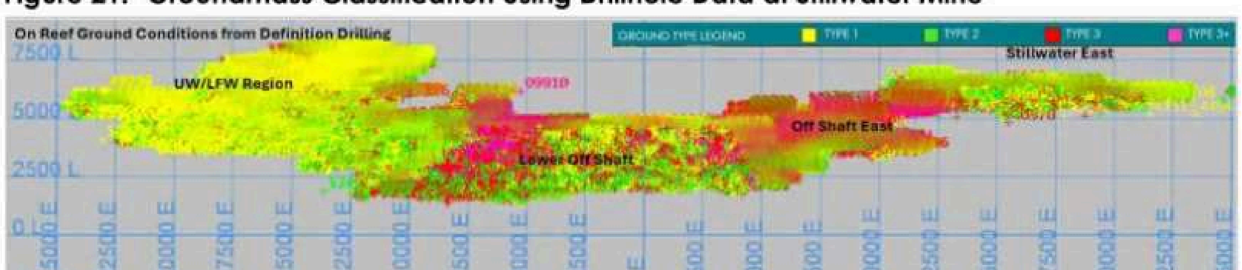
Table 9: Summary of Geotechnical Parameters

Stratigraphic Unit	Average Core Recovery (%)	Average UCS (MPa)	Average RQD	Average Rock Strength (Psi)	Average Q-Value
Hangingwall	96.30	65.41	77.83	12 184.59	8.16
J-M Reef	97.00	61.93	80.74	9 486.48	8.24
Footwall	96.20	84.01	76.40	8 982.68	6.19
Mean	96.50	70.45	78.43	1 0812.86	7.83

Figure 21 and Figure 22 show groundmass classification based on drillhole data at Stillwater and East Boulder Mines, respectively. The interpretation is also informed by historical geotechnical data collected from underground geotechnical mapping in the mined-out areas. Based on Figure 21 and Figure 22, the Qualified Persons are of the view that geotechnical data from drilling can be used to predict rock mass characteristics and delineate geotechnical domains at both mines. Areas of elevated

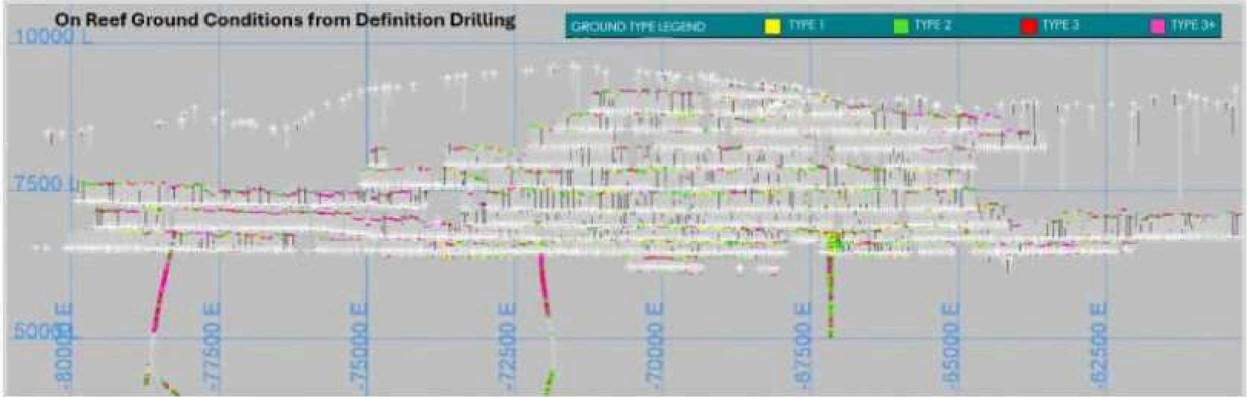
geotechnical risk classified as Type 3 Ground and those with variable ground conditions such as Stillwater East Section of are noted and accounted for in support designs.

Figure 21: Groundmass Classification Using Drillhole Data at Stillwater Mine



Ground Type	Qmin	Qmax	RMR min	RMR max	Description
Type 3+	0.1	0.39	23	36	very poor or poor with water present
Type 3	0.4	0.99	36	44	poor
Type 2	1	3.99	44	56	fair
Type 1	4	100	56	85	good

Figure 22: Groundmass Classification Using Drillhole Data at East Boulder Mine



Ground Type	Qmin	Qmax	RMR min	RMR max	Description
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Type 3	0.4	0.99	36	44	poor
Type 2	1	3.99	44	56	fair
Type 1	4	100	56	85	good

The three most prominent joint orientations observed in underground excavations are associated with the following geological structures:

- North-northeast (020°) striking, steeply dipping faults;
- Northeast striking mafic dykes with dips of 35° to 70° towards southeast; and
- Westerly striking, layer parallel joints with dips of 45° to 90° towards north.

The crosscutting nature of the joints periodically creates wedges in the backs and ribs of the mine openings. The Q-Values obtained for Stillwater and East Boulder Mines typically range from 1 to 13 (average for the Footwall, J-M Reef and Hangingwall Zones is 7.83; Table 9) and the rock mass can be classified as poor to good. Approximately 50% of the rock mass is classified as fair, 25% is classified as good and 25% is classified as poor. Conditions are generally dry with rare occurrences of low-pressure low-volume water inflows. The stress reduction factors (SRFs) used to calculate the Q-ratings have a mean value of 1.88 while joint water conditions range from dry (SRF = 1.0) to medium inflow (SRF = 0.66).

Measurements of *in situ* stress indicate that the horizontal to vertical stress ratios at Stillwater and East Boulder Mines are typical for shallow to intermediate operations:

- 1.5 to 1.9 for valley areas at Stillwater Mine;
- 0.8 to 1.9 for mountain areas at Stillwater Mine; and
- 2.4 for East Boulder Mine.

Other associated data on stress orientations and magnitudes help form a portion of the input parameters for numerical assessments of development and stope stability, local and regional sequencing and support design.

8 SAMPLE PREPARATION, ANALYSES AND SECURITY

8.1 Sampling Governance and Quality Assurance

The Qualified Persons are satisfied with the standard procedures for geological data gathering used at Stillwater and East Boulder Mines which prescribe methods that are aligned to industry norms. The governance system at Stillwater and East Boulder Mines relies on directive control measures and, as such, makes use of internal manuals (standard procedures) to govern and standardise data collection, validation and storage. Furthermore, the standard procedures are mandatory instructions that prescribe acceptable methods and steps for executing various tasks relating to the ongoing collection, validation, processing, approval and storage of geological data, which is utilised for geological modelling and Mineral Resource estimation. In addition to internal standard procedures, Sibanye-Stillwater implements an internal analytical quality control protocol for the routine assessment of laboratory performance and quality of analytical data from the laboratory. As required by the protocol, batches of samples sent to the laboratory include routine "blank" samples (hangingwall and footwall anorthosite samples) and pulp samples from previous sample batches (repeat samples) analysed at the laboratory. Results of the analytical quality control are discussed in Section 8.4.

The governance system also emphasises training to achieve the level of competence required to perform specific functions in the data gathering, validation and storage. Extensive on-the-job training of new Geologists, who will eventually be responsible for logging and sampling, is performed. Lithological and geotechnical data is acquired through the logging of drillcores recovered from surface and underground drilling. The logging is undertaken by trained Geologists, who are familiar with the J-M Reef, footwall and hangingwall stratigraphy and rock types. Existing drillhole information from previous core logging guides ongoing core logging and any deviations from the expected rock types and stratigraphic sequence observed during logging are investigated further by the Geologists supervising the logging. Routine validations are undertaken by the experienced Geologists at various stage gate points in the data collection process flow, with the ultimate validations performed by the Qualified Persons. The Qualified Persons note that the internal peer review of the data facilitates the early detection of material errors in the data capture before the collection is finalised.

Another aspect of the governance system is the documentation of the geological data gathering process flow (i.e. data collection, processing and validation). The Qualified Persons acknowledge that this documentation facilitates the auditability of the process flow activities and outcomes as well as the measures undertaken to rectify anomalous or spurious data.

Surface core storage facilities at Stillwater and East Boulder Mines are secure and accessed by authorised geological personnel. In addition, the facilities are part of the surface infrastructure at the mine sites which are fenced off to prevent unauthorised entry by the public and animals, with access restricted to the Sibanye-Stillwater US PGM Operations employees.

8.2 Reef Sampling

The sampling procedure at Stillwater and East Boulder Mines requires the sampling of all mineralised intersections of the J-M Reef containing visible sulphide minerals. For this sampling, it is critical to break

the sample intervals taking into account variations in sulphide mineralisation abundance and lithology. Furthermore, a break in sampling should always occur at the hangingwall contact. This approach facilitates efficient assessment of the analytical results of the sampled sections. The laboratory requires a minimum sample size equivalent to 1ft in length for BQ-size drill core (previously 0.5ft, but laboratory requirement has changed to 600g sample equivalent to 1ft). As a result, reef samples are taken in 1ft to 3ft segments and the sampling is extended by 1ft to 3ft into the footwall and hangingwall of the mineralised intersections. Sampling may be extended further into the footwall zones that are mineralised. Sample lengths can also be varied when sampling large internal waste zones where the sample interval can be extended to 4ft or only a fraction of the drilled core was recovered during drilling due to poor ground conditions in which case the full 5ft between running blocks is taken. An internal waste zone of less than 10 inches between mineralised zones should be sampled together with the mineralised zones but is assigned a zero grade.

In order to ensure sample representivity in light of the very coarse-grained nature of the J-M Reef, the entire drillcore sample is submitted to the analytical laboratory and no core splitting is performed. Accordingly, there is no risk of contamination, selective losses or high grading associated with the sampling of the recovered drillcores at Stillwater and East Boulder Mines.

The samples are assigned unique sample identification numbers and tags before they are transported to the laboratory by Geologists. In addition, the samples for each drillhole and the associated quality control samples (repeat and blank samples) from Stillwater Mine are submitted to the laboratory on the same day that the sampling takes place, failing which they should be submitted during the morning of the following day. Due to the lower volume of samples than for Stillwater Mine, samples from East Boulder Mine are to be submitted within two weeks of sampling. The Geologists prepare sample submission sheets that accompany the samples. Both the samples and sample submission sheets are placed in customised bins from which they are received by the laboratory personnel. Records of the sample data are captured in the Ore QMS database.

8.3 Sample Preparation and Analysis

8.3.1 *Laboratory*

Samples from Stillwater and East Boulder Mines are analysed at the inhouse analytical laboratory located at the Columbus Metallurgical Complex which is owned and operated by Sibanye-Stillwater. The Qualified Persons can confirm that the analytical laboratory is a secure facility as it is situated in the Columbus Metallurgical Facility which is fenced off to prevent unauthorised entry by the public and where access is restricted to only authorised personnel of the Sibanye-Stillwater US PGM Operations.

The inhouse laboratory has facilities for sample preparation and chemical analysis (via fire assay and instrumental techniques). It is equipped with the Laboratory Information Management System (LIMS) software, which facilitates effective and efficient management of samples and associated data. The analytical laboratory was automated with wavelength dispersive and energy dispersive X-Ray Fluorescence (XRF) instrumentation as well as robotic sample preparation facilities in 2011. It handles

geological drillcore and grade control samples as well as samples from the concentrators, smelter and base metal refinery.

The laboratory is not certified by any standards association. The Qualified Persons do not consider the absence of certification as a material issue on the basis that the laboratory is subjected to periodic external checks on internal samples by a group of six international accredited laboratories. Furthermore, the Qualified Persons periodically inspect the laboratory facilities, interact with laboratory personnel and assess analytical data from the laboratory as they carry out their normal duties. These activities are aimed at detecting and eliminating any material issues in the sample preparation, analytical equipment and methods utilised by the laboratory for geological samples.

8.3.2 *Sample Preparation and Analysis*

8.3.2 Sample Preparation and Analysis

The analytical laboratory completed the installation of the Automated Geology Laboratory (AGL), which will be commissioned in Q1 FY2024. The AGL was introduced to process 300 geological samples per day and improve the consistency of the sample preparation process. This is an upgrade from the existing process used which has an analytical capability of 200 geological samples per day.

The laboratory employs industry aligned approaches to sample receiving, preparation and analysis and the reporting of analytical results. Drillcore samples originating from Stillwater and East Boulder Mines are transported to the Columbus Warehouse in totes via third-party carrier. Laboratory personnel retrieve the totes from the Columbus Warehouse in the cargo holds of site vehicles. Sample batches received at the laboratory are reconciled against submission sheets and any discrepancies identified are reported to the Geologists for rectification prior to sample preparation.

Sample preparation includes sample drying, crushing and milling. The drillcore samples of approximately 4.4lb to 11lb mass are dried at a temperature of 221°F for approximately two hours, organised into sets containing up to 22 samples and assigned tags with bar codes. The barcoded sample labels are scanned and logged into the LIMS after which the samples are run through a primary and secondary jaw crusher producing material grading 100% passing 0.25 inches. The processes utilised for sample size reduction after crushing are performed by robotic equipment thereby minimising the potential for bias or sampling error. The crushed material is split down to approximately 0.40lb to 0.44lb using a Jones riffle splitter and introduced into the robotic sample preparation system (HPM1500). This system sequentially pulverises each sample to achieve 95% passing 140-mesh size (i.e., 106µm particle size) in an automated grinding mill. Grind tests are performed quarterly to ensure the correct grind size is always achieved.

Analyses are performed through the dual analytical route of XRF analysis and lead fire assay (PbFA) collection followed by Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) for metal content determination. Silver (Ag) is introduced into the flux as a co-collector in the PbFA process to help collect the precious metals in the geological samples. Results produced by both XRF and PbFA + ICP-OES analytical techniques are total analyses that reflect potentially extractable *in situ* values of the target metals (Pd and Pt) reported in the Mineral Resource statements for Stillwater and East Boulder Mines.

A portion of the pulverised material is weighed, mixed with binder and loaded into an automated pellet press. Balances used for charging fire assay samples are tested for accuracy, with each shift required to use certified check weights. Furthermore, a third party performs preventative maintenance and calibration annually on the scales. An XRF analysis is performed on the pressed pellet. The remaining sample material is taken to the fire assay balance room. The fire assay (FA) process comprises the following steps:

- Fusing the primary and standards samples with a Pb-based flux at 2 084°F;
- Separating the Pb to form a Pb button;
- Cupellation to form a precious metal bead (PbFA-collection);
- Bead digestion in aqua regia; and
- Metal content determination via ICP-OES analysis of the digestion solution.

All analytical results are reported directly into the LIMS via the instrumentation and forwarded to the Geologists electronically, which eliminates the risk of data capture error. The instrument lower detection limits (LDL) for the analytical processes employed are 5ppb for Pd and 10ppb for Pt. The XRF analysis also produces results for multiple elements and oxides, but the LIMS is configured to report only the elements of significance (Pd and Pt) required for PGM evaluation. For the PbFA collection and ICP-OES analysis, only Pt, Pd and Au values are determined although only the Pd and Pt values are reported. The Pd data reported from the XRF analysis is compared with the Pd data based on the PbFA collection technique before the analytical reports are finalised. Any discrepancies are investigated and rectified before the report is finalised.

The laboratory has in place quality assurance and control procedures for the analysis and handling of the samples. The laboratory operates separate lines for the receiving, preparation and analysis of low-grade (e.g., geological) samples and high-grade (e.g. concentrate) samples, with an overall high level of cleanliness maintained to minimise contamination. Furthermore, the laboratory standards and blanks are also included in each sample batch and any anomaly identified in the quality control samples is addressed as required. As there are no commercially available independent standards of the J-M Reef mineralisation, the laboratory manufactures its own internal standards, which it sends out to external laboratories periodically for check analysis. The laboratory uses these internal standards to monitor analytical accuracy and the analytical data for the standards is made available to the Geologists at their request.

The Qualified Persons are satisfied with the sample preparation, analytical methods, accuracy and precision and the level of cleanliness at the analytical laboratory. With the Columbus Complex fenced off to prevent unauthorised entry by the public and access to the facility restricted to only authorised personnel of the Sibanye-Stillwater US PGM Operations, the Qualified Persons are satisfied with sample security at the laboratory during preparation and analysis. The analytical methods employed are suited to the mineralisation style and grades of the J-M Reef and are widely used in the PGM sector. Accordingly, the analytical data from the laboratory is a suitable input for grade estimation.

8.4 Analytical Quality Control

8.4.1 *Nature and Extent of Quality Control Procedures*

Sibanye-Stillwater implements an analytical quality control protocol requiring ongoing monitoring of the laboratory performance by the Geologists at Stillwater and East Boulder Mines. This protocol has been in use since 2006. All sample batches from the mines submitted to the laboratory include matrix matched blank samples (drawn from hangingwall and footwall anorthosite) and repeat (pulp) samples introduced by Geologists to assess laboratory performance on contamination and analytical precision, respectively. The pulp samples are carefully selected to monitor precision across the 2E grade spectrum as follows: 0.00-0.19opt (waste), 0.20-0.49opt (low-grade), 0.50-0.99opt (high-grade) and 1.00opt and above (very high grade). In general, the insertion rates for quality control samples included in sample batches at each of East Boulder Mine and the East and West Sections of Stillwater Mine ensure that at least ten blank samples and ten repeat samples from each of these areas are analysed at the laboratory every month. Currently, there are no certified reference materials (standards) of the J-M Reef prepared by independent suppliers and the geological personnel at Stillwater and East Boulder Mines rely on the analytical results of in-house developed standards (MF-series standards) introduced into geological sample streams by the laboratory personnel to monitor the accuracy of the laboratory analytical procedures.

Analysis of the repeat and blank sample analytical data is an ongoing process and any issues identified are investigated and rectified by the geological and laboratory personnel.

8.4.2 *Quality Control Results*

Analytical results for the blank and repeat samples and internal standards are analysed graphically on control charts to facilitate the identification of anomalous data points. This assessment also includes the following:

- Review of sample results from the laboratory for abnormal Pt:Pd ratios or abnormally high grades before any analytical results are accepted into the Ore QMS database;
- Comparison between visual sulphide mineral estimates made during the core logging and grades after the analytical results are accepted into the Ore QMS database. Occurrences of sulphide minerals with no associated/expected Pt and Pd values or high Pt and Pd values where there are no significant visible sulphide minerals are noted and investigated; and
- Identification of anomalous repeat and blank sample data and standards data on control charts over time to identify any trends in the data.

If any of these steps show indications of possible problems, the Geologists request for re-analysis of the affected samples or sample batches.

Repeat sample data for Stillwater and East Boulder Mines collected since 2006 was reviewed on an ongoing basis during collection but, for the purposes of this TRS, was reviewed further by the Qualified Persons using control charts, in terms absolute mean error deviation and scatter plots as indicated in Figure 23 and Figure 24 for Stillwater and East Boulder Mines, respectively. An absolute mean error deviation value less than 10% or a squared correlation coefficient (R2) value shows high analytical precision. In general, 88% and 94% of the repeat data for Stillwater and East Boulder Mines, respectively,

indicates high precision (mean percent difference <10%; R2>0.8) of the analytical procedure. However, samples with low grades close to the instrument analytical detection limits (i.e., from the waste zones) are often associated with low precision and these constitute 6% and 12% of the repeat sample datasets for East Boulder and Stillwater Mines, respectively. Furthermore, there were isolated incidences of anomalous data, which necessitated re-analysis of the affected samples or rejection of the results if the anomalous data could not be resolved. In most of these cases, the second and third analyses were comparable, which suggests that the problem was related to sample selection and labelling (i.e. sample swapping and mislabelling) by the geological personnel rather than poor precision by the laboratory.

