TECHNICAL REPORT

ON THE

MINERAL RESOURCE ESTIMATE UPDATE FOR THE STILLWATER WEST NI-PGE-CU-CO-AU PROJECT, MONTANA, USA

NAD83 UTM Zone 12 570200 m E; 5030000 m N
LATITUDE 45° 25.2’ N, LONGITUDE 110° 4.8’ W

Prepared for:

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SGS Project # P2022-38

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1 SUMMARY

SGS Geological Services Inc. (“SGS”) was contracted by Stillwater Critical Minerals Corp. (formerly Group Ten Metals Inc.) (“Stillwater” or the "Company") to complete an updated Mineral Resource Estimate (“MRE”) for the Stillwater West Ni-PGE-Cu-Co-Au Project (“Stillwater West” or “Project”) in the state of Montana, USA, and to prepare a National Instrument 43-101 ("NI 43-101") Technical Report written in support of the updated MRE. The Project is considered an early-stage exploration project.

On June 9, 2022, Group Ten Metals Inc. (“Group Ten”) announced that effective at market opening on June 13, 2022, the common shares of the Company will trade on the TSX Venture Exchange under the name “Stillwater Critical Minerals Corp.” to better reflect the commodity suite of battery, catalytic and precious metals at the Stillwater West project.

Stillwater is a growth stage exploration company, focused on the development of exploration properties that host battery metals including nickel, copper and cobalt along with platinum group elements (“PGE”) platinum, palladium and rhodium as well as gold. The Company was originally incorporated on April 28, 2006, under the laws of British Columbia, Canada and its key assets include the 100% owned Stillwater West project, adjacent to Sibanye-Stillwater’s high-grade PGE mines in the Stillwater district of Montana, USA, the Kluane Ni-PGE-Cu-Co project, on trend with Nickel Creek Platinum’s Wellgreen deposit in the Kluane belt of Canada’s Yukon Territory, and the Drayton-Black Lake Gold project, adjoining Treasury Metals’ Goliath Gold Complex in the Rainy River district of Northwest Ontario.

The Company’s shares are listed on the TSX Venture Exchange (“TSX-V”) under the symbol “PGE”. The Company’s shares are also listed on the OTC QB in the United States under the symbol “PGEZF”, and on the Frankfurt Stock Exchange under the symbol “5D32”.

The head office and principal address of the Company is located at #904 – 409 Granville St, Vancouver, BC, V6C 1T2.

The current report is authored by Allan Armitage, Ph.D., P. Geo., (“Armitage”) and Ben Eggers, MAIG, P.Geo. (“Eggers”) of SGS (the “Authors”). The MRE presented in this report was estimated by Armitage. Armitage and Eggers are independent Qualified Persons as defined by NI 43-101 and are responsible for all sections of this report.

The reporting of the updated MRE complies with all disclosure requirements for Mineral Resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects. The classification of the updated MRE is consistent with the 2014 Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards (2014 CIM Definitions) and adhere as best as possible to the 2019 CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Guidelines).

The current Technical Report will be used by Stillwater in fulfillment of their continuing disclosure requirements under Canadian securities laws, including National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”). This Technical Report is written in support of an updated MRE completed for Stillwater.

1.1 Property Description

The Property is located approximately 130 km west-southwest of Billings, 72 km west-northwest of Red Lodge and 40 km south-southwest of the town of Big Timber, in Sweet Grass, Stillwater, and Park Counties, Montana, USA. The Property is centered at approximately 45° 25.2’ N latitude, 110° 4.8’ W longitude.

Stillwater currently owns a 100% interest of 763 unpatented, federal lode mining claims (8.094 ha per claim) and 1 mill site claim (2.02 ha within the unpatented claim block) covering 6,176 ha (61.76 km2) in the four claim blocks comprising the Property. The Property lies adjacent to Sibanye-Stillwater’s producing PGE mining properties (East Boulder Mine, Stillwater Mine, and Blitz Extension).

Company's claim blocks include the Main Claim Block, the Picket Pin Claim Block, the Cathedral Claim Block, and the East Claim Block. Appendix A provides a complete listing of the mining claims held by Stillwater. Claim maintenance fees of $165.00 per claim are payable to the U.S. Bureau of Land Management ("BLM") before September 1st each year after an initial filing fee of $225.00 per claim. As of the effective date of this report, all claims are in good standing.

Claims must also be recorded with the county recorder when first staked for typical costs of $7.00 to $14.00. Surface rights on the Property are administered by the U.S. Forest Service as part of the Custer-Gallatin National Forest with headquarters in Bozeman, Montana and a district ranger's office in Red Lodge, Montana. The Company's mining claims were laid out on the ground using hand-held Garmin GPS units and Trimble GPS devices. Four-inch (10 cm) diameter posts or blazed trees of similar or greater diameter were used to mark all claim corners. A discovery monument containing a notice of location is located on each claim and is marked by a post at least Four-inch (10 cm) in diameter or a tree of similar or greater diameter.

On June 26, 2017, the Company entered into an option agreement with Picket Pin Resources LLC ("Picket Pin") to acquire a 100% interest in the Stillwater West project in the Stillwater district of south-central Montana, USA. The original property consisted of 282 claims covering 2,200 ha (22 km^2) in two claim groups. In November 2017, January 2018 and July 2018, the Company added an additional 383 claims through staking covering approximately 32 km^2 of mining rights.

During the year ended March 31, 2021 the Company acquired, through staking, an eastern target area of an additional 7 km^2.

During the year ended March 31, 2021 the Company amended the Picket Pin agreement to include an expanded Area of Interest clause, and completed earning its 100% interest by completing the following commitments with Picket Pin:

- Issue 3,600,000 shares on or before May 31, 2020 (issued on May 28, 2020);
- Make annual advance royalty payments prior to May 31 of each year of $50,000 until commencement of commercial production; (paid on May 31, 2022); and
- Execute a work contract for a minimum of $50,000 per year (completed) for the duration of the three-year option agreement for technical and management work (complete).

Upon completion of the option agreement in 2020, Stillwater now owns 100% of the property. The claims are subject to a 2% NSR royalty, with an option to buy down the NSR royalty to 1% for $2 million.

1.2 Location, Access, and Physiography

The Project is road accessible from major airports at Billings and Bozeman, Montana which connect by Interstate, State Highways, and road to the town of Nye, near Sibanye-Stillwater's Stillwater mine.

The Main and Picket Pin claim blocks can be accessed by turning north off State Highway 419 (Nye Road) in Nye and traveling approximately 10.8 km to Picket Pin Road (U.S. Forest Service Road NF- 2140), which becomes more primitive (4x4 vehicles are strongly recommended) and skirts along the southeast side of Picket Pin Mountain before passing northwest of Iron Mountain. Once on the Property, much of the rest of the Main Claim Block can be accessed by additional U.S. Forest Service roads, although road access is limited in some areas. Chrome Mountain in the west-central part of the Property is connected by unmaintained U.S. Forest Service roads to various other parts of the Property including Iron Mountain approximately 7 km to the east. The westernmost portion of the Main Claim Block can also be reached via the Main Boulder Road south of Big Timber.

The Cathedral Claim Block is accessed by driving 8.9 km southwest from Nye on State Highway 419 (Nye Road) and taking progressively more primitive roads for 8.9 km past the historic Mountain View Mine.

The East Claim Block is accessed by driving 10.5 km to the east on State Highway 419 (Nye Road) from Nye and turning south onto Benbow Road (NF-1414). Further road access to the East Claim Block is limited.

The Company uses a combination of road and helicopter access for work on the Property.

Local infrastructure is dominated by Sibanye-Stillwater, who operate two major mines in the Stillwater Complex ("SWC") with a third mine, the Blitz Expansion, operating as an eastward extension of the original Stillwater mine.

Sibanye-Stillwater also operate a smelter and base refinery complex 77 km to the northeast of the Property in Columbus, MT. A well-trained and experienced workforce of approximately 2,300 supports Sibanye-Stillwater's operations, and qualified workers are available in the immediate area. The town of Nye Montana, 24.3 km from the center of the Main Claim Block of the Property, was founded in the late 1800s to supply miners and that continues to this day. The Company's crews are housed in and supplied from Nye and also Red Lodge, located approximately 52 km to the southeast.

The towns of Columbus and Absarokee are additional places where housing and supplies can be sourced. A major commercial hub and international airport are located in Billings, MT, the largest city in Montana with a population of approximately 110,000 people. Billings is located approximately 137 km east-northeast of the Property on Interstate-90. Burlington Northern and Rail Link operate freight train service through Billings. Billings is also a primary hub for Montana's oil and gas industry, with three major oil refineries and other related operations.

The Property ranges from 3,080 m (10,106 ft) in elevation at Iron Mountain to approximately 1,585 m (5,200 ft) in the Boulder River drainage at the western end of the Property. The terrain is a high-elevation plateau with moderately rolling topography that is dissected by deep, generally northerly flowing drainages. Vegetation is mostly evergreen forests that yield to meadows, rocky slopes and sparse stands of trees at higher elevations. Tree species include lodgepole pine, whitebark pine, Engelmann spruce and subalpine fir.

1.3 History of Exploration, Drilling

The Stillwater Complex has a long history of mineral exploration and production starting in the late 1800s when prospectors identified and mined nickel and copper mineralization. In subsequent decades this grew to include exploration for and advancement of chromium deposits in the 1930s, iron ore in the 1940s and 1950s, and then, starting in the 1970s, a focus on PGEs based on parallels with the Bushveld Complex that lead to the Stillwater Mine opening in 1986.

Historic exploration work on the Stillwater West property includes drilling in the 1960s by AMAX, U.S. Steel, and Lindgren; drilling in the 1970s by Anaconda, AMAX, and Cyprus; drilling in the 1980s by Cyprus, Chrome Corp., International Platinum Corp., and Platinum Fox LLC; and drilling in the 1990s conducted by Anaconda and Chrome Corp. Work conducted by AMAX in the late 1960s and 1970s was focused on copper-nickel sulphide mineralization in the Basal and Ultramafic series on Iron and Chrome Mountains, including the Camp target (now CZ deposit). Work by U.S. Steel was focused on iron resources. In 1983 and 1984, Platinum Fox LLC drilled west of Chrome Mountain at the Pine Shear Zone, located in the Main Claim Block of the Stillwater West property. Most of these drill programs were supplemented with additional exploration efforts including surface rock and soil geochemical sampling, geophysical surveys, geologic mapping, and prospecting.

Work on the Property from 1998 to 2011 was conducted by Idaho Consolidated Metals Corporation (ICMC) and their successor company Beartooth Platinum Corporation (Beartooth Platinum), Premium Exploration Inc. (Premium), and limited work by Starfield Resources Inc. (Starfield).

Idaho Consolidated Metals Corp., in a joint venture (JV) with Platinum Fox, conducted work on the Chrome Mountain property from 1998 through 2003. Work by these companies was concentrated in the western portion of the Stillwater West property, formerly known as the Chrome Mountain property.

This work included extensive mapping, surface rock and soil geochemical sampling, and an airborne geophysical survey. The JV ended in 2003 and the Chrome Mountain property was returned to the underlying owners. Premium Exploration picked up the Chrome Mountain property from Platinum Fox in 2004. Beartooth Platinum continued work on the eastern portion of the Stillwater West property, formerly known as the Iron Mountain property, until 2009 when it entered a series of deals that resulted in Starfield Resources holding claims in the Stillwater West area. Starfield sold some claims to Stillwater and the remainder were allowed to lapse in 2011, including portions of the current Stillwater West Property.

In October of 2006, Beartooth and Premium entered a Strategic Exploration Alliance (SEA) to explore for PGEs. In 2006 a major soil geochemical survey was conducted, consisting of over 11,000 samples. The soils program generated anomalies for copper up to 500 m (1,640 ft) wide and included copper values up to 3,322 ppm in the Peridotite zone. PGE anomalies in soils were similar in size and coincident with those for copper. The largest PGE anomaly is centered on the Chrome Mountain target area in Stillwater's Main Claim Block.

Premium Exploration held claims west of the East Boulder River from 2004 to 2013. A technical report prepared by W. J. Struck provides an overview of exploration work conducted on land held by Premium Exploration centered on Chrome Mountain and extending from the Boulder River on the West to the Iron Mountain area on the east. Premium Exploration drilled the Pine Shear Zone (now Pine target) at Chrome Mountain in 2004 and intersected numerous intervals of high-grade gold. In 2007, Premium Exploration formed a JV with Beartooth Platinum and commenced drilling on soil anomalies.

Starting in 2009, deteriorating market conditions lead to a series of deals that resulted in Beartooth Platinum's SWC assets being owned by Starfield Resources, who conducted limited work before selling certain claims to Stillwater Mining Company and allowing all other claims to lapse in 2011. Premium Exploration's claims were also allowed to lapse leading to all claims being dropped by 2015.

Picket Pin Resources LLC, a private company registered in Montana, began staking claims in the Chrome and Iron Mountain areas starting in 2011, and by 2017 had consolidated much of the Iron Mountain and Chrome Mountain properties for the first time.

Stillwater has conducted successively larger field programs in each year since acquisition in 2017, including drill campaigns in 2019, 2020, and 2021, and geophysical surveys in 2020. 2021 and 2022, with the definition of the inaugural NI43-101 MRE in October 2021, and the update and expansion of that resource estimate covered by this report and announced in January 2023.

The Stillwater West Property has been divided into eight main target areas based on their exploration history, geology, and geochemical and geophysical signatures. The target areas are as follows: Boulder, Wild West, Chrome Mountain, East Boulder, Iron Mountain, East Crescent, Cathedral, Picket Pin, and East. The Cathedral, Picket Pin and East target areas are allocated to their respective claim blocks, the Cathedral Claim Block, Picket Pin Claim Block and the East Claim Block. The Main Claim Block, which has been the focus of exploration by the Company, is comprised of the Boulder, Wild West, Chrome Mountain, East Boulder, Iron Mountain, and East Crescent target areas.

Starting in 2017, Stillwater launched the systematic compilation of the substantial historic database including drill results, geophysical surveys, geologic data, soil surveys, and surface rock geochemistry in a Phase One work program with the objective of compiling all data into the first property-wide 3D geologic database and developing a predictive geological model.

Historic drill data was obtained from the U.S. Geological Survey (USGS), from public documents, and from the initial asset acquisition from Picket Pin Resources that included original assays and geologic logs. Most of the historic core data was originally assayed for base metals and not precious metals. The USGS provided results of re-assayed historic AMAX drill core data. Select sulphide and chromite bearing hand samples from AMAX core were archived at the USGS and re-assayed for precious metals.

Other work completed in 2018 as part of Phase One included detailed geologic mapping, surface rock sampling, prospecting, land expansion by staking more claims, and characterization of physical rock properties on representative core and grab samples. The drill database compiled by the Company included a total of approximately 29,400 m (96,457 ft), derived from 205 drill holes prior to Stillwater's first drill campaign in 2019.

Phase Two exploration efforts commenced in 2019 with the first drilling done by the Company, as well as detailed mapping, surface rock sampling, and continued re-logging and re-assaying of drill core obtained from previous operators. In addition to newly generated core, approximately 1,160 meters (3,806 ft) of past core obtained by the Company was re-assayed for complete multi-element geochemistry and additional core was re-logged to target new deposit models. Stillwater completed analyses of samples collected during a soil geochemical survey over the western portion of the Main Claim Block by Beartooth Platinum that had never previously been assayed. In November 2019 Stillwater engaged GoldSpot Discoveries Inc. to apply their proprietary AI and Machine-Learning technologies to the Property.

Work during the 2020 season included drilling at the Chrome Mountain target area, detailed mapping, surface rock sampling, and completion of the Company's first Induced Polarization (IP) geophysical survey over the core project area.

In 2021, the Company completed a multi-rig drill program focused on advancing block models of drill-defined mineralization to inaugural inferred resource estimates in the Main Claim Block as detailed in Section 14 of the present Report. The 2021 season also included expansion of the 2020 IP survey, detailed mapping, surface rock sampling, GPS re-location of historic AMAX drill hole locations, and continued compilation of historic and recent data into the drill database. Additionally, the Company conducted preliminary surface sampling and orientation surveys in the East target area.

The database used for the current MRE comprises data for 156 drill holes, including 131 historical drill holes completed to 2008, and 25 drill holes completed by Stillwater from 2019 to 2021.

In 2019, Stillwater completed 1,617 m of drilling in 6 drill holes in September to October 2019 at the Iron Mountain (Camp and HGR) target area. In 2020, Stillwater completed 1,823 m of drilling in 5 drill holes in the Chrome Mountain target area. In 2021, Stillwater completed 5,143 m of drilling in 14 drill holes focusing on expansion of the 2021 MRE, in the HGR and CZ deposit areas at Iron Mountain, and at the DR and Hybrid deposit areas at Chrome Mountain.

1.4 Geology and Mineralization

Geological understanding of the lower Stillwater Complex ("SWC") continues to evolve, and large areas remain underexplored. Stillwater's work, including its collaboration with the U.S. Geological Survey, is bringing new understanding to the district, in particular adding new scientific insight from recent exploration efforts focused on the Ultramafic series, stratigraphically the lower part of the SWC. The following presents a summary of the current understanding.

The Main, Cathedral, and East claim blocks of the Stillwater West property cover the lower portions of the SWC including the Basal series, the overlying Ultramafic series, small sections of the Banded series, as well as the adjacent hornfelsed metasedimentary sequence that makes up the floor of the SWC. These rocks are cut by various mafic dikes and generally northerly striking, steeply dipping faults that displace the magmatic layers. The 2021 MREs are hosted largely within the Peridotite zone of the Ultramafic series.

The metasedimentary rocks that make up the floor of the Stillwater Complex host a complex assemblage of generally contemporaneous gabbronorites and norites occurring as sills, dikes and podiform to pipe- like intrusive bodies. These igneous bodies are associated with small podiform bodies of massive sulphide that increase in frequency towards the base of the complex.

The Basal series comprises the lowermost sequence of rocks in the Stillwater Complex proper. The lower contact of the Basal series with the underlying metasedimentary rocks is defined as the base of the first laterally continuous norite or orthopyroxenite. The norite grades upward with decreasing amounts of plagioclase and increasing amounts of orthopyroxene. The Basal series consists of bronzite-rich cumulates that contain minor segregations of non-cumulate rocks and inclusions of Archaean metasedimentary rocks as rafts and xenoliths. The Basal series is divided into a lower Basal norite hosting massive and disseminated sulphides high Fe / Ni+Cu and generally lower precious metal content. The Basal norite is overlain by the Basal bronzitite. Mafic dikes and sills in the Basal series cut both the cumulate layers and the blocks of hornfelsed country rock. The Basal norite is intruded by the same suite of dikes that intrude the adjacent metasedimentary rocks that comprise the floor of the complex. Thickness of the Basal series typically ranges from 60 to 240 meters (Page and Zientek, 1985b). Thickness appears to be fault block controlled along strike and dip. Thicker portions are attributed to floor geometry which controlled intrusion leading to pronounced infill into chemically reactive sediments within pre-existing graben blocks. Pre-developed folding within the sedimentary sequence contributed to thickness and dip variation of the Basal series, also leading to development of favorable trap sites for accumulation of base metal enriched sulphide mineralization.

The base of the overlying Ultramafic series is marked by the first significant appearance of olivine, and the top of the series occurs at the base of the norite which defines the overlying Lower Banded series. The Ultramafic series comprises cumulus dunite, harzburgite, bronzitite, and numerous chromite seams. The series is divided into a lower Peridotite zone and an overlying Bronzitite zone. The Peridotite zone is characterized by cyclic repetitions of peridotite/poikilitic harzburgite, which grades to granular harzburgite and then to orthopyroxenite. There are 21 of these repeated cyclic units in the Mountain View area. Chromitite layers often occur near the base of cyclic units and are designated the A-K chromite seams with letter designations increasing upward from the bottom of the Peridotite zone. The thickest and most laterally continuous chromite seams are the G and H. The seam sequence contains varying PGE values, with the highest values occurring in the stratigraphically lowermost A-B seams. Although lateral persistence of the chromitite seams is poorly developed or understood, it is thought that the mineralized chromitites found in the Chrome Mountain area are the northwestern strike extensions of the A-B chromitites defined from the Mountain View area. Elevated PGEs associated with chromitite seams, such as the case with the A-B chromitites at Chrome Mountain, is in contrast to the norm that the upper chromitites in general are better mineralized within ultramafic complexes, referring to the chromitite seams in the Upper Critical zone of the Bushveld Complex (UG2 and others). It is likely that the Chrome Mtn chromitites, occurring stratigraphically close to the lower contact of the overlying Bronzitite zone, be attributed to the loss of the upper stratigraphic units from the Peridotite Zone.

The Bronzitite zone at the top of the Ultramafic series comprises a generally uniform orthopyroxenite with local interstitial plagioclase and augite, along with minor chromite, quartz, and rare phlogopite, apatite and sulphides. The top of the Bronzite zone contains thin layers of olivine and chromite as well as pegmatoidal pods that are anomalous in PGEs and can be laterally contiguous for short distances (Janet 50 and Coors 602 occurrences). The Coors 602 is thought to be an example of a pothole, also called ballrooms (in reference to the SWC), and can be inferred as being analogous to similar occurrences found in the Bushveld Complex. In the case of the Bushveld Complex these are confirmed to be related to structures, as is apparent (but not confirmed) with the Coors 602 pegmatoid being proximal to the major, north trending, Fishscale Fault. Structural disturbances leading to the development of the Coors and other known mineralized pegmatoids at the important Bronzitite – Banded Series interface is summarised as follows:

- Turbulent magma mixing, currents, and thermal erosion.
- Topographic undulation within the magma chamber, either by pre-emplacement folded sedimentary host rocks or by differential crystallization of the more mafic rocks where less magma is present over a topographic high, thus causing load and slumping within the magma pile.
- Disturbance such as compaction, faulting, or slumping during crystallization could not only bring xenoliths up from below but could also force a bronzite crystal mush up through fractures in the manner of a clastic dike, as such transport mineralized melt from the underlying units upwards along structural anisotropies.

Indications are that both the Coors 602 and Janet 50 pegmatoids, found within the footwall strata to the J-M reef, may be a result of pothole formation with infill from J-M Reef bronzitite. In addition, various other stratigraphically lower pegmatoid occurrences may have formed by compaction-driven, upward dyke-like, structure-controlled migration of ultramafic magma.

Dunite bodies outcrop at various locations within the Peridotite zone which are demonstrably discordant to igneous layering; variously described as discordant dunite, secondary dunite, or intrusive olivine cumulate (ioC). These usually fine-grained and extensively serpentinized rocks are often in sharp, discordant contacts where they intrude into the primary cumulate rocks of the Peridotite zone. The intrusive masses have been variably interpreted as replacement bodies of regenerated olivine at metamorphic temperatures, or as remobilized olivine cumulates. They commonly enclose relict patches of ultramafic cumulates and forms cross-cutting pipes, fingers, and pods in the surrounding lithology. Field observations have recognized pegmatoidal bronzite that commonly occurs along the margins of the intruding/ remobilized dunite. Chromite occurs as schlieren, pods, and disseminations in the surrounding pegmatoids, as well as in the ioC. Although discordant dunite is most common on Chrome Mountain, it is not restricted to this area; similar bodies have been mapped in the Peridotite zone at Iron Mountain, Mountain View, and in the Boulder River sector (Gish Mine). The ioC has been recognized in outcrop and limited drill core to be variably enriched in sulphides and lenses of highly magnetic chromite.

Alteration of the SWC rocks on the Property is locally moderate to pervasive. The major alteration phases observed in drill core and in surface exposures are serpentine and a combination of talc, tremolite, and magnetite (TTM). Where pervasive, alteration is texturally destructive, completely overprinting primary cumulate textures. In other rocks, it is less intense and occurs as veins, veinlets, and stockworks that crosscut the cumulate minerals. It is not uncommon for carbonate minerals and pyrite to form in the serpentine veins. The olivine grains are often strongly altered to magnetite and serpentine, whereas orthopyroxene is susceptible to talc alteration. Tremolite-actinolite and talc respectively occurs as high and low temperature alteration assemblages within the intensely faulted core zones of normally re-activated N-S and NNW-SSE tending faults and shear zones. Tremolite often forms a variable, gradational envelope closely related to these structures. The widths of these structurally controlled alteration zones can locally be influenced by the degree and type of deformation experienced by the adjoining wall rocks to the structures.

Nickel and copper sulphide mineralization with PGEs occurs in both the Basal and Ultramafic series. Mineralization consists of broad zones of magmatic sulphide mineralization up to 400 meters in thickness hosted by olivine rich cumulate rocks and associated rafts of xenoliths of country rock, including iron formation and hornfels with textures that range from disseminated to net textured to semi-massive and massive sulphides. Ni-PGE-Cu-Co-Au mineralization is also associated with disseminated chromite, pegmatoidal textures, and complex magmatic breccia textures.

Chromite mineralization is concentrated in the Peridotite zone of the Ultramafic series occurring in thirteen seams or layers; the G and H chromite seams are thickest and were mined in the 1950s as chromium ores whereas the A and B chromite seams commonly contain strongly anomalous PGE values. Chromite seams typically contain less than 0.01% sulphide. Historically, some of the best PGE values were found by the Anaconda Company in the Crescent Creek area, where they reported a 1,600 m (2,520 ft) strike length averaging 3.7 g/t Pd and 2.3 g/t Pt.

Shear zones, such as the Pine Shear Zone, host structurally controlled high-grade gold-PGE-Ni-Cu mineralization in metasedimentary country rock at the base of the SWC, the Basal series and the Ultramafic series. The gold and lesser silver occur with chromite and PGEs in a hydrothermal alteration zone containing hematite, muscovite, serpentine, biotite, chlorite, talc and other secondary minerals. Gold, with or without PGEs, appears to have been remobilized and re-precipitated in the shear zone, possibly having originated in Iron Formation in the country rock. Gold values are common in the PGE and base metal mineralization in the wall rocks, Basal series, and Ultramafic series in many other parts of the Property as described elsewhere in this Report. Minor gold and silver values are present in the J-M Reef and both metals are currently recovered as by-products.

A number of reef-type sulphide-enriched zones have been identified to date across the SWC, largely occurring at discrete stratigraphic levels that can be traced along strike across the entire length of the complex. These include the J-M reef, and the Picket Pin reef. Many but not all of the sulphide-bearing horizons are hosted in anorthosite-troctolite-olivine gabbro units.

The J-M Reef is generally strata-bound and extends along the entire SWC. It occurs in the Olivine-bearing zone 1 (OB I) of the Lower Banded series, approximately 500 m (1,640 ft) above the contact with the underlying Ultramafic series (Page et al., 1985a). The reef package comprises troctolites, dunites, anorthosites and norites displaying coarse-grained pegmatoidal textures.

Mineralization consists of sparsely disseminated sulphide, mainly pyrrhotite, pentlandite and chalcopyrite. Discrete PGE minerals are associated mainly with chalcopyrite and pentlandite (up to 3.3 wt %). The reef averages about 16.56 g/t Pt+Pd and is the richest deposit of its kind in the world, and the largest outside South Africa and Russia.

The Picket Pin reef is an interval of disseminated PGE-enriched sulphide mineralization hosted in the Anorthosite II zone that extends along strike for 22 km. Drilling at Picket Pin is fairly limited, however, sulphide have returned multi-gram PGE values.

An excellent summary of various proposals for the origin of the J-M Reef, Picket Pin reef and other mineralization in the SWC has been presented. One endmember would have the magma become saturated in sulphur over time with the sulphur raining down through the magma column and scavenging ore elements as it descends before settling to create an ore horizon. The other endmember calls for fluids and metals being exsolved from a crystalizing mush and moving up through the column before being trapped by stratigraphic discontinuities.

The Company has collaborated with the U.S. Geological Survey (USGS) in an innovative program to better define mineralization in the Ultramafic and Basal series. Preliminary research indicates that metal tenors are affected by sulphide liquid fractionation trends. It is hypothesized that the percentage of sulphide is inversely proportional to the tenor of PGEs. After recalculating metal concentrations to 100% sulphur, found that if the weight percent was less than 2.5% with or without chromite, the tenor of precious metals, especially PGEs, was higher. This effect is magnified in samples where chromite is present. It is also found that the mineralization in the Iron Mountain area was enriched in PGEs relative to similar mineralization elsewhere in the Basal and Ultramafic series of the complex.

At Iron Mountain, the research indicates an association of PGEs and chromite as well as elevated gold values. There is strong evidence of metasomatic alteration of sulphide globules and some evidence for a metasomatic origin of the chromite schlieren. Evidence also indicates that sulphide globules were enriched in PGEs as part of an early differentiation process.

A strong association of PGEs with chromite schlieren has been documented. Nearly 200 PGE mineral species have been identified at Chrome Mountain where previous work has found that most of the PGEs were hosted in the mineral laurite. New laser ablation research indicates a wide variety of PGE bearing minerals, most of which are bismuth tellurides, arsenides, and arsenosulphides.

1.5 Mineral Processing, Metallurgical Testing and Recovery Methods

Stillwater has yet to complete mineral processing or metallurgical test work on the Property.

1.6 Updated Mineral Resource Estimate

The Inferred Mineral Resource Estimates presented in this Technical Report were prepared and disclosed in compliance with all current disclosure requirements for mineral resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2016). The classification of the current Mineral Resource Estimate into Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves, including the critical requirement that all mineral resources "have reasonable prospects for eventual economic extraction".

The general requirement that all Mineral Resources have "reasonable prospects for economic extraction" implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade taking into account extraction scenarios and assumed processing recoveries. Based on the location and size of the resource, tenor of the grade, grade distribution, and proximity to surface, Armitage is of the opinion that with current metal pricing levels and knowledge of the mineralization, open pit mining offers the most reasonable approach for development of the Stillwater West deposits.

In order to determine the quantities of material offering "reasonable prospects for economic extraction" by an open pit, Whittle™ pit optimization software 4.7.1 and reasonable mining assumptions to evaluate the proportions of the block model (Inferred blocks) that could be "reasonably expected" to be mined from an open pit are used. The pit optimization was completed by SGS. The pit optimization parameters used are summarized in Table 1-1. Whittle™ pit shells at a revenue factor of 1.0 were selected as ultimate pit shells for the purposes of the updated MREs. The corresponding strip ratios for Chrome, Camp, Central and HGR deposits range from 1.5:1 to 3.0:1 and up to 8.0:1 for the Crescent deposit. Pits reach a maximum depth of approximately 280 up to 450 m below surface at Chrome.

The project is at an early stage of exploration and all deposits are open along strike and down dip, based on a review of results of additional regional historical drill holes and recent property-scale IP and magnetic geophysical surveys.

The reader is cautioned that the results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. Pit optimization does not represent an economic study. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade. A selected base case cut-off grade of 0.2% NiEq is used to determine the in-pit MREs for the Stillwater West deposits.

At the base case cut-off grade of 0.2% NiEq the deposits show good deposit continuity with limited orphaned blocks. The open pit Mineral Resource grade blocks were quantified above the base case cut-off grade, above the constraining pit shell and within the 3D constraining mineralized wireframes (considered potentially mineable shapes). The 3D models have sufficient widths and continuity suitable for open pit mining methods.

The QP is of the opinion that the stated Mineral Resources satisfy the requirement of reasonable prospects for eventual economic extraction.

Table 1-1 Parameters used to Determine In-Pit Resources and Base Case Cut-off Grade

Parameter	Value	Unit
Nickel Price	$9.00	US$ per pound
Copper Price	$3.75	US$ per pound
Cobalt Price	$24.00	US$ per pound
Platinum Price	$1,000.00	US$ per ounce
Palladium Price	$2,000.00	US$ per ounce
Gold Price	$1,800.00	US$ per ounce
Open Pit Mining Cost	$2.50	US$ per tonne mined
Processing Cost and G&A	$18.00	US$ per tonne milled
Overall Pit Slope	55	Degrees
Ni, Co, Pt, Pd, Au Recovery	80	Percent (%)
Cu Recovery	85	Percent (%)
Mining loss/Dilution (underground)	5/5	Percent (%) / Percent (%)
Waste Specific Gravity	2.90	g/cm^3
Mineral Zone Specific Gravity	2.90 – 3.10	g/cm^3
Block Size	5 x 5 x 5	

1.6.1 Mineral Resource Statement

The updated open pit Inferred MRE for the Property, by grade and metal content, is presented in Table 1-2.

Highlights of the Stillwater West Mineral Resource Estimates are as follows:

- The global in-pit Inferred Mineral Resource includes, at a base case cut-off grade of 0.20% NiEq, 254.8 Mt grading 0.19 % Ni, 0.09 % Cu, 0.02 % Co, 0.15 g/t Pt, 0.25 g/t Pd and 0.05 g/t Au (0.39 % NiEq).