Figure 23: Repeat Data Analysis for Stillwater Mine

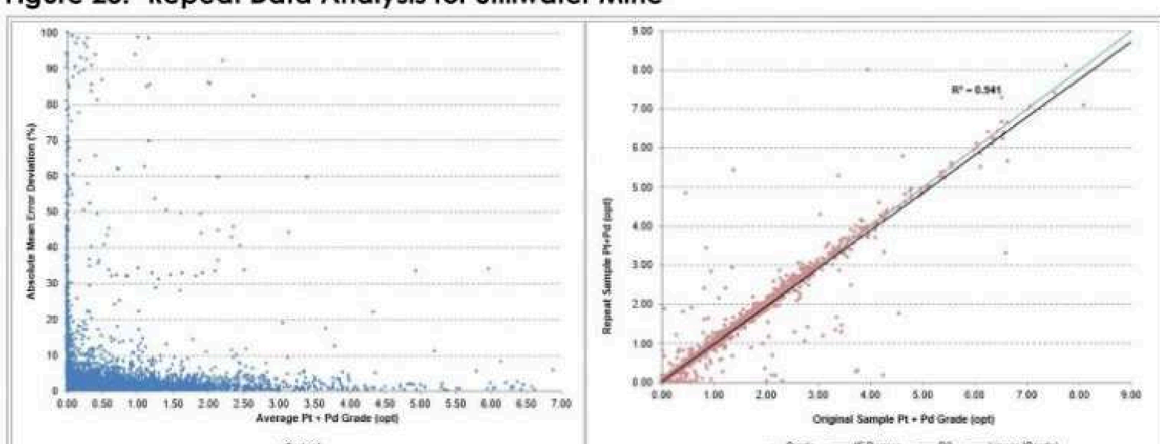
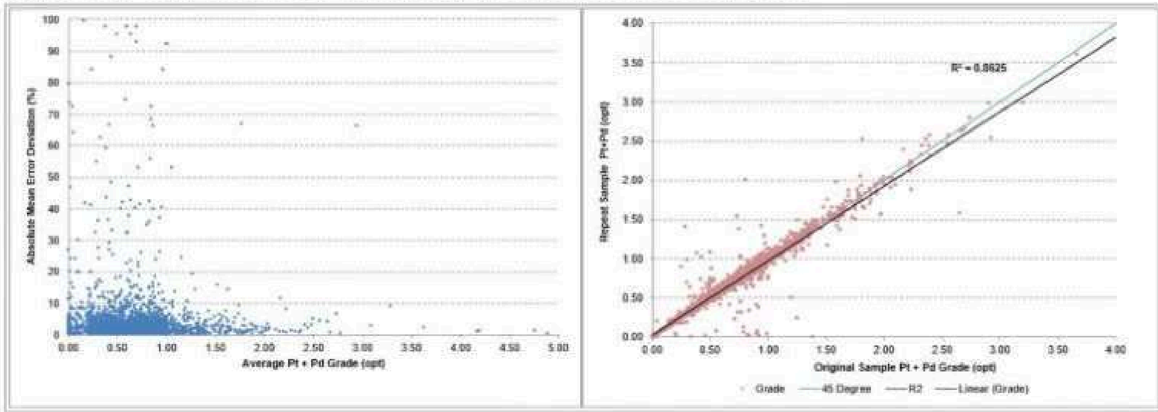


Figure 24: Repeat Sample Data Analysis for East Boulder Mine

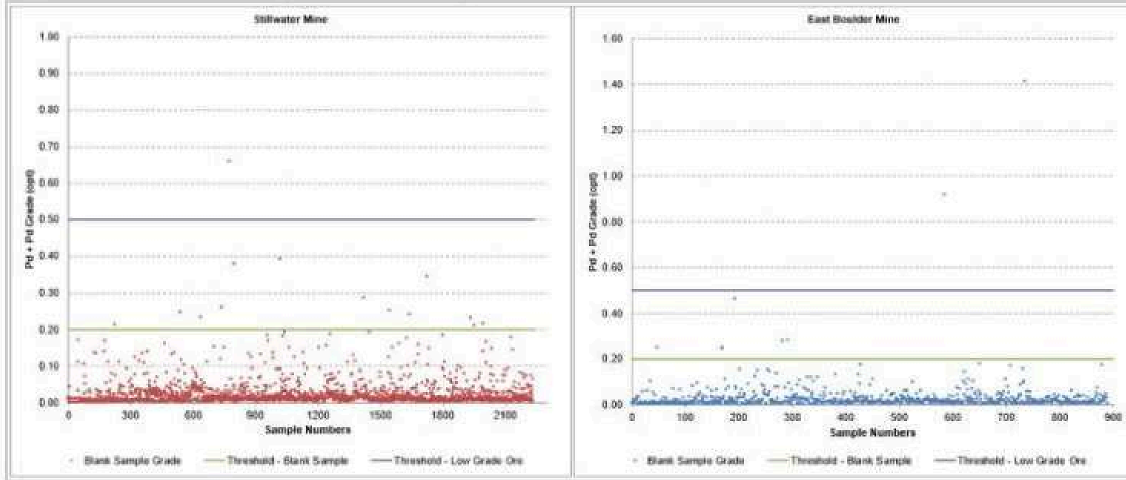


The blank material utilised at Stillwater and East Boulder Mines has no certified value. As a result, the blank sample data is analysed visually on plots to identify anomalous values that may suggest overwhelming contamination or sample swapping. The blank sample data for Stillwater and East

Boulder Mines collected since 2006 was also reviewed further by the Qualified Persons for the purposes of this TRS (Figure 25). In general, the blank sample values for both mines are similar, with most of the blank samples having values that are lower than the grade threshold of 0.2opt utilised for reef and waste material discrimination, which discounts the presence of overwhelming cross sample contamination. Isolated incidences of elevated PGM values returned on some blank samples may be attributed to localised elevated abundances of PGMs in the hangingwall and footwall anorthosites used as blank material and may not necessarily reflect contamination at the laboratory during sample preparation. While there is no evidence of overwhelming sample contamination, the Qualified Persons recommend the inclusion of certified blank material with insignificant levels of Pd and Pt to definitively assess the extent of any contamination at the laboratory.

Figure 25: Blank Sample Data Analysis for Stillwater and East Boulder Mines

Figure 25: Blank Sample Data Analysis for Stillwater and East Boulder Mines



The Qualified Persons procured the internal standards analytical data from the laboratory to assess the level of accuracy to which the geology samples have been analysed. The laboratory provided data for standards material MF-14 to MF-23 as well as the applicable expected (mean) values, Lower Control Limits (LCLs) and Upper Control Limits (UCLs) presented in Table 10. The data was analysed using control charts in Figure 26 to Figure 33, all of which show acceptable accuracy and precision levels for the standards analytical data. Accordingly, the analytical data for the sample batches analysed together with these internal standards is deemed acceptable for inclusion in the database for Mineral Resource estimation.

Table 10: Details of the In-house Standards

Name of Standard	Description	Pd (ppm)	Pt (ppm)
MF-14	Expected	16.87	4.82
	LCL	15.99	4.37
	UCL	17.96	5.2
MF-15	Expected	7.65	1.61
	LCL	7.32	1.48
	UCL	7.97	1.74
MF-16	Expected	7.52	1.58

	LCL	7.25	1.46
	UCL	7.8	1.71
MF-18	Expected	4.23	0.93
	LCL	4.06	0.85
	UCL	4.58	1.07
MF-20	Expected	14.97	3.72
	LCL	13.85	2.81
	UCL	16.07	4.63
MF-21	Expected	9.41	1.95
	LCL	8.87	1.73
	UCL	9.95	2.16
MF-22	Expected	1.41	8.06
	LCL	1.25	7.59
	UCL	1.58	8.52
MF-23	Expected	1.16	6.85
	LCL	0.90	6.12
	UCL	1.42	7.58

Figure 26: Laboratory Standard MF-14 Data Analysis

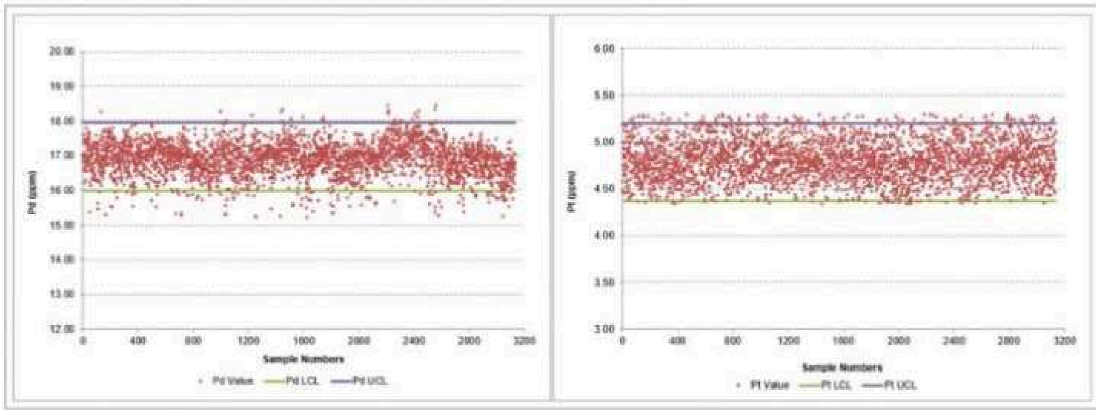


Figure 27: Laboratory Standard MF-15 Data Analysis

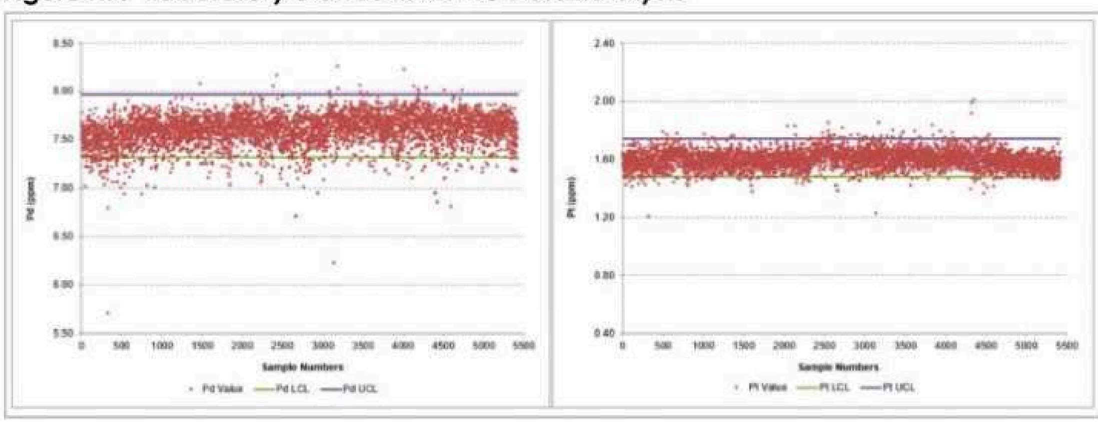


Figure 28: Laboratory Standard MF-16 Data Analysis

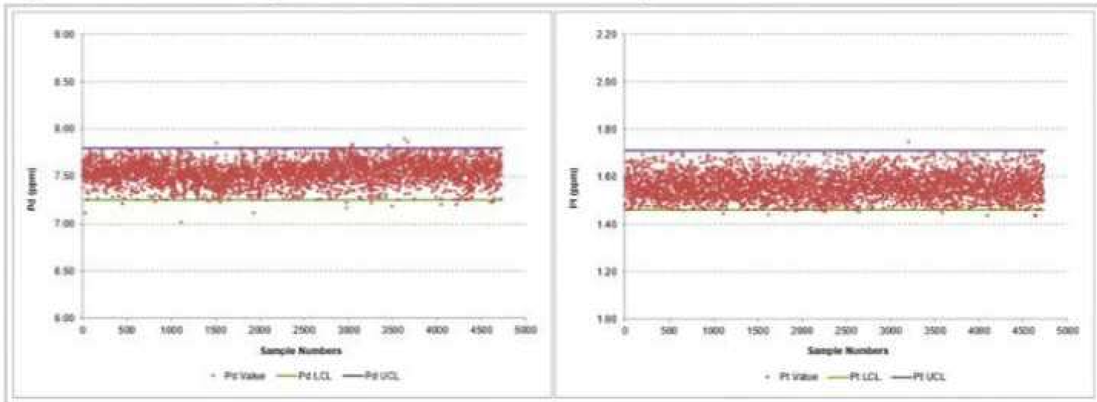


Figure 29: Laboratory Standard MF-18 Data Analysis

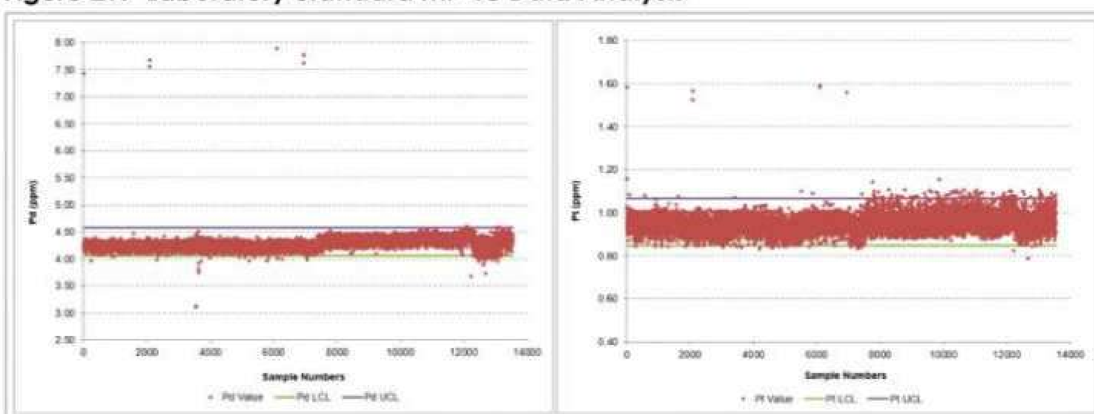


Figure 30: Laboratory Standard MF-20 Data Analysis

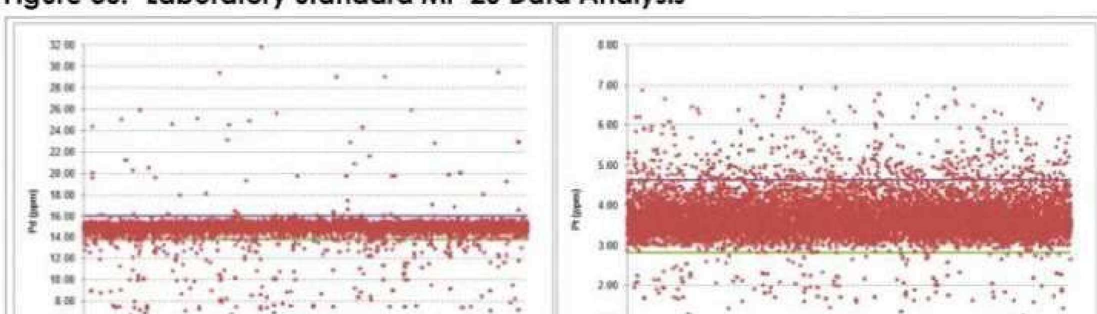


Figure 31: Laboratory Standard MF-21 Data Analysis

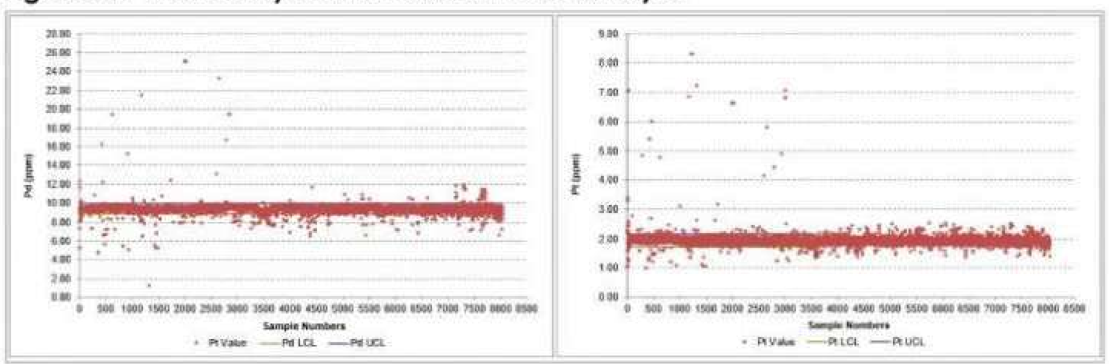


Figure 32: Laboratory Standard MF-22 Data Analysis

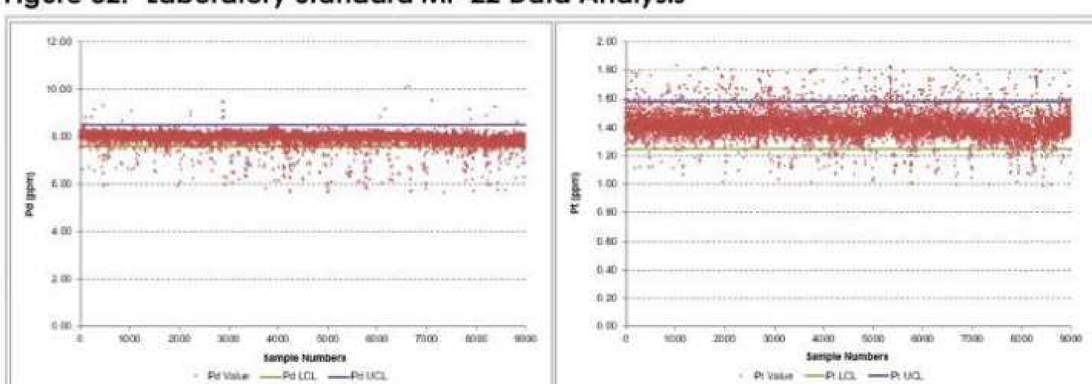
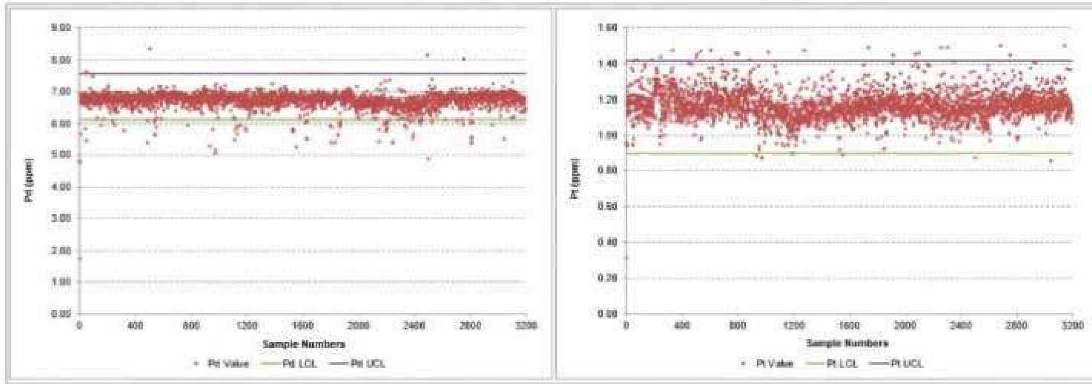


Figure 33: Laboratory Standard MF-23 Data Analysis



Based on the foregoing, the Qualified Persons conclude that the laboratory's analytical data shows overall acceptable precision and accuracy, and no evidence of overwhelming contamination that would affect the integrity of the data. As a result, the analytical data from the inhouse laboratory is of acceptable integrity and can be relied upon for Mineral Resource estimation.

9 DATA VERIFICATION

9.1 Data Storage and Database Management

All the drillhole data (i.e., collar and downhole survey, lithological, geotechnical, structural, analytical, and mineralisation data) for Stillwater and East Boulder Mines is stored in the Ore QMS database, which is an in-house built database designed to standardise information gathering during drilling. The data is imported electronically from the Core Logger system into the database. Library tables, key fields and codes are the validation tools available in the Ore QMS database utilised for ensuring correct entries. The Ore QMS database is stored on the central IT server where it is backed up and has rigorous controls (e.g., password protection and access restrictions) to ensure security and integrity of the data. The drillhole data stored in the Ore QMS database is exported to Maptek Vulcan™ (Vulcan) modelling software environment, which provides additional backup. The Qualified Persons are satisfied with data storage and validation as well as the database management practices, which are all aligned to industry practice. There are sufficient provisions to ensure the security and integrity of the data stored in the Ore QMS database.

9.2 Database Verification

Internally generated surface exploration and underground definition drillhole data is the primary data utilised for geological modelling and Mineral Resource estimation at Stillwater and East Boulder Mines. The Qualified Persons did not perform independent verifications of the data collected. Independent verification would entail inter alia resampling and re-analysis of all or portions of historical samples to confirm the drillhole data in the database spanning decades which is impractical. As such, the Qualified Persons have reviewed the rigorous validations performed during ongoing data collection and processing and were satisfied with the results and conclusions of the validations and the quality of the historical data stored in the database. The data collection and validation procedures employed at the mines have been in used for decades. Surface topography survey data used was sourced from the USGS and this was validated by comparing it with the historical survey data. The high-resolution topographic survey data was found to have better accuracy than historical survey data used for previous Mineral Resource estimations.

The validation of drillhole data is a continuous process completed at various stages during data collection, before and after import into the Ore QMS database and during geological modelling and Mineral Resource estimation. As the Qualified Persons are fulltime employees of Sibanye-Stillwater, they either performed or supervised the validation of the drillhole data collected at the mines after which they approved and signed-off the validated data for Mineral Resource estimation. Historical data was validated by previous Qualified Persons during collection and these validations have been confirmed by the current Qualified Persons.

The Mineral Resource estimates for both mines are based on the validated drillhole data collected by Sibanye-Stillwater and its predecessors, which is stored in the Ore QMS database. The current drillhole databases for Stillwater and East Boulder Mines contain data relating 51 289 and 11 568 drillholes, respectively. The databases contain 111 535 assays for Stillwater Mine and 84 603 assays for East Boulder Mine. Of these, 50 164 and 33 180 assays were identified as relating to "ore zone" (i.e. Mineral Resource evaluation cut) samples for Stillwater and East Boulder Mines, respectively. After data validation, ore zone composite data pertaining to 50 164 and 10 385 drillholes was used for the 2023 Mineral Resource estimation at Stillwater and East Boulder Mines, respectively.

The primary elements of the drillhole data are the following:

- Survey data: drillhole collar co-ordinates, azimuth, dip and down hole surveys;
- Lithological data: descriptions of rock type, mineralisation, alteration and geological structures; and
- Analytical data: chemical analyses for Pd and Pt for each sample of the J-M Reef analysed at the laboratory.

In general, the lithological data is acquired through the routine geological logging of drillcores recovered from surface and underground diamond core drilling. The Geologists who log the drillcores are well-trained and familiar with the J-M Reef, footwall and hangingwall stratigraphy and rock types. In addition, they are supervised by appropriately experienced Geologists who review and approve their log sheets. The core logging is performed according to a standard procedure which standardises data gathering and the type of detail required for each drillhole log, with any deviations or anomalous entries flagged by the inbuilt validations tools available in the Ore QMS database system. During core logging, the Geologists also consider existing drillhole information and any deviation from the expected rock types and stratigraphic sequence are investigated further by the Senior Geologists supervising the logging.

Analytical data is received electronically from the laboratory and imported electronically into the database, where it is integrated with the relevant lithological and survey data. Prior to finalisation of the import, the analytical data is assessed, accepted for use and stored in the database according to the analytical quality control protocols discussed in Section 8.4. All drillhole survey data is reviewed and signed-off by the Chief Surveyors. Geologists also validate the survey data by comparing it against planned coordinates and through visual checks in the Vulcan software environment.

The imports into the Ore QMS database and validations are performed by experienced geological personnel. In the Ore QMS database, the data is validated for missing and incorrect entries through spot checks completed on strip logs (logs of the integrated collar survey, lithological and assay data) and using the inbuilt validation tools. The drillhole database is also periodically checked using a Vulcan program script that automatically checks for missing, overlapping or inverted analytical intervals during data import. Additional validations include comparisons of survey database entries against surveyed 3D models of the footwall lateral drifts to validate that drillhole collar coordinates, azimuth and inclination. Downhole metal profiles for each drillhole are compared against expected profiles for each geological domain and any discrepancies are investigated further and addressed.

The Qualified Persons acknowledge the rigorous validation of the extensive drillhole database utilised for Mineral Resource estimation at Stillwater and East Boulder Mines. The data was validated continuously at critical points during collection, in the Ore QMS database and during geological modelling and Mineral Resource estimation. The Qualified Persons either participated in or supervised some of the validations which were performed by suitably trained personnel. The Qualified Persons also

approved the use of the validated drillhole data which was signed-off for Mineral Resource estimation. The Qualified Persons confirm that the data validations are consistent with industry practice while the quantity and type of data collected are appropriate for the nature and style of the PGM mineralisation in the J-M Reef.

10 MINERAL PROCESSING AND METALLURGICAL TESTING

10.1 Metallurgical Testwork and Amenability

There has not been any recent relevant metallurgical testwork completed for the Stillwater and East Boulder concentrator plants, smelter and base metal refinery at the Columbus Metallurgical Complex. The Qualified Persons are of the view that the testwork has not been warranted as the Stillwater and East Boulder concentrator plants and the Columbus Metallurgical Complex facilities have all been operational for several decades and have been upgraded and modified over the years to take account of new technology and increased capacity. Section 14 discusses mineral processing in detail and presents process flow diagrams for the various installed plants. These process flow diagrams are based on industry aligned PGM process flows and technology. Detailed flow sheets, mass balances and metallurgical accounting schedules are available for all the operations.

The metallurgical and mineralogical characteristics of the ore from the J-M Reef are well-understood and metallurgical recoveries of the ore processing and mineral beneficiation operations are based on detailed historical production data accumulated over many years. As the Stillwater and East Boulder Concentrators and the Columbus Metallurgical Complex facilities have all been operating sustainably, metallurgical amenability predictions for Stillwater and East Boulder Mine ores and associated forecast budget tonnage throughput rates and metallurgical recoveries are based on historical experience and are supported by operational data reviewed (Section 14.1). Ore from the Stillwater East (Blitz) Section has been processed at the Stillwater Concentrator since 2017. Experience from the processing of this ore indicates that the J-M Reef in this section is metallurgically similar to that in the Stillwater West Section and that the ore has not behaved any differently during processing at the Stillwater Concentrator.

10.2 Deleterious Elements

The Qualified Persons are not aware of any reports of deleterious elements in the concentrate produced from the processing of J-M Reef ore at the Stillwater and East Boulder Concentrators. The ores produced from the mines have been successfully processed for several decades and the Qualified Persons consider it reasonable to expect that there will not be any deleterious elements in the unmined parts of the J-M Reef. Neither bulk nor pilot scale testing has been necessary as the processing facilities have all been operational for several decades.

11 MINERAL RESOURCE ESTIMATES

11.1 Background

An extensive drillhole database relating to 50 164 and 10 385 drillholes at Stillwater and East Boulder Mines, respectively, was utilised for 3D geological modelling of the J-M Reef and the Mineral Resource estimation. The 3D geological modelling of the J-M Reef and Mineral Resource estimation, which were performed internally by Sibanye-Stillwater personnel, are based on common estimation process flow and methodology that suit the architecture, mineralisation style and variability of the J-M Reef at the mines. The process flow is well-established and provides for mandatory checks and validations by the Qualified Persons at critical points in the Mineral Resource evaluation process. The Qualified Persons participated in the 3D geological modelling of the J-M Reef and the Mineral Resource estimation for Stillwater and East Boulder Mines and approved the key inputs and outputs at each stage gate as well

Stillwater and East Boulder Mines and approved the key inputs and outputs at each stage gate as well as the final 3D geological models and estimates reported.

The point of reference for the Mineral Resource estimates for Stillwater and East Boulder Mines is an *in situ* tonnage and grade estimate of the J-M Reef material for which there are reasonable prospects for eventual economic extraction. Furthermore, estimates are completed for the combined Pd and Pt grades (2E) and reef thickness, but co-products or by-products which occur at low abundances were not estimated. There have been no deleterious elements identified in the J-M Reef since the start of the mining and ore processing operations at Stillwater and East Boulder Mines. Accordingly, no deleterious elements were estimated.

A consistent estimation and evaluation approach was employed for Mineral Resources eventually classified as either Measured, Indicated or Inferred at both the Stillwater and East Boulder Mines. The approach is aligned to the conventional estimation and evaluation methods employed for other tabular PGM reefs which are characterised by long-range thickness and grade continuity. The Qualified Persons have assumed that the J-M Reef in the unmined areas will show the long-range thickness and grade continuity and overall reef characteristics observed in the mined-out areas. Therefore, long-range thickness and grade continuity has been assumed from drillhole intersections of the J-M Reef with grade interpolation between sample points based on the simple kriging method. As per the evaluation approach for PGM reefs, the key parameters (variables) estimated/evaluated are 2E grade, length accumulation of 2E grade (i.e. product of reef width and 2E grades), volume and density. Details of the evaluation process flow and the estimates reported are discussed in Sections 11.2 to 11.6 of this TRS.

The Mineral Resources in this TRS are reported at a minimum mining width and cut-off grade and exclude the J-M Reef mineralisation within the 50ft crown pillar from surface and in structurally disturbed areas (geological loss).

11.2 Geological Modelling and Interpretation

11.2.1 *Zone Picking and Evaluation Cut Determination*

The Main Zone constitutes the well-mineralised economic part of the J-M Reef that is included in the Mineral Resource evaluation cuts termed the reef channel. However, there are localised occurrences of well-mineralised footwall material included in the evaluation cuts. The Main Zone intersections employed for 3D geological modelling are identified and selected by Geologists through a manual process called zone picking. The Geologists use the hangingwall as a reference on the basis that between 80% and 90% of the Main Zone intersections occur near the hangingwall. The balance (10% to 20%) is made up of intersections that are disrupted by mafic intrusions, faults or other geological features and requires additional geological scrutiny and diligence when generating evaluation cuts. Furthermore, there are areas of Stillwater and East Boulder Mines where the mineralisation occurs in footwall rocks that are distinct from the main zone but is of similar 2E grade. The footwall mineralisation tends to be discontinuous. There is also an area of repeated (duplicated) mineralisation at Stillwater Mine as a result of reverse faulting.

A common zone picking methodology is followed at both mines. For each drillhole, validated analytical data is integrated with relevant lithological and sample data to generate an integrated log sheet (strip log) employed for zone picking. Zone picking entails scanning the integrated log sheet of a drillhole to identify the hangingwall of the J-M Reef package. From the hangingwall contact, the underlying mineralised zone (Main Zone and mineralised portions of the immediate footwall units) is identified and delineated using a composite 2E grade threshold of 0.20opt. For each drillhole J-M Reef intersection, the selected portions are assigned a unique identifier geology code indicating that these can be included in the evaluation cut dataset. Zone picking also includes the consideration of neighbouring drillholes in a particular drill section and adjacent drill sections to ensure smooth extension of the zone picks between drillholes and drill sections as well as geological consistency in the interpretation. For poorly mineralised reef intersections with 2E grades below 0.20opt, a single sub-ore grade value is flagged at the hangingwall contact. If no analytical data was collected because of the total lack of any sulphide minerals in the drillcore, a 0.5ft blank interval (at East Boulder Mine) or 1ft blank interval (at Stillwater Mine) is input and flagged at the hangingwall contact of the J-M Reef. Such intersections are assigned a 2E grade equivalent to the instrument LDL during modelling. Zone picking on these intersections requires diligence and experience by the Geologists as there are between 10% and 20% of intersections located in the footwall (localised footwall mineralisation), duplicated or disturbed by geological structures (e.g., mafic intrusions and faults) that need to be identified. These mineralised footwall zones and repeated Main Zones are flagged with unique zone identification numbers, which permit separate assessment and modelling of these zones.

The Qualified Persons are satisfied with the zone picking method used to discriminate between mineralised and waste zones as this is appropriate for the nature and style of the J-M Reef and ensures consistency in the delineation of reef composites used for geological modelling and estimation. The Qualified Persons noted that the 0.20opt 2E grade threshold employed for the zone picking (reef channel delineation) is conservative as this is higher than the cut-off grades used for Mineral Resource

reporting. However, Mineral Resources are reported at the minimum mining width (thickness) which can be wider than the reef channel, which justifies the use of a higher-grade threshold for zone picking.

11.2.2 *Data Processing and Analysis*

11.2.2.1 Compositing

Industry practice was followed for evaluation cut (reef channel) data processing and analysis. Subsequent to zone picking and coding, the evaluation cut data for each drillhole comprising collar and downhole survey, stratigraphic, lithological and analytical data for each drillhole was imported into Vulcan and integrated and positioned into the correct three-dimensional (3D) space through an automated process called de-surveying. The integration of the data allowed for the following validations:

- Examination of the sample analytical, collar survey, downhole survey and lithological data to ensure that all drillholes had complete data on the key estimation variables;
- Examination of the data to check for spatial errors;
- Examination of the analytical data to identify out of range and anomalous data; and
- Checking of sample intervals to identify overlaps and unexplained gaps between samples.

The validated integrated data was composited in Vulcan by geology code and using the drillhole collar survey, azimuth, inclination and analytical data for each zone pick (evaluation cut). This process resulted in new X, Y, and Z collar co-ordinates, single composite values for Pt, Pd and 2E and thickness (true thickness and apparent thickness) for each drillhole Main Zone intersection. The drillhole composite grades were derived through length weighted averaging of the sample grades in the evaluation cuts. The composite data was utilised for geological block modelling as well as grade and thickness estimation.

11.2.2.2 Statistical Analysis and Grade Capping

Statistical analysis was performed in Datamine Supervisor software (Supervisor). Prior to statistical analysis, the evaluation cut datasets for Stillwater and East Boulder Mines were reviewed to identify any residual zero values in the grades. The zero values were replaced by the LDL value for 2E (0.0001opt or 3.125ppb) and thickness (0.01ft) to prevent the problem of negative weights in the kriging equation caused by zero grades and thickness. Replacement of the zero values with LDL values (correction) also improves estimation accuracy in low grade areas.

The length weighted composites of the evaluation cuts were subjected to statistical analysis initially by mine and by domain at each of Stillwater and East Boulder Mines. The domains for Stillwater and East Boulder Mines Mine are shown in Figure 9 and Figure 10. Due to sparsity of data at Boulder East and West domains were combined with Frog Pond West while Brass Monkey East and West domains were combined with Frog Pond East for the current evaluation. Therefore, estimation parameters for Frog Pond West were applied to the Boulder domains and parameters for Frog Pond East were applied to Brass Monkey blocks.

Statistical data analysis of the composite data involved the construction of scatter plots of thickness vs. 2E grade to assess any correlation between them and histogram plots of grade (2E) to determine population distribution characteristics.

Scatter plots of undiluted horizontal thickness (UHW) vs. 2E grade generated using the composite data (Figure 34 and Figure 35) indicated no correlation between these variables but it was decided to estimate grades indirectly as grade-thickness accumulations in line with practice in the PGM sector.

Figure 34: Scatter plot of Composite UHW vs. 2E Grade for Stillwater Mine

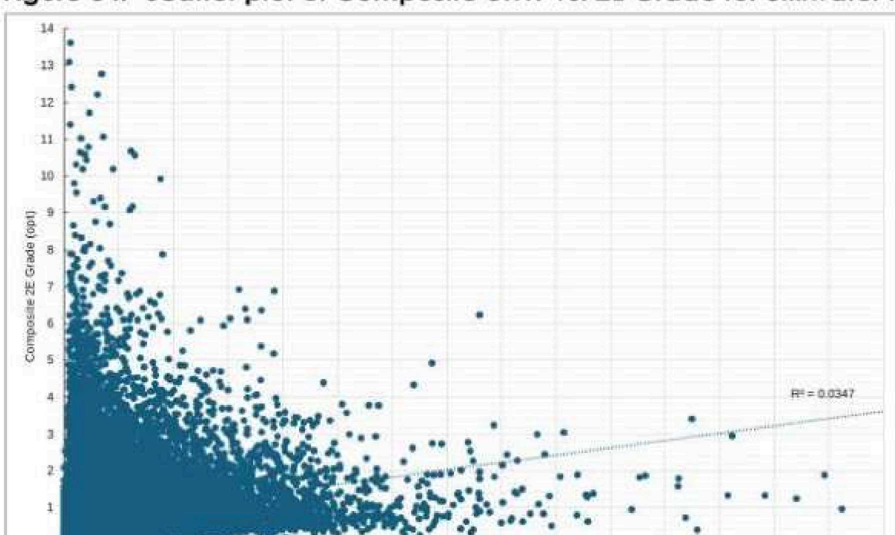
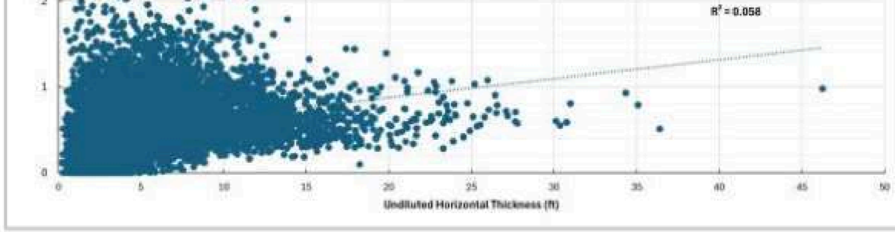


Figure 35: Scatter plot of Composite UHW vs. 2E Grade for East Boulder Mine



Histogram analysis of the 2E data (Figure 36 and Figure 37) revealed positively skewed distributions and outliers (anomalous values). Outliers tend to have undue influence on the overall estimates and, to minimise this influence, the outliers were dealt with using value capping during the estimation runs in Vulcan.

Figure 36: Histogram Plot of Composite 2E Grades for Stillwater Mine

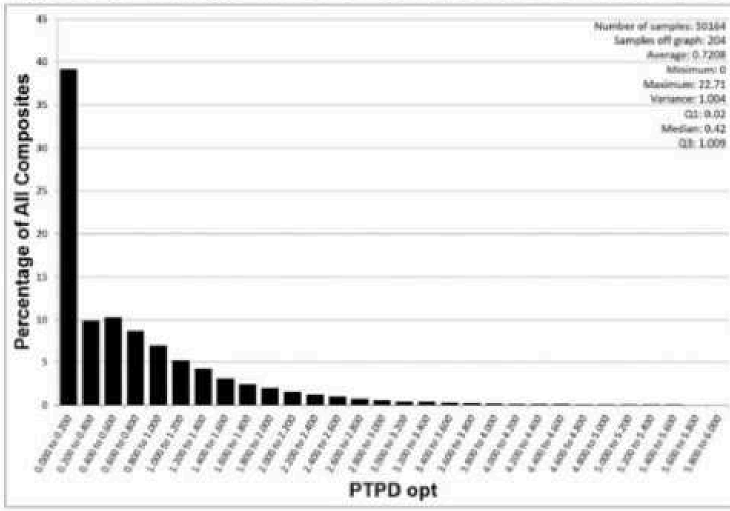
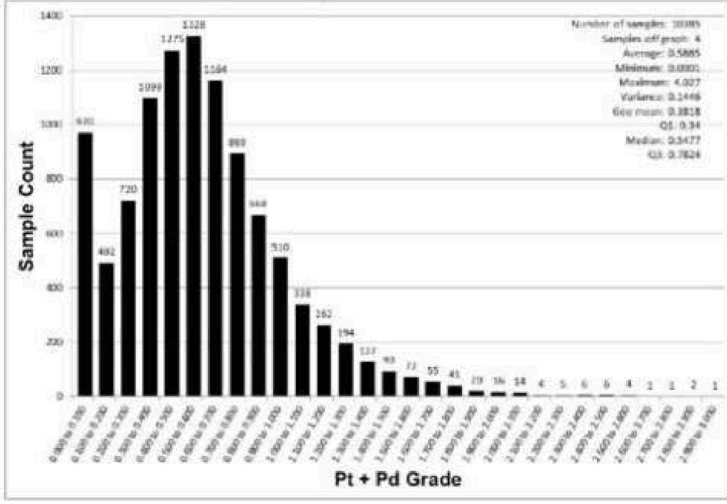


Figure 37: Histogram Plot of Composite 2E Grades for East Boulder Mine



Capping was performed on 2E grade and the key variables evaluated, which are reef channel true width in feet (FCW), undiluted horizontal width in feet (UHW) and the grade-thickness accumulation termed feet ounces per ton (FOZPT) which is a product of FCW and 2E grade. Capping values utilised at Stillwater and East Boulder Mines which are presented in Table 11 were selected at the 98th percentile for all areas of Stillwater Mine and Frog Pond East and West at East Boulder Mine to align the modelled grades and actual grades observed at the mines during mining; value capping was set at the 99th percentile for the Brass Monkey and Boulder blocks due to data sparsity. However, the Competent Persons acknowledge the impact of these conservative capping values on masking the actual potential of the reef particularly at Stillwater Mine where the outlier grades are real and often associated with ballrooms. Ballrooms are localised areas of the reef containing anomalous quantities of PGMs and have a significant positive impact on the economics of mining the J-M Reef.