Table 1-2 Stillwater West Property Inferred In-pit MRE by Grade (A) and Contained Metal (B) at a base case cut-off grade of 0.20% NiEq, January 20, 2023. Cr% and S% are presented in (C)

(A) Grades

DEPOSIT	TONNAGE	Base Metals			Platinum Group & Precious Metals				Total
		Ni	Cu	Co	Pt	Pd	Au	Rh	NiEq*
	Tonnes	%	%	%	g/t	g/t	g/t	g/t	%
Chrome Mtn - Hybrid & DR	136.9	0.16	0.05	0.01	0.18	0.26	0.04	0.019	0.34
Iron Mtn - CZ	29.2	0.24	0.13	0.02	0.11	0.26	0.06	0.011	0.46
Iron Mtn - HGR	58.2	0.23	0.17	0.02	0.13	0.26	0.05	0.012	0.46
Iron Mtn - Central	20.4	0.16	0.07	0.02	0.10	0.21	0.04	NA	0.32
Iron Mtn - Crescent	9.3	0.26	0.11	0.02	0.22	0.15	0.09	NA	0.46
Total	254.8	0.19	0.09	0.02	0.15	0.25	0.05	0.016	**0.39**

(B) Metal Content

DEPOSIT	TONNAGE	Base Metals			Platinum Group & Precious Metals				Total
		Ni	**Cu**	**Co**	**Pt**	**Pd**	**Au**	**Rh**	**NiEq***
	Tonnes	**Mlbs**	**Mlbs**	**Mlbs**	**Koz**	**Koz**	**Koz**	**Koz**	**Mlbs**
Chrome Mtn - Hybrid & DR	136.9	479	146	45	771	1,136	198	82	1,037
Iron Mtn - CZ	29.2	156	84	14	104	249	55	11	306
Iron Mtn - HGR	58.2	292	216	21	249	478	92	22	592
Iron Mtn - Central	20.4	71	31	7	67	139	23	NA	145
Iron Mtn - Crescent	9.3	53	23	4	65	44	27	NA	95
Total	254.8	1,051	499	91.1	1,256	2,046	395	115	**2,175**

* ***Does not include Rh*** ***NA – Not assayed***

(1) *The classification of the current Mineral Resource Estimate into Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves.*

(2) *All figures are rounded to reflect the relative accuracy of the estimate. Totals may not add or calculate exactly due to rounding.*

(3) *All Resources are presented undiluted and in situ, constrained by continuous 3D wireframe models, and are considered to have reasonable prospects for eventual economic extraction.*

(4) *Mineral resources which are not mineral reserves do not have demonstrated economic viability. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.*

(5) *The update MRE is based on data for 156 surface drill holes representing 29,392 m of drilling, including data for 14 surface drill holes for 5,143 m completed by Stillwater in 2021.*

(6) *The mineral resource estimate is based on 6 three-dimensional (“3D”) resource models representing the Chrome Mountain (Hybrid and DR), Camp, HGR, Central and Crescent Zones.*

(7) *Composites of 1.2 to 3.0 m have been capped where appropriate.*

(8) *Fixed specific gravity values of 2.90 – 3.10 g/cm^3 (depending on deposit) were used to estimate the Mineral Resource tonnage from block model volumes (% block model). Waste in all areas was given a fixed density of 2.9 g/cm^3.*

(9) *Cu, Ni, Co, Pt, Pd, Au and Cr are estimated for each mineralized zone; S and Rh for the majority of the zones. Blocks (5x5x5) within each resource model were interpolated using 1.2 to 3.0 metre capped composites assigned to that resource model. To generate grade within the blocks, the inverse distance squared (ID^2) interpolation method was used for all domains.*

(10) *Based on a review of the project location, size, geometry, continuity of mineralization and proximity to surface of the Deposits, and spatial distribution of the five main deposits of interest (all within a 8.8 km strike length), it is envisioned that the Deposits may be mined by open pit.*

(11) *In-pit Mineral Resources are reported at a base case cut-off grade of 0.20% NiEq. Pit optimization and Cut-off grades are based on metal prices of $9.00/lb Ni, $3.75/lb Cu, $24.00/lb Co, $1,000/oz Pt, $2,000/oz Pd and $1,800/oz Au, assumed metal recoveries of 80% for Ni, 85% for copper, 80% for Co, Pt, Pd and Au, a mining cost of US$2.50/t rock and processing and G&A cost of US$18.00/t mineralized material.*

(12) *The in-pit Mineral Resource grade blocks were quantified above the base case cut-off grade. At this base case cut-off grade the deposits show excellent geologic and grade continuity. The project is at an early stage of exploration and all deposits are open along strike and down dip. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rates, mining costs etc.).*

(13) *The results from the pit optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade. Pit optimization does not represent an economic study.*

(14) *The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

(15) *The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the current Mineral Resource Estimate.*

(C)

Deposit	**Tonnes**	**S**	**Cr**	**S**	**Cr**
		%	**%**	**Mlbs**	**Mlbs**
Chrome Mtn - Hybrid & DR	136.9	0.65	0.48	1,969	1,440
Iron Mtn - CZ	29.2	3.07	0.27	2,023	175
Iron Mtn - HGR	58.2	1.51	0.33	1,933	422
Iron Mtn - Central	20.4	0.47	0.36	210	164
Iron Mtn - Crescent	9.3	NA	0.32	NA	66
Total	254.8	1.13	0.40	6,134	2,267

1.7 Recommendations

The Deposits of the Stillwater West Property contain In-pit Inferred Mineral Resources that are associated with relatively well-defined mineralized trends and models. All deposits are open along strike and at depth.

Armitage considers that the Project has potential for delineation of additional Mineral Resources and that further exploration is warranted. Given the prospective nature of the Property, it is the opinion of Armitage that the Property merits further exploration and that a proposed plan for further work by Stillwater is justified.

Armitage is recommending Stillwater conduct further exploration, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

Stillwater’s 2023 intentions are to conduct exploration and resource expansion drilling of 7,200 m utilizing 3 drill rigs. Along with IP and Gravity geophysical surveys. The total cost of the planned work program by Stillwater is estimated at US$3.66 million.

2 INTRODUCTION

SGS Geological Services Inc. (“SGS”) was contracted by Stillwater Critical Minerals Corp. (formerly Group Ten Metals Inc.) (“Stillwater” or the "Company") to complete an updated Mineral Resource Estimate (“MRE”) for the Stillwater West Ni-PGE-Cu-Co-Au Project (“Stillwater West” or “Project”) in the state of Montana, USA, and to prepare a National Instrument 43-101 ("NI 43-101") Technical Report written in support of the updated MRE. The Project is considered an early-stage exploration project.

On January 25, 2023, Stillwater announced an updated MRE for the Project. The updated in-pit Inferred MRE is reported to contain, at a base case cut-off grade of 0.20% NiEq:

- 254.8 Mt grading 0.19 % Ni, 0.09 % Cu, 0.02 % Co, 0.15 g/t Pt, 0.25 g/t Pd and 0.05 g/t Au (0.39 % NiEq).

On June 9, 2022, Group Ten Metals Inc. (“Group Ten”) announced that effective at market opening on June 13, 2022, the common shares of the Company will trade on the TSX Venture Exchange under the name “Stillwater Critical Minerals Corp.” to better reflect the commodity suite of battery, catalytic and precious metals at the Stillwater West project.

Stillwater is a growth stage exploration company, focused on the development of exploration properties that host battery metals including nickel, copper and cobalt along with platinum group elements (“PGE”) platinum, palladium and rhodium as well as gold. The Company was originally incorporated on April 28, 2006, under the laws of British Columbia, Canada and its key assets include the 100% owned Stillwater West project, adjacent to Sibanye-Stillwater’s high-grade PGE mines in the Stillwater district of Montana, USA, the Kluane PGE-Ni-Cu project, on trend with Nickel Creek Platinum’s Wellgreen deposit in the Kluane belt of Canada’s Yukon Territory, and the Drayton-Black Lake Gold project, adjoining Treasury Metals’ Goliath Gold Complex in the Rainy River district of Northwest Ontario.

The Company’s shares are listed on the TSX Venture Exchange (“TSX-V”) under the symbol “PGE”. The Company’s shares are also listed on the OTC QB in the United States under the symbol “PGEZF”, and on the Frankfurt Stock Exchange under the symbol “5D32”.

The head office and principal address of the Company is located at #904 – 409 Granville St, Vancouver, BC, V6C 1T2.

The current report is authored by Allan Armitage, Ph.D., P. Geo., (“Armitage”) and Ben Eggers, MAIG, P.Geo. (“Eggers”) of SGS (the “Authors”). The MRE presented in this report was estimated by Armitage. Armitage and Eggers are independent Qualified Persons as defined by NI 43-101 and are responsible for all sections of this report.

The reporting of the updated MRE complies with all disclosure requirements for Mineral Resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects. The classification of the updated MRE is consistent with the 2014 Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards (2014 CIM Definitions) and adhere as best as possible to the 2019 CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Guidelines).

The current Technical Report will be used by Stillwater in fulfillment of their continuing disclosure requirements under Canadian securities laws, including National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”). This Technical Report is written in support of an updated MRE completed for Stillwater.

2.1 Sources of Information

In preparing the current Property update MRE and the current technical report, the Authors have utilized a digital database, provided to the Authors by Stillwater, and miscellaneous technical reports provided by

Stillwater. All background information regarding the Property has been sourced from previous technical reports and revised or updated as required.

- *The Property was the subject of a technical report by John Childs (Childs Geoscience Inc.) and Allan Armitage (SGS) which was prepared for Group Ten Metals Inc. in 2021 titled "Technical Report on the 2021 Mineral Resource Estimates for the Stillwater West PGE-Ni-Cu-Co + Au Project, Montana, USA" dated December 6, 2021; Effective: October 7, 2021. (Posted on SEDAR under Stillwater's profile)*

Information regarding the property exploration history, previous mineral resource estimates, regional property geology, deposit type, recent exploration and drilling, metallurgical test work, and sample preparation, analyses, and security for previous drill programs (Sections 5-13) have been sourced from the 2021 technical report and updated as required. The Authors believe the information used to prepare the current Technical Report is valid and appropriate considering the status of the Project and the purpose of the Technical Report.

2.2 Site Visits

2.2.1 2021 Site Visit

Armitage conducted a site visit to the Property on August 9 and 10, 2021, accompanied by Justin Modroo, P.Geo., and Project Geophysicist for Stillwater. During the 2021 site visit, Armitage inspected the core logging and sampling facilities and core storage areas, and reviewed the core sampling, QA/QC and core security procedures. Armitage examined a number of selected mineralized core intervals from diamond drill holes from the several mineralized areas, including new core from the 2021 drilling. Armitage examined accompanying drill logs and assay certificates and assays were examined against the drill core mineralized zones. All core boxes were labelled and properly stored in a warehouse. Sample tags were present in all core boxes, and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones. At the time of the site visit, there were no assays available for the 2021 drilling as core samples had yet to be shipped.

Drilling and core logging was in progress during the time of the site visit and Armitage had the opportunity to review and discuss the entire path of the drill core, from the drill rig to the logging and sampling facility and finally to the laboratory. All core boxes were accessible, well labelled, and properly stored indoors in core racks. Sample tags were present in the boxes and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones.

Armitage is of the opinion that current protocols in place, as have been described and documented by Stillwater, are adequate.

Armitage completed a field tour of the Property, accompanied by Justin Modroo and Dr. Craig Bow, Senior Geological Advisor for Stillwater. The field tour included visits to various outcrops to review the property geology, visit to various mineralized outcrops, visit to historic drill sites and recent and current drill sites. At the time of the site visit, the 2021 drilling was in progress and two drill rigs were in operation.

2.2.2 2022 Site Visit

Armitage conducted a second visit to the Project on June 29 and 30, 2022, accompanied by Justin Modroo Dr. Craig Bow. The main purpose of the second visit was to review the 2021 drilling and data that was not available during the 2021 site visit. The 2021 drilling is used in the updated MRE presented in section 14. At the time of this second site visit, there was no active drilling and there has been no additional drilling in 2022. The site visit was restricted to the core logging facility as snow cover and recent flooding prevented road access to the Property and there was no helicopter available.

During this second site visit the Author was able to examine the 2021 drill core with accompanying drill logs and assay certificates and was able to examine assays against the 2021 drill core mineralized zones. Drill holes examined included IM-2021-01, 05 and 06, CZ-2021-05, and CM-2021-01, 03 and 05. Additional holes previously completed by Stillwater were also reviewed for comparison purposes. All core boxes were accessible, well labelled and properly stored indoors in core racks. Sample tags were present in the boxes and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones.

As a result of the two site visits, the Author was able to become familiar with conditions on the Property, was able to observe and gain an understanding of the geology and various styles mineralization, which helped guide the mineral resource modeling, was able to verify the work done and, on that basis, is able to review and recommend to Stillwater an appropriate exploration program.

The Author considers the site visit completed in 2022 as current, per Section 6.2 of NI 43-101CP. To the Authors knowledge there is no new material scientific or technical information about the Property since that personal inspection. The technical report contains all material information about the Property.

2.3 Units of Measure

Units used in the report are metric units unless otherwise noted. Monetary units are in United States dollars (US$) unless otherwise stated.

2.4 Effective Date

The Effective Date of the current MRE is January 20, 2023.

2.5 Units and Abbreviations

All units of measurement used in this technical report are in metric. All currency is in US dollars (US$), unless otherwise noted.

Table 2-1 List of Abbreviations

$	Dollar sign	masl	Metres above sea level
%	Percent sign	mm	millimetre
°	Degree	mm^2	square millimetre
°C	Degree Celsius	mm^3	cubic millimetre
°F	Degree Fahrenheit	Moz	Million troy ounces
µm	micron	MRE	Mineral Resource Estimate
AA	Atomic absorption	Mt	Million tonnes
Ag	Silver	NAD 83	North American Datum of 1983
		mTW	metres true width
Au	Gold	Ni	Nickel
Az	Azimuth	NI	National Instrument
CAD$	Canadian dollar	NN	Nearest Neighbor
CAF	Cut and fill mining	NQ	Drill core size (4.8 cm in diameter)
cm	centimetre	NSR	Net smelter return
cm^2	square centimetre	oz	Ounce
cm^3	cubic centimetre	OK	Ordinary kriging
Co	Cobalt	Pb	Lead

Cu	Copper	Pd	Palladium
DDH	Diamond drill hole	PGE	Platinum Group Elements
ft	Feet	ppb	Parts per billion
ft^2	Square feet	ppm	Parts per million
ft^3	Cubic feet	Pt	Platinum
g	Grams	QA	Quality Assurance
GEMS	Geovia GEMS 6.8.3 Desktop	QC	Quality Control
g/t or gpt	Grams per Tonne	QP	Qualified Person
GPS	Global Positioning System	RC	Reverse circulation drilling
Ha	Hectares	RQD	Rock quality designation
HQ	Drill core size (6.3 cm in diameter)	SD	Standard Deviation
ICP	Induced coupled plasma	SG	Specific Gravity
ID^2	Inverse distance weighting to the power of two	SLS	Sub-level stoping
ID^3	Inverse distance weighting to the power of three	t.oz	Troy ounce (31.1035 grams)
kg	Kilograms	Ton	Short Ton
km	Kilometres	Zn	Zinc
km^2	Square kilometre	Tonnes or T	Metric tonnes
kt	Kilo tonnes	TPM	Total Platinum Minerals
m	Metres	US$	US Dollar
m^2	Square metres	µm	Micron
m^3	Cubic meters	UTM	Universal Transverse Mercator

3 RELIANCE ON OTHER EXPERTS

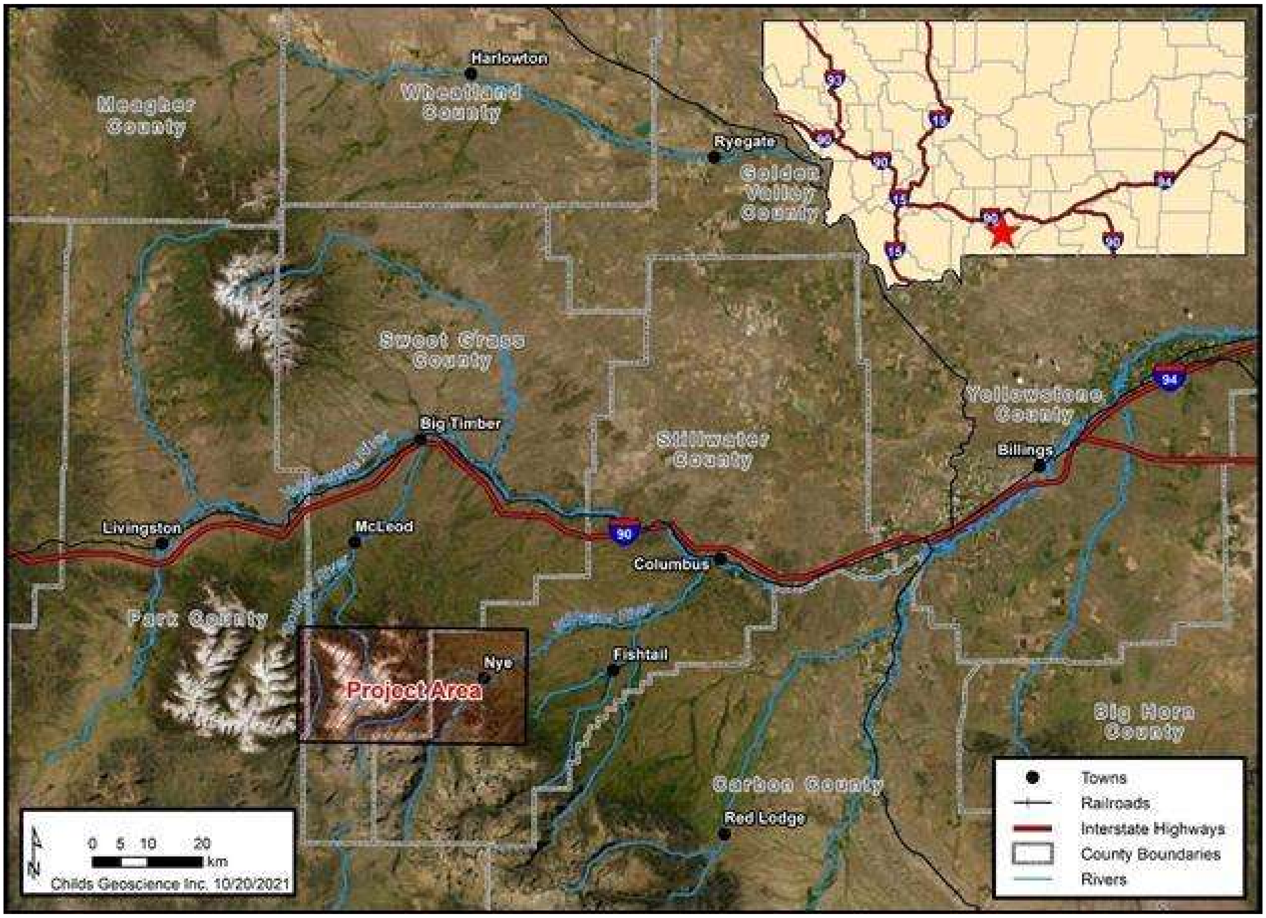
Verification of information concerning Property status and ownership, which are presented in Section 4 below, has been provided to the Author by Mike Ostenson, by way of an E-mail on February 15, 2023. The Author only reviewed the land tenure in a preliminary fashion and has not independently verified the legal status or ownership of the Property or any underlying agreements or obligations attached to ownership of the Property. However, the Author has no reason to doubt that the title situation is other than what is presented in this technical report (Section 4). The Author is not qualified to express any legal opinion with respect to Property titles or current ownership.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Property is located approximately 130 km west-southwest of Billings, 72 km west-northwest of Red Lodge and 40 km south-southwest of the town of Big Timber, in Sweet Grass, Stillwater, and Park Counties, Montana, USA. (Figure 4-1). The Property is centered at approximately 45° 25.2' N latitude, 110° 4.8' W longitude.

Figure 4-1 Property Location Map



4.2 Land Tenure

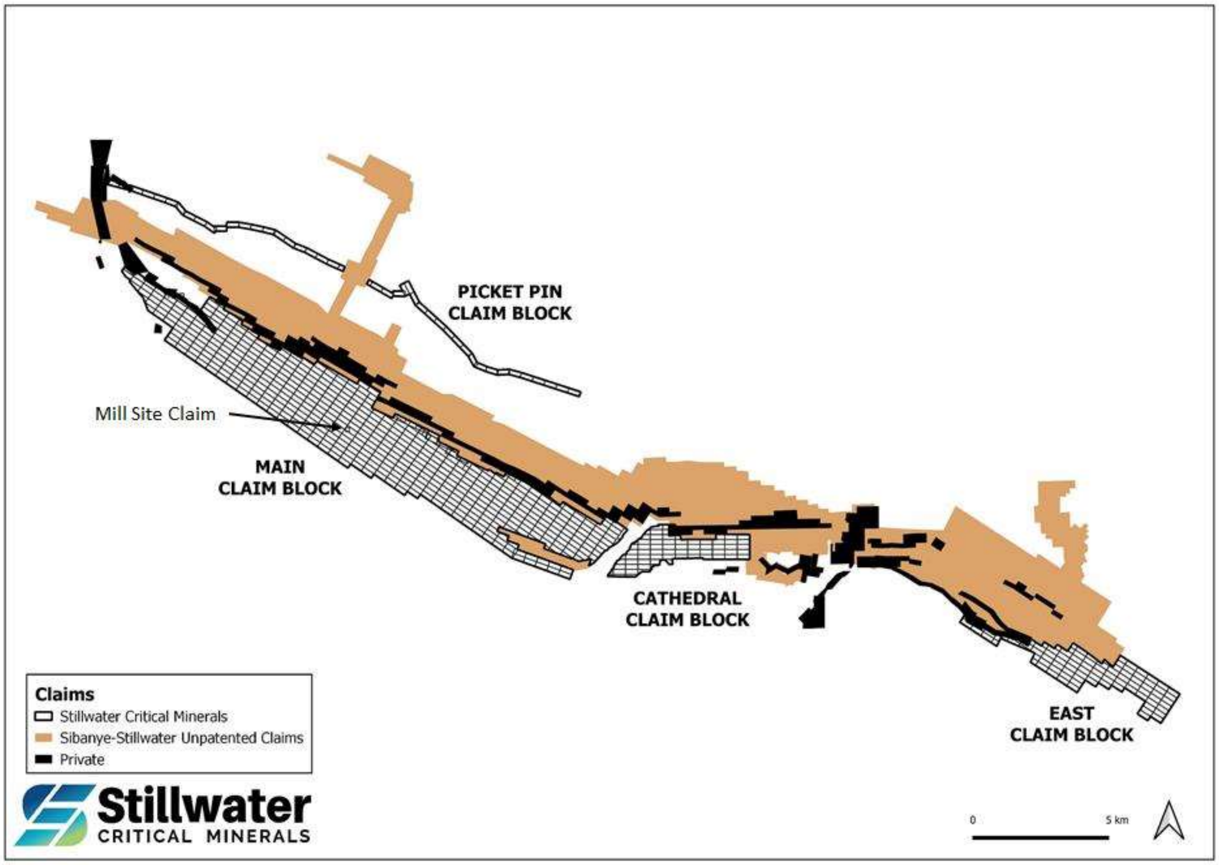
Stillwater currently owns a 100% interest of 763 unpatented, federal lode mining claims (8.094 ha per claim) and 1 mill site claim (2.02 ha within the unpatented claim block) covering 6,176 ha (61.76 km^2) in the four claim blocks comprising the Property (Figure 4-2). The Property lies adjacent to Sibanye-Stillwater's producing PGE mining properties (East Boulder Mine, Stillwater Mine, and Blitz Extension).

Company's claim blocks include the Main Claim Block, the Picket Pin Claim Block, the Cathedral Claim Block, and the East Claim Block. Appendix A provides a complete listing of the mining claims held by Stillwater. Claim maintenance fees of $165.00 per claim are payable to the U.S. Bureau of Land Management ("BLM") before September 1st each year after an initial filing fee of $225.00 per claim. As of the effective date of this report, all claims are in good standing.

Claims must also be recorded with the county recorder when first staked for typical costs of $7.00 to $14.00.

Surface rights on the Property are administered by the U.S. Forest Service as part of the Custer-Gallatin National Forest with headquarters in Bozeman, Montana and a district ranger's office in Red Lodge, Montana. The Company's mining claims were laid out on the ground using hand-held Garmin GPS units and Trimble GPS devices. Four-inch (10 cm) diameter posts or blazed trees of similar or greater diameter were used to mark all claim corners. A discovery monument containing a notice of location is located on each claim and is marked by a post at least Four-inch (10 cm) in diameter or a tree of similar or greater diameter.

Figure 4-2 Claim map for the Property owned 100% by Stillwater



4.3 Underlying Agreements

On June 26, 2017, the Company entered into an option agreement with Picket Pin Resources LLC ("Picket Pin") to acquire a 100% interest in the Stillwater West project in the Stillwater district of south-central Montana, USA. The original property consisted of 282 claims covering 2,200 ha (22 km^2) in two claim groups. In November 2017, January 2018 and July 2018, the Company added an additional 383 claims through staking covering approximately 32 km^2 of mining rights.

During the year ended March 31, 2021 the Company acquired, through staking, an eastern target area of an additional 7 km^2.

During the year ended March 31, 2021 the Company amended the Picket Pin agreement to include an expanded Area of Interest clause, and completed earning its 100% interest by completing the following commitments with Picket Pin:

- Issue 3,600,000 shares on or before May 31, 2020 (issued on May 28, 2020);

- Make annual advance royalty payments prior to May 31 of each year of $50,000 until commencement of commercial production; (paid on May 31, 2022); and
- Execute a work contract for a minimum of $50,000 per year (completed) for the duration of the three-year option agreement for technical and management work (complete).

Upon completion of the option agreement in 2020, Stillwater now owns 100% of the property. The claims are subject to a 2% NSR royalty, with an option to buy down the NSR royalty to 1% for $2 million.

4.4 Land Use and Other Permits

On June 4, 2019, the Company announced that it had received definitive decision memos from the U.S. Forest Service for drill permits in the priority target areas. Issuance of final permits is now subject to a standard review process prior to implementation in these areas. The Company has also submitted additional permit applications to allow for expanded drill coverage of the broader project area. This is discussed in more detail in Section 4.5 of this Report describing environmental baseline information. The brownfields nature of the Property simplifies the permit and regulatory process in many areas due to pre-existing roads, trails, and drill pads.

4.5 Environmental

The terrain of the Property ranges from forests to meadows and is home to a number of flora and fauna species. Large animals include deer, elk, moose, black bear, grizzly bear and mountain lion. Tree species include lodgepole pine, whitebark pine, Engelmann spruce and subalpine fir. The whitebark pine is a high-elevation species of pine tree found across western North America. The whitebark pine population is declining in many areas of the west due to infestation with the mountain pine beetle and a fungal disease known as white pine blister rust. For this reason, in 2020 the U.S Fish and Wildlife Service has proposed to list the species as threatened under the Endangered Species Act of 1973 (U.S. Fish and Wildlife Service, 2021). The grizzly bear is listed as a threatened species in the lower 48 states, although there have been attempts in recent years by the U.S. Fish and Wildlife Service years to de-list the species.

Work done on the Property adheres strictly to the policies and regulations promulgated by the U.S. Forest Service, the Montana Department of Environmental Quality (MDEQ), and Fish and Wildlife Service regarding threatened species and at-risk species such as the grizzly bear and whitebark pine. There are no other significant environmental issues involving the Property. Exploration activities are closely regulated by both the U.S. Forest Service and the MDEQ before any ground disturbance. A Plan of Operations must be filed with and approved by both the U.S. Forest Service and the MDEQ before any ground can be disturbed. A bond guaranteeing that reclamation will be done must then be placed with the MDEQ. The Company has a bond in place with MDEQ and follows all regulations closely.

4.6 Environmental Baseline Studies

Environmental assessments (EAs) have been conducted by the Montana Department of Environmental Quality (MDEQ) Air, Energy, & Mining Division, as part of the routine approval process for the Plan of Operations (POO) for Mineral Exploration submitted by the Company. The POO was submitted in two phases to the United States Department of Agriculture (USDA) Forest Service and MDEQ. These phases are referred to as Amendments 1 and 2 (AMD1, AMD2).

An Environmental Assessment (EA) was prepared by the MDEQ during the review and permitting process. The EA took many potential environmental impacts into consideration including Project Timing, Access, Exploratory Drilling, Water Use, Reclamation, Monitoring, Cultural Resources, Noxious Weeds, Recreation and Access, Sensitive Plants, Water Resources, and Wildlife. The MDEQ evaluated the POO with respect to each of these individual categories and concluded that the POO met the required standards. The MDEQ therefore issued a Finding of No Significant Impact (FONSI) and approved the POO (U.S. Forest Service, 2020).

Based upon the Eas and the two Amendments, the MDEQ has concluded that the Project is environmentally sound, with minimal disturbance to the landscape, air quality, water quality, and wildlife.

Sibanye-Stillwater is operating three mines in the SWC immediately to the north of the Property in the same U.S. Forest Service district, and has for many years been collecting baseline data, conducting ongoing environmental studies, and engaging in community outreach including a Good Neighbor Agreement that is exemplary in the industry. The results of this work are part of the public domain and that information will be directly applicable in monitoring environmental and community impacts in the Stillwater West project area.

4.7 Other Relevant Factors

The Author is unaware of any other significant factors and risks that may affect access, title, or the right, or ability to perform exploration work recommended for the Property.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 Accessibility

The Project is road accessible from major airports at Billings and Bozeman, Montana which connect by Interstate, State Highways, and road to the town of Nye, near Sibanye-Stillwater's Stillwater mine.

The Main and Picket Pin claim blocks can be accessed by turning north off State Highway 419 (Nye Road) in Nye and traveling approximately 10.8 km to Picket Pin Road (U.S. Forest Service Road NF- 2140), which becomes more primitive (4x4 vehicles are strongly recommended) and skirts along the southeast side of Picket Pin Mountain before passing northwest of Iron Mountain. Once on the Property, much of the rest of the Main Claim Block can be accessed by additional U.S. Forest Service roads, although road access is limited in some areas. Chrome Mountain in the west-central part of the Property is connected by unmaintained U.S. Forest Service roads to various other parts of the Property including Iron Mountain approximately 7 km to the east. The westernmost portion of the Main Claim Block can also be reached via the Main Boulder Road south of Big Timber.

The Cathedral Claim Block is accessed by driving 8.9 km southwest from Nye on State Highway 419 (Nye Road) and taking progressively more primitive roads for 8.9 km past the historic Mountain View Mine.

The East Claim Block is accessed by driving 10.5 km to the east on State Highway 419 (Nye Road) from Nye and turning south onto Benbow Road (NF-1414). Further road access to the East Claim Block is limited.

The Company uses a combination of road and helicopter access for work on the Property.

5.2 Local Resources and Infrastructure

Local infrastructure is dominated by Sibanye-Stillwater, who operate two major mines in the Stillwater Complex ("SWC") with a third mine, the Blitz Expansion, operating as an eastward extension of the original Stillwater mine.

Sibanye-Stillwater also operate a smelter and base refinery complex 77 km to the northeast of the Property in Columbus, MT. A well-trained and experienced workforce of approximately 2,300 supports Sibanye-Stillwater's operations, and qualified workers are available in the immediate area. The town of Nye Montana, 24.3 km from the center of the Main Claim Block of the Property, was founded in the late 1800s to supply miners and that continues to this day. The Company's crews are housed in and supplied from Nye and also Red Lodge, located approximately 52 km to the southeast.

The towns of Columbus and Absarokee are additional places where housing and supplies can be sourced. A major commercial hub and international airport are located in Billings, MT, the largest city in Montana with a population of approximately 110,000 people. Billings is located approximately 137 km east-northeast of the Property on Interstate-90. Burlington Northern and Rail Link operate freight train service through Billings. Billings is also a primary hub for Montana's oil and gas industry, with three major oil refineries and other related operations.

5.3 Climate

The typical climate of the Beartooth Mountains is a continental climate with warm dry summers and cold winters. Gusty winds are common. Temperatures in the summer months can get above 27 ºC (80 ºF) in the summer months, and drop below -18 ºC (sub-zero ºF) in the winter months, with snowfall typically occurring between November through April. A U.S. Natural Resources Conservation Services (NRCS) weather station exists at Placer Basin near the center of the Property, at an elevation of 2,691 m (8,830 ft), and has been in operation since 1979. The average annual snowfall in Nye, Montana is 204.5 cm (80.5 in) and 45.5 cm (17.9 in) of rainfall annually.

Due to snow cover, exploration on the Property is generally carried out during the spring, summer and fall months of May to October.

5.4 Physiography and Vegetation

The Property ranges from 3,080 m (10,106 ft) in elevation at Iron Mountain to approximately 1,585 m (5,200 ft) in the Boulder River drainage at the western end of the Property. The terrain is a high- elevation plateau with moderately rolling topography that is dissected by deep, generally northerly flowing drainages. Vegetation is mostly evergreen forests that yield to meadows, rocky slopes and sparse stands of trees at higher elevations. Tree species include lodgepole pine, whitebark pine, Engelmann spruce and subalpine fir.

6 HISTORY

6.1 Stillwater Complex Exploration History

The Stillwater Complex has a long history of mineral exploration and production starting in the late 1800s when prospectors identified and mined nickel and copper mineralization. In subsequent decades this grew to include exploration for and advancement of chromium deposits in the 1930s, iron ore in the 1940s and 1950s, and then, starting in the 1970s, a focus on PGEs based on parallels with the Bushveld Complex that lead to the Stillwater Mine opening in 1986 (Page et al., 1985a).

Nickel and copper sulphide mineralization occurs in the Basal and Ultramafic series of the Stillwater Complex. Interest in these sulphide dates as far back as 1883. By 1985, more than 60,960 m (200,000 ft) of drilling in 275 holes and 1,219 m (4,000 ft) of underground workings had been completed (Page et al., 1985a).

From 1937 through the 1940s, The Anaconda Company (Anaconda) and others conducted drilling and mapping. Anaconda launched renewed work in 1967 including drilling, driving the Mouat tunnel, mapping, Induced Polarization (IP) geophysics, and geochemistry. By 1970, sulphide mineralization containing 0.25% Cu and 0.25% Ni had been identified in the eastern third of the SWC (Page et al., 1985a). Other companies including Freeport Exploration Company, Cyprus Mines Corporation (Cyprus), Amoco Minerals Company and AMAX Exploration Inc. (AMAX) continued with geologic work, geophysical surveys and drilling in other areas of the complex. This continued into the early 1980s and included work in the underlying country rocks. Much of this early work focused on anomalies identified in the Chrome Mountain, Iron Mountain, and Benbow areas, including lower-grade copper-nickel mineralization in the Chrome Lake area south of the Benbow mine (Page et al., 1985a).

Chromium was designated as a strategic metal and chromite was intermittently mined to secure a domestic source of the metal starting in the late 1930s (Page, 1985a). Chromite horizons were first identified in the Little Rocky Creek area in the eastern part of the complex (Page et al., 1985a). During World War I, chromite was mined on a small scale in the Benbow area in the eastern part of the complex and at the Gish mine on the west. Sporadic mining followed until World War II when Anaconda mined chromite at the Benbow mine, the Mouat mine, and the Gish mine. Anaconda mined 330,393 tonnes (364,196 short tons) of chromite ore until 1943 (Page et al., 1985a). During and after the Korean War (1953-1961), the American Chrome Company mined 1.9 million tonnes (2.1 million short tons) from the Mouat mine in the Mountain View area, with chromium concentrate averaging 38.5% Cr2O3. It is estimated that 13.6 million tonnes (15 million U.S. tons) of ore containing 20 – 22% Cr2O3 remains at the Mouat and Benbow mines (Page et al., 1985a). Other companies that conducted historic work on the chromite seams are Chrome Corporation (Chrome Corp.) and Boulder Gold NL.

Platinum and palladium-bearing minerals were first discovered in rocks of the Stillwater Complex in 1936 by Professor Arthur Buddington of Princeton University and his students including A.L. Howland. Buddington speculated that the Stillwater Complex could be an analog to the Merensky Reef PGE deposit (Page and Zientek, 1985a, Boudreau et al., 2020). In 1967, an exploration program was initiated by Johns-Manville (Manville) that focused on identifying PGE mineralization in the Stillwater Complex that was analogous with that of the Merensky Reef. PGE mineralization along a distinctive stratigraphic horizon was first discovered in 1973 by trenching and drilling of the Camp Zone, southwest of the Brass Monkey Exploration Camp (Boudreau et al., 2020). In 1976, Manville conducted test mining on this PGE-enriched zone at the West Fork adit. In 1979 Chevron Minerals Company Joined Manville in a JV exploration program on the PGE-enriched zone of interest. In 1981, Anaconda conducted test mining on the Howland Reef at the Minneapolis adit. That same year, the Chevron-Manville JV conducted test mining on the PGE zone at the Frog Pond adit. This PGE-enriched zone was officially named the J-M reef in 1982 (Boudreau et al., 2020). In 1983, Anaconda joined Manville and Chevron in a tri-venture on the J-M Reef. This tri-venture was named the Stillwater Mining Company. The Stillwater Mining Company (Stillwater) conducted test mining of the J-M Reef at the Minneapolis adit, and in 1985 mining commenced at the Stillwater Mine (Page et al., 1985a). LAC minerals bought out Anaconda's portion of the tri-venture in 1985, and in 1989, Chevron bought out LAC Mineral's portion of the tri-venture.