Table 11: Capping Grades Employed for the Mineral Resource Evaluation

Mine	Domain	Capping Value			
		UHW (ft)	2E (opt)	FOZPT	FCW (ft)
Stillwater	Blitz	24.40	2.67	32.79	23.74
	Blitz West	15.90	2.44	17.71	15.01
	DOWL	21.30	2.64	15.51	14.44
	DOWU	21.60	1.70	11.46	14.46
	OSEE	17.80	4.19	31.07	17.05
	OSEW	17.00	4.00	26.75	15.22
	OSW	18.00	3.93	29.13	15.82
	UWE	17.50	3.31	19.34	13.72
	BLK2-OSW	22.00	4.85	40.05	19.50
	BLK2-UWE	22.40	3.99	26.20	17.30
East Boulder	Frog Pond East	19.20	1.56	11.62	14.71
	Frog Pond West	19.12	1.53	11.61	14.71
	Brass Monkey E&W	19.06	1.51	11.13	14.60
	Boulder E&W	18.57	1.57	11.68	14.22

11.2.2.3 Geostatistical Analysis

The composite FOZPT, UHW and FCW data was also subjected to geostatistical analysis in Supervisor to determine an appropriate estimation methodology and the estimation parameters to be used. The geostatistical analysis included the assessment of spatial trends in the composite 2E, FOZPT, UHW and FCW data for Stillwater and East Boulder Mines. It was observed that these variables exhibit anisotropic behaviour (spatial trends) as depicted in Figure 38 for FCW at Stillwater Mine and Figure 39 for FOZ at East Boulder Mine. Accordingly, normalised variograms were modelled for each the three variables per domain at Stillwater and East Boulder Mines and the variography results for FOZPT, FCW, UHW and 2E, which are relevant to the Mineral Resources, are summarised in Table 12 to Table 15.

Figure 38: Spatial Analysis of FCW Continuity for Stillwater Mine

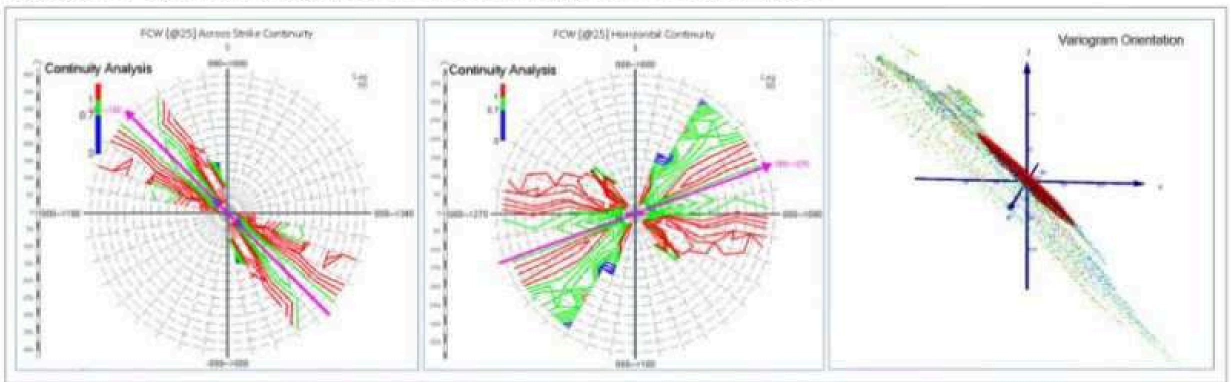


Figure 39: Spatial Analysis of FOZ Continuity for East Boulder Mine

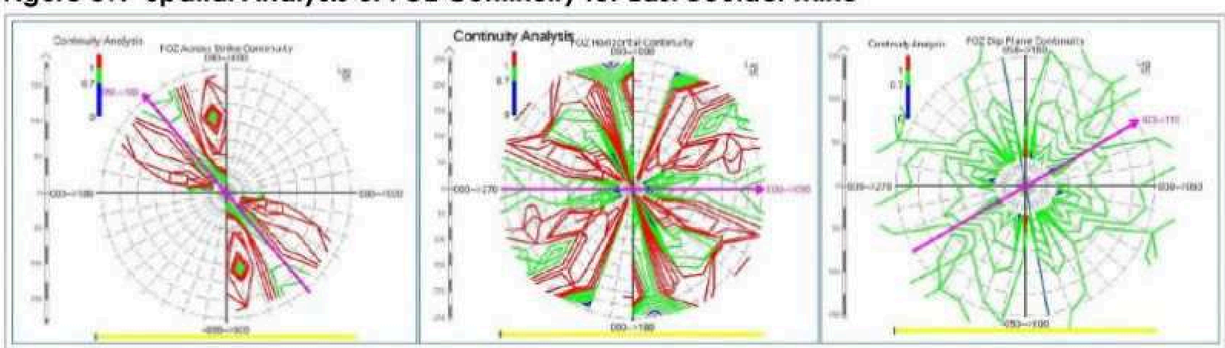


Table 12: Summary of Standardised Variogram Parameters for FOZPT

Mine	Domain	Nugget	Structure 1				Structure 2			
			Sill 1	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)	Sill 2	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)
Stillwater	Blitz	0.36	0.45	159	142	250	0.26	587	327	500
	Blitz West	0.44	0.41	173	143	250	0.15	921	760	500
	OSWU	0.46	0.43	136	160	250	0.11	1102	886	500
	OSWL	0.46	0.43	136	160	250	0.11	1102	886	500
	OSEW	0.46	0.48	146	157	250	0.06	1102	762	500
	OSEE	0.44	0.38	167	252	250	0.18	887	605	500
	UWE	0.47	0.31	142	142	250	0.22	513	368	500

Mine	Domain	Nugget	Structure 1				Structure 2			
			Sill 1	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)	Sill 2	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)
	DOWL	0.43	0.34	130	84	250	0.23	490	620	500
	DOWU	0.43	0.35	59	94	250	0.22	409	426	500
	West Fork E&W	0.43	0.48	245	374	250	0.09	1112	826	500
East Boulder	Frog Pond E&W	0.42	0.45	65	95	250	0.13	850	680	500
	Brass Monkey E&W	0.42	0.45	65	95	250	0.13	850	680	500
	Boulder E&W	0.42	0.45	65	95	250	0.13	850	680	500

Table 13: Summary of Standardised Variogram Parameters for FCW

Mine	Domain	Nugget	Structure 1				Structure 2			
			Sill 1	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)	Sill 2	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)
Stillwater	Blitz	0.38	0.44	180	151	250	0.18	806	589	500
	Blitz West	0.44	0.41	173	143	250	0.15	921	760	500
	OSWU	0.46	0.43	136	160	250	0.11	1102	886	500
	OSWL	0.46	0.43	136	160	250	0.11	1102	886	500
	OSEW	0.46	0.48	146	157	250	0.06	1102	762	500
	OSEE	0.44	0.38	167	252	250	0.18	887	605	500
	UWE	0.46	0.38	126	126	250	0.16	803	555	500
	DOWL	0.43	0.45	152	110	250	0.12	1086	826	500
	DOWU	0.43	0.39	74	104	250	0.18	844	667	500
	West Fork E&W	0.43	0.48	245	374	250	0.09	1112	826	500
East Boulder	Frog Pond E&W	0.39	0.47	98	95	250	0.14	719	527	500
	Brass Monkey E&W	0.39	0.47	98	95	250	0.14	719	527	500
	Boulder E&W	0.39	0.47	98	95	250	0.14	719	527	500

Table 14: Summary of Standardised Variogram Parameters for UHW

Mine	Domain	Nugget	Structure 1				Structure 2			
			Sill 1	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)	Sill 2	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)
	Blitz	0.36	0.45	159	142	250	0.26	587	327	500

Stillwater	Blitz West	0.44	0.41	173	143	250	0.15	921	760	500
	OSWU	0.46	0.43	136	160	250	0.11	1102	886	500
	OSWL	0.46	0.43	136	160	250	0.11	1102	886	500
	OSEW	0.46	0.48	146	157	250	0.06	1102	762	500
	OSEE	0.44	0.38	167	252	250	0.18	887	605	500
	UWE	0.47	0.31	142	142	250	0.22	513	368	500
	DOWL	0.43	0.34	130	84	250	0.23	490	620	500
	DOWU	0.43	0.35	59	94	250	0.22	409	426	500
	West Fork E&W	0.43	0.48	245	374	250	0.09	1112	826	500
East Boulder	Frog Pond E&W	0.39	0.42	88	94	250	0.19	490	322	500
	Brass Monkey E&W	0.39	0.42	88	94	250	0.19	490	322	500
	Boulder E&W	0.39	0.42	88	94	250	0.19	490	322	500

Table 15: Summary of Standardised Variogram Parameters for 2E

Mine	Domain	Nugget	Structure 1				Structure 2			
			Sill 1	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)	Sill 2	Range 1 (ft)	Range 2 (ft)	Range 3 (ft)
Stillwater	Blitz	0.38	0.45	133	200	250	0.17	887	642	500
	Blitz West	0.44	0.41	173	143	250	0.15	921	760	500
	OSWU	0.46	0.44	109	160	250	0.10	893	876	500
	OSWL	0.46	0.44	109	160	250	0.10	893	876	500
	OSEW	0.46	0.48	146	157	250	0.06	1102	762	500
	OSEE	0.44	0.49	133	153	250	0.07	887	605	500
	UWE	0.46	0.39	102	157	250	0.15	826	823	500
	DOWL	0.43	0.51	140	106	250	0.06	969	683	500
	DOWU	0.43	0.45	92	184	250	0.12	840	806	500
	West Fork E&W	0.43	0.51	140	106	250	0.06	969	683	500
	Frog Pond E&W	0.44	0.49	192	156	250	0.07	1049	719	500
East Boulder	Brass Monkey E&W	0.44	0.49	192	156	250	0.07	1049	719	500
	Boulder E&W	0.44	0.49	192	156	250	0.07	1049	719	500

The Qualified Persons are satisfied with the double structured variogram models of FOZPT, FCW, UHW and 2E constructed from the domain composite data as these indicate the achievement of second order stationarity, implying that grade estimation through simple or ordinary kriging interpolation is appropriate. The modelled variograms also indicate moderate nugget to sill ratios which are supported by the available closely spaced data and typical of reef-type PGM deposits. Similarly, the variogram ranges indicated in Table 12 to Table 15 are consistent with reef continuity observed in the mined-out areas while being typical of reef-type PGM deposits.

11.2.3 *Structural Modelling and Geological Loss Determination*

The evaluation cuts delineated through zone picking provide an outline of the potentially economic portions of the J-M Reef that can be modelled for reporting as Mineral Resources. Structural interpretation precedes 3D geological modelling of the economic part of the J-M Reef. Most of the major structures delineated at Stillwater and East Boulder Mines were identified from trenching and surface mapping or were interpreted from the available aeromagnetic survey and drillhole data. Ongoing underground mapping and underground definition drilling generates additional closely spaced data used to refine the structural models at both mines.

Structural interpretation by the Geologists and the Qualified Persons at both Stillwater and East Boulder Mines identified several major faults and intrusive dykes that intersect, offset or replace the J-M Reef in places. Geological structures of note are the regional South Prairie and Horseman Faults identified at Stillwater Mine. However, there are numerous other medium-scale faults and dykes which were modelled independently in Vulcan and Leapfrog for incorporation in the final 3D geological model. The South Prairie Fault is subparallel to the JM-Reef, intersecting the reef in places or occurring in the hangingwall of the reef causing duplication of the reef in parts of Stillwater Mine such as the Off Shaft West areas. The Horseman Fault is a reverse fault which also offsets the JM-Reef. These faults and the Basal Fault (a "blind" thrust fault) were modelled at Stillwater Mine.

The drillhole database contains standardised rock codes for dyke and fault intercepts which are used to construct models for each geological structure. For the current evaluation, fault and dyke outlines were digitised in Vulcan using available data and the geological structure outlines (polylines) were imported into the Leapfrog software environment where wireframes were constructed and projected to the limits of the Mineral Resource footprint. Faults were modelled as planes in the 3D space using both drilling data and geological mapping information for the footwall lateral drifts, where possible. Dykes were modelled as 3D solids.

The dyke and fault models were honoured during 3D modelling of the J-M Reef (Figure 40 to Figure 43). As a result, the 3D geological models of the reef already account for explicit geological losses. Additional geological losses were applied to tonnage estimates to account for possible losses due to unknown geological structures. The unknown geological structures (primarily dykes) were estimated from mine reconciliation data collected in the mined-out areas of Stillwater and East Boulder Mines. Unknown geological losses of 3.5% and 5.6% were applied to the tonnages estimates at Stillwater and East Boulder Mines, respectively. The Qualified Persons acknowledge that small-scale faults do not cause geological losses nor necessitate changes in mine designs as these are mined through by underground mining operations. As a result, unknown geological losses due to unidentified small-scale faults were not estimated. However, these faults present geotechnical and grade dilution challenges during mining and are, therefore, accounted for during detailed mine planning.

11.2.4 Geological Interpretation and Wireframe Modelling

The coded evaluation cut data was imported into Leapfrog for 3D geological block modelling and the data was desurveyed. Geological modelling of the reef channel was based on the "vein system" implicit wireframe modelling tool available in Leapfrog. The 3D geological modelling of the shape of the reef channel was facilitated by the persistent continuity and regularity of the hangingwall contact of the J-M Reef package over most of the geological model footprints at Stillwater and East Boulder Mines. The wireframe models defining the reef channel limits allowed for conventional geological block modelling and grade estimation applicable to reef-type PGM deposits characterised by long range continuity of the orebody and PGM grades (i.e. geological and grade continuity).

Given the high intensity of localised thickness and grade variability of the J-M Reef and the data point density contrast between areas supported by both surface and underground definition drillhole data (eventually classified as Measured) and those supported by surface data only (eventually classified as Indicated or Inferred), it was decided to build separate wireframe models for the two areas by domain. Wireframe models for the areas supported by surface data only were extended into adjacent undrilled areas where the reef is expected to occur and terminated at either a mining block boundary, surface topography wireframe model or a wireframe model for a major geological structure (e.g., the Horseman Fault at Stillwater Mine; Figure 40 and Figure 41). A topographic wireframe surface modelled using high-resolution airborne LIDAR survey data forms the up-dip limit of the reef channel 3D model.

Figure 40: Illustration of Reef Channel Wireframe Model Terminated at a Fault at Stillwater Mine

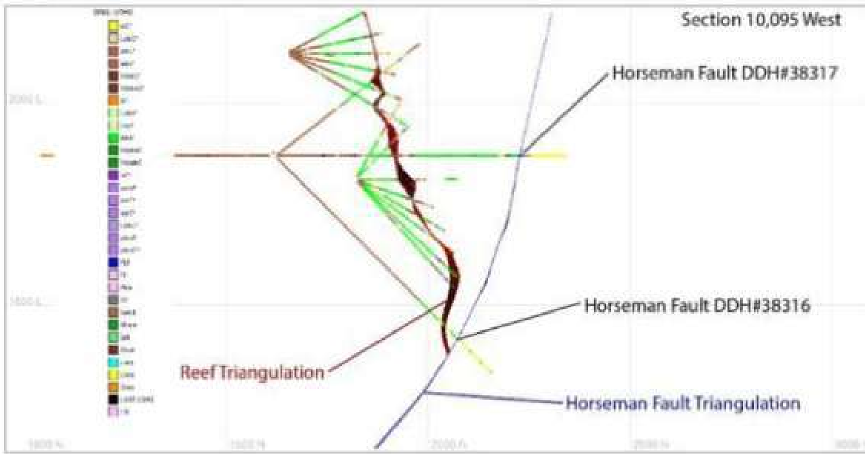
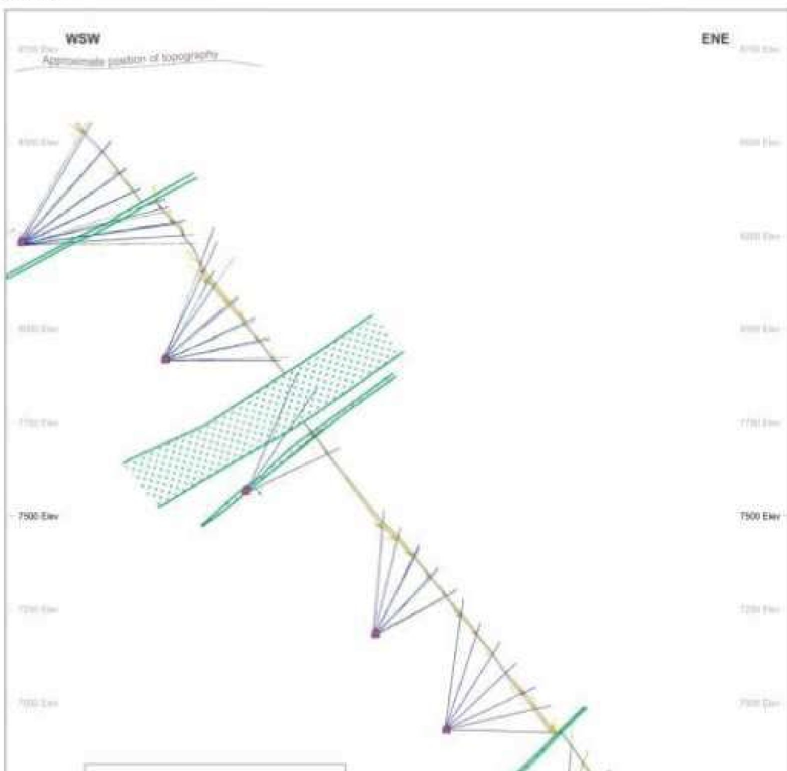


Figure 41: Illustration of Reef Channel Wireframe Model Terminated at Dykes at East Boulder Mine



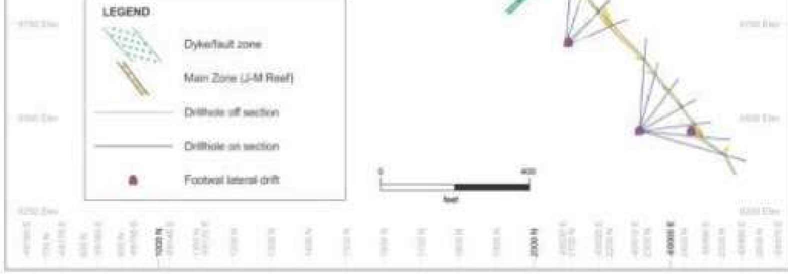
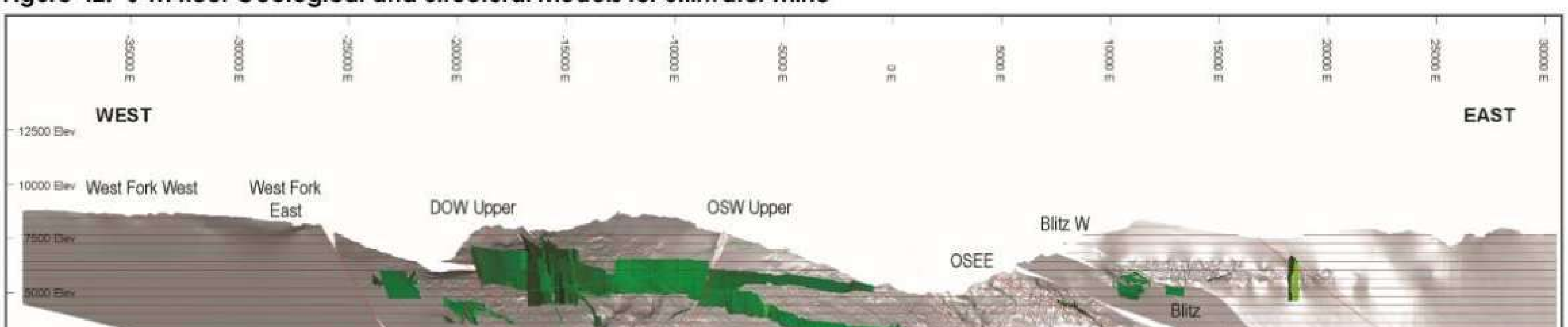


Figure 42: J-M Reef Geological and Structural Models for Stillwater Mine



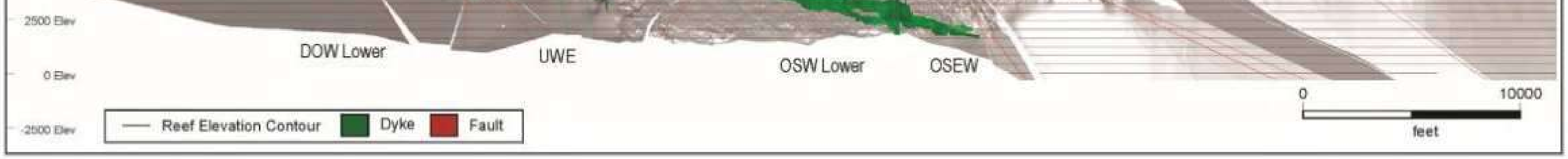
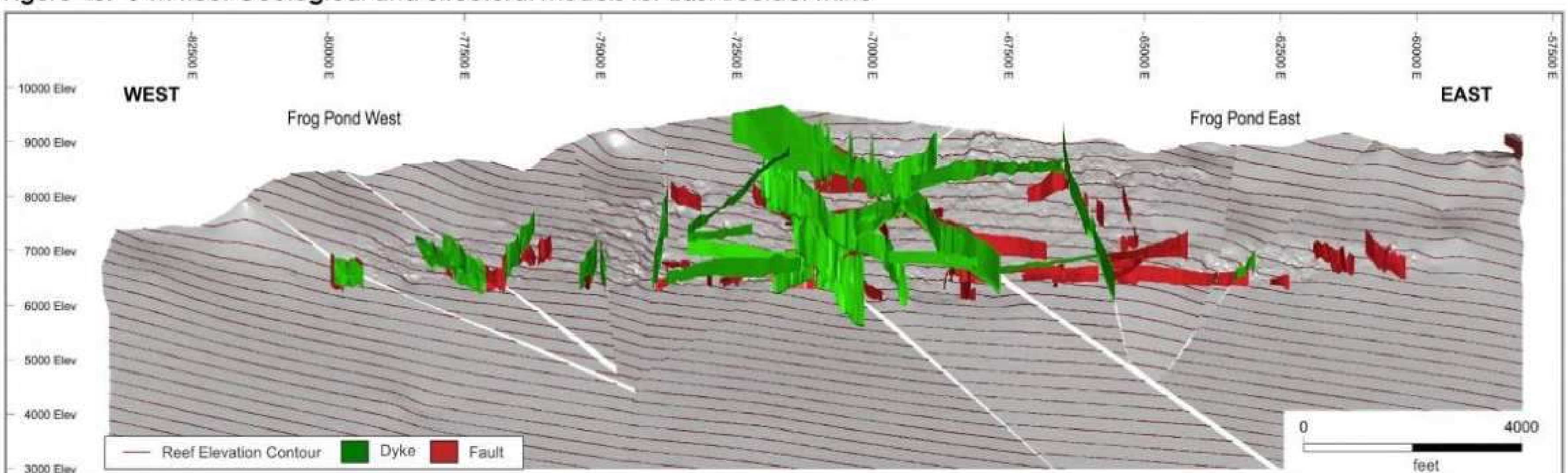


Figure 43: J-M Reef Geological and Structural Models for East Boulder Mine



11.2.5 *Block Modelling*

The varying strike, dip and mineralisation facies of the J-M Reef necessitated geological modelling and Mineral Resource estimation according to the domains at Stillwater and East Boulder Mines. Block modelling was carried out in Vulcan. Block models were built within the reef channel wireframe solids generated for each domain in Leapfrog. Block dimensions of 20ft x 20ft x reef channel width respectively in the X, Z and Y directions were used, with sub-blocking to 5ft x 5ft in the X and Z directions for accurate volume modelling in the plane of the J-M Reef (i.e., X-Z plane). The third dimension (Y plane) of each block is the horizontal width of the reef wireframe solid.

Block dimensions used were derived from a Kriging Neighbourhood Analysis (KNA), which indicated that block sizes of ranging from 3ft x 3ft x 3ft to 25ft x 25ft x 3ft in X and Z directions can be used at the current data point spacing for the areas supported by surface and underground definition drillhole data without significantly changing the kriging efficiency and slope of regression of the estimates. Kriging efficiency and slope of regression are key metrics used to assess the quality of estimates. The KNA results also indicate that the block sizes can be increased to 200ft x 200ft in the X and Z directions in areas supported by surface drillhole data only. Data point spacing in the areas supported by surface and underground definition drillhole data ranges from less than 25ft to 100ft whereas the spacing ranges from 100ft to 1 000ft in remainder of the mines' footprints. Accordingly, the Qualified Persons employed a dual block size for the evaluation of the J-M Reef in future evaluations, with a smaller block size used in the well drilled areas and a larger block size used in the sparsely drilled areas.

11.3 Grade and Tonnage Estimation

11.3.1 *Grade and Thickness Estimation*

FOZPT, UHW, 2E and FCW estimation in Vulcan was achieved through simple kriging interpolation of the respective composite data directly into the block models for each domain at both Stillwater and East Boulder Mines (Table 16). The simple kriging interpolation was based on a three-pass search and search parameters are summarised in Table 16 which were informed by the KNA and variography results summarised in Table 12 and Table 13. The radii for the first search were aligned to the variogram ranges whereas the search radii for the second searches were set at 1.8 the variogram range for the relevant variable and domain at Stillwater and 1.5 and 1.7 times the variogram range for the relevant variable and domain at East Boulder Mine. The third search radii set at 10 times the variogram range for the relevant variable and domain at both mines. The minimum number of samples was lowered to four for Stillwater Mine when estimating footwall zones with sparse data. Grades for the footwall zone are not modelled at East Boulder Mine. The three-pass search strategy ensured interpolation of FOZPT, UHW and FCW into all blocks, estimates at longer search radii completed lower levels of confidence than for the first search. Accordingly, search distance and number of samples informing an estimate were included in the Mineral Resource classification scheme.

Due to the simple kriging interpolation technique used which requires a reference mean to guide the interpolation process, it was necessary to determine domain mean values for FOZPT, 2E, UHW and FCW. Domain global means were calculated for each domain from declustered capped data for the relevant variable and at different panel sizes ranging from 10ft to 600ft with an increment of 10ft in

Datamine. This created 6000 interactions and the iteration that provided the lowest mean value was selected as the domain mean for the relevant variable. The domain global means for FOZPT, 2E, UHW and FCW employed for simple kriging are presented in Table 17.

Table 16: Search Parameters Employed for Grade Estimation

Search Reference	Number of Samples		Description of Area
	Minimum	Maximum	
First Search	16	34	Close spaced data points
Second Search	10	20	Sparse data points
Third Search	10	20	Very Sparse data points

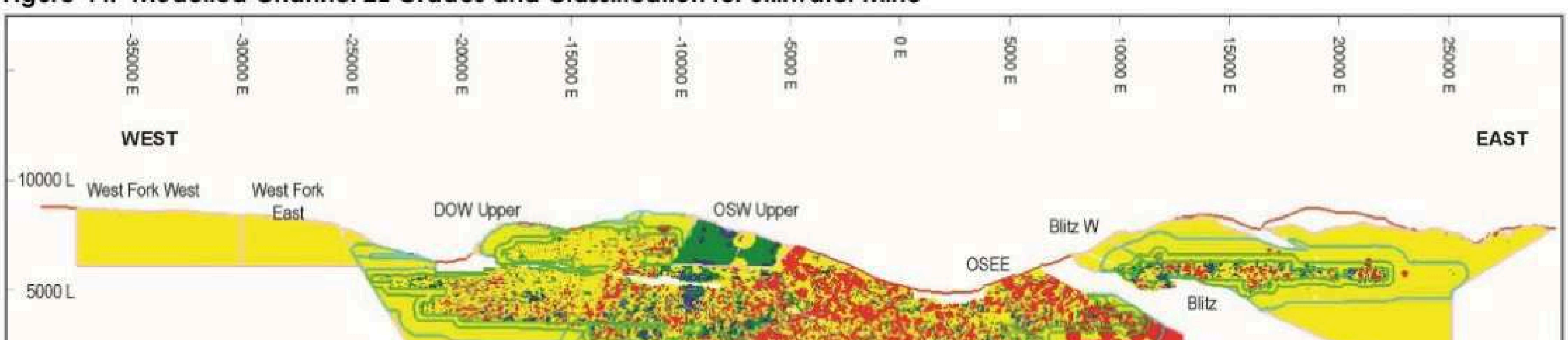
Table 17: Domain Global Means Calculated from Declustered Data

Mine	Description of Area	Domain	UHW (ft)	FOZPT	FCW (ft)	2E (opt)
Stillwater	Measured and Indicated	Blitz	4.26	2.93	4.14	0.52
		Blitz West	2.46	1.06	2.10	0.30
		DOWL	5.49	2.53	3.73	0.59
		DOWU	5.49	2.21	3.65	0.54
		OSEE	3.24	3.15	3.13	0.67
		OSEW	3.62	3.13	3.29	0.70
		OSW	3.61	3.45	3.21	0.68
		UWE	3.55	2.14	2.76	0.56
Stillwater	Inferred	WFE	5.52	2.27	3.54	0.55
		WFW	5.52	2.27	3.54	0.55
		Blitz	4.26	2.93	4.14	0.52
		Blitz West	2.46	1.06	2.10	0.30
		DOWL	5.49	2.53	3.73	0.59
		DOWU	5.49	2.21	3.65	0.54
		OSEE	3.24	3.15	3.13	0.67
		UWE	3.55	2.14	2.76	0.56
		Block-2 (Surface)	1.43	0.36	1.31	0.15

East Boulder	All Areas	Boulder West	6.43	3.18	4.93	0.57
		Boulder East	6.43	3.18	4.93	0.57
		Frog Pond West	6.27	3.01	4.87	0.57
		Frog Pond East	5.08	2.35	3.94	0.49
		Brass Monkey West	5.15	2.28	3.95	0.48
		Brass Monkey East	5.15	2.28	3.95	0.48

After simple kriging interpolation of FOZPT, 2E, UHW and FCW into the block models, 2E grades for Mineral Resource reporting were calculated by dividing the modelled FOZPT with FCW per block. The 2E grades estimated directly were used to check these indirectly estimated 2E grades. Figure 44 and Figure 45 depict the modelled channel (i.e. undiluted) 2E grades contained the block models for Stillwater and East Boulder Mines.

Figure 44: Modelled Channel 2E Grades and Classification for Stillwater Mine



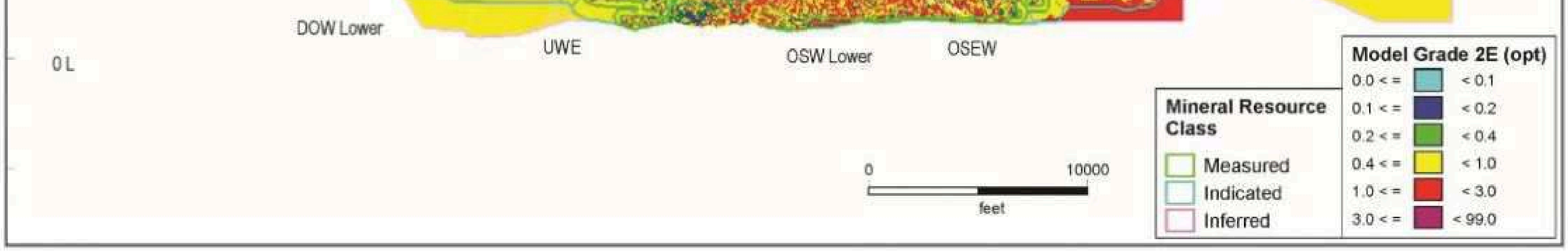
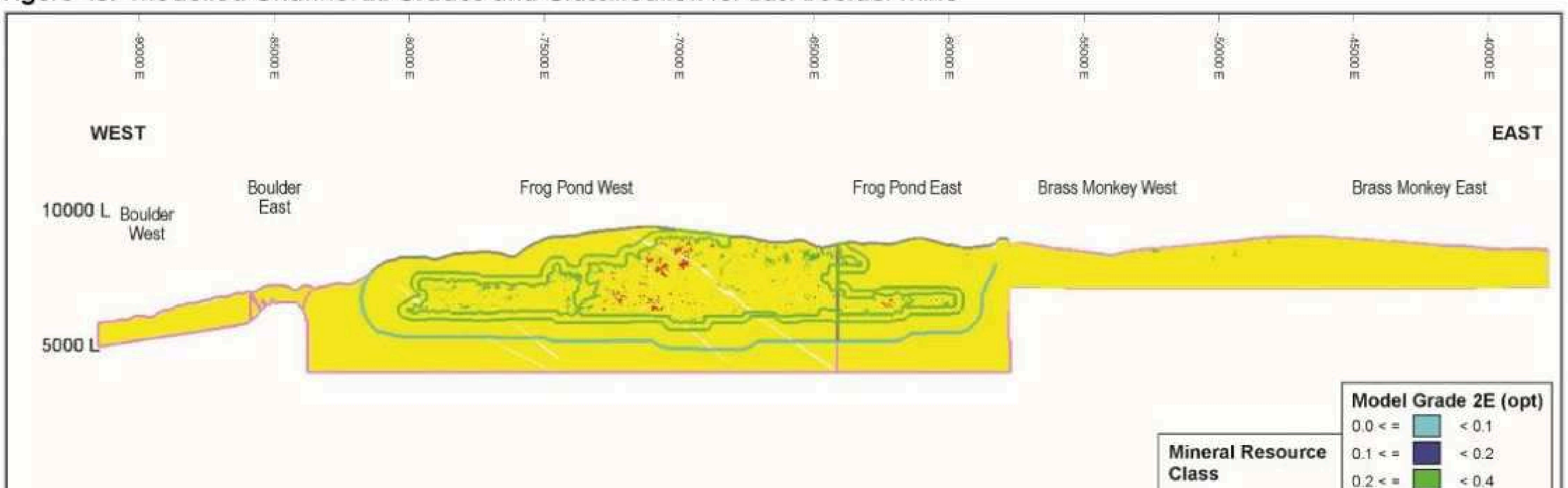


Figure 45: Modelled Channel 2E Grades and Classification for East Boulder Mine




0
9000
feet
Measured
Indicated
Inferred
0.4 < = < 1.0
1.0 < = < 3.0
3.0 < = < 99.0

11.3.2 *Block Model Validation*

The Qualified Persons validated the geological block models for the moderately to well drilled domains by comparing 2E mean grades of the capped composite data and the modelled 2E mean grades as shown in Table 18.

Table 18: Comparison of the Estimated and Evaluation Cut Composite Grades

Mine	Domain	Mean 2E Grade (opt)		Model to Composite Difference (%)
		Composite Data	Estimate - Simple Kriging	
Stillwater	DOWU	0.651	0.632	-2.92
	DOWL	0.728	0.702	-3.57
	UWE	0.869	0.770	-11.39
	OSW	1.132	1.060	-6.36
	OSEW	1.049	0.982	-6.39
	OSEE	1.120	1.045	-6.70
	Blitz West	0.787	0.586	-25.54
	Blitz	0.850	0.809	-4.82
East Boulder	FPE	0.611	0.602	-1.47
	FPW	0.636	0.618	-2.83

The comparisons revealed that the 2E means of capped composite data are higher than those for the model results for all domains reflecting an overall conservativeness in the estimation approach. This is more apparent in the Blitz, Blitz West, Off Shaft-East-East, Off Shaft-East-West, Off Shaft-West and Upper West-East at Stillwater Mine where the modelled results were 4.82% to 25.54% lower than the composite mean 2E grades. This is due to the grade capping applied to the data which is a conservative measure that limits the undue influence of localised high-grade samples on the overall estimates. The localised high grades are associated with ballrooms. Historical experience from production reconciliation indicated that more metal contents than estimated were recovered during mining at Stillwater Mine. As a result, the estimation parameters have been adjusted over time to align the estimated and recovered metal contents.

The estimates were also validated through spot checks of composite data and block model grades displayed along drillhole section lines (swath analysis) as depicted in Figure 46 to Figure 49 and on level plans. From the spot checks of the distribution of estimated grades within the block models against uncapped composite data along section lines and on level plans, the Qualified Persons also noted overall alignment between the block estimates and composite grades. However, global means tend to have significant influence in the estimates for sparsely drilled areas categorised as Indicated or Inferred which is an attribute of the simple kriging interpolation method. The impact of grade capping was noticeable in the Off Shaft areas (e.g. Figure 47), where there is a high occurrence of ballrooms and outlier grades and the modelled grades are significantly lower than input composite grades. The East Boulder Mine Competent Person for Mineral Resources also overall consistency in channel 2E grade for

Boulder Mine Competent Person for Mineral Resources also overall consistency in channel 2E grade for the Frog Pond East and Frog Pond West (Figure 45).

Despite the potential understating of 2E grades which is more pronounced at Stillwater Mine (Off Shaft areas), the Qualified Persons are satisfied with the congruency in 2E grades between the base composite data and the modelled 2E grades. Accordingly, the block models constitute a credible basis for Mineral Resource reporting.

Figure 46: Stillwater Mine Blitz Mean 2E Grade (opt) by Easting

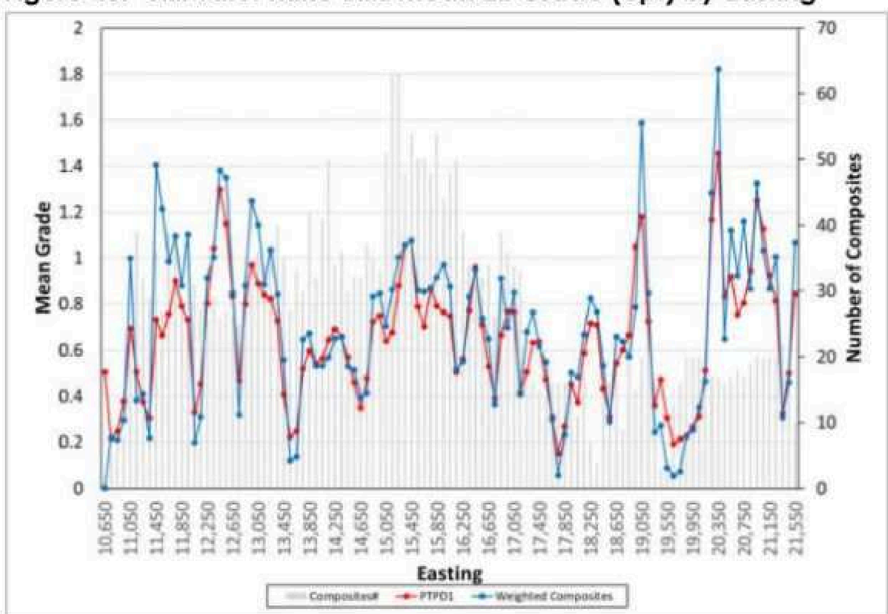


Figure 47: Stillwater Mine OSWU Mean 2E Grade (opt) by Easting

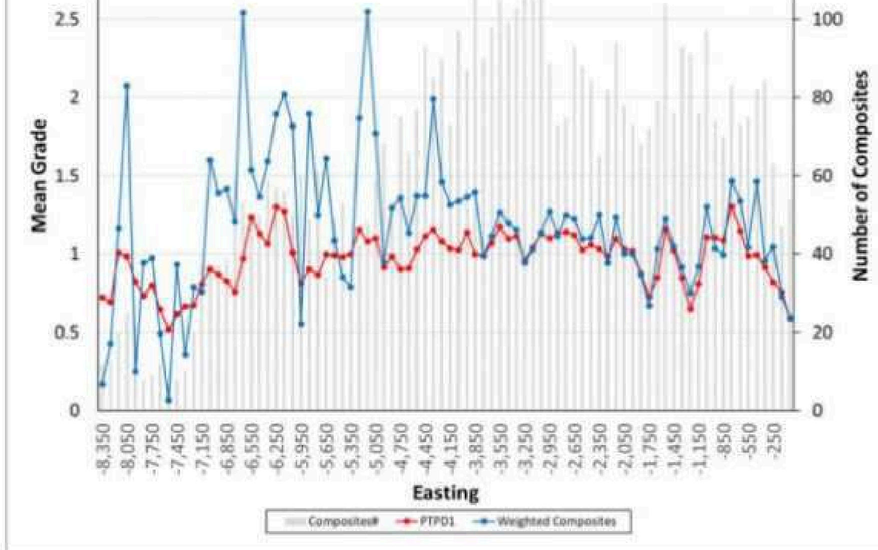
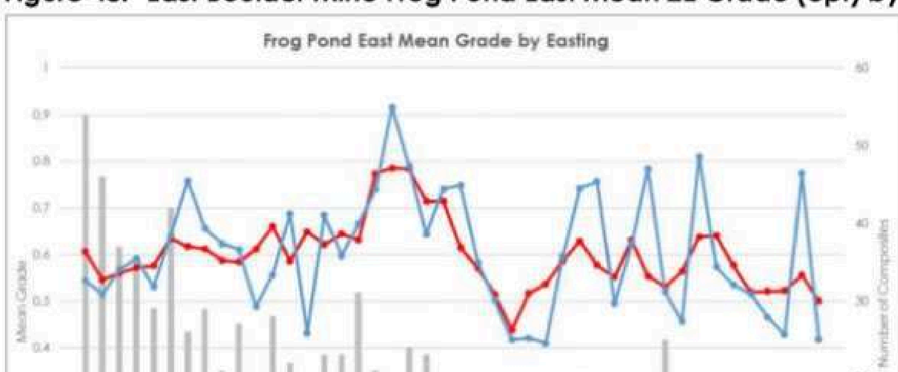