In 2002, the Stillwater Mining Company opened the East Boulder mine, located west of the Stillwater mine along the East Boulder River (Boudreau et al., 2020). In 2003, Norilsk Nickel, a Russian nickel mining company bought a majority interest in the Stillwater Mining Company, and later sold its interest in 2010. In 2017, Sibanye Gold, a South African gold and PGE miner purchased the Stillwater Mining Company and re-named the merged companies Sibanye-Stillwater. Since 2017, Sibanye-Stillwater has overseen steady production from the Stillwater, Blitz, and East Boulder mines, and the related smelter and refinery complex in Columbus, Montana.

Historical exploration on the Stillwater West property focused largely on copper, nickel, and chromium mineralization beginning in the 1940s. Modern era exploration of the Stillwater West property began in the 1960s and 1970s with programs by AMAX, Anaconda, Cyprus, Lindgren, Johns-Manville, U.S. Steel and others. Targets were Ni-Cu-bearing magmatic sulphide deposits near the base of the SWC. In general PGEs were not a focus of historical exploration conducted in the basal strata of the SWC and historical sampling typically did not assay for PGEs.

6.2 **Stillwater West Exploration and Property History**

Historic exploration work on the Stillwater West property includes drilling in the 1960s by AMAX, U.S. Steel, and Lindgren; drilling in the 1970s by Anaconda, AMAX, and Cyprus; drilling in the 1980s by Cyprus, Chrome Corp., International Platinum Corp., and Platinum Fox LLC; and drilling in the 1990s conducted by Anaconda and Chrome Corp. Work conducted by AMAX in the late 1960s and 1970s was focused on copper-nickel sulphide mineralization in the Basal and Ultramafic series on Iron and Chrome Mountains, including the Camp target (also referred to as Camp Zone and now CZ deposit). Work by U.S. Steel was focused on iron resources. In 1983 and 1984, Platinum Fox LLC drilled west of Chrome Mountain at the Pine Shear Zone, located in the Main Claim Block of the Stillwater West property. Most of these drill programs were supplemented with additional exploration efforts including surface rock and soil geochemical sampling, geophysical surveys, geologic mapping, and prospecting.

Work on the Property from 1998 to 2011, was conducted by Idaho Consolidated Metals Corporation (ICMC) and their successor company Beartooth Platinum Corporation (Beartooth Platinum), Premium Exploration Inc. (Premium), and limited work by Starfield Resources Inc. (Starfield).

Idaho Consolidated Metals Corp., in a joint venture (JV) with Platinum Fox, conducted work on the Chrome Mountain property from 1998 through 2003. Work by these companies was concentrated in the western portion of the Stillwater West property, formerly known as the Chrome Mountain property.

This work included extensive mapping, surface rock and soil geochemical sampling, and an airborne geophysical survey. The JV ended in 2003 and the Chrome Mountain property was returned to the underlying owners. Premium Exploration picked up the Chrome Mountain property from Platinum Fox in 2004. Beartooth Platinum continued work on the eastern portion of the Stillwater West property, formerly known as the Iron Mountain property, until 2009 when it entered a series of deals that resulted in Starfield Resources holding claims in the Stillwater West area. Starfield sold some claims to Stillwater Mining Company and the remainder were allowed to lapse in 2011, including portions of the current Stillwater West Property.

In October of 2006, Beartooth and Premium entered a Strategic Exploration Alliance (SEA) to explore for PGEs. In 2006 a major soil geochemical survey was conducted, consisting of over 11,000 samples. The soils program generated anomalies for nickel and copper up to 1 km wide with the anomaly spanning over 18 kms along stratigraphy over the Peridotite and Bronzite zones (Keays, 2011). PGE anomalies in soils were largely coincident with those for nickel and copper. One of the largest PGE anomalies is centered on the Chrome Mountain target area in Stillwater’s Main Claim Block.

Premium Exploration held claims west of the East Boulder River from 2004 to 2013. A technical report prepared by W. J. Struck provides an overview of exploration work conducted on land held by Premium Exploration centered on Chrome Mountain and extending from the Boulder River on the West to the Iron

Mountain area on the east (Struck, 2005). Premium Exploration drilled the Pine Shear Zone (now Pine target) at Chrome Mountain in 2004 and intersected numerous intervals of high-grade gold (Keays, 2011). In 2007, Premium Exploration formed a JV with Beartooth Platinum and commenced drilling on soil anomalies.

Starting in 2009, deteriorating market conditions lead to a series of deals that resulted in Beartooth Platinum's SWC assets being owned by Starfield Resources, who conducted limited work before selling certain claims to Stillwater Mining Company and allowing all other claims to lapse in 2011. Premium Exploration's claims were also allowed to lapse leading to all claims being dropped by 2015.

Picket Pin Resources LLC, a private company registered in Montana, began staking claims in the Chrome and Iron Mountain areas starting in 2011, and by 2017 had consolidated much of the Iron Mountain and Chrome Mountain properties for the first time.

On June 26, 2017, the Company announced that it had entered into an option agreement under which it could acquire 100% of the Stillwater West project from Picket Pin Resources by completing a series of commitments. Initially, the Property included 282 claims covering more than 22 km2 (5,400 acres). The option agreement also included an exploration database with extensive rock and soil sampling results, geologic mapping, drill core, and drill core data. In this manner, and with subsequent land expansion through additional staking, the lower SWC, including the historic Chrome Mountain and Iron Mountain targets and databases, were effectively consolidated and named the Stillwater West property.

Upon completion of the option agreement in 2020, the Company owned 100% of the property subject to a 2% NSR royalty with a buy-down provision to purchase 1% of the NSR for $2 million.

Stillwater subsequently announced four expansions to the Property by direct staking on November 15, 2017, January 10, 2018, July 9, 2018, and January 12, 2021 to arrive at the present 6,073-hectare size, being approximately 2.7 times the original Property area in 2017.

Also in 2017, Sibanye Gold, a South African gold and PGE miner, acquired Stillwater Mining for USD $2.2B, creating Sibanye-Stillwater. Sibanye-Stillwater controls lands to the north of the Property, where they have actively mined the J-M Reef for palladium, platinum, rhodium, nickel, copper, gold, silver, and other elements since 1986.

By 2019, the Company had acquired data from 205 historical drill holes totaling over 28,000 m (91,864 ft) and had nearly 12,000 m (36,089 ft) of drill core from the Iron Mountain and Chrome Mountain areas. Table 1 provides a summary of the Stillwater West Property history.

Stillwater has conducted three drill programs on the Property, one in each of the years 2019, 2020, and 2021. Drilling conducted by Stillwater is discussed further in Section 10.

Table 6-1 Property Acquisition History

Stillwater West Land Acquisition History	
Late 1800s mid-1990s	Holders of claims on the Property area included AMAX, Anaconda, Cyprus, and smaller operators.
1998-2003	Idaho Consolidated Metals Corp. (ICMC) in a JV with Platinum Fox controls the Chrome Mountain Property until 2003. ICMC changes name to Beartooth Platinum Corp. in 2002. JV is active from 1999-2003.
1998-2009	Beartooth Platinum Corp. controls the Iron Mountain Property.
2004-2015	Premium Exploration Inc. controls Chrome Mountain Property and purchases Platinum Fox ground (Pine Shear Zone) in 2004.
2006-2009	Premium and Beartooth Platinum announce a Strategic Exploration Alliance in 2006 that leads to a JV in June of 2007. JV ends in 2009.
2009-2011	Starfield Resources, purchases and holds Beartooth Platinum’s property until claims expire in 2011.
2011-2017	Picket Pin Resources LLC stakes claims on the Picket Pin, Chrome, and Iron Mountain properties.
2017	Stillwater Critical Minerals signs agreement with Picket Pin Resources
2017-2022	Stillwater Critical Minerals stakes additional ground for a total of ~62.2 km^2

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology and Tectonic Setting

The Beartooth Mountain range and Stillwater Complex is found within the Wyoming transpressive zone (WTZ) as defined by Bader (2018). The WTZ (Figure 7-1) is a distinct tectonic domain which forms part of the broader Precambrian tectonic architecture, as interpreted by Sims (2001), for the northwestern part of the early to middle Archean age Wyoming craton (>3 Ga; Chamberlain et al., 2003). The WTZ borders the southwestern margin of the so-called Central Montana Uplift (Bader, 2018) and forms a structural domain, broadly defined by the west-northwest trending Nye-Bowler fault zone (NBFZ) as the northern boundary and the Wind River Thrust in the south (Figure 7-2). Data for the Nye-Bowler, and similar zones to the north i.e., Lake Basin, Willow Creek, and Cedar Creek fault zones, sharing principal fault orientations of WNW-ESE with northeast striking subsidiary faults (Figure 26), supports the interpretation that these fault zones are indeed related to transcurrent movement on high-angle, basement-rooted faults that deformed the sedimentary cover during northeast-southwest simple shear regime related to the Laramide uplift.

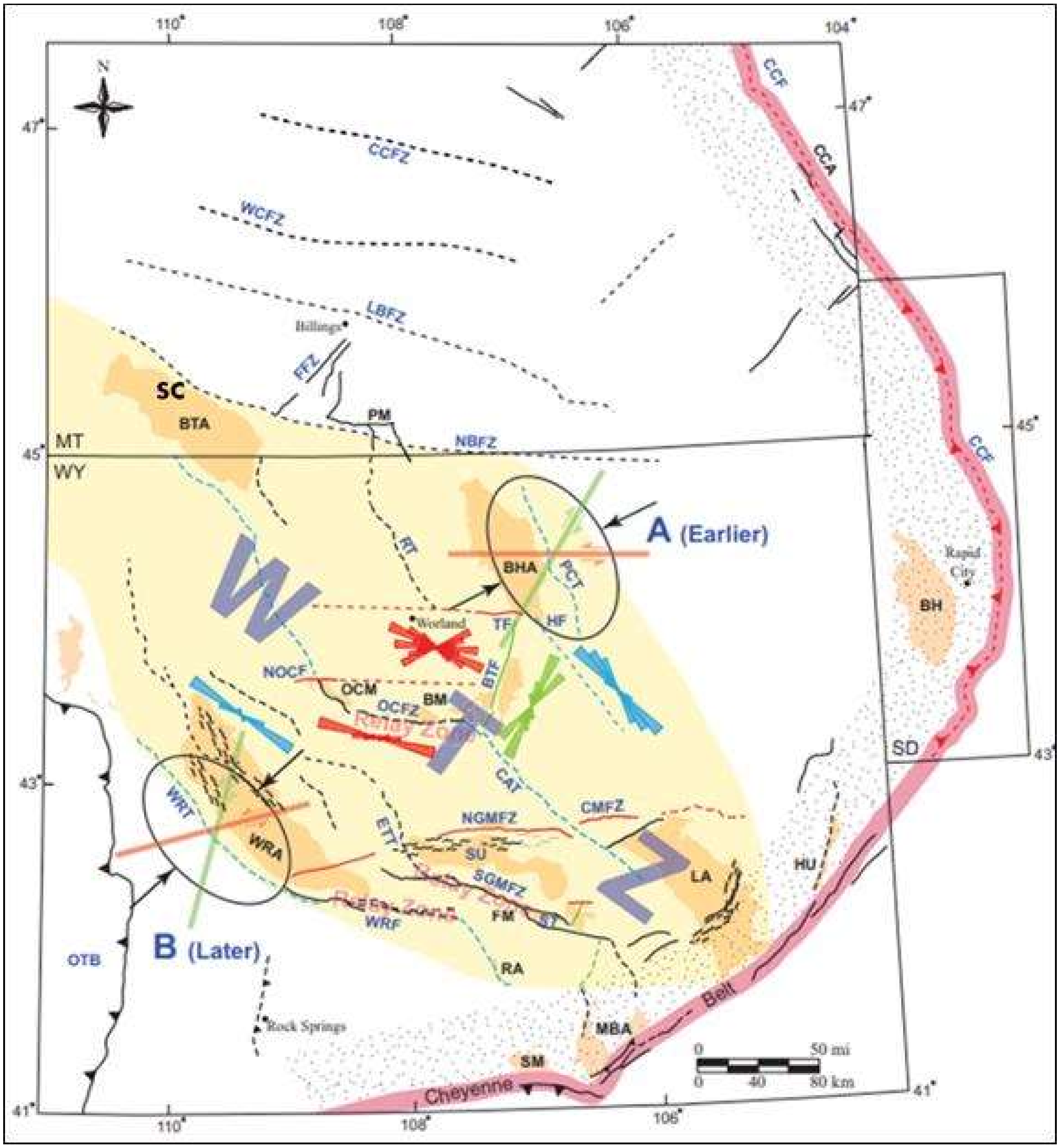
The tectonic setting of the Stillwater Complex has not been widely addressed, but Geissman and Mogk (1986) interpreted emplacement in an extensional half graben (like the Duluth Complex) that formed via wrench faulting along splays of the Nye–Bowler lineament in thick, tectonically stable Archean basement (Mogk et al., 2021). Mogk et al. (2021), further interpreted the Stillwater Complex as an allochthonous unit that was tectonically emplaced against the Beartooth massif along the Mill Creek-Stillwater fault zone (Wilson, 1936) in the late Archean. In its current structural position, the layering of the Stillwater Complex is steep to near vertical and locally overturned. Some of this tilting is certainly the result of Laramide faulting, but there must also be a Precambrian component of tilting because there is a high-angle unconformity of lower Cambrian rocks that are near horizontal, and in contact with steeply dipping underlying Stillwater Complex rocks.

Bader (2021) confirmed that the WNW-and NE-fault zones were formed within a pure-shear regime and indeed nucleated from the Precambrian basement. The principal faults of this group probably controlled the emplacement of the Complex and may explain the role played by the easterly trending Mill Creek-Stillwater fault, as argued by several other authors. Evidence for structural inheritance shows that these structures subsequently experienced simple shear reactivation during Laramide orogenesis. Isostatic gravity data, along with fabric data from the Beartooth Mountains was used for the 2021 study.

Shear zones in the western Beartooth Mountains (Figure 7-3), shows a similar bimodal pattern, with the NE strike (observed dominantly in the Mt. Delano Gneiss), and WNW strike of N75W, subparallel to the WNW-trending principal fault zones to the east of the Beartooth. Reid’s group interpreted these shear zones as forming from NE convergence in the Paleoproterozoic at 1.7 Ga, and thus confirms the data from the western Beartooth which supports the presence of Precambrian anisotropies, oriented WNW and NE (Figure 7-4), and the interpreted east-northeast to northeast pure shear regime prevalent during Precambrian time (Bader, 2021).

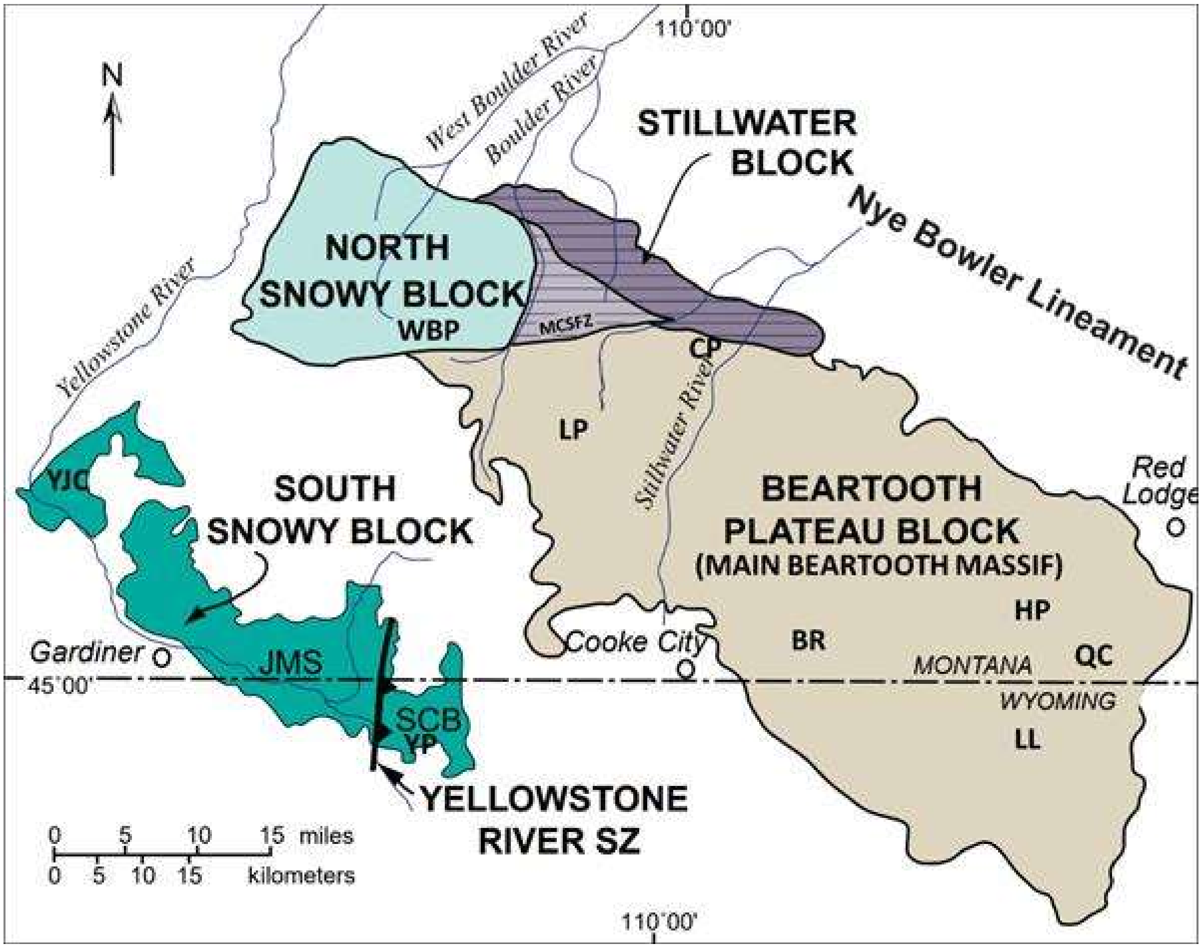
Northwest to north-northwest trending thrusts – Precambrian structures such as the Casper arch, Rio, Piney Creek, Emigrant Trail to the northeast and Wind River Thrust, the southwestern bounding thrust, are conspicuously present and well developed within the WRZ. These northeast verging, composite fault zones serve as interconnecting ramp features between the WNW trending principal faults or lineaments.

Figure 7-1 Precambrian-Cored Basement Uplifts (Light Brown) are Shown in Relation to the Interpreted Convergent-Deformation System (CDS) Of the Wyoming Transpressive Zone (WTZ), Straddling the Montana-Wyoming Border



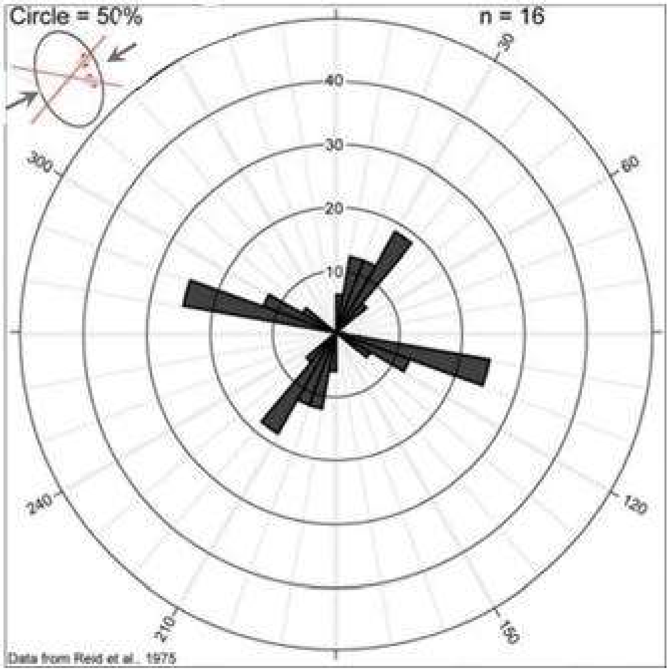
Pure-shear strain ellipses with kinematic indicators, related to generally late Archean timing for convergent-zone deformations, as well as Precambrian fabrics from the Bader (2018) study are presented for comparison. Red line indicates the approximate eastern extent of early to middle Archean Wyoming craton (≥3.0 Ga; Chamberlain et al., 2003). Major Precambrian shear zones are shown by wavy pattern. Stippled pattern indicates the area of likely 1.78–1.74 Ga deformations. BTA—Beartooth arch, BH— Black Hills arch, BHA—Bighorn arch, BM—Bridger Mountains, BTF—Big Trails fault, CA—Casper arch, CAT—Casper arch thrust, CMFZ—Casper Mountain fault zone, CCA—Cedar Creek anticline, CCF—Cedar Creek fault, CCFZ—Cat Creek fault zone, ETT—Emigrant Trail thrust, FFZ—Fromberg fault zone, FM—Ferris Mountains, HF—Horn fault, HU—Hartville uplift, LBFZ—Lake Basin fault zone, LA—Laramie arch, MBA—Medicine Bow arch, NBFZ—Nye-Bowler fault zone, NGMFZ—North Granite Mountains fault zone, NOCF—North Owl Creek fault, OCFZ—Owl Creek fault zone, OCM—Owl Creek Mountains, PCT—Piney Creek thrust, PM—Pryor Mountains, RT—Rio thrust, RA—Rawlins arch, SC-Stillwater Complex, SGMFZ—South Granite Mountains fault zone, SM-Sierra Madre, ST—Seminoe thrust, SU—Sweetwater uplift, TF—Tensleep fault, WCFZ—Willow Creek fault zone, WRF—Wind River fault, WRA—Wind River arch, WRT—Wind River thrust, WTZ—Wyoming transpressive zone. Tectonic elements after Love and Christiansen (1985), Sims et al. (2001, 2004), Kraatz (2002), McCormick (2010), MBMG (2011), and this paper. Many surface/near-surface faults (black lines) are also basement-rooted (compiled from Bader, 2018).

Figure 7-2 Geographic and Geologically Distinct Late Archean Blocks of the Beartooth Mountains with the Locations of the North Snowy Block, Stillwater Block, and Beartooth Plateau Block Identified



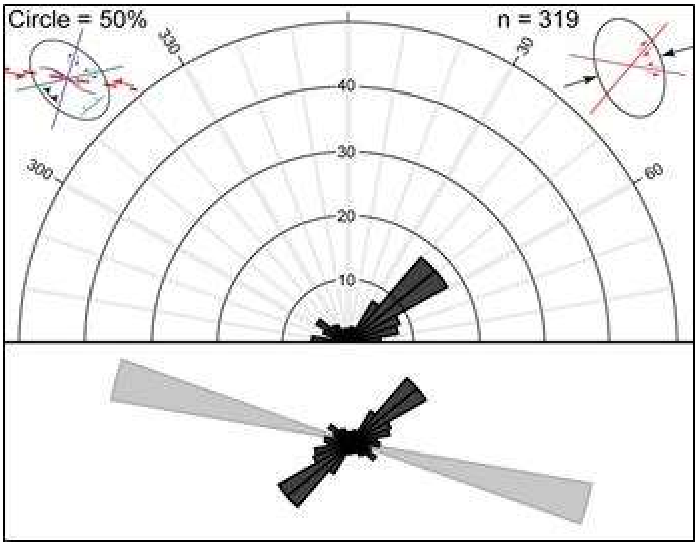
Annotations on the figure is combined from Henry et al. (1997) and Mogk et al. (2021). The abbreviated localities in the eastern portion of the map include Hellroaring Plateau (HP), Quad Creek (QC) and Long Lake (LL) (from Henry et al., 1997). Details of the geologic relations of each area are discussed by Mogk et al. (2022), with reference to the JMS, Jardine Metasedimentary Suite; SCB, Slough Creek Block, MCSFZ, the Mill Creek Stillwater Fault Zone. The Yellowstone River shear zone is marked by the thrust fault symbol (saw teeth on the hanging wall) (Mogk et al. (2022). The lined unit in lighter purple north of the MCSFZ is the Stillwater contact aureole. The Nye–Bowler lineament is NW–SE trending north of the Beartooth Block.

Figure 7-3 NE-SW and WNW-ESE Oriented Shear Zones from the Western Parts of the Beartooth Mountains Originally Formed By Northeast Convergence during The Paleoproterozoic, ~1.7 Ga



(From Bader, 2021, Adapted From Reid Et Al., 1975)

Figure 7-4 Rose Diagram Showing Strikes Of Major Faults of the Nye–Bowler Fault Zone (Dark Grey) as Compared to the Strike of the Nye–Bowler Fault (Light Grey).



Data Are After Berg and Others (2000), Lopez (2000c, 2001), and Vuke and Others (2000b, 2001a). Simple-Shear Strain Ellipse For A Sinistral Wrench Fault Oriented N80°W, And Pure-Shear Strain Ellipse With Principal Horizontal Stress At N70°E, Provided For Comparison (From Bader, 2019).

There are five major geotectonic assemblages in and adjacent to the SWC (Figure 7-5). Listed from oldest to youngest, they are: Archean granitic gneisses and associated metasedimentary rocks, metasedimentary hornfels associated with the emplacement of the Stillwater Complex magmas, mafic and ultramafic intrusive igneous rocks of the SWC, Archean intrusive quartz monzonite, and sedimentary rocks of Paleozoic and Mesozoic age (Figure 7.1.6) (Page, 1979). All of these rocks are intruded by dikes and larger mafic to felsic igneous bodies ranging in age from Proterozoic to Tertiary (Jenkins et al., 2020).

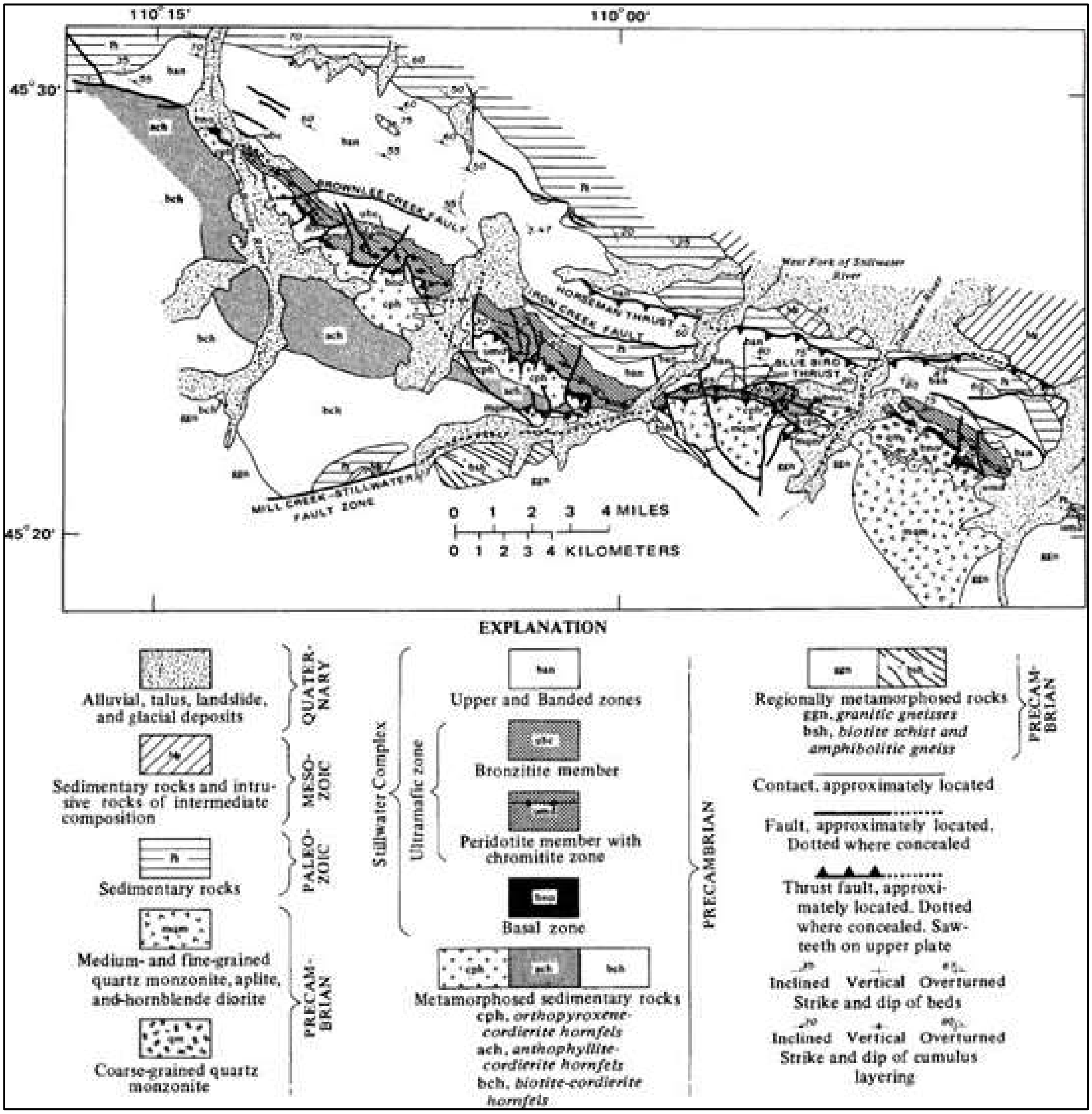
The high-grade Archean metamorphic rocks of the northern Wyoming Province are exposed in the uplifted Laramide tectonic blocks of northwestern Wyoming and southwestern Montana, including the Beartooth uplift. This Archean province has been subdivided into several major crustal blocks, each with its own, unique depositional, tectonic, and metamorphic history. Mueller et al., (1985), Mogk et al., (2020), and many other researchers have summarized the evolution of the Wyoming Province. The province exposes rocks up to 3.5 billion years old and zircons in these oldest rocks record events even older (Mogk et al., 2020). The history of the province includes major tectonic, metamorphic, magmatic, and continent-building events at roughly 4.0 – 3.5, 3.5 – 3.1, 2.8 – 2.9, 2.7, 2.45 – 2.5, and 1.78 billion years before present (Mogk et al., 2020). These episodes are separated by intervening periods of relative quiescence during which shallow and deep-water sediments were deposited. The metasedimentary rocks in the contact aureole at the base of the SWC have not been subjected to the isoclinal folding, tectonic intermixing with meta-igneous rocks, and amphibolite-granulite grade metamorphism that characterizes the Archean rocks to the south, across the Mill Creek-Stillwater fault in the Beartooth Block.

The SWC is a 2.709 billion-year-old (Ga) (Wall et al., 2018) Neoarchean layered mafic-ultramafic intrusive body that is approximately 48 km (30 mi) long. The SWC intruded metasedimentary and meta-igneous rocks of the Archean Wyoming Province (Jenkins et al., 2020). Geissman and Mogk (1986) proposed that the SWC separated from the main Beartooth massif along the Mill Creek-Stillwater fault zone in the Late Archean. Following emplacement of the SWC and faulting along the Mill Creek-Stillwater fault zone, there were at least two periods of deformation that affected the complex: one episode in the Precambrian tilted the complex, producing a high-angle unconformity between the steep to overturned layers of the complex and the Cambrian sedimentary rocks which overlie it; and a second episode of deformation resulting from Cretaceous to Early Tertiary Laramide faulting along the Beartooth range front (Geissman and Mogk, 1986).

The meta-sedimentary rocks into which the SWC magmas were emplaced were likely originally deposited in a high-energy, shallow-water sedimentary basin. The source area for the sediments likely contained an abundance of mafic and ultramafic rocks that enriched the basin with high levels chromium, nickel, iron, and magnesium (Page and Zientek, 1985a). Rock types include amphibolite, schist, iron formation, quartzite, sandstone, diamictite, and other rocks. These metasedimentary rock units underwent contact metamorphism to hornfels during emplacement of the SWC. Relict clastic quartz and feldspar found in the hornfels suggest the presence of siliceous rocks in the source area as well (Czamanske and Zientek, 1985). Complex folding, and possible regional metamorphism, of the metasedimentary country rock predates the emplacement of the Stillwater magmas. The latest set of folds are N-S striking and east dipping, with northwest plunging fold axes. The orientation of earlier fold sets is difficult to determine due to the rotation that occurred during subsequent folding episodes.

The SWC is overlain on the north by folded sedimentary rocks ranging from Cambrian to Cretaceous in age that include thick Paleozoic carbonate sections. The complex is cut by granitic rocks that yield approximately the same 2.7 Ga radiometric dates as the complex. The layered complex and the 2.7 Ga granites that intrude it exhibit a penetrative east-west foliation due to deformation in the Proterozoic. The complex has been deformed by at least two generations of reverse and thrust faults. It is also cut by, northerly trending, steep faults, and by later reactivation of some of these faults by normal movement. A complex of Cretaceous granitic bodies intrudes the Paleozoic-Mesozoic sedimentary sequence. The older metamorphic rocks and the lower parts of the complex are cut by numerous mafic dikes (Page and Zientek, 1985a).

Figure 7-5 Regional Geologic Map of the SWC (Source: Page, 1979)



7.2 Stillwater Complex Geology

The SWC is one of the largest and best-studied layered mafic-ultramafic intrusive complexes in the world. However, the lower SWC, including the Property, has seen less exploration, and large areas remain untested. The SWC hosts magmatic mineralization variably enriched in chromium, nickel, copper, cobalt, gold, and the platinum group elements (PGEs). Many excellent research papers and summaries of the geology of the complex have been published. Recent summaries include reports by Zientek et al. (2002), Keays (2011), Zientek and Parks (2014), Boudreau et al. (2020), and a geologic map of the entire complex by Geraghty (2013). An excellent summary of the Archean geology of Montana is found in Mogk et al., (2020).

The SWC is in intrusive contact with Archean metasedimentary rocks of the Wyoming Province on the south and is unconformably overlain by Paleozoic to Mesozoic sedimentary rocks on the north. The SWC has been dated at 2.701 billion years, at the boundary between the Archean and Proterozoic eons of the Precambrian era. However, a new date of 2.709 billion years has been reported based on zircon and baddeleyite U-Pb methods (Wall and Scoates, 2016; Wall et al., 2018). The entire complex has been tilted approximately 50 – 70º to the north-northeast due to at least two periods of folding and faulting. The easternmost part of the SWC has been complexly deformed, with magmatic stratigraphy locally overturned and dipping steeply to the south (Zientek et al., 2002). The complex is 5.5 km (3.4 mi) thick and 48 km (30 mi) in exposed strike length (Figure 7-6).