Figure 48: East Boulder Mine Frog Pond East Mean 2E Grade (opt) by Easting



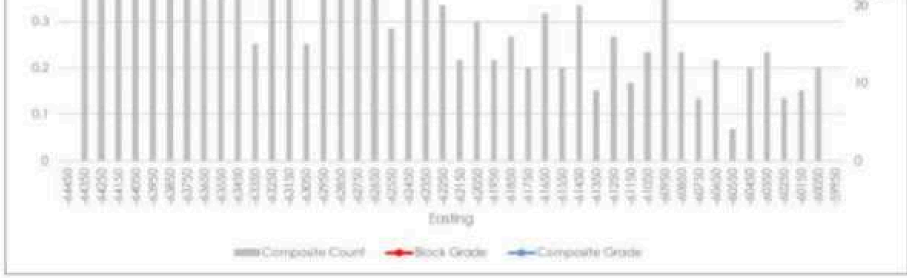
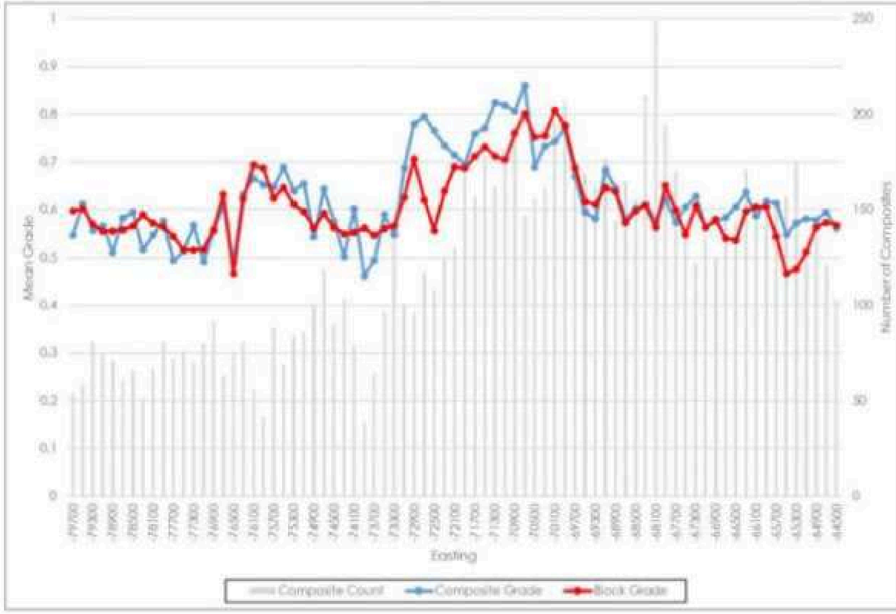


Figure 49: East Boulder Mine Frog Pond West Mean 2E Grade (opt) by Easting



11.3.3 *Tonnage Estimation*

A tonnage factor of 11.3ft^3/ton (equivalent to a density of 0.088 ton/ft^3) was applied to the block model volumes to derive tonnage estimates for Stillwater and East Boulder Mines. The tonnage factor is an average determined from the available RD data (2 472 data points) accumulated since 2017 at both Stillwater and East Boulder Mines. The Qualified Persons recommend continued RD determinations to expand the RD dataset which would permit the modelling of density and density weighting of the composite data to further improve the accuracy of the tonnage and grade estimates.

The tonnage estimates for Stillwater and East Boulder Mines for the Indicated and Inferred areas were discounted by the application of geological loss factors of 3.5% and 5.6%, respectively, to account for possible losses due to unknown geological structures. The unknown geological loss factors were determined from reconciliation data in the definition drilled blocks by dividing the total area faults by the total definition drilled of the area blocks.

From mine reconciliation data, the Qualified Persons determined a tonnage factor per block (Resource Block Factor) during tonnage estimation. The Resource Block Factor is the proportion of reef material above grade cut-off expressed as a percentage of the total reef tonnage per definition drilled geological block. The Resource Block Factors determined (Table 19) were applied to the Indicated Mineral Resource areas and the immediate Measured Mineral Resource areas with no definition drillhole data to account for the tonnage change expected after definition drilling. It was not necessary to apply the Resource Block Factors to Measured Mineral Resource tonnage estimates within the definition drilled area.

The tonnage estimates also exclude the 50ft crown pillar from surface and pillars around mined out stopes while accounting for mining depletion in the historically mined out portions of the mines.

Table 19: Resource Block Factors for Stillwater and East Boulder Mines

Mine	Geological Block	Resource Block Factors
Stillwater	Dow UG Upper	93.30%
	Dow UG Lower	89.30%
	Block-1 Upper	88.60%
	Block-1 Lower East	71.90%
	Block-1 Lower West	95.10%
	Block-2	52.20%
	Block-3	61.70%
	Block-6	89.60%
	Block-7	85.80%
	Block-8	86.00%
	Blitz West	66.40%
	Blitz	82.10%
East Boulder	Frog Pond East	99.80%
	Frog Pond West	99.90%

11.4 Mineral Resource Classification

Mineral Resources were classified as Inferred, Indicated or Measured depending on increasing levels of geoscientific knowledge and confidence. The main sources of uncertainty are structural disturbance, reef variability, sampling, laboratory analysis, data processing and estimation error.

Drillhole data quality is similar across all Mineral Resource classes (Inferred, Indicated and Measured) as common sampling, laboratory analytical methodologies and data processing have been used and the entire database was subjected to common rigorous validations, which enabled the identification of spurious data and its remediation or exclusion from the evaluation database. Therefore, data quality was not a contributing factor in the classification of the Mineral Resources. However, the localised thickness and grade variability of the J-M Reef is a major source of uncertainty in the estimates. Considering the long-range continuity and the high localised thickness and grade variability of the J-M Reef, diamond core drillhole spacing and proximity to areas that have been or are being mined (where reef characteristics have been confirmed from underground exposures and ore processing) were the main variables influencing the Qualified Persons' assessment of level of geoscientific knowledge and confidence in the J-M Reef mined at Stillwater and East Boulder Mines. Furthermore, the Qualified Person also considered the quality of estimates, which is highest for the estimates obtained by the first search and lowest for the estimates obtained by the third search, and confidence in the structural model.

In general, the classification criteria ensured that surface diamond drillhole data is only sufficient for the assessment and classification of Mineral Resources as either Indicated or Inferred (depending on drillhole spacing) and that no Measured Mineral Resources were classified based on surface drillhole data only. Therefore, the availability of definition drillhole data and proximity to areas that have been or are being mined were key factors in the classification of Measured Mineral Resources.

There are uncertainties in the thickness and grades due to high localised variability and, as a result, grade and tonnage estimates for all areas were influenced by the domain global means which were key inputs to the simple kriging interpolation method used. The Qualified Persons support the use of domain means as these reduce the uncertainty in the tonnage and grade estimates caused by the high localised variability of the J-M Reef across all Mineral Resource categories (Inferred, Indicated and Measured).

There are also uncertainties in the structural interpretation in areas that do not have closely spaced definition drillhole data, which are classified as either Indicated or Inferred depending on data spacing which affects the confidence in the structural model. Small-scale geological structures will become known after definition drilling and an unknown geological loss is applied to tonnage estimates in areas with no definition drillhole data, which are classified as Indicated or Inferred.

with no definition drillhole data, which are classified as Indicated or Inferred.

The Qualified Persons employed the following criteria for the Mineral Resource classification:

- Measured: The 50ft drill station spacing (i.e., <25ft to 100ft drillhole data point spacing) represents the optimal drillhole spacing that provides sufficient data for the achievement of the highest level of geoscientific knowledge and confidence in the geological and grade continuity of the J-M Reef. Accordingly, the Mineral Resources delineated through underground definition drilling and

quantified at a high level of confidence through geological block modelling were classified as Measured. As a result of the availability of closely spaced data, estimates in these areas were obtained from the first search. Furthermore, these areas are situated close to mined-out areas or areas that are currently being mined where capital infrastructure has already been or is currently being established. Reef characteristics in Measured areas are well-known from drilling, mining and ore processing. In addition, the level of geoscientific knowledge and confidence in the J-M Reef and the structural interpretation in such areas permits detailed mine planning and stope economic evaluation. In general, the Measured Mineral Resource boundary extends approximately 300ft beyond the last definition drillholes unless there are geologic constraints that limit reef continuity. Errors due to uncertainties in grade, thickness and tonnages do not materially affect the economic viability of extracting the material classified as Measured.
- Indicated and Inferred: Typical drillhole spacing in the Indicated or Inferred areas ranges from 100ft to 1 000ft. Estimates in areas classified as Indicated were informed by a second search whereas those for Inferred areas were obtained from a third search. Grade estimates in such areas tend towards the domain average grades. The drillhole spacing in Indicated areas is sufficient to assume geological and grade continuity between drillholes. In general, the Indicated Mineral Resource boundary extends approximately 1 000ft beyond the definition drilled area unless there are geologic constraints that limit reef continuity. The level of geoscientific knowledge and confidence in the areas classified as Indicated permits the scheduling of the Mineral Resources in a mine plan and the planning of capital infrastructure and high-level stope outlines, and assessment of the economic viability of the mining of the scheduled material. The Inferred Mineral Resource areas are located outside of the Indicated Mineral Resource areas. The JM-Reef characteristics for the Inferred Mineral Resource areas can be projected up to ten times the variogram ranges unless there are geologic constraints that otherwise limit continuity of the reef. The uncertainties in grades and thickness of the J-M Reef and domain boundaries as well as the long distances from established mining infrastructure prevent accurate planning of capital infrastructure and stope outlines in the areas classified as Inferred.

The Qualified Persons diligently applied these criteria for the classification of Mineral Resources for the Stillwater and East Boulder Mines. The Mineral Resource classification outcomes for the Stillwater and East Boulder Mines are depicted in Figure 44 and Figure 45, respectively. The Qualified Persons support and approve the disclosure of the Inferred, Indicated and Measured Mineral Resources for Stillwater and East Boulder Mines.

11.5 Cut-off Grades, Technical Factors and Reasonable Prospects for Economic Extraction

11.5.1 *Prospects for Eventual Economic Extraction Assessment*

The Qualified Persons considered the prospects for economic extraction of the J-M Reef within the footprints of the Stillwater and East Boulder Mines prior to the declaration of the Mineral Resources. This assessment benefited from the fact that a significant proportion of the Mineral Resources has been included in the LoM production schedules for the Stillwater and East Boulder Mines, which were derived from detailed scheduling and subjected to economic tests using reasonable economic parameters and forecasts. The Mineral Resources are reported at a minimum mining width which is applicable to the mechanised ramp and fill methods widely used at Stillwater and East Boulder Mines and at a cut-off grade (Section 11.5.2).

The Qualified Persons have confirmed that all the Mineral Resources have been delineated within the Stillwater and East Boulder Mines footprints over which Sibanye-Stillwater is legally permitted to mine the J-M Reef. The location, quantity, grade, continuity and other geological characteristics and geotechnical parameters of the J-M Reef in these areas are well-understood from extensive diamond drilling and laboratory analysis of the mineralised intersections, geological modelling, mining and ore processing.

The Qualified Persons considered it reasonable to assume that the Mineral Resources located outside of the current LoM plan footprints will be mined and processed in the future using similar underground mining methods and conventional flotation ore processing technology to those employed at the current operations. In addition, some of the major mining infrastructure already established at the two mining complexes (e.g., access and hoisting shafts, underground services infrastructure, powerlines, bulk mining complexes (e.g., access and hoisting shafts, underground services infrastructure, powerlines, bulk water pipelines and mine access roads) will be used for future mining operations as the LoM capital budgets continue to provide for maintenance of this infrastructure.

Sibanye-Stillwater has continued to fulfil the regulatory requirements that have enabled it to retain the mineral title for PGMs as well as the environmental and social permits required for the mining and ore processing operations at Stillwater and East Boulder Mines and mineral beneficiation operations at the Columbus Metallurgical Complex. As a result, the Qualified Persons consider it likely that Sibanye-Stillwater will be able to obtain regulatory approvals and permits to retain its mineral title and to continue mining the mineralisation included in the Mineral Resource estimates.

Owing to consideration of prospects for economic extraction, the J-M Reef mineralisation within a 50ft crown pillar from surface which cannot be mined was excluded from the Mineral Resource estimates for Stillwater and East Boulder Mines.

Sibanye-Stillwater has a marketing strategy in a place for its products which is based on historical experience, long term supply agreements and market research on commodity demand, supply and prices which are utilised for business planning. Mining parameters, production schedules, metallurgical parameters, capital and mining and ore processing operating costs employed for assessing prospects for economic extraction (mine planning) are based on historical experience at the current operations and research-based forecasting.

The Qualified Persons conclude that there are no apparent material risks that would prevent the economic extraction of the J-M Reef mineralisation included in the Mineral Resource estimates for Stillwater and East Boulder Mines, and the disclosure of the Mineral Resource estimates is appropriate.

11.5.2 *Cut-off Grades and Minimum Mining Width*

The Mineral Resources for Stillwater and East Boulder Mines are reported at a minimum width cut-off (minimum mining width) of 7.5ft width which is applicable to the mechanised ramp and fill method widely used at Stillwater and East Boulder Mines (Section 13.2) and 2E grade cut-offs of 0.11opt (3.77g/t) and 0.05opt (1.71g/t) at Stillwater and East Boulder Mines, respectively.

Over 80% of stopes at Stillwater and East Boulder Mines are mined through the mechanised ramp and fill method (Section 13.2). For Mineral Resource evaluation, the Qualified Persons determined a minimum mining width of 7.5ft by considering the operating envelopes of a 2-yard load haul dumper (LHD), which is the most representative equipment for the mechanised ramp and fill method, and the steep dips of the J-M Reef. In areas of the J-M Reef where the modelled reef channel thickness is narrower than 7.5ft, an appropriate dilution was added to achieve the required minimum mining width, which had the impact of lowering the 2E grades in these areas. Then, the relevant 2E grade cut-offs were applied to block models for Stillwater and East Boulder Mines resulting in the exclusion of certain low-grade parts of the J-M Reef.

For the determination of the 2E grade cut-off for Mineral Resource reporting, the Qualified Persons considered the minimum 2E grade required to cover the total cost for the extraction of PGMs (i.e., combined mining, ore processing and refining costs) in a ton of mineralised material of the J-M Reef. This assessment also considered available materials hoisting and plant capacities, metallurgical recoveries, and the reef continuity that enables achievement of the targeted production efficiencies while optimising net present value (NPV) and Mineral Resource recovery. For the grade cut-off calculation, the historical costs for East Boulder Mine were used as these reflect steady state operating costs whereas historical costs for Stillwater Mine are higher as the mine is still ramping up production to achieve steady state production levels in FY2029. The Qualified Persons have also considered the fact that unit costs for East Boulder Mine have been adversely affected by lower production than planned since 2022 and do not necessarily reflect true costs at the steady state production level.

The Qualified Persons also utilised the forecast Pd and Pt metal prices provided by Sibanye-Stillwater, which have been used for corporate planning and are presented in Table 20. In line with industry practice, Sibanye-Stillwater's forward-looking price assumptions for Mineral Resource reporting are 10% higher than the prices used for Mineral Reserve reporting. This is due to the fact that prices used for Mineral Resource reporting focus on longer timeframes than Mineral Reserves and are intended to better capture the long-term but still reflect reasonable prospects for economic extraction. These prices are expected to stay stable in the medium to long terms unless if there is a fundamental, perceived long-term shift in the market. In forecasting the prices, Sibanye-Stillwater also considered its view of the market for PGMs. The Qualified Persons reviewed the economic parameters provided by Sibanye-Stillwater and found them to be reasonable for Mineral Resource estimation and reporting.

Table 20: Parameters Employed for Cut-off Grade Calculation and Mineral Reserve Declaration

Item	Units	East Boulder		Stillwater	
		Pt	Pd	Pt	Pd
Mineral Resource-Mineral Reserve Cut-off Price	US$/oz	1 500	1 500	1 500	1 500
Mineral Reserve Declaration Price	US$/oz	1 250	1 250	1 250	1 250
J-M Reef Pd:Pt Ratio		1.00	3.60	1.00	3.51
Total Recovery	%	93.2	90.3	94.0	91.6
Total Operating Cost	$/ton milled	437.54		667.38	
Total Processing, Smelting and Refining Cost	$/ton milled	67.50		105.63	
J-M Reef Minimum 2E Grade (High Grade Only)	opt	0.34		0.51	
J-M Reef Minimum 2E Grade (Incremental Cost)	opt	0.05		0.08	
Overall 2E Cut-off Grade Used	opt	0.05		0.11	

Using the parameters in Table 20 provided by Sibanye-Stillwater, the Qualified Person initially determined the minimum 2E grades required to pay for the extraction and processing of a ton of high-grade ore at East Boulder Mines of at least 0.34opt. This scenario excludes low-grade (0.05-0.34opt) material which is inevitably mined to access the high-grade material. The cost of mining of this low-grade material is already accounted for in the mining cost for high-grade material. Furthermore, there is sufficient hoisting and milling capacity for the processing of the mined low-grade material without displacing any high-grade material. Historically, this low-grade material has been mined and milled profitably together with the high-grade material and together these materials constitute the run of mine ore (RoM) reported as Mineral Reserves. Using the incremental cost of hoisting and processing the low-grade material, the Qualified Person determined an indicative 2E minimum grade of approximately 0.05opt (Table 20). Since all the material grading at least 0.05opt is processed at East Boulder Mine, the Qualified Person considered a 2E cut-off grade of 0.05opt to be appropriate for Mineral Resource reporting and this matches the cut-off grade for mechanised ramp and fill employed for Mineral Reserve reporting at East Boulder Mine.

Applying the same grade cut-off calculation logic to Stillwater Mine, an indicative minimum 2E grade of 0.51opt was obtained for the mining and processing of high-grade ore while a minimum 2E grade of 0.08opt was determined under the incremental cost scenario. The higher cut-off grades reflect the higher operating costs associated with the current production ramp-up than those for East Boulder Mine. Due plant capacity constraints, Stillwater Mine milled material above 0.20opt and the mined low-grade material was not hoisted to surface. Accordingly, the 2E cut-off grade of 0.20opt which was applicable for the mining and processing of high-grade ore was used for Mineral Resource reporting at Stillwater Mine; this was also the cut-off grade used for Mineral Reserve reporting. However, the planned commissioning of additional mill capacity at Stillwater Mine in 2024 will remove the historical capacity constraints allowing for the hoisting and milling of low-grade material inevitably mined through to access high-grade ore. Accordingly, the reporting of Mineral Resources at a 2E cut-off grade of 0.11opt at Stillwater Mine is justified.

While a higher 2E cut-off grade has been used for reporting the Mineral Resources at Stillwater Mine than for East Boulder Mine, the Qualified Persons consider it more appropriate and therefore recommend the reporting of Mineral Resources at the 2E cut-off grade of 0.05opt at both mines. Aligning the cut-off grade will more fully reflect the Mineral Resource potential of the J-M Reef than the 0.11opt used at Stillwater Mine which is driven by high operating costs during the production ramp up phase.

11.6 Mineral Resource Estimates

11.6.1 *31 December 2023 Mineral Resource Statements*

The Mineral Resource estimates for Stillwater and East Boulder Mines as at the end of the fiscal year ended 31 December 2023 are summarised in Table 21 and Table 22. The Mineral Resource estimates in Table 21 are reported inclusive of Mineral Reserves while the estimates in Table 22 are reported exclusive of Mineral Reserves. These estimates are *in situ* estimates of tonnage and grades (point of reference)

reported at a minimum mining width of 7.5ft, which is applicable for the dominant ramp and fill underground mining method at Stillwater and East Boulder Mines. Furthermore, the Mineral Resources are reported at 2E cut-off off grades of 0.11opt (3.44g/t) and 0.05opt (1.71g/t) at Stillwater and East Boulder Mines, respectively. Individual metal grades are based on prill splits (metal ratio) data routinely collected at the concentrators, which are summarised in Table 47. No metal equivalents are reported as these are irrelevant to Stillwater and East Boulder Mines.

The Qualified Persons with responsibility for reporting and sign-off of the Mineral Resources for Stillwater and East Boulder Mines are Jeff Hughs and Jennifer Evans, respectively. Jennifer and Jeff are Professional Geologists with more than five years of experience relevant to the estimation and reporting of Mineral Resources and mining of the J-M Reef at Stillwater and East Boulder Mines.