The layered complex can be divided into a hierarchy of mappable stratigraphic units based on the mineral composition, texture, and sequence of layered strata. Thin magmatic stratigraphic layers and cumulate textures that can be traced for kilometers across the complex indicate that the layered complex was originally horizontal at the time of intrusion and crystallization (Zientek and Parks, 2014). The complex consists of five main lithostratigraphic divisions or series: Basal series, Ultramafic series, Lower Banded series, Middle Banded series, and Upper Banded series. The Lower Banded series, Middle Banded series, and Upper Banded series are sometimes grouped and referred to collectively as the Banded series The series are subdivided into between 14 and 17 zones (depending on the author). The Basal series is variable in thickness and is up to approximately 122 m (400 ft) thick (Zientek and Parks, 2014). This series is made up of the basal norite and the overlying basal bronzitite. The overlying Ultramafic series is 500 – 2,000 m (1,640 – 6,562 ft) thick and consists of a Peridotite zone overlain by a Bronzitite zone. The Peridotite zone hosts up to thirteen chromite horizons (labeled A-K) that are locally enriched in PGEs. The Ultramafic series is overlain by the Banded series consisting of norites, gabbronorites, troctolites, and anorthosites, all of which contain plagioclase as a cumulate phase.

The SWC has not been subjected to the high-grade regional metamorphism that affected the Archean wall rocks that form the floor of the complex. The wall rocks that form the floor of the SWC consist of various metasedimentary rock types including banded iron formation (BIF), hornfels, and quartzite. Amphibolite and pelitic hornfels in the footwall of the SWC contain orthopyroxene, anthophyllite, cordierite, olivine and quartz. These mineral assemblages indicate pressure conditions during metamorphism that are on the order of three kilobars lower than the high-grade gneisses of the Lakes Plateau to the south of the complex across the Mill Creek-Stillwater fault zone (Page and Zientek, 1985b).

A more detailed stratigraphic section is shown in Figure 7-7. A shorthand has been developed by researchers and explorationists in describing the rocks of the SWC (Zientek and Parks, 2014). The cumulate phases are shown as lower-case letters such as “o” for olivine, “b” for bronzite (an orthopyroxene), “a” for augite (a clinopyroxene), and “p” for plagioclase. The cumulate phases are listed in order from most abundant to least abundant. These are followed by capital letters that describe the rock texture such as “C” for cumulate, and “P” for pegmatoidal. The first letter indicates the dominant mineral species and is followed by less abundant minerals. Thus, a rock described as a boC, would be a cumulate textured rock in which the cumulate grains are bronzite and olivine with a greater abundance of bronzite than olivine.

Where the pyroxene mineral bronzite predominates in a rock, the rock is referred to as a bronzite cumulate (bC). A second pyroxene called augite is also abundant in the SWC, particularly as a late crystallizing phase within the Bronzitite zone of the Ultramafic series and in the Banded series.

Where olivine predominates in a rock, the rock is called a dunite or olivine cumulate (oC). Anorthosite is a rock made up mostly of plagioclase (pC), norite is made up of plagioclase and bronzite (pbC), troctolite is made up of plagioclase and olivine (poC), gabbro is made up of plagioclase and pyroxene (pbaC, pabC), peridotite is made up of olivine with pyroxene (obaC, oabC), and pyroxenite is made up of pyroxenes with some olivine (baoC, aboC). A rock in which chromite is the predominant mineral phase is termed a chromitite (cC).

A variety of magma types and crystallization mechanisms have been proposed for the complex but none of these fully explains all the features observed. A komatiitic basaltic magma that was contaminated by tonalitic wall rocks of the Wyoming Province is likely for the Ultramafic series and possibly the J-M reef

(Jenkins at al., 2020). Geissman and Mogk (1986) have proposed that the entire complex is allochthonous and has been displaced from its original position by movement on the Mill Creek- Stillwater fault. The complex is cut by numerous northeast and north-northeast trending steeply dipping faults, many of which appear to dissipate upward into the SWC. Some of these structures are mineralized with gold, base metals, and PGEs (Warchola, 1986). Examples include the Pine Shear Zone in the western part of the Property.

The SWC has been deformed by a series of north-dipping reverse faults that dip sub-parallel to the magmatic stratigraphy as well as by a series of south-dipping thrust faults that have disrupted the magmatic stratigraphy. The eastern part of the SWC has been complexly deformed by folding and faulting, with overturned strata dipping steeply to the south, and extensive alteration of wall rocks along major faults.

Figure 7-6 Stratigraphy and Structural Setting of the Stillwater Complex (Source: Keays ett al., 2011)

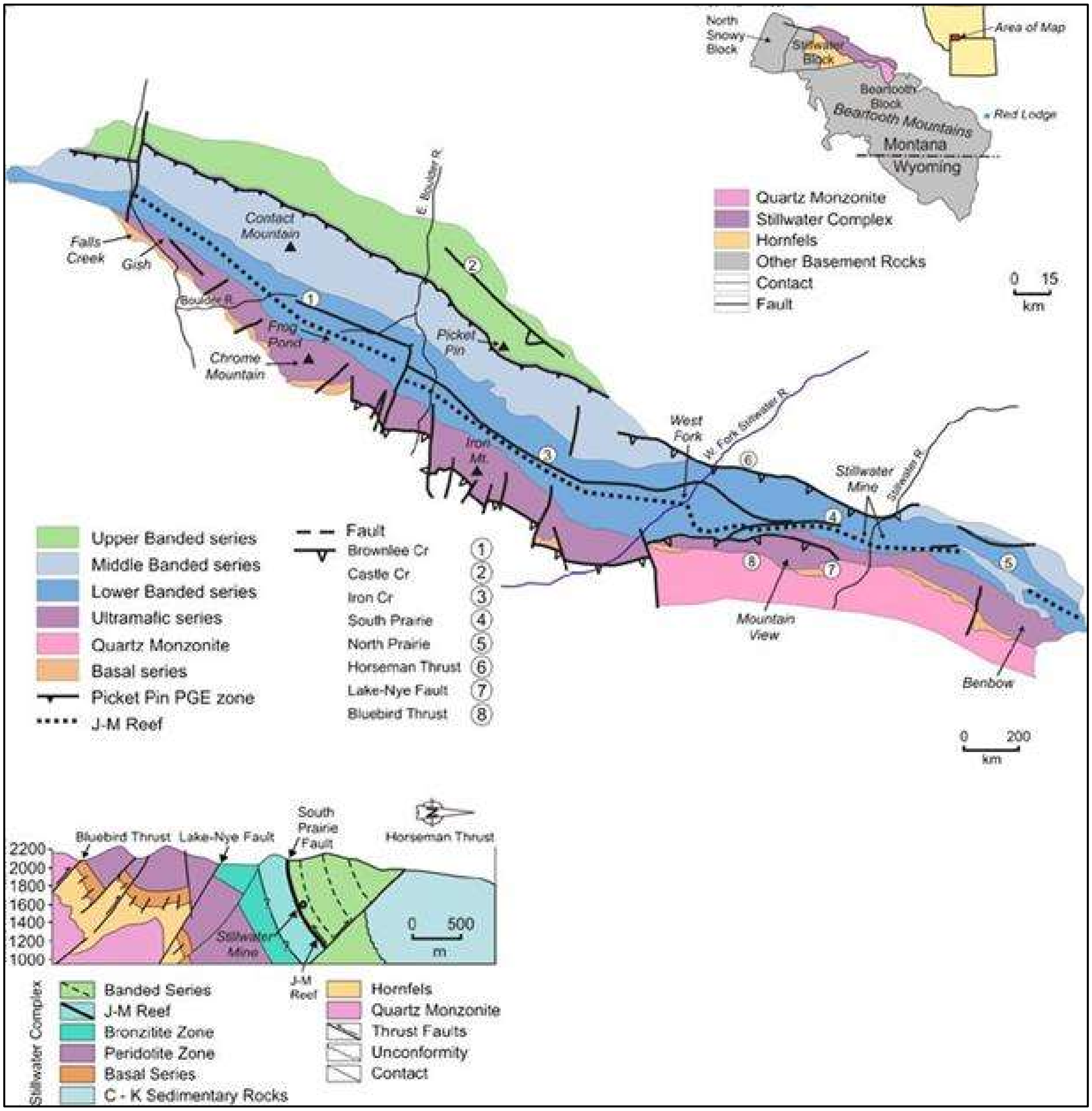
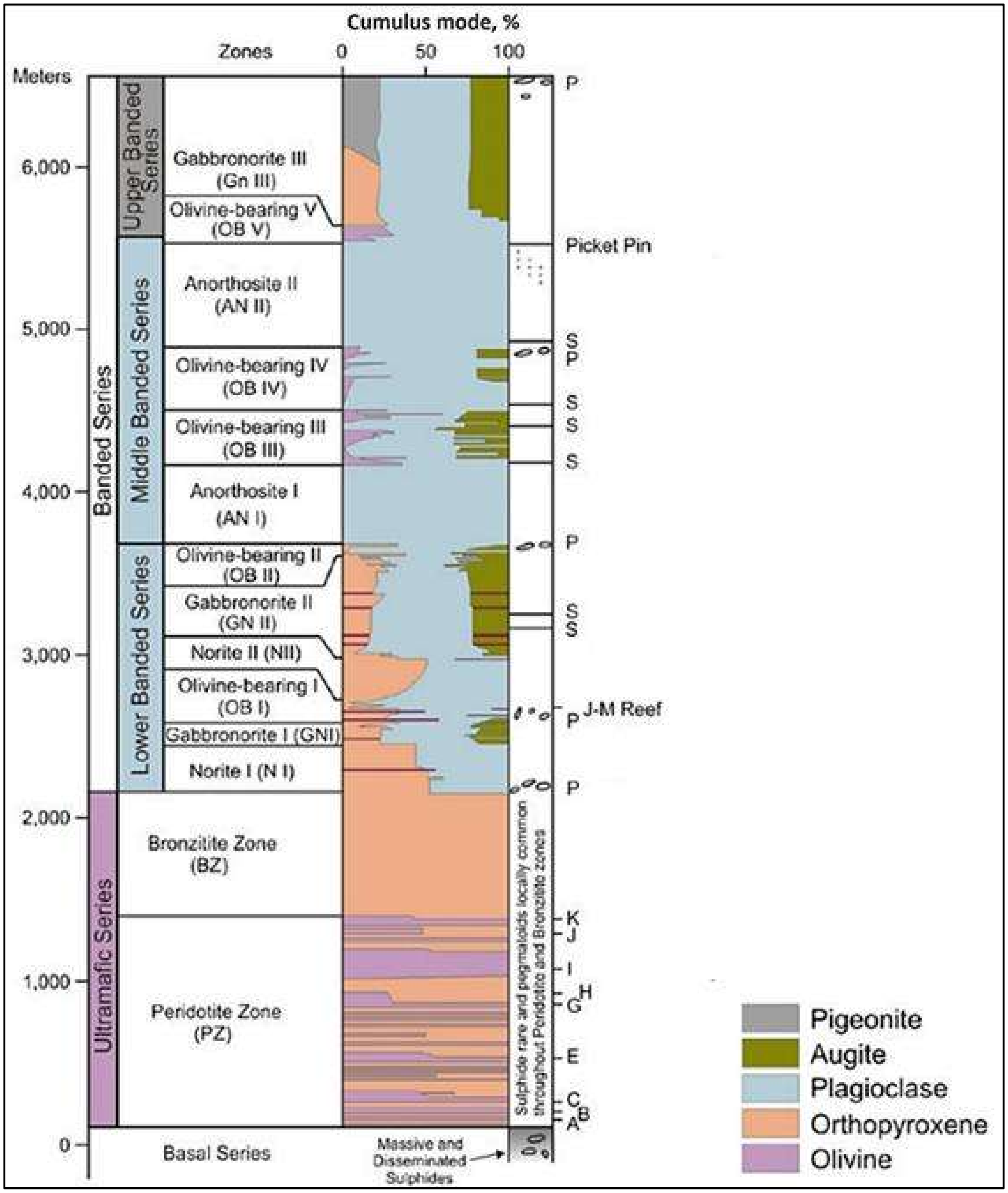


Figure 7-7 Lithostratigraphic Column of the SWC (Source: Keays et al., 2011)



7.3 Stillwater West Property Geology

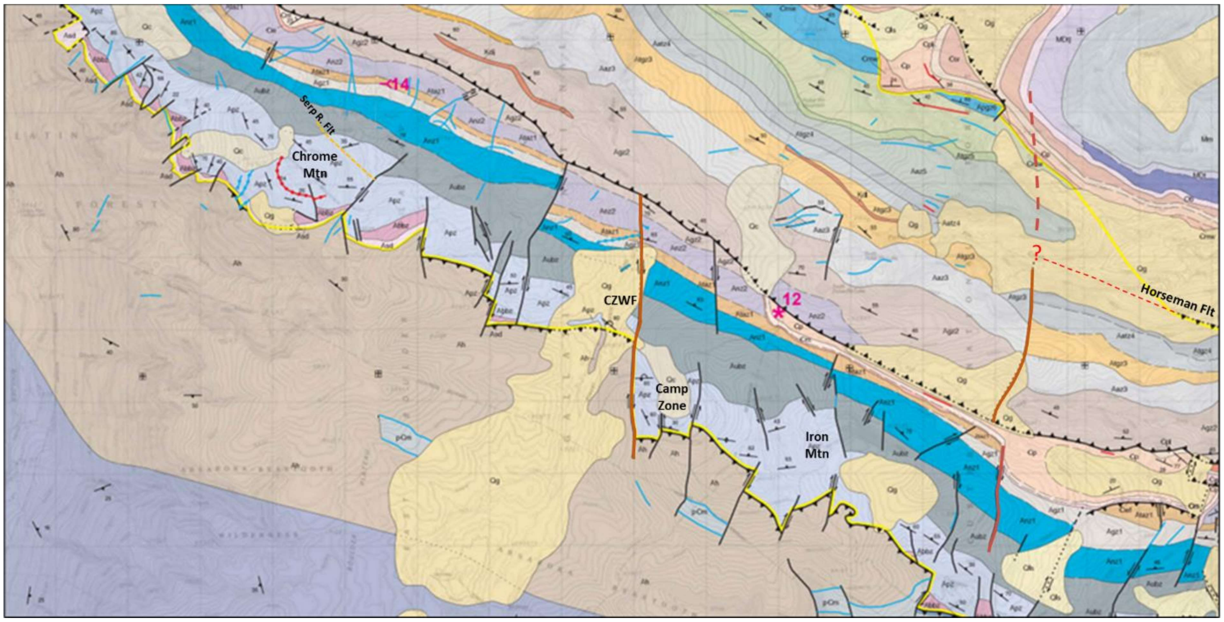
Geological understanding of the lower SWC continues to evolve, and large areas remain underexplored. Stillwater's work, including its collaboration with the U.S. Geological Survey, is bringing new understanding to the district, in particular adding new scientific insight from recent exploration efforts focused on the Ultramafic series, stratigraphically the lower part of the SWC. The following presents a summary of the current understanding.

The Main, Cathedral, and East claim blocks of the Stillwater West property cover the lower portions of the SWC including the Basal series, the overlying Ultramafic series, small sections of the Banded series, as well as the adjacent hornfelsed metasedimentary sequence that makes up the floor of the SWC. These rocks are cut by various mafic dikes and generally northerly striking, steeply dipping faults that displace the magmatic layers. The 2021 MREs are hosted largely within the Peridotite zone of the Ultramafic series.

The metasedimentary rocks that make up the floor of the Stillwater Complex host a complex assemblage of generally contemporaneous gabbronorites and norites occurring as sills, dikes and podiform to pipe-like intrusive bodies. These igneous bodies are associated with small podiform bodies of massive sulphide that increase in frequency towards the base of the complex (Boudreau et al., 2020).

The Basal series comprises the lowermost sequence of rocks in the Stillwater Complex proper. The lower contact of the Basal series with the underlying metasedimentary rocks is defined as the base of the first laterally continuous norite or orthopyroxenite (Boudreau et al., 2020). The norite grades upward with decreasing amounts of plagioclase and increasing amounts of orthopyroxene. The Basal series consists of bronzite-rich cumulates that contain minor segregations of non-cumulate rocks and inclusions of Archaean metasedimentary rocks as rafts and xenoliths. The Basal series is divided into a lower Basal norite hosting massive and disseminated sulphide, high Fe / Ni+Cu and generally low precious metal content. The Basal norite is overlain by the Basal bronzitite (Keays et al., 2011). Mafic dikes and sills in the Basal series cut both the cumulate layers and the blocks of hornfelsed country rock (Heltz, 1985). The Basal norite is intruded by the same suite of dikes that intrude the adjacent metasedimentary rocks that comprise the floor of the complex. Thickness of the Basal series typically ranges from 60 to 240 meters (Page and Zientek, 1985b). Thickness appears to be fault block controlled along strike and dip. Thicker portions are attributed to floor geometry which controlled intrusion leading to pronounced infill into chemically reactive sediments within pre-existing graben blocks. Pre-developed folding within the sedimentary sequence contributed to thickness and dip variation of the Basal series, also leading to development of favorable trap sites for accumulation of base metal enriched sulphide mineralization (Figure 7-8).

Figure 7-8 Geological Map for the Central Part of the Stillwater Complex



The Basal zone units show an increase in thickness and dip variation within distinct fault blocks located south and southeast of Chrome Mountain. Here the Basal zone occupies the lower stratigraphic position of the open syncline defining the Chrome Mountain area. Ah – Contact metamorphosed hornfels, Asd – Sill-like Member, Abbz – Basal series, Apz – Peridotite zone, Aubz – Bronzitite zone. Anz1, Agz1 and Ataz1 collectively define the Lower Banded Series, CZWF – Camp Zone West fault and other major N-S trending faults – orange. Figure modified after Gerathy et al., 2013.

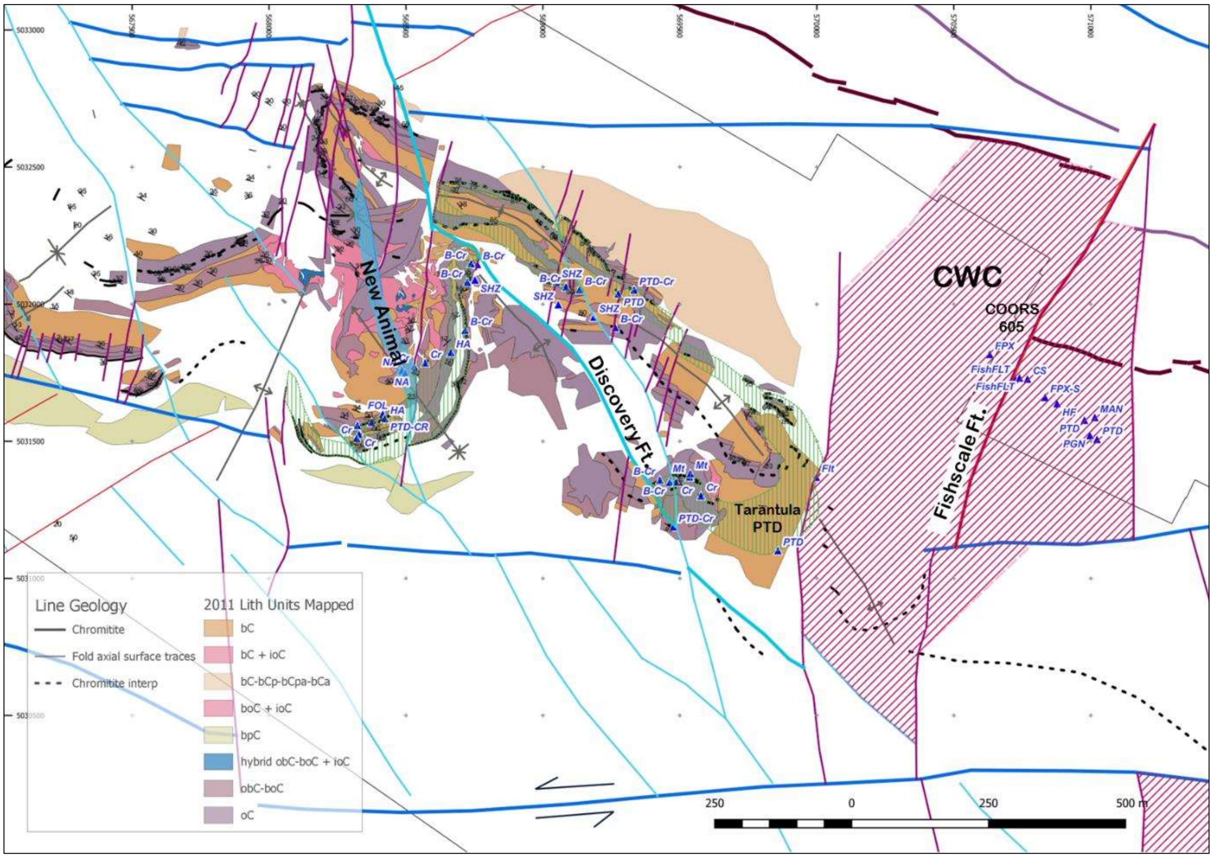
The base of the overlying ultramafic series is marked by the first significant appearance of olivine, and the top of the series occurs at the base of the norite which defines the overlying Lower Banded series. The Ultramafic series comprises cumulus dunite, harzburgite, bronzitite, and numerous chromite seams. The series is divided into a lower Peridotite zone and an overlying Bronzitite zone. The Peridotite zone is characterized by cyclic repetitions of peridotite/poikilitic harzburgite, which grades to granular harzburgite and then to orthopyroxenite (Raedeke and McCallum, 1984). There are 21 of these repeated cyclic units in the Mountain View area. Chromitite layers often occur near the base of cyclic units and are designated the A-K chromite seams with letter designations increasing upward from the bottom of the Peridotite zone (Figure 8) (Keays et al., 2011). The thickest and most laterally continuous chromite seams are the G and H. The seam sequence contains varying PGE values, with the highest values occurring in the stratigraphically lowermost A-B seams. Although lateral persistence of the chromitite seams is poorly developed or understood, it is thought that the mineralized chromitites found in the Chrome Mountain area are the northwestern strike extensions of the A-B chromitites defined from the Mountain View area. Elevated PGEs associated with chromitite seams, such as the case with the A-B chromitites at Chrome Mountain, is in contrast to the norm that the upper chromitites in general are better mineralized within ultramafic complexes, referring to the chromitite seams in the Upper Critical zone of the Bushveld Complex (UG2 and others). It is likely that the Chrome Mtn chromitites, occurring stratigraphically close to the lower contact of the overlying Bronzitite zone, be attributed to the loss of the upper stratigraphic units from the Peridotite Zone. This marked thickness decrease of the Peridotite zone in the Chrome Mountain area was also noted by McIlveen (1996). The presence of cyclicity within this part of the layered complex has recently been questioned by Jenkins and Mungall (2018).

The bronzitite zone at the top of the Ultramafic series comprises a generally uniform orthopyroxenite with local interstitial plagioclase and augite, along with minor chromite, quartz, and rare phlogopite, apatite and sulphide (Boudreau et al., 2020). The top of the Bronzite zone contains thin layers of olivine and chromite as well as pegmatoidal pods that are anomalous in PGEs and can be laterally contiguous for short distances (Janet 50 and Coors 602 occurrences). The Coors 602 is thought to be an example of a pothole, also called ballrooms (in reference to the SWC), and can be inferred as being analogous to similar occurrences found in the Bushveld Complex (McIlveen, 1996). In the case of the Bushveld Complex these are confirmed to be related to structures, as is apparent (but not confirmed) with the Coors 602 pegmatoid being proximal to the major, north trending, Fishscale Fault. Structural disturbances leading to the development of the Coors and other known mineralized pegmatoids at the important Bronzitite – Banded Series interface is summarised by McIlveen (1996) as follows:

- Turbulent magma mixing, currents, and thermal erosion.
- Topographic undulation within the magma chamber, either by pre-emplacement folded sedimentary host rocks or by differential crystallization of the more mafic rocks where less magma is present over a topographic high, thus causing load and slumping within the magma pile.
- Disturbance such as compaction, faulting, or slumping during crystallization could not only bring xenoliths up from below but could also force a bronzite crystal mush up through fractures in the manner of a clastic dike, as such transport mineralized melt from the underlying units upwards along structural anisotropies.

Indications are that both the Coors 602 and Janet 50 pegmatoids, found within the footwall strata to the J-M reef, may be a result of pothole formation with infill from J-M Reef bronzitite. In addition, various other stratigraphically lower pegmatoid occurrences may have formed by compaction-driven, upward dyke-like, structure-controlled migration of ultramafic magma (Figure 7-9).

Figure 7-9 Detailed Surface Geological and Structural Interpretation Map of the Chrome Mountain Area



Coors 602 is located close to the Fishscale fault, a major north-south undulating structural anisotoropy with an apparent dextral or right-lateral oblique offset. Additional pegmatoid development, shown as the so-called Tarantula pegmatoid is located proximal to intersections of major north-south and north-northwest trending structures.

Dunite bodies outcrop at various locations within the Peridotite zone which are demonstrably discordant to igneous layering. Variously described as discordant dunite, secondary dunite, or intrusive olivine cumulate (ioC), these distinctive rocks were first described by Hess (1960). These usually fine-grained and extensively serpentinized rocks are often in sharp, discordant contacts where they intrude into the primary cumulate rocks of the Peridotite zone (Figure 10). The intrusive masses have been variably interpreted as replacement bodies of regenerated olivine at metamorphic temperatures, or as remobilized olivine cumulates (Raedeke & McCallum, 1984). They commonly enclose relict patches of ultramafic cumulates and forms cross-cutting pipes, fingers, and pods in the surrounding lithology. Field observations have recognized pegmatoidal bronzite that commonly occurs along the margins of the intruding / remobilized dunite. Chromite occurs as schlieren, pods, and disseminations in the surrounding pegmatoids, as well as in the ioC. Although discordant dunite is most common on Chrome Mountain, it is not restricted to this area; similar bodies have been mapped in the Peridotite zone at Iron Mountain, Mountain View, and in the Boulder River sector (Gish Mine). The ioC has been recognized in outcrop and limited drill core to be variably enriched in sulphide and lenses of highly magnetic chromite.

Alteration of the SWC rocks on the Property is locally moderate to pervasive. The major alteration phases observed in drill core and in surface exposures are serpentine and a combination of talc, tremolite, and magnetite (TTM). Where pervasive, alteration is texturally destructive, completely overprinting primary cumulate textures. In other rocks, it is less intense and occurs as veins, veinlets, and stockworks that crosscut the cumulate minerals. It is not uncommon for carbonate minerals and pyrite to form in the serpentine veins. The olivine grains are often strongly altered to magnetite and serpentine, whereas orthopyroxene is susceptible to talc alteration. Tremolite-actinolite and talc respectively occurs as high and low temperature alteration assemblages within the intensely faulted core zones of normally re-activated N-S and NNW-SSE tending faults and shear zones. Tremolite often forms a variable, gradational envelope closely related to these structures. The widths of these structurally controlled alteration zones can locally be influenced by the degree and type of deformation experienced by the adjoining wall rocks to the structures.

7.4 **Stillwater Complex – Structural Model & Interpretation**

To resolve the structural framework for the Stillwater Complex it must be considered as a part of the Beartooth Arch which is an integral feature of the regional tectonic setting. Pre-emplacement structure, directly and indirectly controlled the emplacement dynamics of the Complex, as does subsequent structural influences during syn- to late magmatic conditions. Therefore, a holistic view, not only of the structural discontinuities, but of the timing and metamorphic conditions must be accounted for. It is perceived that Precambrian tectonics would have played a role at depth, at intense regional scale conditions, whereas later events are anticipated to be more varied. Later principal events, like the Laramide uplift, played a role at lower temperature-pressure conditions. Each aspect potentially has distinct structural controls, or lack thereof, based on the strain orientation activating certain structures and thermal conditions accompanying the tectonic episode.

The Stillwater structural model is an attempt at integrating the Precambrian and Phanerozoic tectonics with timing to thermotectonism and the prolonged history of regional to local scale metamorphism, observed metasomatism and alteration conditions. This, in context to the Stillwater West Project, may aid in resolving geological and mineralogical influences on the economic potential of the Project. The structural groups, as discussed in paragraphs 7.4.1 to 7.4.7 is summarised in Table 7-1. Table 7-1 is a *summary of the structural architecture for the lower portion of the Stillwater Complex and the Ultramafic Series. Faults are grouped based on lateral trends related to various tectonic events and strain fields. Sequence of re-activation related as offsets as observed from surface geological mapping.*

7.4.1 **Folding**

North-northwest trending folds formed during deformation parallel to the NNW-SSE to N-S trending shear zones, such as at Chrome Mtn. Northwest-trending, en-echelon folds formed during deformation accompanying the sinistral strike slip faulting. (Sims, 2009).

It must be noted that similar fold arrangements are present in the Chrome Mountain (Figure 7.3.2) and Iron Mountain areas. These NE-trending folds are related and sub-parallel to pre-existing NE trending shear zones, whereas the NNW-trending folds are related to deformation by sinistral strike slip faulting (re-activated Laramide uplift related). N and NE trending faults offset NW-SE trending Sevier orogenic thrusts – developed as tear faults as part of NW-SE directed Sevier orogeny.

7.4.2 **Faults and Shear zones**

To advance the structural study of the Lower portion of the Stillwater Complex the higher resolution obtained for anomalies within the Peridotite Zone from the AirHEM survey largely resolves the tectonic framework within the structurally complex areas of Chrome and Iron Mtn. The termination and offsets of faults can be noted in the linear anomalies shown in both the raw and RTP images. Refinement of the three principal fault orientations, as grouped by Goldspot, contributes to resolving relative timing of formation and chronology or activation and re-activation. Current understanding based on the offsets noted can be described as follows:

7.4.2.1 WNW-ESE to W-E trending faults – Group A

Several of these major discontinuities obliquely transects the SWC stratigraphy, evident from within the floor, persisting to the Complex and into later sedimentary cover rocks. These faults, originating from within the basement, probably as part of the Precambrian fault array, can be interpreted as relay structures between the principal WNW-ESE trending NBFZ to the north of the Beartooth front and OCFZ to the south of the Beartooth massif (Figure 7-1 and Figure 7-2).

The W-E fault transecting the Peridotite Zone south of Chrome Mountain shows a nominal sinistral strike-slip displacement, but the extent of dip-slip is unknown as no kinematics are known at present. This fault transects the complete SC stratigraphy and passes obliquely through the Bronzitite zone further eastwards and due north of Iron Mtn. The fault offsets the southern extension of the NNE-SSW striking Fishscale and related faults with left-lateral kilometer-scale displacement.

7.4.2.2 NNW-SSE to NW-SE faults – Group B

This fault group forms a pervasive anastomosing array along the entire strike length of the Complex. These faults are probable basement nucleating, Precambrian in age and in origin formed as transcurrent faults, related to the Trans-Rocky fault system (Sims, 2009). Like the transcurrent faults in central Front Range, Colorado (adapted from Gable, 2000, Figure 7, Internal Report SCM001, 2022), the faults are dominantly sinistral, transects and are younger than the north and northeast trending shear zones (Group C and D respectively) and shows evidence of ductile or drag folding related to dip-slip displacement.

7.4.2.3 N-S trending faults – Group C

The north-striking faults, with the highest frequency of occurrence found along the lower parts of the SC, tend to terminate against the northwest trending thrust faults. Displacement up to tens of meters is largely dextral (Gable, 2000) and most pronounced within the Basal and Peridotite Zones. The faults most likely experienced normal east-west directed extensional tectonism 54 Ma ago (Figure 7-10).

7.4.2.4 NE-SW faults – Group D

These faults are part of a subsidiary group formed by left-lateral simple shear strain (Laramide age) experienced along the WNW-ESE trending lineaments or fault zones (Bader, 2021). Mostly constrained proximal to the principal fault zone, these are interpreted as Riedel structures with dextral offsets within a simple shear array. Several likely faults of this group transect the SC at regular intervals along strike. Nominal displacement is dominantly dextral but varied in extent. Offset extent is more pronounced along the lower units of the Complex and immediate floor but diminishes gradually, up dip through the stratigraphy to terminate within the stratigraphy of the Lower Banded Series. This group usually terminates or displaces the north-trending faults (Group C) and lower order thrusts and back thrusts.

Several dextral offsets attributed to these faults are noted along strike in the northwestern part of the J-M Reef. This changes to sinistral displacements southeast of Chrome Mtn, forming the Dow Meadow depression.

7.4.2.5 Low angle faults & Thrusts

The main thrusts within the SWC, namely the Bluebird, Lake, Mountain View, Horseman and Beartooth floor thrusts are northeast verging, listric southerly dipping. Related back thrusts, such as the South Prairie fault (SPF), North Prairie and #3 thrust steeply dips northeast with the SPF sub-parallel to layering at the J-M Reef position (Figure 7-10b). Strike extent of the back thrusts are less continuous than the primary fore thrusts with evident left and right lateral offsets by north and northeast trending faults. The Brownlee-Iron Creek fault may well be the northwest strike extension of the SPF, due to lateral offset from the northeast trending structures not recognised.

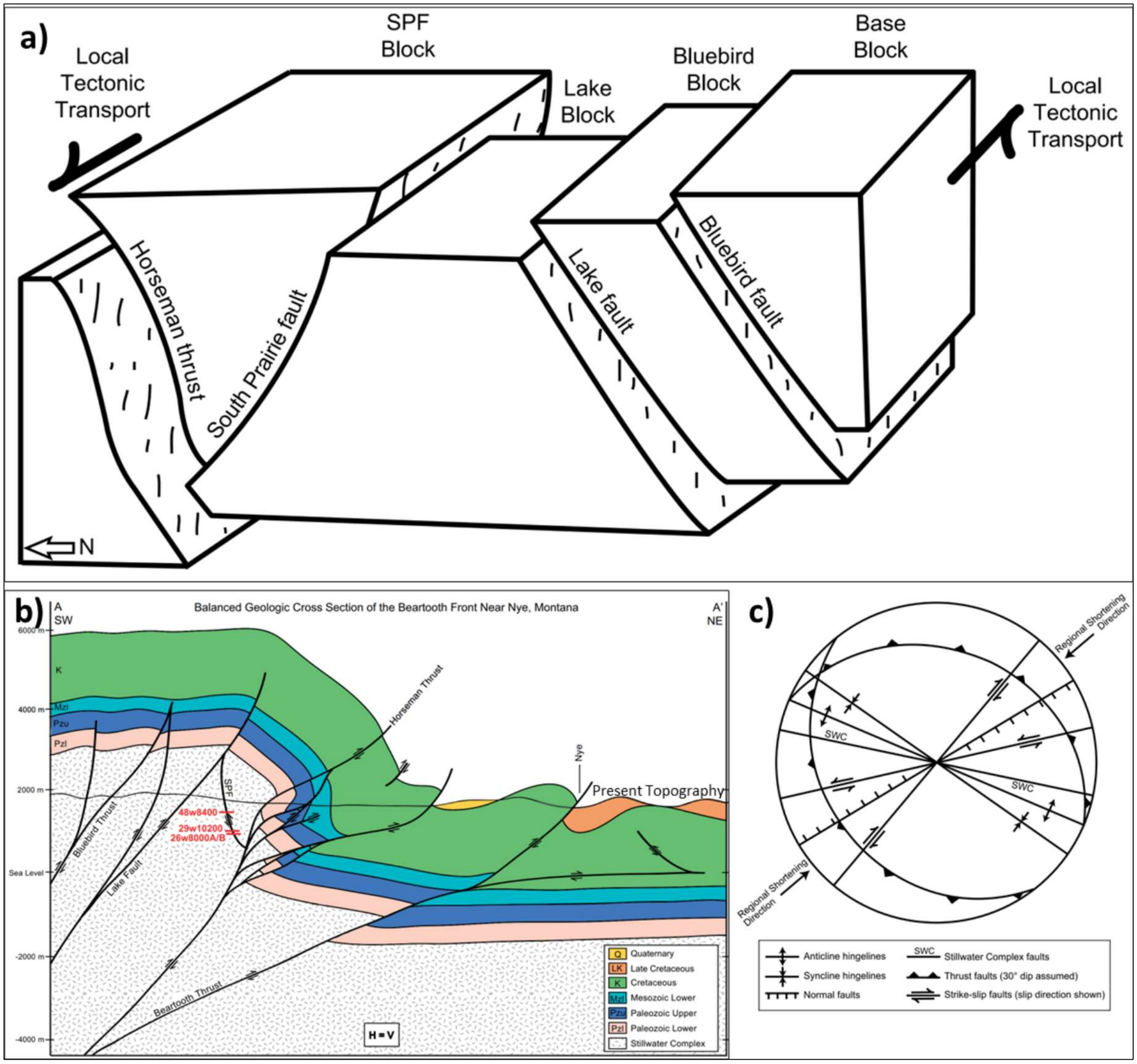
Kinematics of the SPF shows transpressional oblique strike-slip displacement (Thacker, 2017), locally dextral, but within a general sinistral reverse oblique to dip-slip regime between the Horseman (northern side) and the sub-parallel to the south dipping Lake and Bluebird faults (Figure 7-10a).

Table 7-1 Summary of the Structural Architecture for the Lower Portion of the Stillwater Complex and the Ultramafic Series

Structure Group	Original Formation	Type	Re-Activation	Kinematics	Offsets
F1 folding	SE-directed Trans-Montana orogeny	NE-trending, easterly plunging open basement folds	Inference with NNW-tending folds	na	Layer parallel reverse offsets along basement strata
F2 folding	Drag-folds parallel to north-northwest trending Gp. B shear zones	North-northwest plunging, easterly dipping moderate to tight fold patterns	Dextral strike-slip offset along later N-S trending faults due to dextral trans tensional to extensional re-activation	Magmatic brecciation along fold core-hinge plunge direction; fracturing and intense jointing along fold limbs.	Layer parallel reverse offsets related to flexural slip
Group A	WNW-ESE to W-E trending faults – Group A	Sinistral strike-slip – related to Nye-Bowler lineament orientation	Oblique dip-slip as lateral ramps related to Laramide thrusts	Major offsets to metasedimentary rock and crystalline basement for the Complex.	Basement Complex F1 & F2
Group B	NNW-SSE to NW-SE faults	Anastomosing transfer fault network developed at depth – related to southeast directed Trans Montana Faulting	Sinistal strike-slip re-activation during Laramide – acts as antithetic Rieder shears related to the Nye-Bowler lineament	Offsets limited to the Ultramafic Series	Complex F1 & F2
Group C	N-S trending faults	Dextral strike-slip – related to the Nye-Bowler lineament	Dextral re-activation during Laramide – acts as Rieder shears related to the Nye-Bowler lineament	Offsets all Complex and other structures, additional brittle-ductile extensional re-activation late-Laramide time	Basement Complex F1 & F2 Gp. A Gp. B
Group D	NNE to NE trending faults	Small scale, high frequency of occurrence, mostly preserved along floor contact of the Complex.	Partial oblique-dip-slip re-activation during Laramide & late to post-Laramide	Offsets Laramide thrusts and N-S trending Gp. C faults	Basement Complex F1 & F2 Gp. A? Gp. B Gp. C Laramide Thrusts
Laramide Thrusts	NE-trending	Reverse basal fore-thrusts and layer sub-parallel back-thrusts	Dominant reverse dip-slip with subordinate sinistral strike- slip (NW part) to dextral (SE part)	Complex and basement lithostratigraphy uplift	Basement Complex F1 & F2 Gp. A Gp. B Gp. C

Figure 7-10 A Schematic Drawing of Precambrian Basement Blocks at the Beartooth Front

A schematic drawing of Precambrian basement blocks at the Beartooth front along Figure 3 cross-section A-A'. This shows the relationship of the SPF to the major Beartooth frontal faults in the vicinity of Nye. Generalized SPF slicken lines are shown (average = 78°W). Splay faults shown in b) are omitted for simplicity. Slight transpression may have caused the SPF block to be extruded up and out to the southeast between the Horseman thrust and the Lake fault. ***B)*** *A cross-section of the Beartooth front near Nye, west of the Stillwater R. showing the complex array formed by the Laramide related thrust duplex system. Stillwater Complex layering is concordant with the SPF is this section, J-M Reef is coincident with the SPF.* ***C)*** *Schmidt stereo net of resultant vectors of major anisotropies for the Beartooth front (after Lopez, 2001) with regional Laramide shortening direction shown as 050 (likely ranging between 040 and 065). (Figure compiled from Thacker, 2017).*



7.5 Stillwater Critical Minerals Project Structures

The discussion within the following paragraphs (par. 7.5.1 to 7.5.4) relate to structure groups identified within the SCM project area and which are depicted in Figure 7-11 and Figure 7-12.

7.5.1 Group A – WNW-ESE to W-E trending faults

General W-E orientation regional scale faults, originally nucleating from within the basement to the Complex (Jones, 1960). Regional scale, first order equivalents within the vicinity is the Mill Creek – Stillwater fault. The faults have an apparent net sinistral displacement, but most likely a significant dip-slip offset as noted in case of the Mill Creek-Stillwater fault. Given the age dating of Wall et. Al. (2018) for the quartz-monzonite with slightly pre- to syn intrusion age comparable to the lower part of the Complex which implies probable juxtaposing of quartz-monzonite (south block) against floor metasediments (north block) as floor to the Complex.

Formation of these faults may be related to strike-slip tectonics as noted within the Lewis and Clark fault zone, a long-lived series of strike–slip and oblique slip faults that pre-date the Mesoproterozoic Belt basin and extend from north-eastern Washington through central Montana (Reynolds 1979). The fault zone formed a major boundary between depocenters in the central Belt basin and the northern margin of the eastern Belt basin (Harrison et al. 1974; Winston 1986; Reynolds 1979). The fault zone was reactivated during Cretaceous to Paleogene thrusting (Sears et al. 2000) and served as a major transfer structure for Eocene extension (Reynolds 1979; Doughty and Sheriff 1992; Foster et al. 2003, 2006). Of interest is the Proterozoic age anorthosite exposed along the southern margin of the Lewis and Clark zone in the Bohels Butte block in the Clearwater metamorphic core complex. Doughty and Chamberlain (2004) found a U–Pb zircon crystallization age of 1.79 Ga for the anorthosite (Foster, 2006).

7.5.2 Group B – NNW-SSE to NW-SE faults

7.5.2.1 Chrome Mountain Fault (also known as the Serpentine Ridge fault)

The fault is mapped with a significant strike extent in surface outcrop with layer offsets interpreted. Confirmed by the Goldspot study as part of the NNW-SSE to N-S trending fault group, the structure shows a marked linear depression in the LiDAR image. No additional detail is known and no drill intercepts at present to determine kinematics and dip direction or extent.

The structure is interpreted to be part of the original Precambrian anastomosing transcurrent fault system. Probable extensional, normal re-activation is likely, due to near north-south strike orientation in the Chrome Mtn. area. The fault can be modelled with a shallow westerly dip due to its undulating strike extent, possibly accentuated by topographic relief. As there are no drill intercepts at depth to confirm dip extent, the shallow westerly dip may be anomalous or unique to this structure.

7.5.2.2 Discovery Fault

Supporting data includes mapped strike extent in surface outcrop and drill intercepts. The fault consists of a core zone of multiple anastomosing fault planes. Initial reverse dip-slip, with later dextral strike slip kinematics is evident in core. Late fault re-activation is evident as wide gouge with intense chloritization and calcareous fluid ingress. The calcareous chlorite alteration is constrained to the fault zone. Bore holes CM2007-05, CM2007-06 and CM2021-02 shows a wide alteration envelope of intense talc-tremolite alteration of all surrounding rock types. Alteration gradually and erratically diminishes away from principal fault planes.

The Discovery fault, initially developed as part of the Precambrian age anastomosing transfer fault system, was subsequently re-activated during west-east extension. The fault acted as a 'hinge' fault parallel to the north-northwest trending axes of a localised syncline-anticline fold pair which developed close to the base of the Bronzitite Zone (Figure 7-9).

Serpentinization and metasomatism is present as an irregular ‘envelope’ but appears to be focussed within the footwall to the structure and biased towards the more mafic-ultramafic lithologies. Serpentinization and metasomatism is focussed within the eastern block which can be attributed to the sharp angle of intersection between the easterly dipping fault and fracture zone with the westerly dipping magmatic layering, the western limb of the anticline.

7.5.2.3 New Animal Shear Zone

The New Animal shear zone, with its characteristic intensely serpentinized granular rocks and elevated Au-Ni signature, was confirmed from two drill intercepts. Field inspection found the surface expression of the zone to be extensively and deeply weathered. Limited exposure of the zone margins shows sheared fabric within intensely serpentinized rock, within a wide actinolite-tremolite envelope. Modelling the drill intercepts confirms the northwest trend found in outcrop, with a steep to near vertical dip. Based on current drill intercepts, the zone has a 200m strike, possibly extending to 600m, with a true width of up to 60m (Figure 7-9). Depth extent beyond the drill intercepts is unknown.

7.5.3 Group C – N-S trending faults

7.5.3.1 Camp Zone West Fault (CWF) and Camp Zone Wrench Corridor (CWC),

The Fishscale and CWF are two of a group of similar trending faults closely associated with the CWC, a 1500m wide wrench or shear zone. The westerly zone bounding fault, unnamed but of similar trend as the Fishscale fault, truncates the Tarantula pegmatoidal pyroxenite with an apparent sinistral or left-lateral oblique offset. The CWF, positioned as the eastern bounding fault to the CWC, shows distinct dextral displacement of the floor sediments and Ultramafic Series. The CWF has an apparent 1500m dextral offset of the Camp Zone geophysical anomalies, evident in various data sets. Dextral offset of up to 600m of the Bronzitite Zone gradually diminishes northwards into the Middle-Banded Series. The eastern margin of the CWF zone truncates the western end of the geophysical anomaly drilled at the Camp Zone. Dependent on the timing of displacement it may be possible to find the westward continuation of the Camp Zone basal sulphide mineralization, displaced up to 1200m to the north-northwest, within the hanging wall block of the CWF.

The CWC consists of a 1500 – 2000 m wide zone constructed of several similar north-south striking faults within a distinct corridor with wrench tectonic fabric evident in the LiDAR surface survey. The north trending structures transects the Complex from sedimentary floor in the south, extending northwards stratigraphically up to the Picket Pit unit. General fault trend changes from NNE-SSW to N-S where the structures extend into the Lower Banded Series. Based on the surface expression, noted in the LiDAR imagery, the zone appears likely to be steeply dipping westwards (up to 60°W). The tectonic fabric (LiDAR imagery) shows a distinct wrench-type zone with a zone-scale sigmoidal fracture or fabric with lineation at 30° to 60° strike difference to the N-S zone strike, confirming the right-lateral tectonics within the zone.

The tectonic fabric observed in the LiDAR imagery confirms the right-lateral tectonics within the CWC (Figure 7-9). In general, high order faults of this group, displaying dextral offsets, displaces Laramide age thrusts where they transect the Banded Series strata. This may well be the cause for termination of the westward strike extension of the Horseman Fault (Figure 7-8). The nominal right-lateral displacement may be due to normal dip slip during late Laramide – early Eocene time (~45 Ma) west-east extension. Normal, eastern block displacement downward along the north-south trending faults will manifest as apparent right-lateral offset due to the east block, north-easterly dipping Complex strata moved downward and thus outcropping further south from its original position.

Figure 7-11 Fault Groups Defined from In-Depth

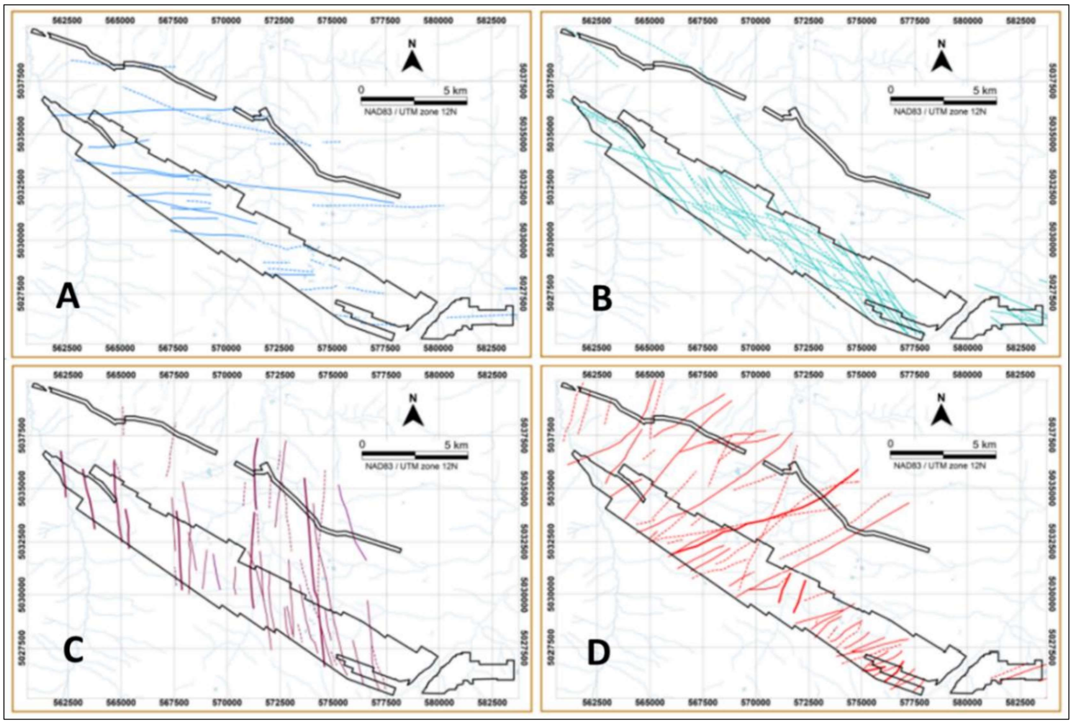
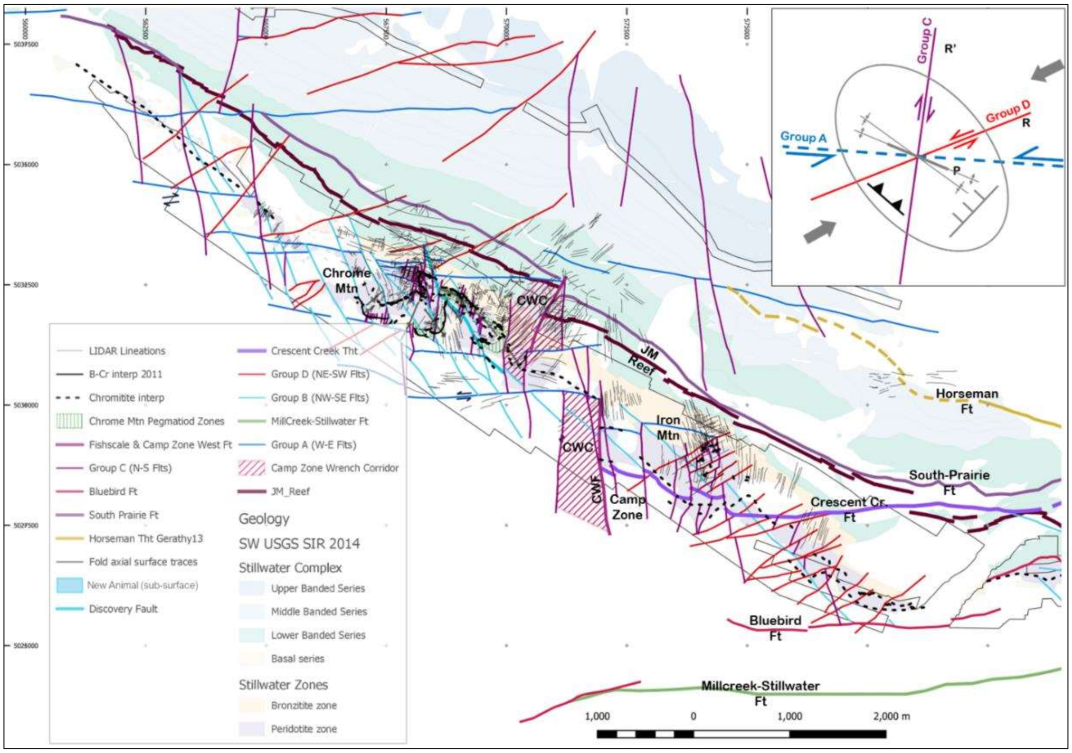
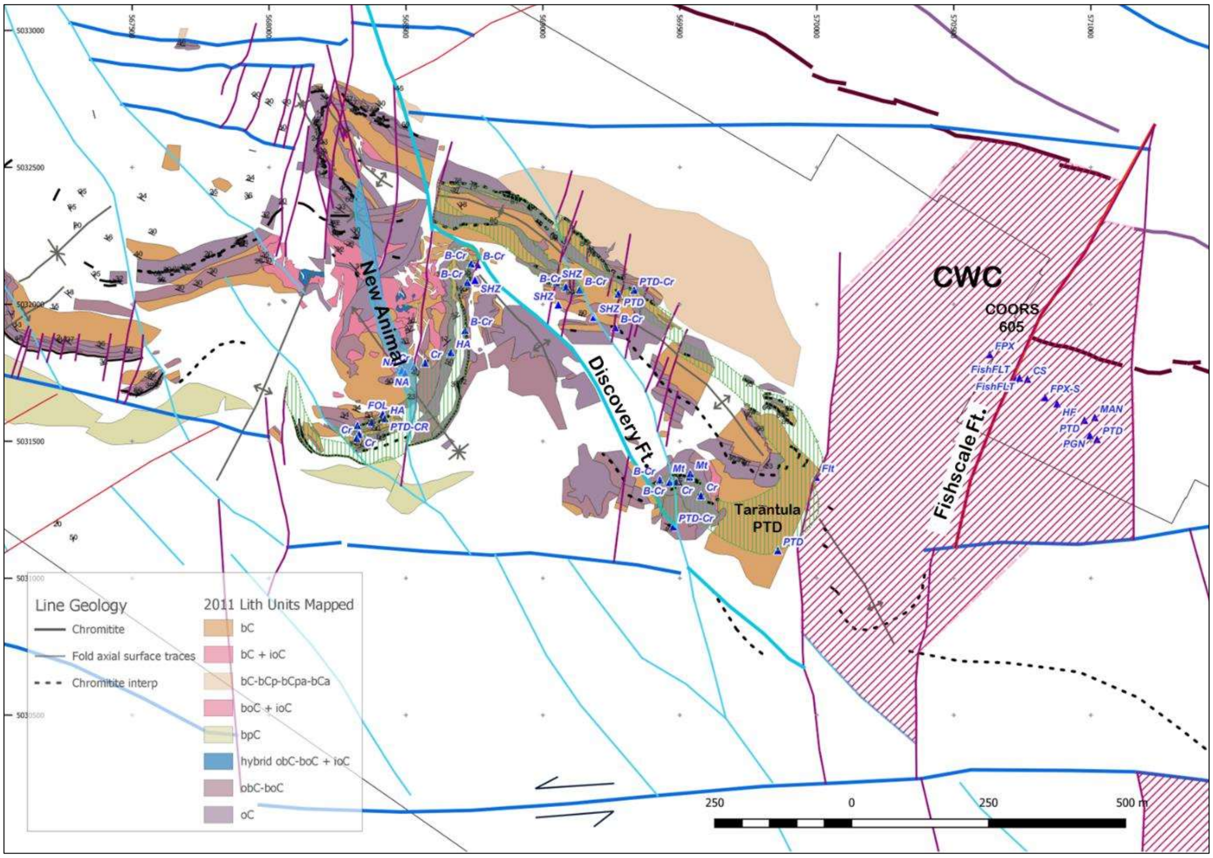


Figure 7-12 *Interpretation Map of the Lower Portion of the Stillwater Complex*



*Insert 1 shows the principal fault group orientations aligning within a pure shear regime as described by Bader (2021). Bader also confirmed that the WNW-and NE-fault zones were formed within a pure-shear regime and indeed nucleated from the Precambrian basement (*Figure 7-1*).*

Figure 7-13 *Structural Interpretation Map of the Chrome Mountain Area*



Discovery Ft. and New Animal shear zone is inferred to be part of a Precambrian age transcurrent fault system like the findings of Gable (2000) in central Front Range, Colorado. The faults are dominantly sinistral, with the north-northwest-striking dextral faults having small displacements. Northeast-trending folds formed during Trans-Montana deformation, probably with subsequent attenuation during the Big Sky Orogeny. Northwest-trending, en-echelon folds formed during deformation accompanying the sinistral strike slip faulting, like the findings of Sims (2009).

7.5.4 **Thrusts:**

7.5.4.1 Crescent Creek Thrust (CCT)

The structure correlates in orientation with that of the South Prairie fault (described by Thacker (2017). The South Prairie fault, partially following and influencing the J-M Reef is classified as a back thrust which developed within the compressional Laramide regime at the time of uplift of the southwestern portion of the Stillwater Complex.

Supporting data:

- Modelled from the GoldSpot W-E interpretive fault set.
- USGS Stillwater 48k geology shows a general W-E trend with apparent dextral offsets of the major stratigraphic units along interpreted north-south low order faults (Figure 7-12).
- The northeast projection of the Crescent Creek Thrust can be noted as a coincident dextral offset of the J-M Reef, with a resultant 600m reef duplication. This extends the mentioned W-E trend of the proposed CCT into the strata overlying the Ultramafic Zone.
- Eastward extension ties into the structures identified and illustrated on dip-sections by Jones (1960). The structure splays and dips progressively steeper approaching the Brownlee-Iron Creek Fault intersection.
- Weak surface expression as a kilometer-scale undulating linear shallow depression in LiDAR image.

- Geophysics collaborates the presence of a W-E striking structure obliquely transecting the complete lower stratigraphy of the SWC, from Camp Zone eastwards to the J-M Reef.

Drilling at Camp Zone intersected two major Hornfels xenoliths with low dip angles towards the east-northeast (40°) and with >700m strike extents sub-parallel to and within the footwall of the thrust (

- Figure 7-14).

The thrust has a broadly undulating, W-E strike with moderate to shallow northwards dips near surface (40° to 45° dip). The currently modelled extent of the structure terminates eastward against the Brownlee – Iron Creek Fault. And westwards against the Camp Zone West Fault (CZWF), a new N-S striking block fault, located due west of the Camp Zone resource. The thrust has a similar strike orientation to other known thrust faults in the area. The listric nature of the thrust is evident as a regional dip change from <40° at the Camp Zone to steeper northerly dips, up to 45°, further eastwards (named the Lake Fault, Jones, 1960 map), near mergence with the Horseman Thrust.

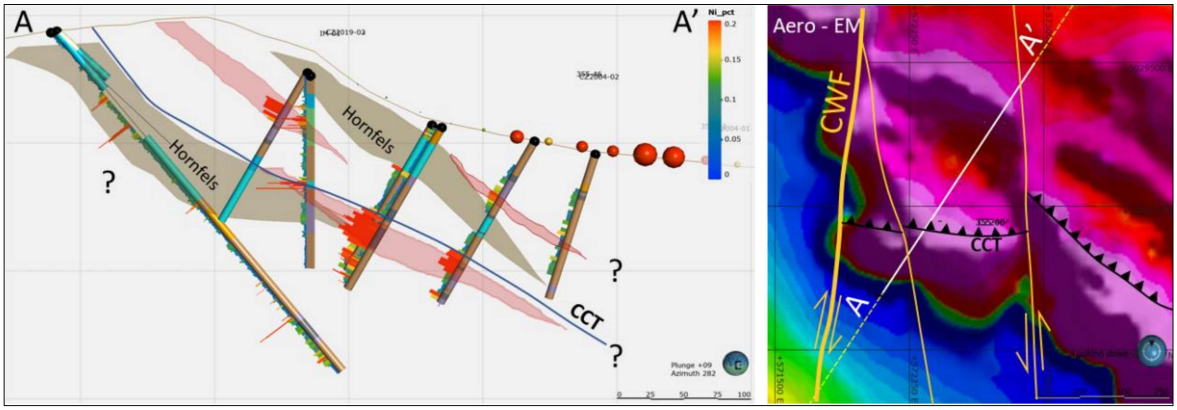
Geotechnical data of the IM2021 drill holes indicates several low angle planes which supports the presence of a low angle structure below the lower of two major hornfels xenoliths in the Camp Zone area.

The current thinking is that the easterly dipping thrusts developed as back thrusts within the hanging wall of the Horseman Thrust, but it is likely that a group of thrusts of similar orientation have developed to accommodate volume decrease and chamber subsidence. The Brownlee – Iron Creek Fault, loosely parallel and in proximity within the hanging wall to the J-M Reef, is another example of this type. The undulating nature of the CCT fault points towards development at a late stage, syn-magmatically, during consolidation of the SWC magma pile at depth, which implies the thrust developed sub-parallel to layering due to preference to density contrast between the magmatic units. Present orientations of the structure may be different from the original due to later Laramide tectonics, uplift, and likely block rotation.

The CCT-group structures developed as medium scale duplexes with layer-parallel planes and inter-connecting lateral, frontal and oblique ramp features with variable lateral and oblique to strike-slip kinematics. Later re-activation led to both trans-tensional and compressional tectonics along some of these lower order features. The intensely tectonised hornfels contacts in the Camp Zone drill core attest to this. Low angle thrusting, which transects steeper magmatic units and hornfels xenoliths, may duplicate the drill tested anomaly in the Crescent Creek area and shows a duplicate AirHEM anomaly which may be attributed to structural duplication hornfels and/or sulphide mineralization (
Figure 7-14). Thus, the basal sulphide zone can be duplicated by 'exhumation' of lower extensions of the sulphide-rich mineralization, e.g., as intersected in hole CZ2019-02.

Figure 7-14 ***Vertical NNE-SSW Dip Section Through the Camp Zone Area (Left) and the RTP Electromagnetic Image with The Major Structures and Section Locality (Right)***

CWF – Camp Zone West Fault, CCT – Crescent Creek Thrust (Triangles on Hanging Wall Block)



7.6 Tectono-magmatic Relationships

Details of the Stillwater Complex geology is shown in Figure 7-8 and Figure 7-15, a recent compilation of the surface geology and sections interpreting the general stratigraphic and structural features of the Complex (Gerathy, 2013).

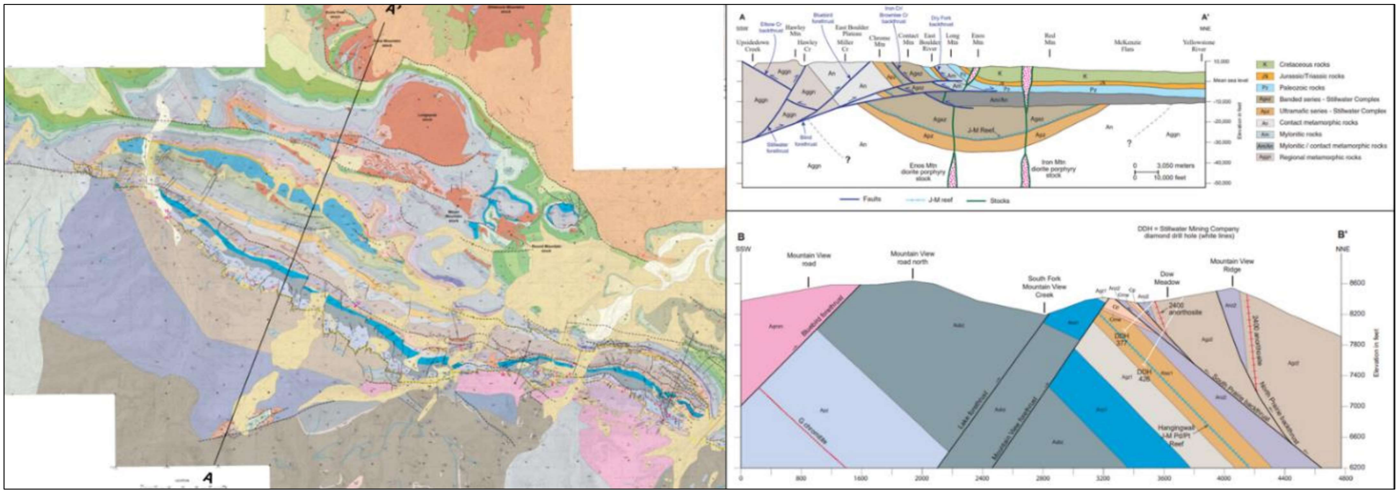
The floor contact to the Complex consists of unconformable hornfelsed metasedimentary units which has been extensively mapped in surface outcrop and from recent geophysical data. The contact, which locally show north-easterly verging thrusting, forms a highly irregular and undulating surface with numerous fault displacements (Figure 7-8). The dominant fault influence is from northeast to north-northeast trending, apparent strike-slip faults which offset the original open folded sedimentary sequence. The open folded sedimentary sequence acted as control for the intrusion of the basal units for the SWC. This is evident as varying thickness along strike, with thickness increasing within synforms developed in the sediments. A good example of this found in sub-outcrop south of Chrome Mountain where an open synform, developed in the floor has partially been infilled by the initial intrusion of the Basal series units (shown as bpC rocks in Figure 7-15).

The well-studied development of rhythmic compositional layering; inch-scale layers which extend for kilometers across the complex, characteristic of the Stillwater Complex is evidence of crystallization in a near-horizontal orientation and during a time of tectonic quiescence. The Stillwater Complex has not been subjected to the regional high-grade metamorphism and penetrative deformation, as experienced by the crystalline rocks of the Beartooth Mountains to the south. However, there has been some later hydrothermal alteration of the complex that may be, in part, Paleoproterozoic in age and in part related to Laramide faulting (Thacker and others, 2017). This evidence suggests that the high-grade regional metamorphism and deformation must have mostly ended prior to emplacement of the complex (Mogk et al., 2021).

With reference to out-of-sequence stratigraphy (Wall et al., 2018), it is noteworthy that Thacker (2017) explained the cross-cutting relationship of the J-M Reef to the Lower Banded Series strata as a direct result due to the influence of the South-Prairie fault on the reef lithology and possible modification of the ore mineralogy.

Figure 7-15 Geology of the Stillwater Complex and Immediate Surrounds

This is the most recent compilation of the surface geological features for the area. Section A-A' is an SSE-NNW vertical section, a schematic representation of the Laramide uplift which exposed the Stillwater Complex and the associated thrusts involved with the uplift of the Beartooth Mountain range. Section B-B' is a vertical SSE-NNW dip-section across the Stillwater Complex succession, approximately 8 km southeast of Section A-A' (compiled from Gerathy, 2013).



Igneous relationships of the lower stratigraphic units of the SC shows marked irregularities and interactions when compared to units of the overlying Banded Series in general. The Peridotite – Bronzitite zone contact is locally unconformable due to folding of the underlying Peridotite Zone units, the former apparently truncated by bronzitite of the Bronzitite Zone.

Field relationships noted in the Chrome Mountain area show cross-cutting and layer parallel to sub-parallel occurrences of pegmatoidal modification of original pyroxenite rock units (Figure 7-16). The same relationships are prevalent where intrusive fluids metasomatically invaded magmatic rock strata, forming so-called intrusive dunite, intensely serpentinized rocks. The intrusive dunite is variable in texture and morphology with remnant pegmatoid, pyroxenite, harzburgite protoliths present at random, as noted in the Bald Hills area. The discordant dunite at Chrome Mountain, stratigraphically below the Coors 602, also shows crosscutting relationships with cumulate layers approximately at right angles up through the Peridotite Zone, as noted on Lost Mountain (McIlveen, 1996). The secondary or intrusive dunite, with analogues referred to as pipes in the Bushveld Complex, are predominant in regions of maximum faulting (Viljoen and Heiber, (1986) and McIlveen, (1996)). At Chrome Mountain intrusive dunite occurs as both layer parallel and cross-cutting lithological units (Figure 7-17). A similar connection may exist for control on the intrusion of magnesium-rich fluids, forming olivine-dominant rocks, at temperatures accommodating metasomatic modification of protolith.

Chromite occurs as disseminated and secondary or concordant seams within the layered sequence of the Peridotite Zone. Seams vary from cryptic to decimetre thicknesses where undeformed. Secondary magmatic processes generally disrupt and cause assimilation or dissemination throughout the intrusive dunite units (ioC) which are also seen as a metasomatic interstitial phase. At Chrome Mountain chromitite seams are largely disrupted, occurring within stratigraphic position as schlieren related to deformation during folding of the sequence. Folding appears to have been progressive in nature, occurring post-consolidation of the chromitite but syn-magmatically, during magma consolidation. Further disruptive influences include the effects of volatile melt introduction and secondary metasomatic fluid ingress, apparently also structure controlled (Figure 7-18). In addition to deformation related to large-scale open folding, small scale tight to crenulated folds and occasional shearing and layer parallel flexural slip thrusts, both with accompanying schlieren and boudinage may be developed (Figure 7-19). Brecciation and, in extreme cases, brittle fault gouge is present.

Figure 7-16 Chrome Mountain

Chrome Mountain – Dunite Ridge cliff face with annotations (photograph is looking northwest). Scientists (for scale) are standing on the lower contact of a layer parallel pegmatoidal unit (PTD). Below this layer and centred in the photograph is an upward intrusive pegmatoidal vein, transgressing normal orthopyroxenite-feldspar cumulate rock (bC). Subsequent metasomatic fluid modification of the pegmatoid is mapped as intrusive dunite cumulate (ioC).