Table 21: Mineral Resource Estimates Inclusive of Mineral Reserves at the End of the Fiscal Year Ended 31 December 2023 Based on Pd and Pt Price of $1 500/oz

Description		Mineral Resources Inclusive of Mineral Reserves				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (opt)**	**Pt (opt)**	**2E (opt)**	**2E Content (Moz)**
Measured	Stillwater	30.7	0.38	0.11	0.49	15.1
	East Boulder	18.3	0.28	0.08	0.36	6.6
	Subtotal/Average	**49.0**	**0.35**	**0.10**	**0.44**	**21.7**
Indicated	Stillwater	25.7	0.38	0.11	0.49	12.5
	East Boulder	28.4	0.27	0.08	0.35	10.0
	Subtotal/Average	**54.1**	**0.32**	**0.09**	**0.41**	**22.4**
Measured + Indicated	Stillwater	56.4	0.38	0.11	0.49	27.6
	East Boulder	46.8	0.28	0.08	0.35	16.6
	Subtotal/Average	**103.1**	**0.33**	**0.09**	**0.43**	**44.1**
Inferred	Stillwater	64.0	0.27	0.08	0.35	22.4
	East Boulder	61.5	0.27	0.08	0.35	21.3

Category	Mine	Tons (Million)	Pd (opt)	Pt (opt)	2E (opt)	2E Content (Moz)
Inferred	**Subtotal/Average**	**125.5**	**0.27**	**0.08**	**0.35**	**43.7**
Metric						
Category	**Mine**	**Tonnes (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (g/t)**	**2E Content (Moz)**
Measured	Stillwater	27.8	13.15	3.75	16.90	15.1
	East Boulder	16.6	9.65	2.68	12.33	6.6
	Subtotal/Average	**44.5**	**11.84**	**3.35**	**15.19**	**21.7**
Indicated	Stillwater	23.3	12.96	3.69	16.65	12.5
	East Boulder	25.8	9.40	2.61	12.01	10.0
	Subtotal/Average	**49.1**	**11.09**	**3.12**	**14.21**	**22.4**
Measured + Indicated	Stillwater	51.1	13.06	3.72	16.79	27.6
	East Boulder	42.4	9.50	2.64	12.13	16.6
	Subtotal/Average	**93.6**	**11.45**	**3.23**	**14.68**	**44.1**
Inferred	Stillwater	58.0	9.35	2.66	12.01	22.4
	East Boulder	55.8	9.29	2.58	11.87	21.3
	Subtotal/Average	**113.8**	**9.32**	**2.62**	**11.94**	**43.7**

2E Cut-off Grade Stillwater Mine – 0.11opt (3.77g/t)
2E Cut-off Grade East Boulder Mine – 0.05opt (1.71g/t)
Pd Price – $1 500/oz
Pt Price – $1 500/oz
2E Recovery Stillwater Mine – 91.48%
2E Recovery East Boulder Mine – 90.33%
Pd:Pt Ratio Stillwater Mine – 3.51:1
Pd:Pt Ratio East Boulder Mine – 3.60:1

Table 22: Mineral Resource Estimates Exclusive of Mineral Reserves at the End of the Fiscal Year Ended 31 December 2023 Based on Pd and Pt Price of $1 500/oz

Description		**Mineral Resources Exclusive of Mineral Reserves**				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (opt)**	**Pt (opt)**	**2E (opt)**	**2E Content (Moz)**
Measured	Stillwater	16.1	0.27	0.08	0.34	5.5
	East Boulder	7.2	0.25	0.07	0.32	2.3
	Subtotal/Average	**23.2**	**0.26**	**0.07**	**0.34**	**7.8**
Indicated	Stillwater	11.4	0.20	0.06	0.26	3.0
	East Boulder	9.8	0.22	0.06	0.28	2.7
	Subtotal/Average	**21.3**	**0.21**	**0.06**	**0.27**	**5.7**
Measured + Indicated	Stillwater	27.5	0.24	0.07	0.31	8.5
	East Boulder	17.0	0.23	0.06	0.30	5.0
	Subtotal/Average	**44.5**	**0.24**	**0.07**	**0.30**	**13.5**
	Stillwater	64.0	0.27	0.08	0.35	22.4

Inferred	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	East Boulder	61.5	0.27	0.08	0.35	21.3
	Subtotal/Average	125.5	0.27	0.08	0.35	43.7
Metric						
Category	**Mine**	**Tonnes (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (g/t)**	**2E Content (Moz)**
Measured	Stillwater	14.6	9.15	2.61	11.76	5.5
	East Boulder	6.5	8.61	2.39	11.00	2.3
	Subtotal/Average	**21.1**	**8.99**	**2.54**	**11.53**	**7.8**
Indicated	Stillwater	10.4	6.98	1.99	8.96	3.0
	East Boulder	8.9	7.47	2.07	9.54	2.7
	Subtotal/Average	**19.3**	**7.20**	**2.03**	**9.23**	**5.7**
Measured + Indicated	Stillwater	24.9	8.25	2.35	10.60	8.5
	East Boulder	15.4	7.95	2.21	10.16	5.0
	Subtotal/Average	**40.4**	**8.13**	**2.30**	**10.43**	**13.5**
Inferred	Stillwater	58.0	9.35	2.66	12.01	22.4
	East Boulder	55.8	9.29	2.58	11.87	21.3
	Subtotal/Average	**113.8**	**9.32**	**2.62**	**11.94**	**43.7**
2E Cut-off Grade Stillwater Mine – 0.11opt (3.77g/t) 2E Cut-off Grade East Boulder Mine – 0.05opt (1.71g/t) Pd Price – $1 500/oz Pt Price – $1 500/oz 2E Recovery Stillwater Mine – 91.48% 2E Recovery East Boulder Mine – 90.33% Pd:Pt Ratio Stillwater Mine – 3.51:1 Pd:Pt Ratio East Boulder Mine – 3.60:1						

11.6.2 *Mineral Resource Reconciliation*

Table 23 and Table 24 show a reconciliation between the 31 December 2023 and the 31 December 2022 Mineral Resource estimates for Stillwater and East Boulder Mines. Both estimates were reported at the same cut-off grades and minimum mining width and disclosed by the Registrant. The reconciliation shows year-on-year changes where positive and negative values respectively indicate increases and decreases from the 31 December 2022 figures disclosed by the Registrant. The reconciliation indicates modest year-on-year change in tonnage, grade and 2E metal content resulting from the combination of mining depletion between the two reporting periods (0.7 million tons at Stillwater Mine and 0.6 million tons at East Boulder Mine), grade block model updates and changes in Mineral Resource classification boundaries as a result of additional definition drilling.

Table 23: 31 December 2022 to 31 December 2023 Mineral Resource Reconciliation (Mineral Resources Inclusive of Mineral Reserves)

Description		Year-on-Year Change in Mineral Resources Inclusive of Mineral Reserves				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (opt)**	**Pt (opt)**	**2E (opt)**	**2E Content (Moz)**
Measured	Stillwater	2.2	0.04	0.01	0.06	2.7
	East Boulder	(0.1)	0.02	0.00	0.02	0.4
	Subtotal/Average	**2.1**	**0.03**	**0.01**	**0.04**	**3.0**
Indicated	Stillwater	(0.8)	0.05	0.01	0.06	1.2
	East Boulder	(0.7)	0.02	0.01	0.03	0.5
	Subtotal/Average	**(1.5)**	**0.03**	**0.01**	**0.04**	**1.7**
Measured + Indicated	Stillwater	1.4	0.05	0.01	0.06	3.9
	East Boulder	(0.8)	0.02	0.01	0.02	0.8
	Subtotal/Average	**0.6**	**0.03**	**0.01**	**0.04**	**4.8**
Inferred	Stillwater	0.1	(0.01)	(0.00)	(0.01)	(0.5)
	East Boulder	(0.3)	(0.01)	(0.00)	(0.01)	(0.6)
	Subtotal/Average	**(0.2)**	**(0.01)**	**(0.00)**	**(0.01)**	**(1.1)**
Metric						
Category	**Mine**	**Tonnes (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (g/t)**	**2E Content (Moz)**
Measured	Stillwater	2.0	1.50	0.43	1.92	2.7
	East Boulder	(0.1)	0.57	0.16	0.72	0.4
	Subtotal/Average	**1.9**	**1.20**	**0.34**	**1.54**	**3.0**
Indicated	Stillwater	(0.7)	1.63	0.47	2.10	1.2
	East Boulder	(0.6)	0.67	0.19	0.86	0.5
	Subtotal/Average	**(1.3)**	**1.12**	**0.32**	**1.44**	**1.7**
Measured + Indicated	Stillwater	1.3	1.57	0.45	2.01	3.9
	East Boulder	(0.7)	0.63	0.18	0.81	0.8
	Subtotal/Average	**0.6**	**1.17**	**0.33**	**1.50**	**4.8**
Inferred	Stillwater	0.1	(0.22)	(0.06)	(0.28)	(0.5)
	East Boulder	(0.3)	(0.22)	(0.06)	(0.28)	(0.6)
	Subtotal/Average	**(0.2)**	**(0.22)**	**(0.06)**	**(0.28)**	**(1.1)**
2E Cut-off Grade Stillwater Mine – 0.11opt (3.77g/t) 2E Cut-off Grade East Boulder Mine – 0.05opt (1.71g/t) Pd Price – $1 500/oz Pt Price – $1 500/oz 2E Recovery Stillwater Mine – 91.48% 2E Recovery East Boulder Mine – 90.33% Pd:Pt Ratio Stillwater Mine – 3.51:1 Pd:Pt Ratio East Boulder Mine – 3.60:1						

Table 24: 31 December 2022 to 31 December 2023 Mineral Resource Reconciliation (Mineral Resources Exclusive of Mineral Reserves)

Description		Year-on-Year Change in Mineral Resources Exclusive of Mineral Reserves				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (opt)**	**Pt (opt)**	**2E (opt)**	**2E Content (Moz)**
Measured	Stillwater	1.5	0.03	0.01	0.03	1.0
	East Boulder	0.5	0.02	0.01	0.03	0.4
	Subtotal/Average	**2.0**	**0.03**	**0.01**	**0.03**	**1.4**
Indicated	Stillwater	(0.5)	0.03	0.01	0.04	0.3
	East Boulder	0.7	0.03	0.01	0.04	0.6
	Subtotal/Average	**0.2**	**0.03**	**0.01**	**0.04**	**0.9**
Measured + Indicated	Stillwater	1.0	0.03	0.01	0.04	1.3
	East Boulder	1.2	0.03	0.01	0.04	0.9
	Subtotal/Average	**2.2**	**0.03**	**0.01**	**0.04**	**2.3**
Inferred	Stillwater	0.1	(0.01)	(0.00)	(0.01)	(0.5)
	East Boulder	(0.3)	(0.01)	(0.00)	(0.01)	(0.6)
	Subtotal/Average	**(0.2)**	**(0.01)**	**(0.00)**	**(0.01)**	**(1.1)**

Description		Year-on-Year Change in Mineral Resources Exclusive of Mineral Reserves				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (opt)**	**Pt (opt)**	**2E (opt)**	**2E Content (Moz)**
Metric						
Category	**Mine**	**Tonnes (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (g/t)**	**2E Content (Moz)**
Measured	Stillwater	1.4	0.91	0.26	1.17	1.0
	East Boulder	0.4	0.82	0.23	1.05	0.4
	Subtotal/Average	**1.8**	**0.88**	**0.25**	**1.13**	**1.4**
Indicated	Stillwater	(0.5)	1.00	0.28	1.28	0.3
	East Boulder	0.7	1.12	0.31	1.43	0.6
	Subtotal/Average	**0.2**	**1.07**	**0.30**	**1.36**	**0.9**
Measured + Indicated	Stillwater	0.9	1.02	0.29	1.32	1.3
	East Boulder	1.1	0.99	0.28	1.27	0.9
	Subtotal/Average	**2.0**	**1.01**	**0.28**	**1.29**	**2.3**
Inferred	Stillwater	0.1	(0.22)	(0.06)	(0.28)	(0.5)
	East Boulder	(0.3)	(0.22)	(0.06)	(0.28)	(0.6)
	Subtotal/Average	**(0.2)**	**(0.22)**	**(0.06)**	**(0.28)**	**(1.1)**

2E Cut-off Grade Stillwater Mine – 0.11opt (3.77g/t)
2E Cut-off Grade East Boulder Mine – 0.05opt (1.71g/t)
Pd Price – $1 500/oz
Pt Price – $1 500/oz
2E Recovery Stillwater Mine – 91.48%
2E Recovery East Boulder Mine – 90.33%
Pd:Pt Ratio Stillwater Mine – 3.51:1
Pd:Pt Ratio East Boulder Mine – 3.60:1

12 MINERAL RESERVE ESTIMATES

12.1 Mineral Resource to Mine Reserve Conversion Methodology

12.1.1 *Mineral Resources Available for Conversion*

Prior to commencing the planning process at Stillwater and East Boulder Mines, the first stage was to define the Mineral Resources available for conversion to Mineral Reserves – these being Indicated and Measured Mineral Resources. The Mineral Resource model identified the tonnages, grades and 2E content available for conversion.

12.1.2 *Mineral Reserve Estimation Methodology*

Mineral Reserves for Stillwater and East Boulder Mines were prepared from a business and LoM planning process which converted Indicated and Measured Mineral Resources to Mineral Reserves. The Mineral Reserves were classified using criteria set out in Section 12.2. The conversion took into consideration all the modifying factors for the various disciplines relevant to Mineral Reserves, namely mining methods, mining and surveying factors, ore processing and metallurgical recoveries, infrastructure engineering and equipment, market conditions, environmental and social matters, and capital and operating costs (Section 12 to 18). The LoM plan production schedules generated were tested for economic viability using a set of reasonable economic parameters prior to the declaration of Mineral Reserves (Section 19).

Despite the common estimation methodology employed for Indicated and Measured Mineral Resources, different approaches were followed for the scheduling of Indicated and Measured Mineral Resources to derive the LoM production schedules underpinning the Mineral Reserves for Stillwater and

East Boulder Mines (Section 13.7). This is due to different levels of confidence between the Mineral Resource classes resulting from different drillhole data point spacing given the high microvariability of the J-M Reef. Scheduling of the Measured Mineral Resources and conversion to Proved Mineral Reserves benefitted from the high abundance of geological information available to accurately constrain thickness, tonnage and grades. However, the scheduling of the Indicated Mineral Resources and conversion to Probable Mineral Reserves relied on statistics and key metrics extrapolated from the Proved Mineral Reserve areas per domain and mining block.

The Mineral Reserves were estimated for each of the sub-areas at both Stillwater Mine and East Boulder Mines. The conversion of Mineral Resources to Mineral Reserves at the mines follows a methodology that was developed in 1990 and adjusted as required over the years as more geological and mining information became available. The methodology accounts for the different reef facies and the sub-areas that exist at the mines and the fact that a single set of parameters within a sub-area can be used to confidently project surface and underground drilling for Mineral Resource estimates. Mining experience and reconciliation between Mineral Reserve estimates and actual production figures have demonstrated the robustness of the methodology in making estimates of tonnages and ounces that have historically been reported as Mineral Reserves.

The following key technical parameters, assumptions and mining modifying factors were utilised to develop the mine designs and LoM production schedules as discussed in Sections 12 and 13:

- Cut-off grade;
- Percentage ore recovered;
- Geotechnical and geohydrological considerations;
- Mining method and applicable minimum mining widths;
- Dilution (planned and unplanned overbreak);
- Deletion;
- Extraction rate;
- Extraction sequence;
- Planned productivity;
- Equipment and personnel equipment requirements; and
- Fill requirements (type and quantity).

The LoM planning and subsequent production scheduling was developed utilising historical productivity parameters inclusive of the following;

- Stoping tons per miner per month per mining method;
- Ore tons generated per foot of footwall development;
- Primary development productivities, feet advance per month; and
- Secondary development productivities, feet advance per month;

Historical analysis of mine planning and production data revealed that a recovery factor of 75% was required to reconcile blasted and removed tons in the sub-level extraction stopes. Therefore, a 75% recovery factor was applied to all sub-level extraction tons and ounces to Mineral Reserves. Furthermore, mineability block factors (MBFs) indicated in Table 36 were applied to tonnage estimates when converting Indicated Mineral Resources to Probable Mineral Reserves. A MBF is calculated as the percentage of the fully diluted ore grade tonnage within a mineable area compared with the total fully diluted ore grade tonnage within the boundary area of a block or percent of material historically extracted from the block.

Initially, scheduling included all primary development (footwall lateral drifts) to access the stope blocks in the Measured Mineral Resource areas. Thereafter, the development design and scheduling were extended into the Indicated Mineral Resource areas where primary annual development rates were derived through the utilisation of historical ratios. The scheduling of the stoping was dependent on the completion of the footwall access and the necessary diamond drilling to form an outline of the stopable areas in terms of grade and tonnage. In addition, the scheduling was also dependent on the mill feed requirements.

On the completion of the lateral development schedule, the starting dates for the development of the stoping blocks were defined based on when access will be attained and the mines' requirements in terms of RoM ore production. It is also during this process that the true width was corrected for dip and a minimum mining width was applied dependant on mining method and type of equipment to be employed.

For each stope block, a proposal (business plan) was drawn up which included, amongst other information, primary and secondary development requirements, reef widths, tonnage and forecasted grade, expected percentage ore recovery, applied cut-off grades, overall stope design, mining method to be employed, ventilation requirements, backfill requirements extraction sequence, and manpower and mining equipment requirements.

Once the technical inputs were defined, each stope block was subjected to an economic test. This economic test used technical and financial parameters to determine the economic viability of the planned stoping operations. It accounted for all costs associated with the ore extraction and balanced the total costs against the revenue generated by the block. From the process, a Net Present Value (NPV) of the planned stope was determined. Where required (e.g., if a stope does not meet the required financial returns), the stope was optimised to return the best value.

The tonnage and grades in the LoM production schedules were aggregated to derive Mineral Reserve tons and grades, with the tonnage and grades scheduled in the Measured Mineral Resources supported by definition drillhole data classified as Proved and those in the Indicated and Measured Mineral Resources supported by surface drillhole data but no definition drillhole data classified as Probable. The Qualified Person can confirm that the process followed to convert the Measured Mineral Resources into Proved Mineral Reserves was based on historical performance and reconciliations, with input and outputs reported within the accuracy level of ±15%. The process followed to convert the Indicated and Measured Mineral Resources to Probable Mineral Reserves utilised statistics from the Proved Mineral Reserves and a geological block model at a lower level of confidence resulting in the outputs reported within ±25% accuracy.

12.1.3 *Point of Reference*

The aggregated scheduled tonnages and grades reflected in the LoM production schedules and delivered to the concentrators for processing at Stillwater and East Boulder Mines are the tonnage and grade estimates reported as the Mineral Reserve estimates. Therefore, the mill head is the point of reference for Mineral Reserve reporting.

12.1.4 *Cut-off Grades*

The 2E cut-off grades for Mineral Reserve reporting are 0.20opt (6.86g/t) for Stillwater Mine and 0.05opt (1.71g/t) for the East Boulder Mine. All diluted blocks within the individual stope outlines that are above the cut-off grade were included in the Mineral Reserves. The 2E cut-off grades were selected as the optimal cut-off grades that ensure continuity of the mineable portions of the reef and enable achievement of targeted production efficiencies while optimising NPV.

Using the parameters in Table 20, the Qualified Person determined the minimum 2E grades required to pay for the extraction and processing of a ton of high-grade ore at Stillwater and East Boulder Mines of 0.51opt and 0.34opt, respectively. This approach leaves the mined low-grade material underground, which would be inappropriate if there is unused hoisting and ore processing plant capacities. As a result, the Qualified Person also determined the 2E cut-off grades based on the incremental cost of hoisting

and processing the low-grade material inevitably mined to access the high-grade ore. The resulting minimum 2E grades determined are 0.08opt and 0.05opt for Stillwater and East Boulder Mines, respectively. The metal prices used are long-term forecast prices for platinum and palladium. Section 16.4 the rationale for the price forecast. Costs employed for cut-off grade calculation are current actual operating costs.

As the low-grade (0.05opt to 0.34opt 2E) material being economically mined and milled together with the high-grade material (greater than 0.34opt 2E) at East Boulder Mine, the Qualified Person elected to use 0.05opt as the 2E cut-off grade for Mineral Reserve reporting in the mechanised ramp and fill mining areas. This is aligned to the minimum 2E grade derived through consideration of the incremental cost of hoisting and processing and the current practice of milling RoM ore comprising high-grade and low-grade material.

The planned commissioning of additional concentrator capacity at Stillwater Mine places Stillwater Mine in a similar place as East Boulder Mine. However, higher operating costs at Stillwater necessitated the use of higher 2E cut-off grades than for East Boulder Mine. Applying the same logic for cut-off grade determination as at East Boulder, the Qualified Person elected to use 0.2opt as the 2E cut-off grade for Mineral Reserve reporting in the mechanised ramp and fill mining areas. The Qualified Person also noted that the Stillwater Mine is still ramping up production and its current operating costs exceed steady state operating costs. As such, the 2E cut-off grades should be reviewed in future taking in account operating costs as production output increases as well as the available hoisting and ore processing capacity to process both the high-grade and low-grade material at steady state.