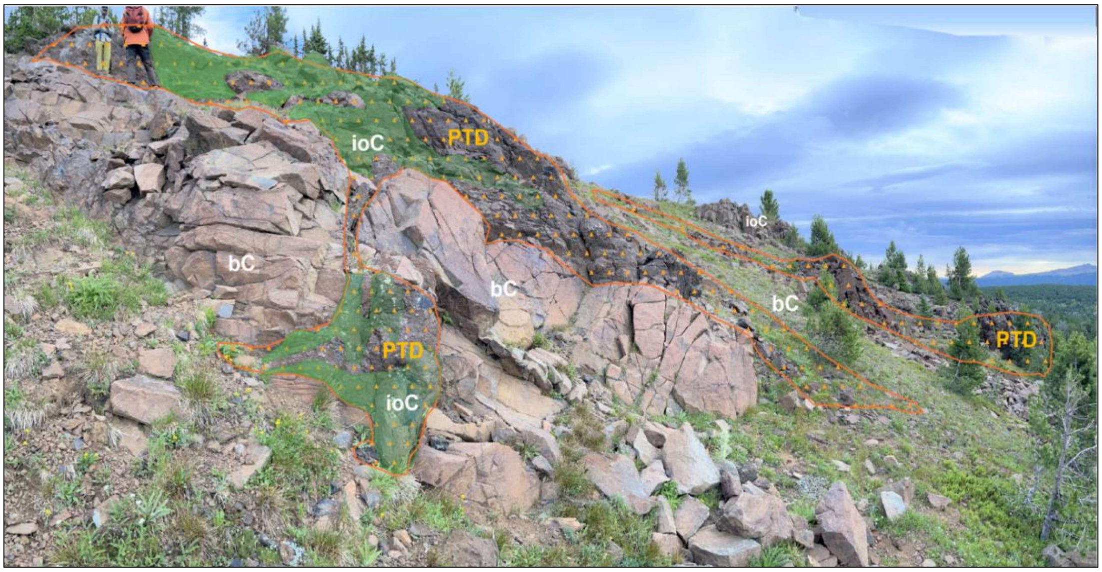


Figure 7-17 A Conceptual Cross-Section Model of the Chrome Mountain Area, Visualising the Thickness Variation of the Lower SWC Stratigraphy

Fault orientations are conceptual for illustration purposes only (courtesy of Stillwater Critical Minerals Corp.). Structural influence includes pre-intrusion folding of the floor sediments, controlling the thickness on the Basal units, as infill into synformal depressions (at different orientation at the time of intrusion). Subsequent folding continued and propagated into higher stratigraphic units. This was followed by faulting, some structure evident as growth faults, active during intrusion (syn-magmatic) and consolidation of the lower strata. Some faults and shear orientations preferentially controlled the ingress of subsequent metasomatic and alteration fluids, modifying the original igneous cumulate rocks.

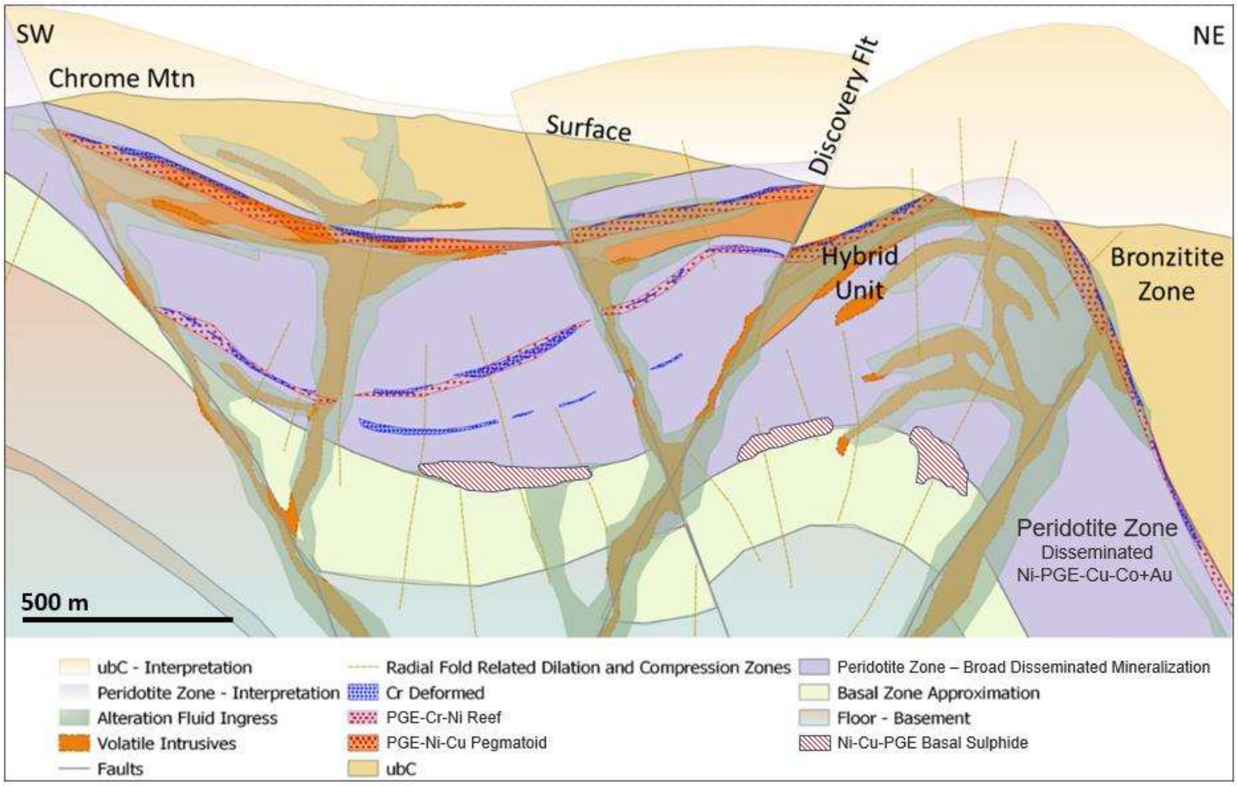


Figure 7-18 Chrome Mountain

Flexural slip, with light yellow late serpentine infill along planes (centre of photograph), along the lower contact of a pegmatoidal unit (ptd) with underlying feldspathic pyroxenite (bcp). Insert 1 shows the extent of chromitite seam (Cr) disruption by volatile activity. Coarse feldspar (Fsp) and orthopyroxene – olivine (PDT) is the result of volatile melt modification.

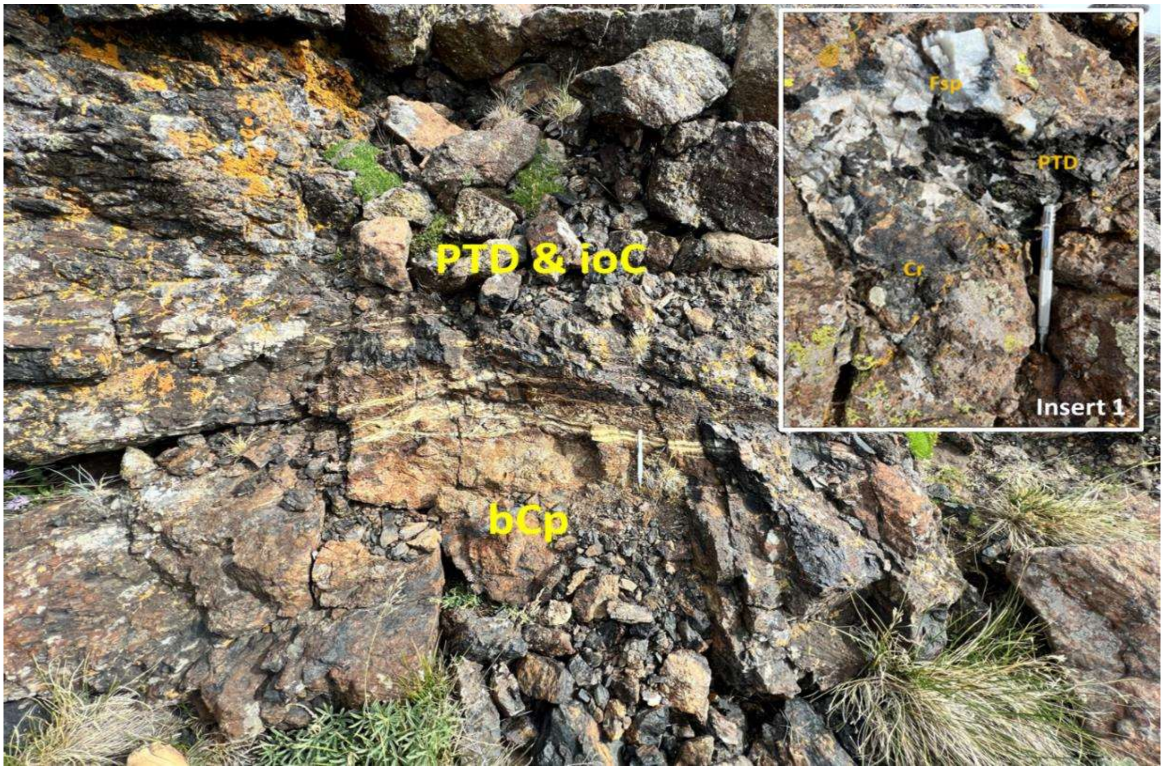


Figure 7-19 Iron Mountain Area

Locality northwest of Iron Mountain. An en-echelon arrangement of chromite-magnetite lenses or schlieren (black), due to shearing in a ductile, semi-consolidated magmatic environment; b) Iron Mountain area. Cryptic chromitite seams (black), locally undulating to folded. Insert 1 – lower seams are disrupted by volatile melt activity, in this instance, forming a pod-like pegmatoidal texture (PTD) within feldpsathic pyroxenite (bCp).

Further upwards in the stratigraphic sequence, the Bronzitite – Lower Banded series contact is defined as the first occurrence of gabbronorite. Although this contact may be well defined in areas, it commonly shows gradational relationships, unusual for such a major stratigraphic boundary. The Lower Banded Series shows many unusual features which are caused by physical disturbances at the time of differentiation and consolidation. These include disturbances, comparable to sedimentary environments which include slumping, scouring, cross-bedding, and other sedimentary-like features documented throughout the complex (Foose, 1985). The characteristically irregular anomalous features for the Coors 602 can be explained by sedimentary processes (McIlveen, 1996). Similar features were noted and described by Boudreau (2020) in the Banded Series (Figure 7-20) with comparative features documented within the Platreef of the Northern Limb, Bushveld Complex. In case of the Platreef structural deformation of variably ductile magmatic units include mini-potholes, folding, shearing, boudinage and en-echelon, sigmoidal anorthosite lenses. Arguably, the latter formed in localised dilation zones within the layered sequence during ductile, semi-plastic conditions. The features are closely connected to magmatic deformation caused by thrust duplexes transgressing major lithostratigraphic boundaries, as in this case between the overlying Main Zone layered gabbonorite-anorthosite units and the Platreef pyroxenite (Figure 7.4.6).

The Coors-602 area is the first recognized outcrop exposure of a pothole in the Stillwater Complex. The Coors 602 pegmatoid is located within an area of marked decrease in the thickness of the Ultramafic Series and Lower Banded Series. The overall thinner portion of the Complex was due to a topographic high in the magma chamber, arguably due to an open folded basement structure. This caused crystallization to occur slightly earlier than other areas, leading to crystallized blocks slumping, disrupting the layers below (McIlveen, 1996). Pyroxenite blocks were ripped upwards from the underlying Ultramafic Series during this process, and, in addition, the influx of new magma caused further disruption of the layers. Disturbance just prior to Reef deposition provided the necessary surface irregularity needed for the onset of pothole formation.

Pegmatoidal textures, the presence of hydrous phases in the J-M Reef and other evidence cited by Boudreau (2016) indicate the presence of volatiles in the magma even up to stratigraphic levels within the Banded series. Metasomatic melt or fluid migration through the consolidating magma pile appears to be partially controlled by syn-depositional "growth" faulting which occurred mainly during the early stages of formation and consolidation of the SWC. These faults created conduits through which Cl-rich volatiles, produced by metamorphism of the country rocks below, could flow to facilitate favourable deposition chemistry for mineralization within lithostratigraphic boundary units and pegmatoidal modification of protolith units.

Figure 7-20 Soft sediment-like folds in modally layered rocks in GN-I left) and poikilitic harzburgite fingers into granular harzburgite (Boudreau, 2020)

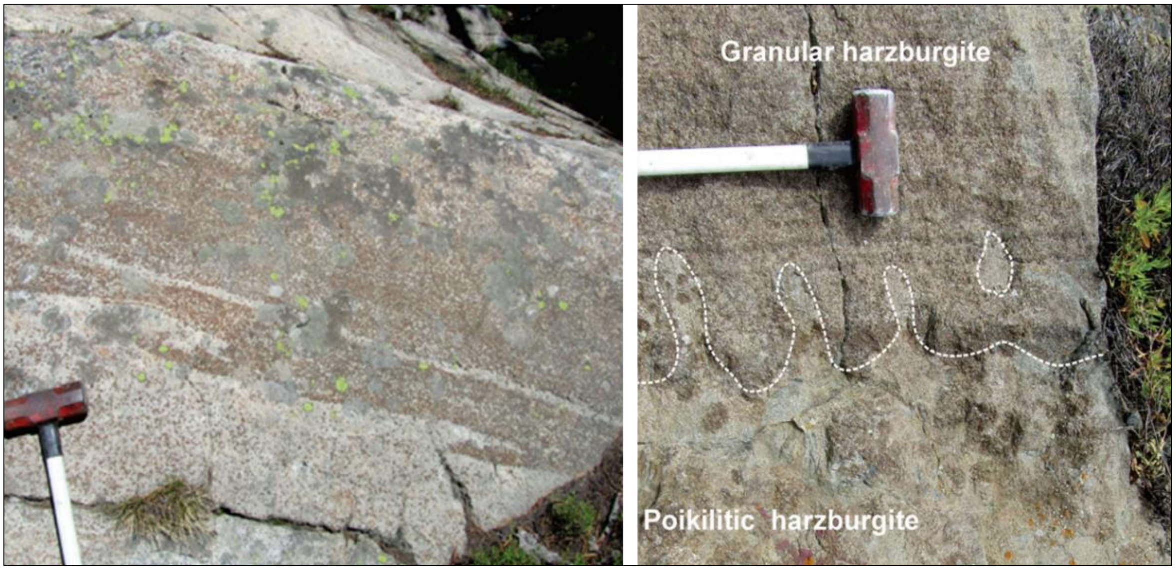
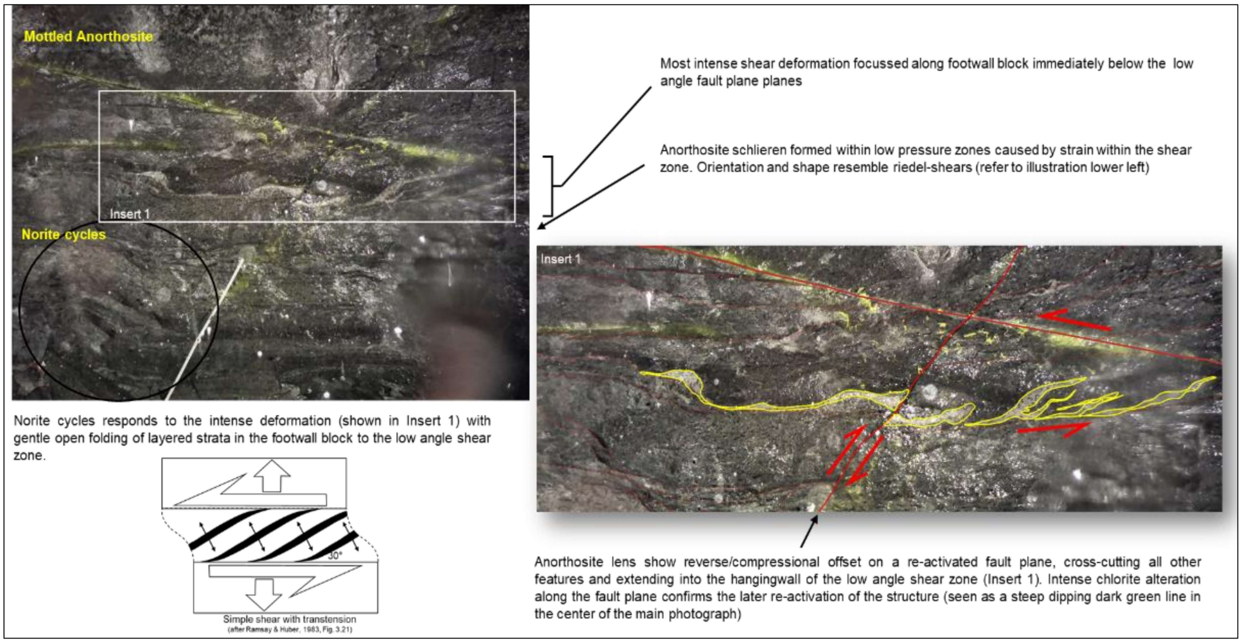


Figure 7-21 Illustration of Ductile Deformation of Viscous Magma in Response to Strain Related to Faulting During Syn-Magmatic Conditions

Viscosity and density differences within the semi-consolidated, differentiating magma can be attributed to the development of the anorthosite schlieren as characteristic en-echelon lenses during trans-tension (Courtesy of Ivanplats Pty Ltd).



Most intense shear deformation focussed along footwall block immediately below the low angle fault plane planes

Anorthosite schlieren formed within low pressure zones caused by strain within the shear zone. Orientation and shape resemble riedel-shears (refer to illustration lower left)

Norite cycles responds to the intense deformation (shown in Insert 1) with gentle open folding of layered strata in the footwall block to the low angle shear zone.

Simple shear with transtension
(after Ramsay & Huber, 1983, Fig. 3.21)

Anorthosite lens show reverse/compressional offset on a re-activated fault plane, cross-cutting all other features and extending into the hangingwall of the low angle shear zone (Insert 1). Intense chlorite alteration along the fault plane confirms the later re-activation of the structure (seen as a steep dipping dark green line in the center of the main photograph)

7.5 Property Mineralization

Nickel and copper sulphide mineralization with PGEs occurs in both the Basal and Ultramafic series. Mineralization consists of broad zones of magmatic sulphide mineralization up to 400 meters in thickness hosted by olivine rich cumulate rocks and associated rafts of xenoliths of country rock, including iron formation and hornfels with textures that range from disseminated to net textured to semi-massive and massive sulphides. Ni-PGE-Cu-Co-Au mineralization is also associated with disseminated chromite, pegmatoidal textures, and complex magmatic breccia textures (Bow 2019).

Chromite mineralization is concentrated in the Peridotite zone of the Ultramafic series occurring in thirteen seams or layers; the G and H chromite seams are thickest and were mined in the 1950s as chromium ores whereas the A and B chromite seams commonly contain strongly anomalous PGE values. Chromite seams typically contain less than 0.01% sulphide (Zientek et al., 2002). Historically, some of the best PGE values were found by the Anaconda Company in the Crescent Creek area, where they reported a 1,600 m (2,520 ft) strike length averaging 3.7 g/t Pd and 2.3 g/t Pt (Keays, 2011).

Shear zones, such as the Pine Shear Zone, host structurally controlled high-grade gold-PGE-Ni-Cu mineralization in metasedimentary country rock at the base of the SWC, the Basal series and the Ultramafic series. The gold and lesser silver occur with chromite and PGEs in a hydrothermal alteration zone containing hematite, muscovite, serpentine, biotite, chlorite, talc and other secondary minerals. Gold, with or without PGEs, appears to have been remobilized and re-precipitated in the shear zone, possibly having originated in Iron Formation in the country rock (Warchola, 1986). Gold values are common in the PGE and base metal mineralization in the wall rocks, Basal series, and Ultramafic series in many other parts of the Property as described elsewhere in this Report. Minor gold and silver values are present in the J-M Reef and both metals are currently recovered as by-products (Sibanye-Stillwater, 2021).

A number of reef-type sulphide-enriched zones have been identified to date across the SWC, largely occurring at discrete stratigraphic levels that can be traced along strike across the entire length of the complex. These include the J-M reef, and the Picket Pin reef (Boudreau et al., 2020; Keays et al., 2011). Many but not all of the sulphide-bearing horizons are hosted in anorthosite-troctolite-olivine gabbro units (Keays et al., 2011).

The J-M Reef is generally strata-bound and extends along the entire SWC. It occurs in the Olivine-bearing zone 1 (OB I) of the Lower Banded series, approximately 500 m (1,640 ft) above the contact with the underlying Ultramafic series (Page et al., 1985a). The reef package comprises troctolites, dunites, anorthosites and norites displaying coarse-grained pegmatoidal textures (Keays et al., 2011).

Mineralization consists of sparsely disseminated sulphide, mainly pyrrhotite, pentlandite and chalcopyrite. Discrete PGE minerals are associated mainly with chalcopyrite and pentlandite (up to 3.3 wt %) (Todd et al., 1982). The reef averages about 16.56 g/t Pt+Pd and is the richest deposit of its kind in the world, and the largest outside South Africa and Russia.

The Picket Pin reef is an interval of disseminated PGE-enriched sulphide mineralization hosted in the Anorthosite II zone (Keays et al., 2011) that extends along strike for 22 km. Drilling at Picket Pin is fairly limited, however, sulphide have returned multi-gram PGE values (Boudreau, 1981).

An excellent summary of various proposals for the origin of the J-M Reef, Picket Pin reef and other mineralization in the SWC is presented in Boudreau et al. (2020). Boudreau et al. (2020) describe endmember models for mineralization. One endmember would have the magma become saturated in sulphur over time with the sulphur raining down through the magma column and scavenging ore elements as it descends before settling to create an ore horizon. The other endmember calls for fluids and metals being exsolved from a crystalizing mush and moving up through the column before being trapped by stratigraphic discontinuities.

Stillwater obtained and has now re-analyzed select intervals of the core drilled by previous companies for complete analyses where needed, and is finding PGE and gold mineralization, as described in Section 9 of this Report.

The Company has collaborated with the U.S. Geological Survey (USGS) in an innovative program to better define mineralization in the Ultramafic and Basal series. Preliminary research indicates that metal tenors are affected by sulphide liquid fractionation trends. It is hypothesized that the percentage of sulphide is inversely proportional to the tenor of PGEs. After recalculating metal concentrations to 100% sulphur, Andersen (2021) found that if the weight percent was less than 2.5% with or without chromite, the tenor of precious metals, especially PGEs, was higher. This effect is magnified in samples where chromite is present. Anderson (2021) also found that the mineralization in the Iron Mountain area was enriched in PGEs relative to similar mineralization elsewhere in the Basal and Ultramafic series of the complex.

At Iron Mountain, the research indicates an association of PGEs and chromite as well as elevated gold values. There is strong evidence of metasomatic alteration of sulphide globules and some evidence for a metasomatic origin of the chromite schlieren. Evidence also indicates that sulphide globules were enriched in PGEs as part of an early differentiation process.

A strong association of PGEs with chromite schlieren has been documented. Nearly 200 PGE mineral species have been identified at Chrome Mountain where previous work has found that most of the PGEs were hosted in the mineral laurite. New laser ablation research indicates a wide variety of PGE bearing minerals, most of which are bismuth tellurides, arsenides, and arsenosulphides.

8 DEPOSIT TYPES

8.1 Introduction

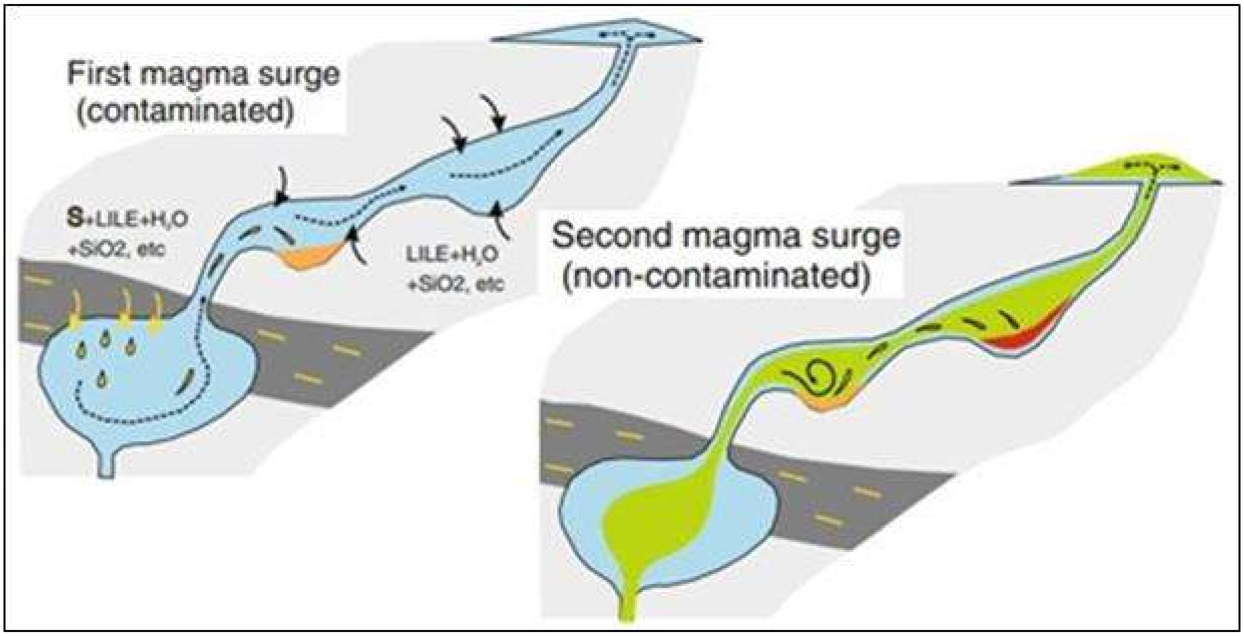
Various theories have been proposed to account for the origin of the sulphide mineralization in the SWC (Keays, 2011, Keays et al., 2011, Todd et al., 1982, Irvine et al., 1983, McCallum, 1996, and Boudreau et al., 2020). Earlier work proposed that two magmas were involved in formation of the SWC, one of which formed the Basal, Ultramafic, and Lower Banded series, and the other formed the Middle Banded series, OB I and the J-M Reef. The first was a siliceous high-magnesian basalt and the second was a tholeiite (Sun et al., 1989). An explanation for the development of the SWC and the contained mineralized zones that is consistent with all of the available evidence has proved elusive (Boudreau et al., 2020). Some magmatic ore deposits with unusually high metal tenors (e.g. the J-M reef, Noril'sk, Kevitsa, Santa Rita) could have formed by assimilation of magmatic proto ores ("cannibalization"), either derived from earlier magma fluxes of the same event, or from unrelated earlier magmatic sulphide deposits (Mutanen 1997; Maier and Barnes 2010) (Figure 8-1). For example, the Kevitsa Ni-rich disseminated sulphide ores have tenors of 50-70% Ni and 10s of ppm PGE, at low Cu contents (< 3%). This could be due to assimilation of Ni- and PGE-rich, but Cu-poor komatiitic proto-ores, consistent with the nearby occurrence of komatiites. Another potential indicator for cannibalization is isotopic decoupling, for example at Kabanga where some of the sulphide ores have extremely heavy S isotopic signatures ($\delta^{34}S$ up to +23), at mantle-like O isotopic signatures. Maier et al. (2010) proposed a multi-stage model whereby early picritic magma surges assimilated sulphide-bearing crustal rocks resulting in segregation of sulphide liquids with heavy S isotopic signatures. Subsequent magma surges that used the same conduits were less contaminated with crust, perhaps due to lining of the conduits by the early magma surges. The late surges progressively flushed the early semi-consolidated silicate slurries out of the conduits, and then cannibalized the isotopically heavy sulphide that had accumulated from the early surges along the base of the conduits. Upon cooling the later magma surges crystallized to form sulphide mineralized harzburgites with mantle-like O isotopic signatures and crustal S isotopic signatures. Cannibalization, as any contamination process, should result in heterogenous chemical signatures in ore deposits. By implication, cannibalization of proto-ores is unlikely to be an important process in the formation of most reef-type PGE deposits within layered intrusions as these deposits tend to be characterized by a pronounced lateral compositional homogeneity. A notable exception is the J-M reef.

Keays (2011) looked in detail at Drill Hole CM-2007-04, which was drilled for 244 m (800 ft) into Hybrid mineralization on Chrome Mountain in 2007 (now the Hybrid deposit). Keays determined that the tenor of platinum, palladium and copper increased upward in the Peridotite zone to a maximum at the chromite horizons (Keays, 2011). This study also examined a hole that drilled into the J-M Reef at the Frog Pond adit, and samples across the entire complex stratigraphy. A number of assumptions were made including loss of sulphur during serpentinization and rates of exposure of sulphide droplets to the surrounding magma. Keays concluded that, as with the BIC, the sulphide were formed elsewhere and picked up platinum, palladium and copper by interacting with the magma, and that the degree of this interaction was dependent on the rate of flow of the new magma itself. Keays found a strong correlation among four individual PGEs, as well PGE-chromium and PGE-copper correlations. Hole CM-2007-04 also had broad intercepts exceeding 1 g/t 3E. It was determined that PGE grade decreased as the thickness of the interval increased. Keays also determined that rhodium contents within the Hybrid Unit are approximately 11% of the Pt content and that Rh/Pt ratios increased with increasing platinum content.

Deposition of the Merensky Reef and chromite horizons in the BIC and, by analogy, the J-M Reef and chromite seams in the SWC, is postulated to result from mixing between the magma already in the magma chamber and a younger magma that entered the chamber at relatively high velocity, mixed with the host magma and caused chromite and PGEs to settle out. Support for this theory comes from S/Se ratios as discussed in detail by Keays (2011) and Keays et al. (2011). The younger magma is postulated to have interacted with the country rock to produce a relatively high S/Se ratio and iron rich sulphide, and then to have moved upward with increasing velocity as it scavenged selenium, copper, PGEs and gold from the host magma.

Figure 8-1 Sketch Diagram Illustrating Model of "Cannibalization" of Proto Sulphide

(a) First magma surge assimilates crust and precipitates proto-sulphide in flow dynamic traps. (b) Second magma surge is shielded from contamination but assimilates ("cannibalizes") proto-sulphide which are re-precipitated downstream. Result is, for example, association of sulphides having crustal S isotopic signatures with silicate rocks having mantle-like O isotopic signatures (Maier, et al., 2010).



With increasing velocity of injection, the new magma becomes a plume rising into the host magma, enhancing magma mixing and causing co-precipitation of chromium, copper, gold, and PGEs in the Peridotite zone. Keays et al., (2011) postulate a similar injection of a pulse of magma that was enriched in PGEs to explain the precipitation of the J-M Reef. Keays (2011) concluded that, although no wide zones of PGE mineralization had been discovered by 2011, there is a strong possibility of discovering a large, bulk tonnage PGE-base metal deposit.

The J-M Reef occurs at a level in the SWC where Pt/Pd, and Pd/S and Pt/Pd ratios change abruptly (Keays et al., 2011). Similar changes take place at three other levels above the J-M Reef and these are coincident with laterally extensive, but lower-grade, sulphide horizons. The Picket Pin reef is the uppermost of these anomalies. After formation of the J-M Reef, the magma remained sulphide saturated during deposition of the rest of the Lower Banded series and this resulted in depletion of PGEs in the remaining magma during deposition of the Middle and Upper Banded series.

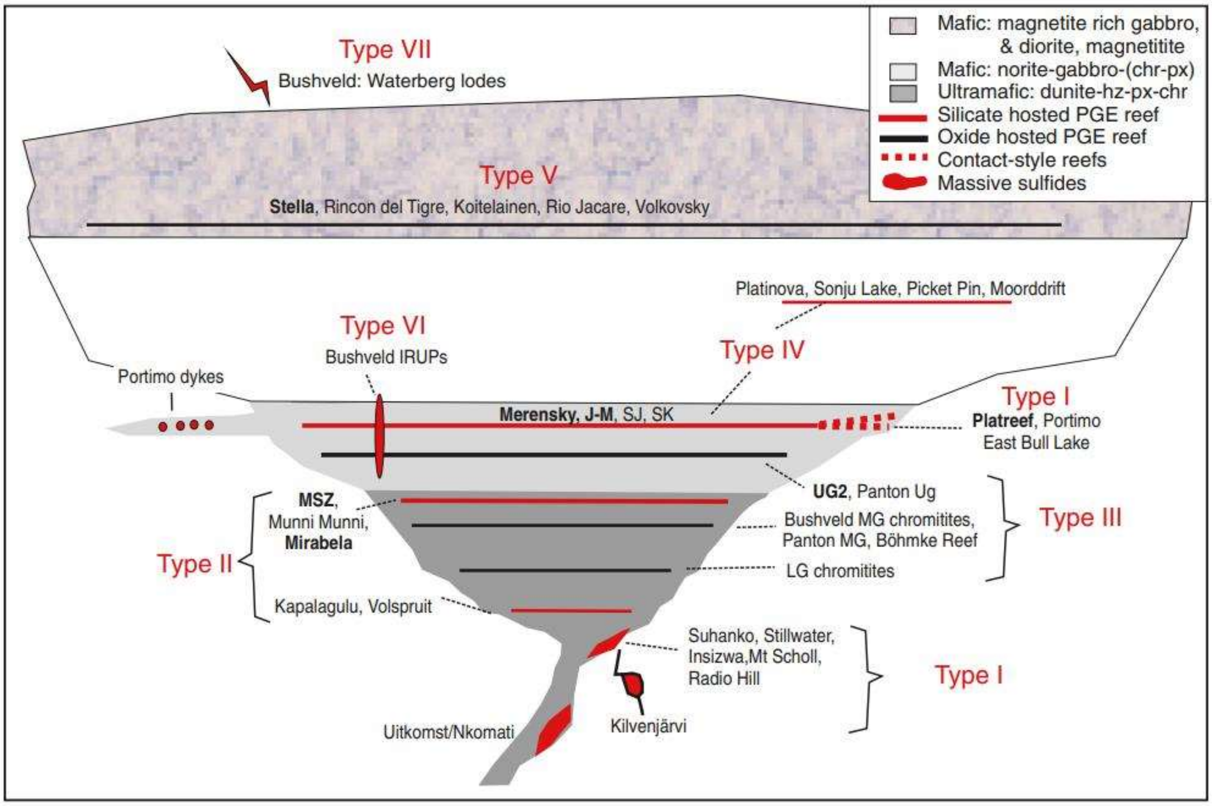
The model developed by Keays (2011) has been described in some detail above because his conclusions were based on sampling and analysis of the Basal and Ultramafic series on the Stillwater West property. However, various alternative models have been proposed over the years, including by Page et al. (1985b), Naldrett (1989), Hulbert et al. (1988), Campbell et al. (1983), Barnes and Naldrett (1985), Boudreau et al. (2020) and other investigators. Older models hypothesized that SWC mineralization occurred as the result of primitive magmas mixing with resident magmas within the magma chamber. The role of water and other volatiles in the evolution of the SWC and the contained mineralization is emphasized by Boudreau (2016).

Figure 8-2 is a schematic diagram illustrating the geologic setting of the different types of Ni-PGE-Cu-Co-Au deposits with proposed mineralization styles for the SWC, followed by detailed discussion and examples of the different ore mineralization types, broad characteristics and current models with bearing on exploration strategies (Maier 2022).

With reference to mafic-ultramafic layered intrusions in general and with reference to the mineralization analogues encountered within the SWC, these intrusions may host up to 6 main types of deposits:

- Ni+Cu+PGE enriched massive to net textured sulphide intervals along the base or the sidewall of intrusions, often hosted by vary-textured gabbronoritic rocks (e.g. the Platreef of the Bushveld Complex).
- PGE mineralized intervals within ultramafic silicate cumulates in the lower portions of the intrusions. In some cases (e.g. Kapalagulu, Tanzania) this can be relatively close to the basal contact (50-200 m), whereas in other examples (e.g. MSZ of the Great Dyke) the reef occurs at the top of the ultramafic zone, some 2,300 m above the base of the intrusion.
- PGE enriched chromitites (e.g. UG2 of the Bushveld).
- PGE enriched layers associated with layered mafic-ultramafic cumulates in the central portions of intrusions (e.g. Merensky Reef of the Bushveld Complex, J-M reef of the Stillwater Complex).
- PGE enriched intervals in the upper, gabbroic-dioritic, often magnetite-rich, portions of intrusions (e.g. Stella and Skaergaard).
- PGE deposits and occurrences related to late magmatic and/or hydrothermal fluids (e.g. Lac des Iles).

Figure 8-2 Schematic Diagram Showing the Location of PGE Reefs in Layered Intrusions (From Internal SCM Report (Maier 2022), Modified after Maier 2005)



8.1.1 Ni+Cu+PGE mineralization at the base/sidewall of intrusions

This type of mineralization is characterized by disseminated and, sometimes net-texture to massive sulphide Ni+Cu base metal enriched mineralization at or near the base/sidewall of the intrusions. The ores are mostly hosted by heterogenous gabbroic and, less commonly, ultramafic rocks of variable texture, mode and grain size (so-called "vary-textured" or "taxitic" rocks) that often contain xenoliths of the country rocks and veins of felsic intrusives that may represent partial melts of floor rocks. The amount of sulphide is mostly higher (> 5% sulphide) than that of reefs at elevated stratigraphic levels (< 3% sulphide) but the sulphides are generally of lower tenor (10s of ppm as opposed to 100s of ppm PGE). This may be explained by lower R-factors in the basal ores.

From an exploration point of view it is important to note that most large intrusions contain mineralization of this type, often with grades between 1 and 3 ppm Pt+Pd+Au (Maier, 2005, Table 1) and 0.3 to over 2% Ni+Cu. The Platreef of the Bushveld Complex represents the only example of basal PGE mineralization that is presently mined (but several other deposits are currently being developed, eg Suhanko, Finland). In the Platreef the sulphide occur in a up to 400 m package of vary-textured pyroxenites, norites and gabbros. Peridotites and chromitites are rare, the latter mainly occur as discontinuous schlieren, thin layers and stringers (< 10 cm in width). Xenoliths of the country rocks and various intrusive phases are common.

The Platreef has been correlated with the Critical Zone of the Bushveld Complex (Grobler et al., 2019), but compared to other CZ Bushveld cumulates the rocks have distinct compositions, being relatively enriched in incompatible trace elements, phlogopite, isotopes of Sr, Nd and Os, and sulphide. Many of the sulphide occur in disseminated form (< 5 vol. %), and as rare veins and more massive aggregations. Many, but not all, tend to have relatively low Pt/Pd (often < 1), high Pd/Ir (often >> 100), and heavy S isotopic signatures ($\delta^{34}S$ up to ca. +8) compared to sulphide occurring in PGE reefs at elevated stratigraphic levels within the Complex (see compilations of Liebenberg, 1971; Hulbert, 1983).

The origin of the Platreef mineralization remains controversial. The reef occurs only in the Northern limb of the Bushveld Complex where the intrusion overlies quartzites, shales, ironstones, dolomites and granites. In the remainder of the Complex, the floor rocks are constituted of quartzite and no basal mineralization occurs. The highest grades (> 3 ppm Pt+Pd+Au over several 10s of m) are found at the Sandsloot and Flatreef mines where the Platreef overlies dolomite and sulfidic shale. The correlation between the nature of the floor rocks and the grade of mineralization indicates an important role for floor assimilation in ore genesis. Alternatively, devolatization of the floor rocks could merely have modified and upgraded the mineralization after the accumulation of the rocks (Lee, 1996). On Townlands, the reef consists of several pyroxenitic-melanoritic layers that are separated by shale interlayers, implying that the intrusives form distinct sills. Sulphide-bearing pyroxenite sills sharing some of the compositional characteristics of the Platreef (e.g. $\delta^{34}S$ up to ca +10) have also been identified several km below the basal contact of the Bushveld, on the farm Uitloop. These studies suggest that the Platreef magma intruded as a pyroxene- and sulphide-enriched crystal mush. The implication is that the sulphide may not have formed in situ but were instead entrained in the magma for some distance. A sill-or dyke-like intrusive mode was also envisaged for some other occurrences of this type of mineralization, notably the Agnew intrusion (James et al., 2002) and Fedorov Pansky intrusion (Alapieti and Lahtinen, 2002).

The mineralization occurs several 100 m (Kapalagulu, Keivitsa, Bushveld Volspruit) to 1000 m (e.g. MSZ of the Great Dyke) above the base of intrusions. It is characterized by relatively wide zones (typically 10s of m) of disseminated sulphide (mostly < 5%) within peridotites or pyroxenites, and PGE grades reach several ppm with up to 0.5% Ni+Cu. At present, the only economic example is the MSZ in the Great Dyke. A feasibility study is underway on the farm Volspruit, northern Bushveld where up to 2% of PGE rich sulphide are concentrated in chromite-rich orthopyroxenites of the ultramafic LZ. Metal tenors of the sulphide (metal contents normalized to 100% sulphide) are approximately 50 ppm Pt and Pd each (Pd/Ir 10-40, Pt/Pd 0.8-1, 3.5% Cu and 8% Ni), (Hulbert and von Gruenewaldt, 1982; Tanner et al. 2018)

One of the main problems in constraining the origin of this type of mineralization is the dearth of isotope and trace element data. In the case of the Great Dyke, the available data indicate a relatively small crustal component for the intrusion (eNd -2 to +5, $Sr_i(T)$ 0.700-0.7045, Oberthür et al., 2002, Maier et al., 2016) and no enrichment of crustal component in the Main Sulphide Zone. Sulfur isotopic data for the MSZ suggest that the sulfur is mantle-derived ($\delta^{34}S$ +0.1 to +1, Li et al., submitted). No radiogenic isotope data are as yet available for the Volspruit pyroxenite, but the rocks are enriched in heavy S ($\delta^{34}S$ +4; Hulbert, 1983), suggesting addition of external sulfur. Kapalagulu internal sulphides equally have a crustal component ($\delta^{34}S$ +5 to +8; unpublished data of Maier). In summary, some deposits appear to have incorporated crustal S whereas in others the evidence for contamination in triggering sulphide melt supersaturation is inconclusive.

Maier and Barnes (1999) have shown that most cumulates of the LZ and CZ in the western limb of the Bushveld Complex, including the rocks from the very base of the intrusion, contain relatively high PGE concentrations (> 20-30 ppb) and abundant PGM, but the rocks contain mostly < 100 ppm S. If one estimates the trapped melt component of the silicate rocks by means of the concentration of a highly incompatible trace element such as Zr it is apparent that the observed S concentrations of the rocks represent the sulfur content of the trapped melt. Thus, most of the rocks do not contain cumulus sulphide, suggesting that the intruding magmas were sulfur undersaturated. But why do rocks crystallizing from a sulfur undersaturated magma contain elevated concentrations of PGE and abundant PGM? Some authors (von Gruenewaldt et al., 1986; Merkle, 1992) have proposed that original magmatic sulphide may have lost some S in response to percolating late-magmatic fluids. Alternatively, the magmas may have reached sulfur saturation prior to final emplacement, in a staging chamber or magma conduit. The sulphide were entrained during ascent and progressively resorbed due to the increase in sulfur solubility with falling pressure. This would have resulted in a PGE rich magma. Some magma pulses may have entrained somewhat larger amounts of sulphide so that the sulphide could not be completely resorbed during ascent and this would have resulted in the formation of wide reefs of the Volspruit or MSZ type.

The above model is not without problems. Most notably, the fine-grained dykes and sills in the periphery to the Bushveld Complex that are thought to represent the B1-B3 parental magmas to the LZ and LCZ do not contain unusually high PGE (Cu/Pd 4000-5000, 20 ppb PGE, Barnes et al. 2010). The fine-grained rocks have very similar trace element and isotopic signatures as the cumulates and they have S contents (~ 500 ppm) in agreement with those modelled above for the trapped melt component of the cumulate rocks. A common lineage of these rocks with the Bushveld cumulates is therefore not questioned, but the cumulates could have formed from PGE enriched magma pulses not represented in the sills.

8.1.2 PGE mineralization in chromitites

Most chromitites in layered intrusions are enriched in PGE relative to their silicate host lithologies, as is the case for the chromitites of the SWC as well. In the Bushveld Complex, grades of the major seams vary between ca 0.1 ppm total PGE (LG1) to ca 5-7 ppm (UG2). The < 2 cm Merensky Reef chromitite stringers have up to 50 ppm PGE. The only major chromitite that is presently mined for its PGE content is the UG2 chromitite. It is the world's largest resource of PGE and has a width of ca 1 m and a strike extension of several 100 km. The origin of the PGE mineralization in the chromitites remains controversial. Five major models may be distinguished:

(i) The precipitation of chromite may cause sulphide melt supersaturation (Naldrett and von Gruenewaldt, 1989). As sulfur is bonded to Fe^{2+} in the magma, fractionation of Fe-rich minerals, notably chromite and magnetite causes a decrease in sulfur solubility. The appearance of cumulus magnetite in layered intrusions often coincides with a sharp increase in sulfur contents. In the case of chromitites, this relationship is less clear: some Bushveld chromitite seams show elevated sulfur contents relative to their host rocks, but many others contain little sulfur. For the latter it is commonly suggested that some sulfur was lost during crystallization and cooling of the rocks. Desulfidation may partially occur during interaction of the sulphide with chromite (Naldrett and Lehmann, 1988), according to the reaction:

$$4/3\ Fe_2O_3\ (chr) + 1/3\ FeS = Fe_3O_4\ (chr) + 1/6\ S_2$$

Sulfur loss could have caused partial melting of the sulphide, resulting in the formation of residual monosulphide solid solution (mss), Fe-Pt alloys and Cu-Pd rich sulphide melt (Peregoedova et al., 2004). The mss could exsolve IPGE-rich PGM and the Cu and Pd rich sulphide melt could have been filter pressed during compaction, crystallization and cooling. A second possibility is that chromite crystals and sulphide melt began to form at depth (Eales, 2000; Barnes et al., 2001). During continued ascent of magma charged with chromite and silicate crystals and sulphide melt, the latter was resorbed due to the decrease in pressure. Palladium, Au and Cu may have been dissolved in the silicate melt due to their relatively high solubilities whereas the IPGE and Pt were incorporated into crystallizing mss. The mss could have been included by growing chromite grains and silicates after emplacement in the Bushveld chamber, followed by exsolution of PGM. This mechanism is analogous to that proposed for the PGE-rich but sulfur-poor silicate rocks of the Lower and Critical Zones of the Bushveld Complex, as well as described by Boudreau (2016) from studies on the SWC.

The model of an original sulphide control of the PGE in the chromitites and subsequent S, Pd and Cu loss is supported by the observation that PGM in the chromitites are often associated with base metal sulphides (BMS)(McLaren and de Villiers, 1982). Further, sulphide- and BMS rich UG2 and UG1 chromitite occurs at several localities in the Bushveld Complex, e.g. in the northern limb ("UG2-like chromitite", Hulbert and von Gruenewaldt, 1982), and in the western sector of the eastern Bushveld Complex, particularly at Messina and Maandagshoek (von Gruenewaldt et al., 1990; Gain, 1985). At Messina, the UG1 has up to 0.8 % sulphide, 1287 ppm Cu and 2089 ppm Ni. The UG2 has up to 1.5 % sulphide, 1648 ppm Cu and 2218 ppm Ni. These Cu (and Ni) contents are much higher than those of sulfur-poor UG2 elsewhere in the Complex (ca 200 ppm Cu, 300 ppm Ni). The relative PGE abundances in the S-rich UG2 are also somewhat different to those of the UG2 elsewhere in the Complex. Pd is relatively enriched and the IPGE, particularly Ru, are relatively depleted, resulting in higher Pd/Pt (0.72 vs 0.43) and Pd/Ru ratios (2.94 vs 1.44, von Gruenewaldt et al.,1990).

(ii) Some of the PGE in the chromitites (notably the IPGE and Rh) could have been concentrated by means of solid solution in chromite (Peach and Mathez, 1996). Possible empirical evidence in support for this model is the positive correlation between the IPGE and Cr in some mafic-ultramafic intrusions, notably the Fiskanaesset Complex of Greenland (Morgan et al., 1976), the Thole sills of South Africa that are associated with the Usushwana Complex, the S-poor harzburgites of the Uitkomst Complex, and in some komatiites (Peach and Mathez, 1996, and references therein). Based on the Thole data, one can estimate approximate D values for the IPGE between the silicate melt and chromite (Ir and Os: 2000, Ru: 600), broadly in accord with the experimental data of Capobianco et al. (1994) and Righter et al. (2004). However, a sulphide component is still required to account for the elevated Pt and Pd contents of the chromitites.

(iii) Mungall (2002) and Finnigan and Brenan (2004) presented experimental evidence that crystallization of chromite may lead to localized reduction of the silicate melt surrounding the chromite and nucleation and crystallization of PGE alloys. The latter may be enclosed by the crystallizing chromite.

(iv) Nicholson and Mathez (1991) suggested that the Merensky chromitite stringers crystallized from a liquid that formed in response to flux-melting of norite-pyroxenite by percolating fluid-rich intercumulus magma ascending through the semi-consolidated cumulate pile. If the protocumulates contained small amounts of disseminated sulphides it is conceivable that these were concentrated during flux melting to form the reef. Whether this model can be applied to the more massive chromitites is unclear. Mass balance considerations require that the Cr hosted by 1 m of chromitite was extracted from ~ 100 m of proto-norite or 50 m of proto-pyroxenite. These figures seem feasible. Some authors argue that if the chromitites are related to flux melting one would expect to find evidence for enrichment in highly incompatible and mobile trace elements, but in a scenario of reactive porous flow (or constitutional zone refining), the incompatible elements might be efficiently removed.

PGE mineralization within chromitite seams is described from the SWC within the lower most A and B chromitite seams within the peridotite zone. Well-mineralized chromitite seams have been documented in all target areas.

8.1.3 PGE mineralization in the mafic, central portion of intrusions

Two of the world's most important PGE deposits, i.e. the Merensky Reef of the Bushveld and the J-M reef of the Stillwater Complex belong to this type of mineralization. The reefs tend to occur some distance above the base of the intrusions (ca 2 km in the case of the Merensky and J-M reefs), in stratigraphic intervals that show lithological and compositional evidence for magma replenishments to the chamber and mixing between compositionally contrasting magma types. Most notably, this is expressed by a spectacular interlayering between ultramafic and mafic lithologies. The mineralization may be hosted by a variety of rocktypes, ranging from harzburgites and pyroxenites (Bushveld) to troctolites, norites, gabbros and anorthosites (e.g. in many of the intrusions in Finland and neighbouring Russian Karelia). In most cases the PGE-mineralized rocks are also enriched in sulphides (typically 1-3%) but in some exceptional cases the reefs contain no or very little sulphides. In the Bushveld and Stillwater Complexes, the ore zone occurs at or near the base of so-called cyclic units. These grade from chromitite and/or harzburgite at the base through pyroxenite, melanorite, norite, leuconorite to anorthosite at the top. The association of the reefs with readily recognizable marker horizons is an important factor in rendering the reefs economic.

It has long been assumed that the mixing between relatively differentiated resident magma and primitive replenishing magma that may have given rise to the cyclic units also triggered sulphide melt supersaturation (Campbell et al., 1983), but the model has recently been questioned by Cawthorn (2002) and its importance remains unclear. Alternatively, supersaturation of the magma in sulphide melt could have been triggered by contamination. Isotopic studies have shown that there is a distinct increase in crustal component across a ca 500 m interval hosting the MG and UG chromitites, the Merensky Reef and several other sulphide-enriched layers including the Pseudoreefs, the Boulder Bed and the Bastard Reef, particularly in terms of Sr (Kruger, 1994), and Nd isotopes (Maier et al., 2000). However, the increase is progressive throughout most of the interval and a direct correlation between the concentration of sulphides or PGE and crustal signature is not evident. Indeed, at several localities, Sr and Nd isotope data from the Merensky- as well as the Pseudo and Bastard reefs indicate reversals towards less crustal signatures, which may be interpreted to reflect replenishment of the chamber with relatively less contaminated magma. Thus, the isotopic evidence for formation of the Merensky Reef sulphides in response to crustal contamination is inconclusive, at best. The incompatible trace element data also provide no strong support for enhanced crustal contamination of the Merensky Reef magma. Firstly, the Merensky Reef has similar La/Ta, La/Hf, and REE ratios as the Mg basaltic parental magma to the Complex and many of the cumulates of the Lower and Critical Zones (Maier et al. 2013). Secondly, there is little change in incompatible trace element ratios across the reef (Barnes and Maier, 2002b). A further potential argument against sulphide melt segregation in response to significant contamination is based on mass balance considerations. Using the equations and diagrams of Li et al. (2001a) one can calculate that a pyroxenite crystallizing from sulfur saturated magma may have a sulfur content of approximately 3000-4000 ppm (about 1 % sulphide). This is not significantly less than the sulfur contained within the Merensky Reef highlighting that moderate concentration of sulphides that formed during normal differentiation of the magma may be sufficient to form PGE reefs.

Lee and Butcher (1990) proposed that the Merensky Reef crystallized from a magma pulse that contained entrained sulphides. Subsequently, Power et al. (2001) proposed sulphide entrainment for the Rhum intrusion and Iljina and Hanski (2002) for the PGE reefs in the Portimo intrusion of Finland, based on the identification of sulphide-enriched sills in the floor of the intrusion. One of the advantages of this mechanism is the agreement with the model proposed for the origin of the PGE-rich silicate rocks of the Lower Zone discussed earlier.

Some authors have suggested a role for fluids in concentrating PGE in the Bushveld Complex (Ballhaus and Stumpfl, 1986; Schiffries, 1982; Willmore et al., 2000), based partly on the association of the Merensky Reef mineralization with pegmatoidal rocks that are thought to have crystallized from magmas enriched in late-magmatic fluids. However, unmineralized pegmatoids may also occur, e.g. below the UG2 chromitite (Viljoen et al., 1986). If the pegmatoids and the reefs formed in response to percolating late-magmatic fluids then one would expect this to be reflected in the mineral or whole rock compositions. The data of Barnes and Maier (2002a) and, in particular, the SARM bulk sample of Potts et al. (1992) indicate no enrichment in incompatible trace elements in the Merensky pegmatoid relative to non-pegmatoidal Bushveld pyroxenites. Instead, the pegmatoids could have formed due to textural coarsening during a magmatic hiatus (Cawthorn, 1999), or recrystallization during compaction (Barnes and Maier, 2002a). Other compositional traits that are often cited to support a fluid-driven model of PGE enrichment include the occurrence of Cl-rich apatite and graphite in the reefs. Other arguments against fluid concentration of the metals have been listed by Cawthorn (1999).

8.1.4 Hydrothermal PGE mineralization

Many examples of primary magmatic PGE mineralization show a low-temperature hydrothermal overprint, but relatively few cases have so far been documented where hydrothermal processes are the only or main factors responsible for PGE concentration. Many of these deposits/occurrences represent localized remobilizations of originally magmatic PGE in shear zones or faults associated with mafic-ultramafic intrusions (e.g. New Rambler, USA; Rathbun Lake, Ontario). An interesting type of hydrothermal Au-Pd mineralization occurs in quartzite-hematite veins within strongly metamorphosed and deformed Lake Superior-type Fe formations at Conceicao and Caue, Brazil (Jacutinga-type deposits, Olivo et al., 2001). The metals were leached from Archean volcano-sedimentary sequences underlying the Fe formation, and transported as chloride complexes in strongly oxidized hydrothermal fluids. Metal deposition was triggered by changes in pH during talc-phlogopite alteration.

In the Serra Pelada Au-PGE deposit in Brazil, the mineralization occurs in irregular, mostly finely disseminated form in strongly deformed and highly weathered silicified breccias of ferruginous and carbonaceous sandstone and siltstone (Moroni et al., 2001). The metals may be sourced from Archean greenstones or, indeed, from a mafic-ultramafic component in the sedimentary rocks and are thought to have precipitated from hydrothermal fluids that were derived from anorogenic granites. Additional PGE concentration occurred in response to supergene alteration during laterisation. Notably, despite Au+PGE grades locally exceeding 1000 ppm, the mineralization is invisible.

Hydrothermal PGE mineralization with grades up to 1 ppm occurs in thin sulfidic layers within P-rich black shales deposited in continental rift zones. Examples of this type of deposit have been described in the Kupferschiefer of Germany and Poland (Pasava, 1993, and references therein), in northern Canada (Hulbert et al., 1992) and in southern China (Coveney et al., 1992). It can be anticipated that further examples will be found elsewhere once analytical methods are adapted to the graphite-rich material.

Hydrothermal PGE mineralization possibly associated with the Bushveld Complex occurs in quartz-hematite-monazite veins within the Rooiberg felsites near Naboomspruit, South Africa. The deposits were mined in the 1920s and are known as the Waterberg lodes. They contain locally high Pt and Pd contents (up to 900 ppm, McDonald et al., 1995). The mineralization is interpreted to have formed in response to neutralization and/or reduction of highly oxidising fluids that may have leached PGE from mafic-ultramafic rocks.

Other examples of hydrothermal PGE deposits that are more clearly related to the Bushveld Complex are three dunitic-pyroxenitic transgressive pipes (Onverwacht, Driekop, Mooihoek) that are locally highly Pt enriched (up to 100 ppm). They were interpreted as conduits for percolating Fe-rich metasomising fluids (Schiffries, 1982; Stumpfl and Rucklidge, 1982; Tegner et al., 1993). The PGE may have been leached by chlorine solutions from the layered cumulate rocks hosting the pipes.

The only example of a PGE deposit that is possibly of hydrothermal derivation and that is presently mined is at Lac des Iles, Ontario. PGE-rich disseminated sulphides occur in a relatively small (2-3 km^2) predominantly gabbronoritic intrusion, containing minor clinopyroxenite and anorthosite. The bulk of the intrusion consists of a magmatic breccia of various gabbronoritic phases that is surrounded by a vary-textured marginal gabbronorite. Within the latter occurs a PGE-rich, but S-poor zone (the Roby zone) of heterolithic gabbronorite breccia and chlorite-amphibole schist. Original interpretations of the genesis of the ores involved a combination of magmatic, hydrothermal and metamorphic processes (Watkinson and Dunning, 1979), but subsequently, an essentially late-magmatic process of ore formation has been favoured (e.g., Brügmann et al., 1987; Lavigne and Michaud, 2001). Accordingly, a fluid- and PGE-rich magma of gabbronoritic composition is believed to have injected a volatile- and PGE-poor solidified gabbronoritic body to form the magmatic breccia. During cooling, deuteric fluids exsolved from the injecting magma and formed pegmatoidal veins and patches. The PGE were mobilized by the fluid and impregnated the earlier igneous phases.

8.1.5 Ni-Cu-(PGE) deposits

The most widely accepted model for the formation of magmatic Ni-Cu deposits that may have PGE as an important by-product comprises the following steps:

- Heating of crustal rocks by large volumes of fertile (metal rich), mantle-derived, silicate magma. In many cases this would involve intersection of a mantle plume with a continental rift system.
- The mantle magmas assimilate the crustal rocks and if the latter are sulfur-bearing (as is often the case in the initial stages of rifts) the magma may become supersaturated in sulfur resulting in formation of an immiscible sulphide melt.
- The sulphide melt may be entrained by the silicate magma, particularly in dynamic magmatic systems such as magma conduits and lava channels. During entrainment, the sulphide melt can equilibrate with a relatively large volume of silicate magma (high R factor) and extract metals from the latter.
- Precipitation and concentration of the sulphide melt may occur in flow-dynamic traps, e.g. widened sections of the conduits/lava channels or exits of the conduits into larger magma chambers.

This model explains why massive or semi-massive sulphide ores are rare in large, layered intrusions (Naldrett, 1997; Maier et al., 2001a) and while these systems are often very large and have significant and long lasting heat flux into the crust resulting in significant assimilation of crust, the intrusions are less dynamic systems than e.g. magma conduits. Thus, an effective concentration mechanism for the sulphide melt is often lacking, i.e. the sulphides are deposited near to where the contamination occurred, resulting in disseminated sulphide deposits. Tenors of Ni and Cu are not bad, 1-5% (PGE tenors are often relatively low, <10 ppm), but due to the relatively low sulphide contents, the deposits are rarely economic.

8.2 Deposits Types and Mineralization Styles on the Stillwater West property:

There are four broad target deposit types on the Stillwater West property:

- Ni+Cu enriched magmatic sulphides hosted by olivine-rich cumulates and basement rock rafts (contact-type or

  “Platreef” type) in the Basal and the Ultramafic series;
- Reef-type sulphide/chromite deposits that are stratiform within Ultramafic and Banded series rocks, and are variably enriched in PGEs, base metals, and chromite;
- High PGE/low base metal mineralization associated with schlieren and disseminated chromite in layered to non-layered, complexly-textured mixes of olivine and orthopyroxene rich pegmatoidal rock within the Ultramafic series (“Hybrid type”); and
- Gold and Nickel-enriched chromitite and tectonized ultramafic rock within the Peridotite zone (Pine target).

The geology and mineralization in the SWC bear similarities to the Bushveld Igneous Complex (BIC). Both contain PGE-enriched reefs located in plagioclase bearing and/or chromite enriched mafic cumulates and bulk tonnage Ni+Cu+PGE sulphide deposits at or near the base of the intrusions. The 2023 MREs consist of bulk tonnage magmatic sulphide and hybrid-type mineralization, and incorporate reef-type mineralization within some of the block models.

8.2.1 Platreef- or Contact-type Deposits

In the Iron Mountain target area, the Company has intersected broad zones of magmatic sulphide mineralization hosted by olivine rich cumulate rocks and associated rafts of xenoliths of country rock iron formation and hornfels (CZ 2019-3; Table 22). Iron-nickel-copper sulphides in the Basal series and in the Peridotite zone of the ultramafic series in the SWC occur as disseminated to net textured to massive and consist predominantly of pentlandite, pyrrhotite and minor chalcopyrite. Base metal sulphides are also commonly found along the lower contact of the complex and in the adjacent country rock. These have relatively low-PGE content and high ratios of iron to nickel plus copper (Zientek, 2012).

The general stratigraphic position of this mineralization, at or near the base of the SWC, and evidence for interaction between magma and country rocks, suggests similarities with contact type deposits in other layered intrusions (Kontijarvi, Finland; Kevitsa Finland, River Valley Ontario, and deposits which occur along the northern limb of the BIC, or Platreef).

While PGE grades are generally lower grade than true stratiform PGE reefs, contact type deposits are enriched in nickel and copper base metal sulphides and are typically bulk tonnage systems amendable to large-scale, low-cost mining such as that employed at Anglo American’s Mogalakwena PGE-nickel-copper mine, and Ivanhoe’s Platreef PGE-nickel-copper mine that is now under construction in the BIC.

Mineralization of the Platreef in the BIC varies between the lower and upper portions of the formation. Metal distribution patterns are similar to that of the Stillwater Complex with nickel-copper sulphide-rich zones near the base of the intrusion and higher-grade PGE mineralized zones occurring higher up in the layered stratigraphy. The upper Platreef exhibits Pt/Pd ratios greater than 1, with local ratios exceeding 2 in some zones (Parker et al., 2013). The Platreef has a typical PGE grade of 4 g/t, but grade can vary significantly from less than 1 g/t to higher than 10 g/t. Sulphide content can reach 20%, with overall grades of 0.1 - 0.6% Ni+Cu. Massive sulphides tend to be localized near the contact with the metasedimentary rock of the footwall. Ivanhoe mines reported in 2017 a “3PE + Au” grade of 3.77 g/t, with individual elements amounting to 45% Pt, 45% Pd, 3% Rh, and 7% Au, and 0.32% Ni.

Massive to net-textured Ni+Cu enriched sulphide mineralization within the SWC is exposed within drill intercepts of the CZ and Central deposits in the vicinity of Iron Mountain. Drill hole CZ2021-01 intersected 0.57% Ni, 0.34% Cu, 0.045% Co and 0.74g/t PGE+Au over 44.1 meters. Geological interpretation shows the sulphide mineralization to be concentrated between large sedimentary xenoliths within the lower part of the intrusion.

8.2.2 Hybrid Type Deposits

The Hybrid deposit type was first defined by Stillwater in the Chrome Mountain target area, and is hosted by complexly-textured, non-layered Peridotite zone rocks. Mineralization is PGE-dominant with associated Ni+Cu, although discrete platinoid mineral phases most often occur in close proximity to rare sulphide globules (Bow, 2020). Mineralization is clearly associated with disseminations and schlieren of fine-grained chromite. In detail, host rocks are characterized by complex mixtures of olivine rich and bronzite rich domains, often with fine grained disseminated chromite concentrated near domain boundaries.

Pegmatoidal patches of bronzite and inter-cumulus plagioclase are typical. The lack of internal layering may be the result of magma mixing or magmatic brecciation, which created broad PGE and base metal enriched intervals not previously identified in the SWC. In these intervals, highly anomalous PGE levels are associated with chromite, nickel, and copper sulphides. The apparent chaotic nature of the Hybrid Unit, being a magmatic breccia in nature, is attributed to syn- or late magmatic attenuation of a roll-over fold which formed earlier in response to shearing along a NNW-SSE trending shear zone (parallel to a mapped anticlinal fold hinge), now present as the Discovery fault (Figures 7.3.2 and 7.4.3). During deformation the semi-consolidated bronzitite unit, being more amenable to accommodate syn-magmatic strain through ductile-brittle deformation due to lower viscosity, preferentially deformed by brecciation and partially, dynamically recrystallized leaving remnant pegmatoid and disrupted chromitites, as noted in drill core intersections of the Hybrid Unit close to the Discovery structure. Metasomatic fluid ingress causing modification of the tectonised rock unit to a hybridized ultramafic rock was facilitated by extensional re-activation of the original shear zone, subsidiary structures and joint arrays. Subsequently, possibly during the process of uplift or exhumation conditions of the Laramide, phased alteration fluid influx induced wide destructive high temperature alteration (tremolite-actinolite) and serpentinization within a gradational envelope controlled by fractured/jointed footwall and hanging wall zones. Intrusive dunite, which occurs in close physical proximity to Hybrid type rocks, suggests this possible genetic relationship. This process shows similarities to modification of the J-M Reef mineralogy by reef deformation related to the South Prairie fault, described by Thacker (2017). Detailed mapping and drilling of the distinctive hybridized stratigraphic package has led to new and ongoing interpretations of the relationship between PGEs, metasomatism, chromite, and tectonised cumulates (Bow and Andersen, 2021).

Large zones of mineralized pegmatoidal rock occur within the Dunite Ridge (DR) and Hybrid deposits at Chrome Mountain. Significant intercepts include drill hole CM2007-04 with 1.03 g/t 4E (PGE+Au), 0.12% Ni, 0.035% Cu, 0.010% Co over 118 meters).

8.2.3 Reef-Type Deposits

Production from, and interest in, the SWC has primarily focused on reef-type deposits to date, in particular the J-M Reef currently owned and mined by Sibanye-Stillwater. The following presents a summary of reef mineralization in the SWC, including reef mineralization on the Stillwater West property, however mineralization of this type has not been the main area of focus for the Company.

The term “reef” originates from Australian and South African literature referring to mineralized rock layers that have distinctive textures, mineralogy, and stratigraphy. Reef-type mineralization is generally restricted to relatively narrow widths but is typically laterally continuous along strike (Zientek, 2012).

Production from the J-M Reef includes palladium, platinum, gold, rhodium, copper, and nickel, with an average combined palladium and platinum grade of 18.86 ppm (Zientek and Parks, 2014). A more recent statement of mined grade by Sibanye-Stillwater (2021) states a grade of 16.56 g/t. The ratio of palladium to platinum is 3.4:1 (Zientek et al., 2002). In addition to the J-M Reef, PGE bearing reef deposits include the Merensky Reef and the UG2 chromitite of the BIC, the Main Sulphide Layer of the Great Dyke, the Sompujarvi Reef of the Penikat Intrusion, and the Ferguson Reef of the Munni Panipat Complex. Stillwater claims include two reef deposits of quite different character: the A-B chromitite seams of the Peridotite zone, and the Picket Pin reef at the contact between the Middle and Upper Banded series.

The A-B chromitite seams are currently being investigated by the Company in the Dunite Ridge sector of Chrome Mountain, and were extensively drilled by Beartooth Platinum on and to the east of Iron Mountain (2004-2006). PGE mineralization up to several grams/tonne occurs within and adjacent to the chromite seams, often associated with base metal sulphides and pegmatoidal silicate textures. In addition to platinum and palladium, rhodium is enriched in this target. In the eastern part of the SWC, the A and B chromite seams are comprised of one or more massive chromitite layers in a 1.5 m (4.9 ft) to 4.6 m (15.1 ft) interval with disseminated chromite in olivine cumulate. The lower A chromite seam is laterally discontinuous and finer grained, while the overlying B chromite seam is a group of chromite-enriched layers that are generally more continuous along strike and coarser grained (Zientek et al., 2002). Variation in thickness and disruption of the A-B seams at Chrome Mountain has been documented from recent field observations. Deformation occurred during crystal-mush conditions, locally in response to strain induced under ductile deformational conditions. Further disruption of chromitite seams, due to secondary processes such as metasomatic replacement and intense alteration, is present in some instances. Details on these variables and the interpreted causes are expanded upon in section 7.4 of this report.