12.2 Mineral Reserve Classification Criteria

The tonnage and grades in the LoM production schedules were aggregated to derive Mineral Reserve tons and grades. The tonnage and grades scheduled in the Measured Mineral Resource areas where there is definition drillhole data were classified as Proved Mineral Reserves. The tonnage and grades scheduled in the Measured and Indicated Mineral Resources where there is no definition drillhole data were classified as Probable Mineral Reserves.

The Qualified Person can confirm that the process followed to convert the Measured Mineral Resources into Proved Mineral Reserves is based on historical performance and reconciliations, with input and outputs reported within the accuracy level of ±15%. The process followed to convert the Indicated Mineral Resources to Probable Mineral Reserves utilised statistics from the Proved Mineral Reserves and a geological block model at a lower level of confidence and, as a result, the outputs are reported within ±25% accuracy.

Mineral Reserve classification maps for Stillwater and East Boulder Mines are shown in Figure 50 and Figure 51 respectively.

Figure 50: Mineral Reserve classification for Stillwater Mine

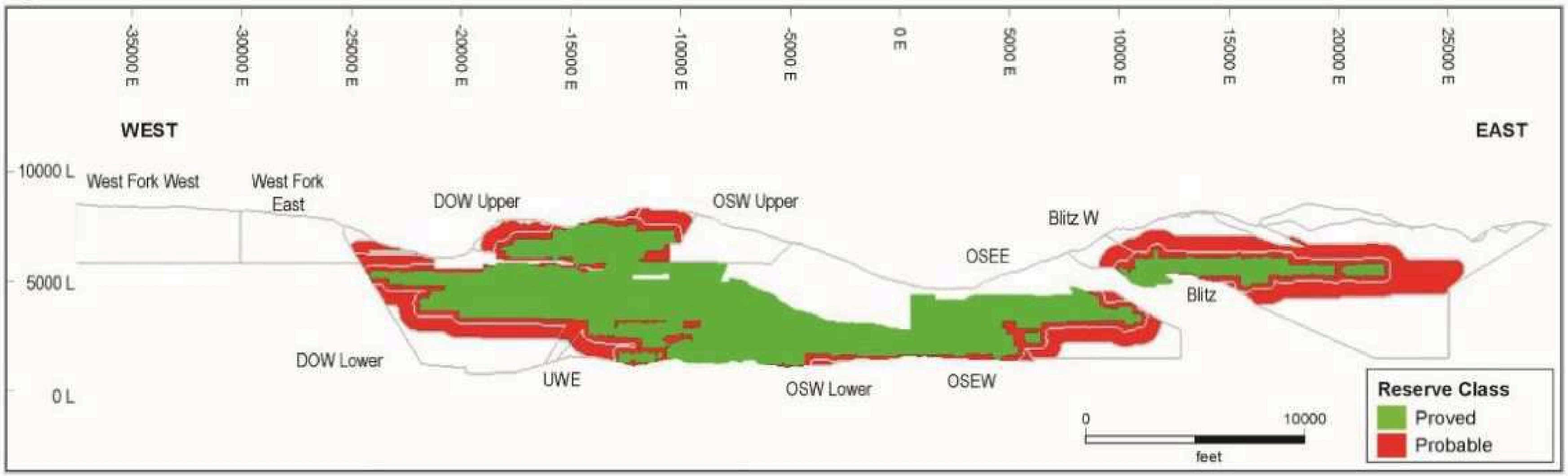
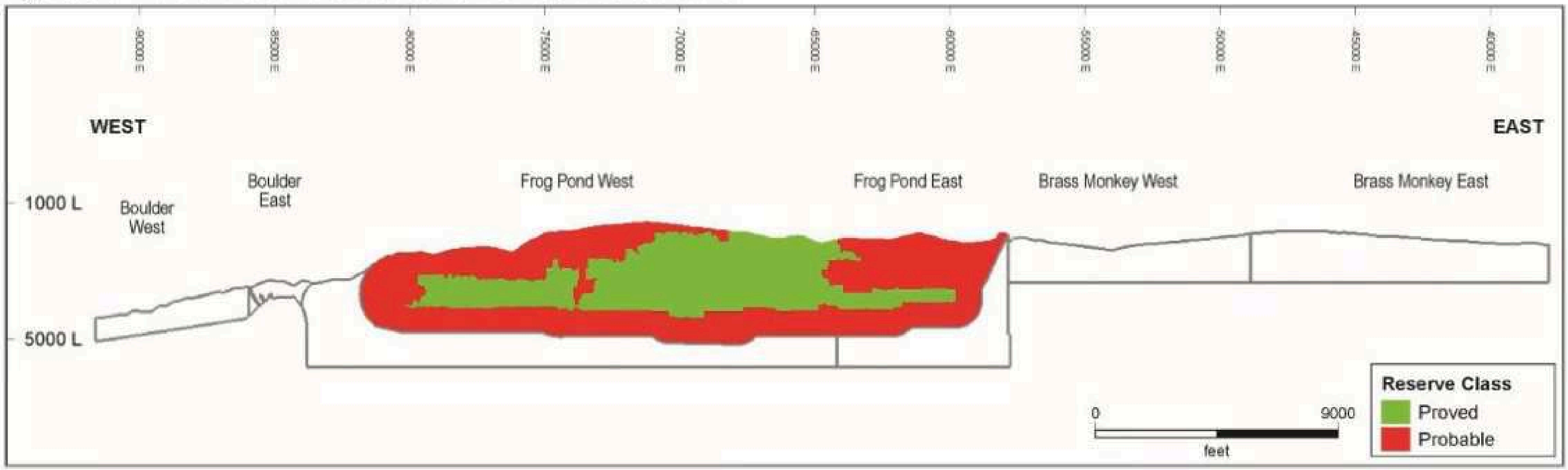


Figure 51: Mineral Reserve classification for East Boulder Mine



12.3 Mineral Reserve Estimates

12.3.1 *31 December 2023 Mineral Reserve Statement*

The Mineral Reserve estimates for Stillwater and East Boulder Mines as at 31 December 2023 are reported in Table 25. Only the Measured and Indicated portions of the Mineral Resources within the LoM plans have been included in the Mineral Reserve. No Inferred Mineral Resources have been included in Mineral Reserve estimates. The reference point for tonnage and grade estimates for the Mineral Reserve estimates is the mill head and the Mineral Reserve estimates are reported at the 2E cut-off grade of 0.20opt (6.86g/t) and 0.05opt (1.71g/t) at Stillwater and East Boulder Mines, respectively. The tonnages and 2E grades indicate the expected RoM ore tonnages and grades derived through LoM production scheduling. Individual metal grades are based on the application of prill splits (metal ratios) which are summarised in Table 47 and were determined from actual data routinely collected at the Stillwater and East Boulder Concentrators.

The Qualified Persons with responsibility for reporting and sign-off of the Mineral Reserves for Stillwater and East Boulder Mines are Annette McFarland and Pat Hansen, respectively. The Qualified Persons are Registered Professional Engineers with more than five years of experience relevant to the estimation and reporting of Mineral Reserves and mining of the J-M Reef at Stillwater and East Boulder Mines.

Table 25: Mineral Reserve Estimates at the End of the Fiscal Year Ended 31 December 2023 Based on Pd and Pt Price of $1 250/oz

Description		**Mineral Reserves**				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (opt)**	**2E Content (Moz)**
Proved	Stillwater	7.5	0.34	0.10	0.44	3.3
	East Boulder	4.6	0.25	0.07	0.32	1.5
	Subtotal/Average	**12.1**	**0.31**	**0.09**	**0.39**	**4.8**
Probable	Stillwater	27.5	0.35	0.10	0.45	12.4
	East Boulder	27.0	0.26	0.07	0.34	9.1
	Subtotal/Average	54.5	0.31	0.09	0.40	21.5
Proved + Probable	Stillwater	35.0	0.35	0.10	0.45	15.7
	East Boulder	31.6	0.26	0.07	0.33	10.6
	Total/Average	66.6	0.31	0.09	0.40	26.3
Metric						
Category	**Mine**	**Tonnes (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (g/t)**	**2E Content (Moz)**
Proved	Stillwater	6.8	11.73	3.34	15.07	3.3
	East Boulder	4.2	8.62	2.39	11.01	1.5
	Subtotal/Average	10.9	10.55	2.98	13.53	4.8

Probable	Stillwater	25.0	12.07	3.44	15.51	12.4
	East Boulder	24.5	9.05	2.51	11.56	9.1
	Subtotal/Average	**49.5**	**10.57**	**2.98**	**13.55**	**21.5**
Proved + Probable	Stillwater	31.7	12.00	3.42	15.41	15.7
	East Boulder	28.7	8.98	2.49	11.48	10.6
	Total/Average	60.4	10.57	2.98	13.55	26.3

2E Cut-off Grade Stillwater Mine – 0.20opt (6.86g/t)
2E Cut-off Grade East Boulder Mine – 0.05opt (1.71g/t)
Mineral Reserve Declaration Pd and Pt Price – $1 250/oz
Cut-off Determination Pd Price – $1 250/oz
Cut-off Determination Pt Price – $1 250/oz
2E Recovery Stillwater Mine – 91.48%
2E Recovery East Boulder Mine – 90.33%
Pd:Pt Ratio Stillwater Mine – 3.51:1

Description	Mineral Reserves
Pd:Pt Ratio East Boulder Mine – 3.60:1	

12.3.2 *Mineral Reserve Reconciliation*

Table 26 shows a reconciliation between the 31 December 2023 and the 31 December 2022 Mineral Reserve estimates for Stillwater and East Boulder Mines which were reported at the same cut-off grades and minimum mining width and disclosed by the Registrant. These also show year-on-year changes where positive and negative values respectively indicate increases and decreases from the 31 December 2022 figures. The reconciliation shows modest year-on-year change in the tonnage and grades resulting from mining depletion between the two reporting periods (0.7 million tons at Stillwater Mine and 0.6 million tons at East Boulder Mine), block model update, Mineral Reserve classification boundaries and refinements to the modifying factors used for the conversion of Mineral Resources to Mineral Reserves during mine planning.

Table 26: 31 December 2022 to 31 December 2023 Mineral Resource Reconciliation

Description		Year-on-Year Change in Mineral Reserves				
Imperial						
Category	**Mine**	**Tons (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (opt)**	**2E Content (Moz)**
Proved	Stillwater	0.8	0.01	0.00	0.01	0.5
	East Boulder	0.2	(0.02)	(0.01)	(0.02)	(0.0)
	Subtotal/Average	**1.1**	**0.00**	**0.00**	**0.00**	**0.4**
Probable	Stillwater	(1.2)	0.01	0.00	0.02	0.0
	East Boulder	0.3	(0.02)	(0.00)	(0.02)	(0.4)
	Subtotal/Average	**(0.9)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.4)**
Proved + Probable	Stillwater	(0.4)	0.01	0.00	0.02	0.5
	East Boulder	0.5	(0.02)	(0.00)	(0.02)	(0.5)
	Total/Average	**0.2**	**(0.00)**	**(0.00)**	**(0.00)**	**0.0**
Metric						
Category	**Mine**	**Tonnes (Million)**	**Pd (g/t)**	**Pt (g/t)**	**2E (g/t)**	**2E Content (Moz)**
Proved	Stillwater	0.7	0.37	0.11	0.48	0.5
	East Boulder	0.2	(0.67)	(0.19)	(0.85)	(0.0)
	Subtotal/Average	**1.0**	**0.01**	**0.01**	**0.01**	**0.4**
Probable	Stillwater	(1.1)	0.51	0.15	0.66	0.0
	East Boulder	0.3	(0.53)	(0.15)	(0.68)	(0.4)
	Subtotal/Average	**(0.8)**	**(0.03)**	**(0.01)**	**(0.04)**	**(0.4)**
Proved + Probable	Stillwater	(0.3)	0.48	0.14	0.61	0.5
	East Boulder	0.5	(0.55)	(0.15)	(0.71)	(0.5)
	Total/Average	**0.1**	**(0.03)**	**(0.01)**	**(0.03)**	**0.0**
2E Cut-off Grade Stillwater Mine – 0.20opt (6.86g/t)						

2E Cut-off Grade Stillwater Mine – [illegible]
2E Cut-off Grade East Boulder Mine – 0.05opt (1.71g/t)
Mineral Reserve Declaration Pd and Pt Price – $1 250/oz
Cut-off Determination Pd Price – $1 250/oz
Cut-off Determination Pt Price – $1 250/oz
2E Recovery Stillwater Mine – 91.48%
2E Recovery East Boulder Mine – 90.33%
Pd:Pt Ratio Stillwater Mine – 3.51:1
Pd:Pt Ratio East Boulder Mine – 3.60:1

12.4 Risk Assessments

The Qualified Persons have completed a high-level semi-quantitative risk analysis of the Sibanye-Stillwater US PGM Operations discussed in this TRS. The risk analysis sought to establish how the Mineral Reserve estimates for Stillwater and East Boulder Mines could be materially affected by risk factors associated with or changes to any aspect of the modifying factors. For the high-level risk analysis, the Qualified Persons have assessed a material risk identified as an issue for which there is a substantial likelihood that a reasonable investor would attach importance in determining whether to buy or sell the securities registered for Sibanye-Stillwater. A material risk should also have a high chance (likelihood) of occurrence. If an issue does not satisfy both criteria, it has been identified as a low to medium risk depending on its impact if it occurs and the likelihood of occurrence. Sibanye-Stillwater has a risk management process in place at the Sibanye-Stillwater US PGM Operations that identifies risks, assesses the materiality of the risks, and provides risk mitigation measures where possible. The Qualified Persons participate in the risk assessment for the LoM plans and Mineral Reserves.

Sibanye-Stillwater's risk management process identified various material risks to LoM plans and Mineral Reserves relating to geotechnical and geohydrological uncertainties, inability to execute LoM plans, metal price downturns, inadequate tailings storage capacity, unplanned production cost escalation, unplanned power outages and restricted access to the operations caused by extreme weather events. Sibanye-Stillwater has mitigated (and not eliminated) these risks as per its risk management protocols to reduce the likelihood of occurrence and/or impact (severity) when the risk occurs which resulted in a reclassification of the residual risks as low to medium risks.

The Qualified Persons consider the risk management process robust and sufficient to identify material risks that should be mitigated to enhance the achievability of the LoM plans. From their appraisal of the residual risks after mitigation, the Qualified Persons could not identify any unmitigated material risks to the LoM plans and Mineral Reserves associated with the modifying factors or resulting from changes to any aspect of the modifying factors. The Qualified Persons provide the following opinions relating to the low to medium risks identified in the modifying factors and the mitigation measures in place to minimise the impact of the risks:

- Geotechnical: Stillwater and East Boulder Mines have accumulated an extensive geotechnical database and developed ground classification (ground control districts) and support measures that are suited to the rockmass conditions for each of the ground control districts. These measures have significantly reduced major falls of ground at Stillwater and East Boulder Mines. However, there is always a degree of residual low risk relating to excavation failures. The extensive support systems and standards in place at both mines are sufficient to minimise the potential impact of any geotechnical associated risk.
- Geohydrological: Mining operations at Stillwater and East Boulder Mines have not experienced material interruptions due to groundwater problems, with both mines being relatively dry in the upper sections. However, a significant amount of groundwater was encountered at the Stillwater East Section during the development of the main access adits and the decline, but conditions have improved significantly with further development. Despite the declining groundwater inflow, the groundwater poses a low risk in terms of excavation stability and the management and disposal of the water generated. Stillwater Mine has already initiated a multi-pronged approach to mitigating this risk which involve the following:
    - The drilling of probe holes well in advance of any advancing development end;

    - Carrying out hydraulic tests of probe holes drilled prior to drift advancement whenever practically possible;
    - Cementation (grouting) ahead of those advancing development ends where the potential for significant water intersections have been identified;
    - Probe and definition drilling before developing new production areas to evaluate water inflows, with some of these drillholes converted into drain holes for dewatering purposes; and
    - Evaluating, engineering, and permitting expanded water handling and disposal facilities on surface to manage excess mine water.
- Inability to execute LoM plans: Although mining experience at the Stillwater and East Boulder Mines has provided improved understanding of the mineralisation, modelling ability and understanding of the modifying factors, estimation errors cannot be eliminated. The major expected sources of error in the Mineral Reserve estimates include understating production costs,

slower than planned production build-ups, understating manpower requirements, regulatory changes, grade and tonnage underestimation and unknown geological conditions. These factors are partially mitigated by using a significant amount of historical data in the LoM forecasting of key elements of the operations, namely RoM ore production levels, RoM ore grades and operating costs. Furthermore, the mines have systems and personnel in place that monitor the mining operations daily (short interval control) to enable the implementation of timeous interventions and, therefore, correction of deviations to the plans.

- Unplanned production cost escalation: In recent years since 2019 until 2023, there has not been significant escalation of the production costs. The production costs were mainly affected by the quantities of ore and waste produced each year from each mine and the mining methods employed, with the cost-effective mechanised ramp and fill methods utilised for most stopes at both mines. Continuous improvement initiatives adopted to contain cost escalation included the increasing use of mechanised mining methods thereby improving productivities and reducing operating costs, the optimisation of the mining fleets (reducing active units) to reduce maintenance costs and increase mining volumes through mining footprint expansion at Stillwater Mine (Stillwater East Section) and optimal utilisation of available hoisting and milling capacities at East Boulder (Fill The Mill Project). Since 2020 and coinciding with the COVID-19 pandemic, the operations have experienced significant cost pressures due to external and internal factors which were compounded by production disruptions caused by the COVID-19 pandemic. The operations have embarked on recovery efforts and production ramp up to reverse the adverse impacts on production due to the COVID-19 pandemic.
- Power losses: The loss of power at the mining operations during the winter months (due to excessive snow and high winds) is the single low to medium risk identified relating to mining infrastructure. The power losses are infrequent and are mitigated by using backup generators. The generators have sufficient capacity to power communication systems and shaft conveyances to ensure that personnel can be safely withdrawn.
- Inadequate tailings storage capacity: Tailings storage facilities at Stillwater and East Boulder Mines have adequate storage capacity for the medium term (seven to ten-year range). Production increases at both mines have shortened the lives of the tailings storage capacities. Tailings storage capacity upgrade through elevation lift is a mitigation measure that has been adopted while permitting for the construction of new tailings facilities is being pursued. Permitting for the construction of a new tailings storage facility may require periods of three to five years. Sibanye-Stillwater is aware of the long approval timeframes and has already completed the necessary technical studies and submitted the required permit applications to initiate the permitting processes. It is unlikely that the operations will run out of tailings storage facility capacity before Sibanye-Stillwater receives approvals for the construction of new tailings storage facilities or the upgrading of the existing tailings storage facilities.

- Metal price downturns: The prices for palladium and platinum fluctuate depending on global supply and demand. Demand for palladium and platinum primarily depend on their use in auto-catalytic converters for both gasoline and diesel engines. The use of platinum and palladium in the hydrogen economy is anticipated to become an additional key demand driver for these metals. Sensitivity analysis of the NPV for the Sibanye-Stillwater US PGM Operations for variation in metal prices indicates robust economics due to the high-grade nature of the J-M Reef and that significant revisions of the Mineral Reserves for Stillwater and East Boulder Mines would only result from a significant metal price decrease. The estimated revenue per combined ounce of palladium and platinum over the LoM plans varies depending on which parts of each of the mines are being exploited. This offers the mines the flexibility to delay the mining of sub-economic areas during times of price downturns.
- Restricted access to the operations caused by extreme weather events: Freezing temperatures in winter and snow can pose adverse operating conditions, although avalanches from the steep mountain slopes have never directly affected operations at the mines. Snow removal and road maintenance by Sibanye-Stillwater has effectively been used to maintain mine access even in winter storms. On 13 June 2022, a 500-year flood resulting from the combination of warm weather triggering an unusual ice melt and incessant rains in Montana destroyed parts of State Highway 419 used to access Stillwater Mine. The damage caused restricted access to the mine, temporary suspension of the mining operations for seven weeks. A temporary road was built to reestablish access to and from the mine to support full operations at the mine while repairs were being carried out on the damaged parts of the highway resulting in access restoration through the highway in July 2023. The Qualified Persons consider the likelihood of a recurrence of another 500-year flood low which makes flooding due to incessant rains and destruction of access roads a low to medium risk.