Chromite has been proposed as a critical mineral in the U.S. and the chromite deposits of the Stillwater Complex are the largest known potential U.S. source of chromium (U.S. Congress, 1985). The Property controls the same chromite-bearing stratigraphy from which historical production came. The association of relatively rich PGE and chromite values on the Property suggests potential for production of chromite and possibly other critical minerals, as by-products with PGEs. Up to thirteen chromite horizons are found in the Ultramafic series, which overlies the Basal series. The chromitites have associated PGEs and occur as reef-like stratigraphic horizons (Bow et al., 2020). These were important sources of chrome during World War II and the Korean War (Page et al., 1985b). Resources reported by Page (Page et al., 1985b) in the Mouat and Benbow areas are 15 million tons averaging 20 to 22 percent chromium oxide. In 1985 this represented approximately 80 percent of the identified chrome reserve in the United States. The Company is monitoring the need for a domestic source of chromium in the United States and is considering chromium as a possible co-product as exploration and development progresses.

According to Keays (2011), the formation of chromite and chromitite reefs enriched in PGEs is also the result of the mixing of resident magma and newer magma entering at a higher velocity. On the other hand, Boudreau and others have suggested that chromite horizons were precipitated as a result of phase segregation over long cooling rates that led to well-defined, fine-scale modal layering (Boudreau et al., 2020).

The Picket Pin reef occurs near the top of the Anorthosite II zone in the Middle Banded series and was one of the first PGE-enriched sulphide occurrences recognized in the SWC. Mineralization typically consists of 1 - 5 volume percent of disseminated sulphides that occur in association with quartz- and apatite-bearing, pyroxene-free interstitial mineral assemblages (Zientek and Parks, 2014). Mineralized zones are crudely concentrated along a 10.0 m (32.8 ft) interval near a grain-size contact in the upper AN II zone, however scattered pockets of mineralization can be found up to 150.0 m (492 ft) below this contact with a crudely pipe-like geometry. Sulphide content is about an order of magnitude less than in the J-M Reef, with values rarely more than 1-2 ppm Pt+Pd (Boudreau, 2020).

Drill intercepts of reef mineralization include 6.25 meters of 5.05 g/t Pt, Pd, and Au, plus 0.157% Ni and 0.265% Cu in historic drill hole WDH-CM-16 at Picket Pin. No NI43-101 compliant mineral resource has been completed at Picket Pin to date.

8.2.4 Shear Zone-Type Deposits

The Pine target, located in the far west area of the Property, is another instance of PGEs occurring with base metals and chromite; in this case, however, there are elevated gold values as well. The shear is a fault zone located approximately 0.8 km (0.5 mi) west of Chrome Mountain. This north-south trending fault zone cross-cuts and offsets magmatic layering. The fault zone is associated with brecciation, shearing, and associated hydrothermal alteration; high grade gold also occurs within bleached and altered chromitite. Evidence suggests that gold and PGEs were transported via mineralized fluid through the fractures before being redeposited in this zone (Warchola, 1986). Petrographic results from Warchola (1986) identified secondary minerals produced from hydrothermal alteration such as talc, pyrophyllite, fluorite, green biotite, chlorite, hematite, anthophyllite, and clinozoisite. Native gold fills fractures in chromite and secondary anthophyllite. It was speculated that the gold was amalgamated with minor silver. Historic drilling at Pine returned values of 16.94 g/t 3E (16.19 g/t Au, 0.24 g/t Pt, 0.50 g/t Pd) over 7.98 meters and 31.02 g/t 3E (28.7 g/t Au, 1.06 g/t Pt, 1.27 g/t Pd) over 2.6 meters. No NI43-101 compliant mineral resource has been completed at Pine to date.

To date, mineralization in this zone is open to expansion. After compiling the limited, yet significant, drill core and surface rock sample data, the Company has designated this shear zone as a potential priority target for follow-up exploration. In particular, anomalous precious metals are shown in soil geochemistry survey results up to 2 km (1.2 mi) to the west of drill-defined high-grade gold at the Pine target.

The New Animal shear zone forms part of the Precambrian age, anastomosing northwest to north-northwest trending transfer fault and shear zone array. The New Animal shear is found within a distinct domain block between the Discovery and Chrome Mountain faults which forms eastern and western domain boundaries respectively. Late-magmatic, locally, dextral activation of the northwest trending structures likely caused dilational jogs forming along some of the interconnecting north-northwest trending shears within this undulating fault array. This facilitated fluid ingress with accompanying genetically SWC-linked processes related to precipitation of remobilized nickel and gold bearing sulphide mineralization, structurally controlled, with apparent metasomatism and alteration. Subsequent brittle-ductile extensional normal re-activation of the original structure was caused by extensional strain during the late Laramide at 45 Ma. The strike extent of the New Animal shear zone is unknown at present but is likely recurring as en-echelon lenses of similar geometry. Significant drill intercepts at this target include CM2021-05 grading at 2.31% Ni, 0.35% Cu, 0.115% Co with 1.51 g/t PGE over 13.2 meters. This intersection includes a higher-grade zone grading at 3.47% Ni, 0.24% Cu, 0.195% Co and 2.63 g/t PGE+Au over 6.0 meters.

Lateral offsets by subsequent strike to oblique-strike slip re-activation of NE-SW striking faults which transects the SWC can be expected at regular intervals. It is likely that the Pine target and New Animal are genetically of similar proto-SWC in origin, hosted within the same structural array.

9 EXPLORATION

9.1 2019 to 2022 Exploration

Stillwater has conducted successively larger field programs in each year since acquisition in 2017, including drill campaigns in 2019, 2020, and 2021, and geophysical surveys in 2020, 2021 and 2022, among other programs (Childs and Armitage, 2021).

Starting in 2017, Stillwater launched the systematic compilation of the substantial historic database including drill results, geophysical surveys, geologic data, soil surveys, and surface rock geochemistry in a Phase One work program with the objective of compiling all data into the first property-wide 3D geologic database and developing a predictive geological model.

Historic drill data was obtained from the U.S. Geological Survey (USGS), from public documents, and from the initial asset acquisition from Picket Pin Resources that included original assays and geologic logs. Most of the historic core data was originally assayed for base metals and not precious metals. The USGS provided results of re-assayed historic AMAX drill core data. Select sulphide and chromite bearing hand samples from AMAX core were archived at the USGS and re-assayed for precious metals.

Other work completed in 2018 as part of Phase One included detailed geologic mapping, surface rock sampling, prospecting, land expansion by staking more claims, and characterization of physical rock properties on representative core and grab samples. The drill database compiled by the Company included a total of approximately 29,400 m (96,457 ft), derived from 205 drill holes prior to Stillwater’s first drill campaign in 2019.

Phase Two exploration efforts commenced in 2019 with the first drilling done by the Company as well as detailed mapping, surface rock sampling, and continued re-logging and re-assaying of drill core obtained from previous operators. In addition to newly generated core, approximately 1,160 meters (3,806 ft) of past core obtained by the Company was re-assayed for complete multi-element geochemistry and additional core was re-logged to target new deposit models. Stillwater completed analyses of samples collected during soil a geochemical survey over the western portion of the Main Claim Block by Beartooth Platinum that had never previously been assayed. In November 2019 Stillwater engaged GoldSpot Discoveries Inc. to apply their proprietary AI and Machine-Learning technologies to the Property.

Work during the 2020 season included drilling at the Chrome Mountain target area, detailed mapping, surface rock sampling, and completion of the Company’s first Induced Polarization (IP) geophysical survey over the core project area.

In 2021, the Company completed a multi-rig drill program focused on advancing block models of drill-defined mineralization to inaugural inferred resource estimates in the Main Claim Block as detailed in Section 14 of the present Report. The 2021 season also included expansion of the 2020 IP survey, detailed mapping, surface rock sampling, GPS re-location of historic AMAX drill hole locations, and continued compilation of historic and recent data into the drill database. Additionally, the Company conducted preliminary surface sampling and orientation surveys in the East target area. Assays are still pending from the 2021 drilling season at the time of writing this Report.

A 2022 exploration program was completed with the aim of expanding existing resource areas and advancement of earlier stage targets near existing resource blocks. Field work areas included surface investigation of areas of interest at Chrome Mountain which includes the Bald Hills and Dunite Ridge drill targets and the Pine shear zone hosted gold target. Preliminary investigation of new targets included reconnaissance work in the highly prospective Wild West target area northwest of Chrome Mountain.

Field work in 2022 included prospecting, geological mapping/sampling, channel sampling, trenching/chip sampling, and gravity geophysics. Channel sampling was done as continuous chips cut from suitable hard rock outcrop. A total of 64 channel samples were taken from a total length of 126 meters of surface outcrop at the Bald Hills target, an intensely serpentinized olivine-bearing bronzitite in outcrop, located approximately 1,500m southeast of Chrome Mountain and the Dunite Ridge target (due south of Chrome Mountain. A total of 49 samples were taken from surface outcrop at Dunite Ridge target as channel samples over a continuous combined distance of 97 meters.

A 2D gravity survey consisting of four northeast orientated lines totaling about 16.2 km was completed in 2022 across the Dunite Ridge, Hybrid, and CZ resource areas.

Exploration work in 2022 also included a final tranche of rhodium assays on 2021 drill core, and additional rock chip and trench sampling at the Pine target. At Pine, the drill-defined shear zone was sampled over a continuous exposed structure width of two meters and mapped in detail, and historical core and data was acquired.

Rhodium and Pine area results were reported in January of 2023. Results of the 2022 channel sample and gravity geophysical survey were not available as of the effective date of the report.

The Stillwater West Property has been divided into eight main target areas based on their exploration history, geology, and geochemical and geophysical signatures. The target areas are as follows: Boulder, Wild West, Chrome Mountain, East Boulder, Iron Mountain, East Crescent, Cathedral, Picket Pin, and East. The Cathedral, Picket Pin and East target areas are allocated to their respective claim blocks, the Cathedral Claim Block, Picket Pin Claim Block and the East Claim Block. The Main Claim Block, which has been the focus of exploration by the Company, is comprised of the Boulder, Wild West, Chrome Mountain, East Boulder, Iron Mountain, and East Crescent target areas.

9.1.1 Geochemistry

Stillwater has compiled a large amount of surface geochemical data including soil samples and surface rock samples from previous operators, including analysis of a large soil survey started but not completed by Beartooth Platinum. A total of 14,142 soil samples have been collected and assayed from various campaigns by preceding companies including Idaho Consolidated Metals Corp. (ICMC), Beartooth Platinum, Premium Exploration, and the Company. These data have been incorporated into the Company’s soils database and used for exploration purposes. Most surface soil samples were analyzed for platinum, palladium, gold, copper, nickel, and chromium. Additional elements that have been assayed in soils during select field seasons include cobalt, titanium, vanadium, aluminum, and others.

The 2006 soil sampling program by Premium and Beartooth Platinum is the largest soil survey conducted on the Property to date, covering both Chrome Mountain and Iron Mountain, as well as surrounding ground in the Main Claim Block (Figure 17). Samples were taken on a grid with 100-meter line spacing and 25-meter sample spacing. Soil samples typically consisted of 2 kg (4 lbs) of weakly developed C- horizon material above bedrock.

On January 10, 2018, the Company announced results of the compilation effort with the identification of elevated PGE, nickel, copper, and chromium in soils that were collected on the Property over multiple years by previous operators. The anomalous soil values extend approximately 18 km (11.2 mi) along strike over the Ultramafic and Basal series of the SWC and include more than 13,500 soil assays.

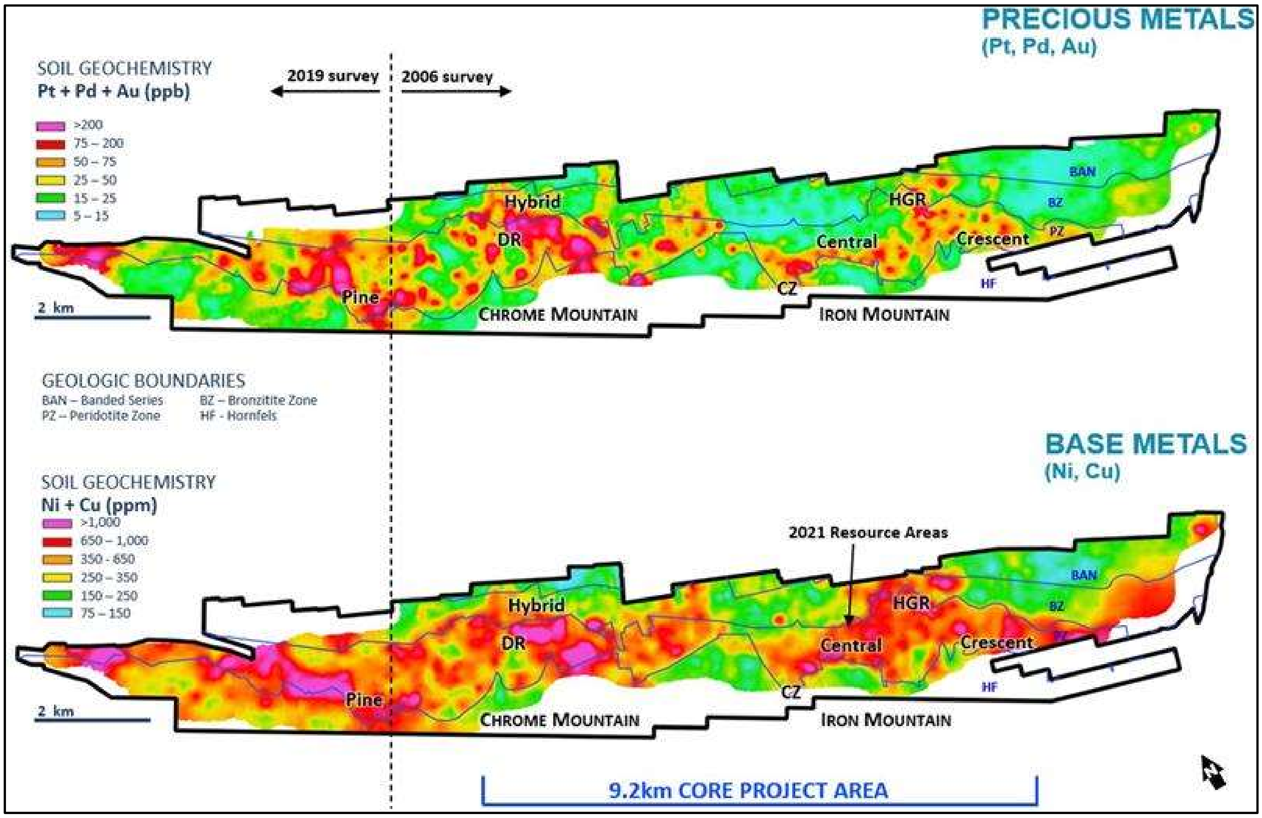
In 2019, the Company completed the analysis of samples from a soil survey over the Boulder and Wild West target areas covering a total of eight square kilometers (Figure 9-1). A total of 1,316 soil samples were collected at 25-meter sample spacing and 200-meter line spacing by Beartooth Platinum but were never assayed. The 2019 work expanded the 2006 soil survey to the west, resulting in identification of four new, kilometer-scale anomalies with elevated palladium, platinum, gold, nickel, and copper with precious metal values up to 1.16 g/t Pt, 0.46 g/t Pd, 0.46 g/t Au in soil (Figure 9-1). The new soil anomalies correlate with kilometer-scale conductive high areas identified in electromagnetic (EM) geophysical surveys, and with drill-defined high-grade gold at the Pine target.

Soil geochemical surveys have proven to be an effective tool for exploration on the Property because of the exposure of wide mineralized horizons at or near the surface. In particular, the prospective Peridotite zone (PZ on map images), which hosts the 2021 MREs, shows a strong correlation with the Ni-Cu soil survey results.

The scale of these soil anomalies and coincident geophysical anomalies, together with the similarities to the Bushveld complex of South Africa, demonstrates the potential for expansion of the bulk-tonnage, Platreef-style Ni-Cu-PGE deposits presented in the 2021 MREs in the lower Stillwater Complex stratigraphy. Strong correlations are demonstrated between large-scale, high-level geophysical anomalies shown in the IP data and soils surveys. In addition, the Ni-Cu soil survey results show a particularly strong correlation with the prospective Peridotite zone, which hosts most of the 2021 MREs.

The Company has also conducted geochemical analyses of surface rock samples and has compiled surface rock sample data from previous operators (Childs and Armitage, 2021). A total of 596 rock samples have been collected by the Company since 2017, for a total of approximately 27,400 surface rock sample assays collected from various rock types over the Property the Company and previous entities. Surface rock samples include grab samples, chip samples, channel samples, and trench samples. As with the soil samples, the surface rock samples have been analyzed for platinum, palladium, gold, copper, nickel, and chromium. Select samples have been analyzed for other elements such as rhodium. All rock samples collected by the Company since 2017 have been analyzed for the full fifteen-element suite (Al, Ca, Co, Cr, Cu, Fe, K, Mg, Ni, Pb, S, Zn, Au, Pd, Pt).

Figure 9-1 Soil Geochemical anomalies for base and precious metals extend 25 km along strike of the lower Stillwater Complex stratigraphy, as defined by previous soil campaigns and Stillwaters's 2019 soil geochemistry program. (BAN = Banded series, BZ = Bronzitite zone, PZ = Peridotite zone, HF=Hornfels (Childs and Armitage, 2021)



Stillwater analyzed select surface and drill core samples for rhodium (Rh) as part of a reconnaissance-scale analytical program representing the first known evaluation of rhodium content in Peridotite zone rocks in the SWC west of Iron Mountain. This program involved analysis of a total of 51 surface samples and 207 core samples selected for rhodium. The significant results from the core sample analyses are displayed in Table 19. Analysis focused on chromite-bearing rocks exposed on the Property, based on the relative enrichment of rhodium in chromite-rich units observed further to the east in the A-B chromite layers. Rhodium grade was observed to correlate with platinum and palladium content.

Rhodium assays of rock samples from the Hybrid deposit returned results up to 1.07 g/t Rh at the Bald Hills target, 0.541 g/t Rh at the Pine Target, and 0.572 g/t Rh at the DR (Dunite Ridge) target. Samples from DR and Bald Hills yielded multiple assays with significant platinum and palladium values, ranging up to 11.42 g/t Pt+Pd. Highlighted rock sample analytical results are discussed below in the sections corresponding with the target areas from which select samples were collected. Further detail on surface rock sampling methods and procedures are discussed in Section 11 of this Report.

Select Beartooth Platinum drill core from the Chrome Mountain area were also analyzed for rhodium. The significant results are discussed further in Section 9.3.3. In addition, the 2019 and 2020 drilling programs have selectively assayed for rhodium. These results are shown in Section 10. Higher values were noted to occur in chromite-rich intervals and in sulphide-rich intercepts with highly anomalous platinum and palladium.

9.1.2 Geophysics

A variety of geophysical data has been compiled or collected by the Company. Geophysical data held by the Company include historical Induced Polarization (IP) data from AMAX, electromagnetic (EM) data from ICMC, magnetic data from multiple ground-based surveys, and more recent ground-based IP and gravity data. Table 9-1 is a compilation of all the current relevant geophysical work to-date.

Table 9-1 Geophysical Surveys Completed on the Property to Date

Geophysics	Year	Line km
DIGHEM	2000	**1914.0**
Ground Magnetics	2005	120.0
Ground Magnetics	2006	275.0
Ground Magnetics	2021	25.0
Total		**420.0**
Ground IP	2020	75.5
Ground IP	2021	26.5
Total		**102.0**

Starting in 2018, the Company began gathering physical property data on historical core and subsequent drill programs. The results indicated that different types of mineralization were producing unique physical responses, due to their varying physical properties. Physical properties measured include specific gravity, conductivity/resistivity, chargeability, magnetic susceptibility, and spectral analysis. Table 9-2 shows the total amount of measurements made on drill core to-date. Understanding the physical properties of the mineralization has significantly aided in the interpretation of all geophysical data and ultimately the geology.

Table 9-2 Drill Core Geophysical Measurements

Total Drill Core Measurements	
	Number of Data Points
Specific Gravity	6,673
Magnetic Susceptibility	63,135
Chargeability	7,432
Resistivity/Conductivity	7,432
Spectral Response	7,302

In 2000, a 1,914-line kilometer (1,189-line miles) high-resolution EM survey was flown by helicopter over the entire outcropping Stillwater Complex (SWC). The survey was flown with 200-meter line spacing at 30 meters flight elevation, with the eastern 5 km of the survey flown with 100-meter line spacing. The EM survey used a DIGHEM electromagnetic system with a high-sensitivity cesium magnetometer, employed by Fugro Airborne Surveys. The Fugro EM data has been reprocessed twice since 2000. The objective of the latter reprocessing in 2019, was to derive magnetic data using edge detection filters such as the tilt derivate and to generate a 3D Magnetic Vector Inversion (MVI) model.

Results of the original 900 Hz Fugro EM data are shown in Figure 9-2 and its associated datasets have become a foundational aspect of interpreting the complex geologic setting of the Stillwater Complex. The EM data was effective at identifying near surface base metal sulphide mineralization near the footwall contact and within the Basal and Ultramafic Series rocks. The DIGHEM reduced to pole (RTP) and Tilt Derivative magnetic data are shown in Table 9-1 and Table 9-2. The magnetic data is ideal for imaging the banded iron formation country footwall rock and also the olivine rich areas of the Basal and Ultramafic Series rocks. The magnetic data helped identify different structures and was also beneficial for interpreting the different structural fault groups (Figure 9-5).

Figure 9-2 Fugro DIGHEM Results 2000: Regional-Scale Anomalous EM Signatures

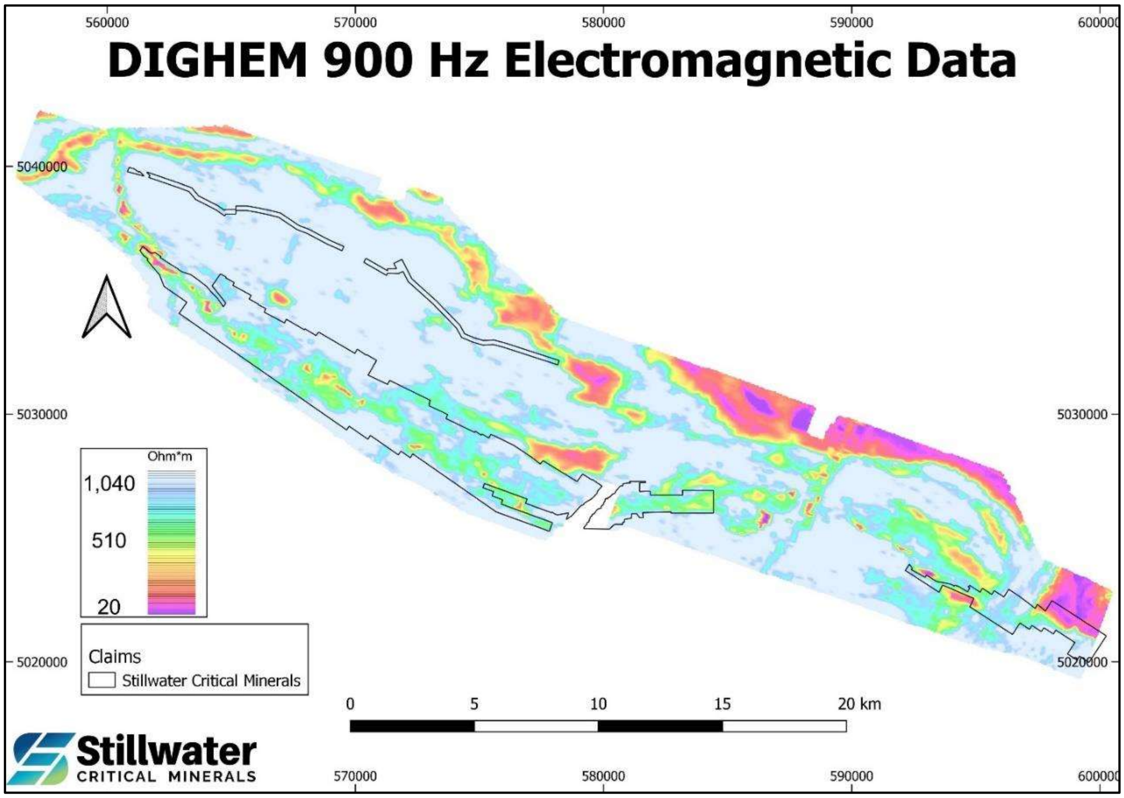


Figure 9-3 Fugro DIGHEM 2000: Regional-Scale Reduced to Pole Magnetic Data

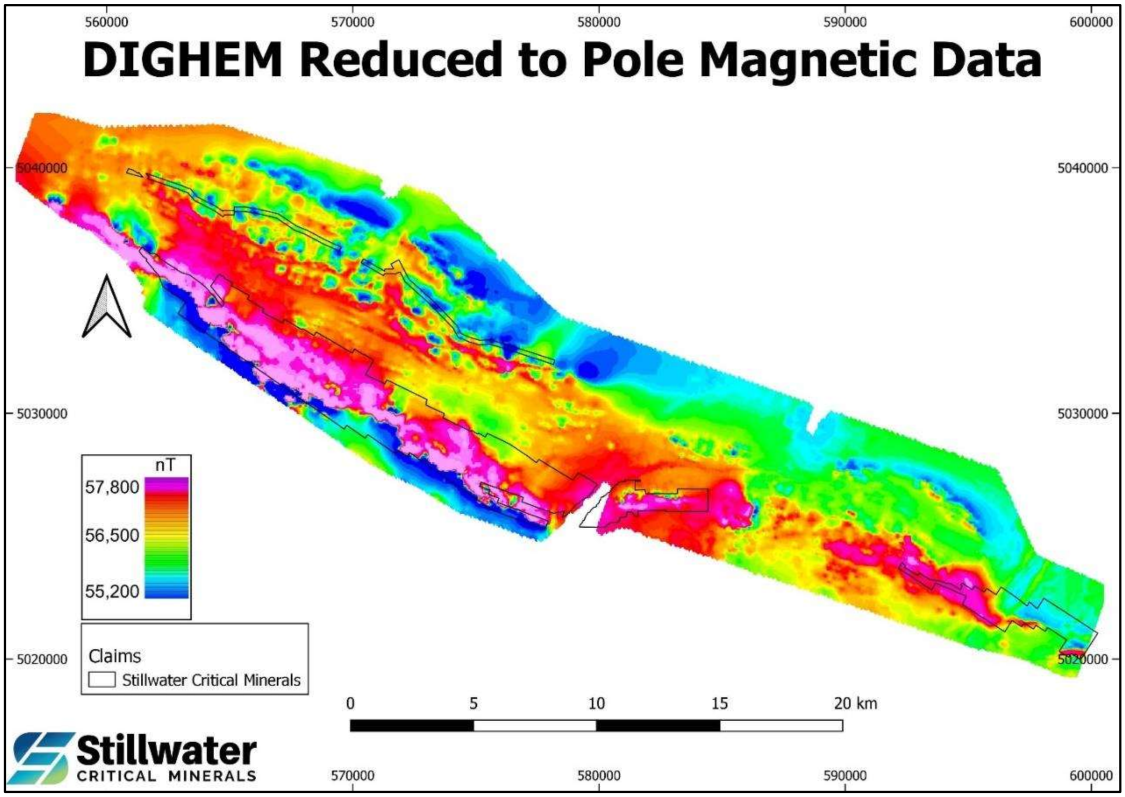


Figure 9-4 Fugro DIGHEM 2000: Regional-Scale Magnetic Tilt Derivative Data

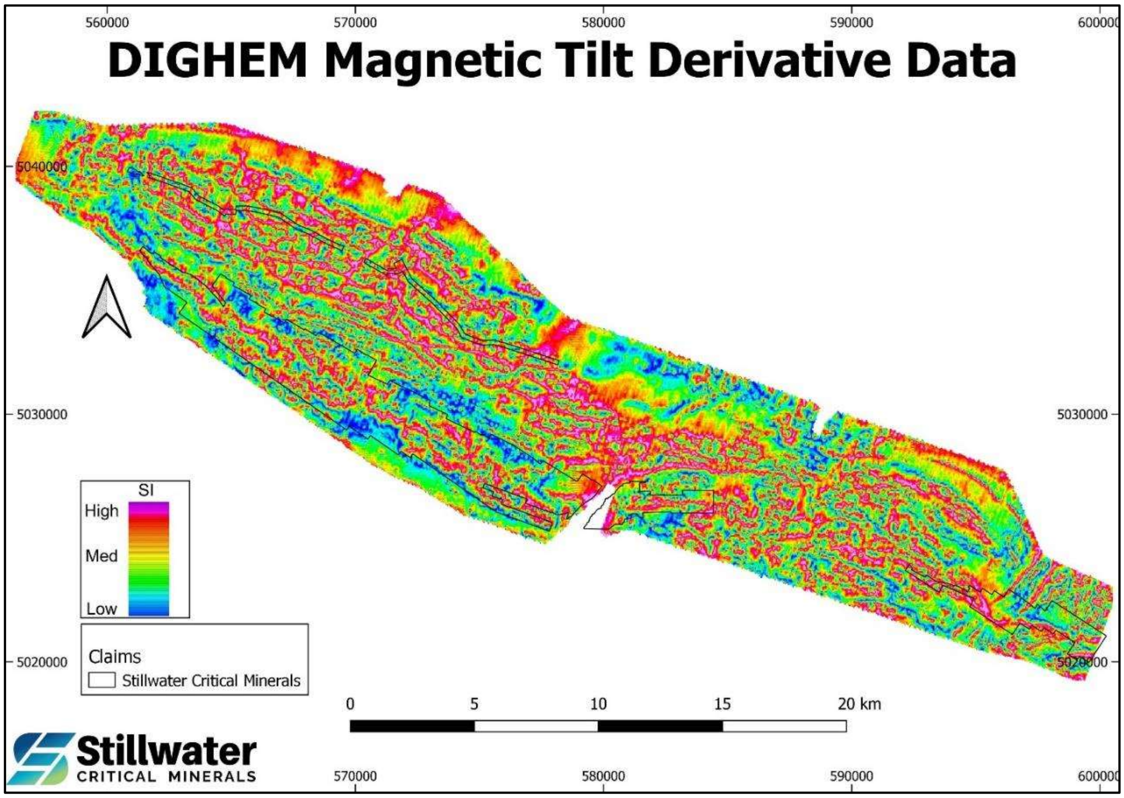
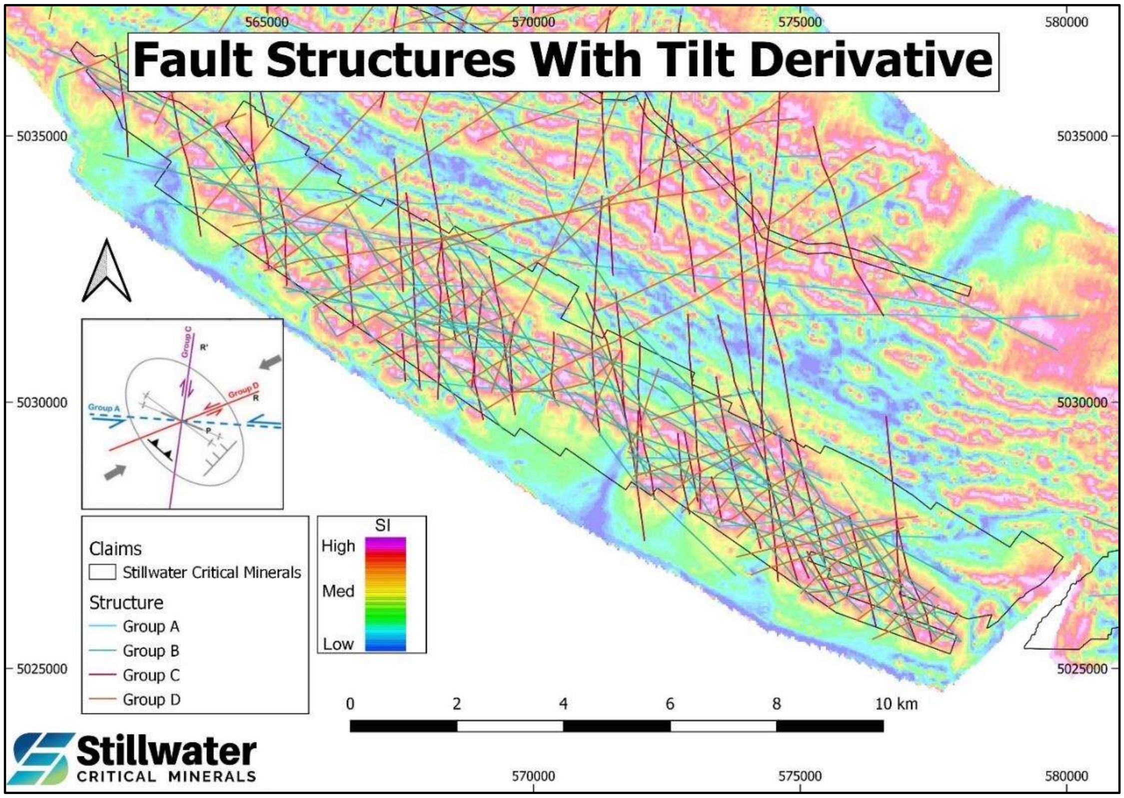


Figure 9-5 Fault Structures on Tilt Derivative Magnetic Data



The company completed a 75.5-line km ground IP survey in 2020 that has proven to be a valuable exploration tool for targeting various types of sulphide mineralization in the lower SWC. An expansion survey of 26.7-line km was completed in 2021, and additional coverage is planned for 2023. Currently, the total amount of IP coverage is 102-line kilometers and represents 40 different profiles along 20 kilometers of strike (Figure 9-6).

The 2020 Alpha IP wireless time domain IP survey conducted by Simcoe Geoscience Ltd. (Simcoe) covered the core Chrome Mountain, East Boulder, and Iron Mountain target areas, and a portion of the Wild West area. This was the largest IP geophysical survey ever completed in the lower SWC at 33 square kilometers, totaling over 75.5-line-kilometers with imaging to a depth of 800 meters (2624.7 ft). The survey involved in-line single deployment, dipole-pole-dipole configuration with 29 lines and 100-meter (328.1 ft) station spacing (Figure 9-7). The line intensity was increased over the most advanced targets to identify signatures from drill-defined sulphide mineralization. A metal factor was calculated that was interpreted to represent chargeable material within conductive zones such as would be expected of massive sulphides. A resistivity scaled chargeability factor was also calculated and this is interpreted to reflect chargeable material in resistive zones such as disseminated sulphides or oxides in unaltered/unfractured rock. On this basis, a series of sulphide and chromite targets were generated.

Figure 9-6 2020 & 2021 Ground IP Survey

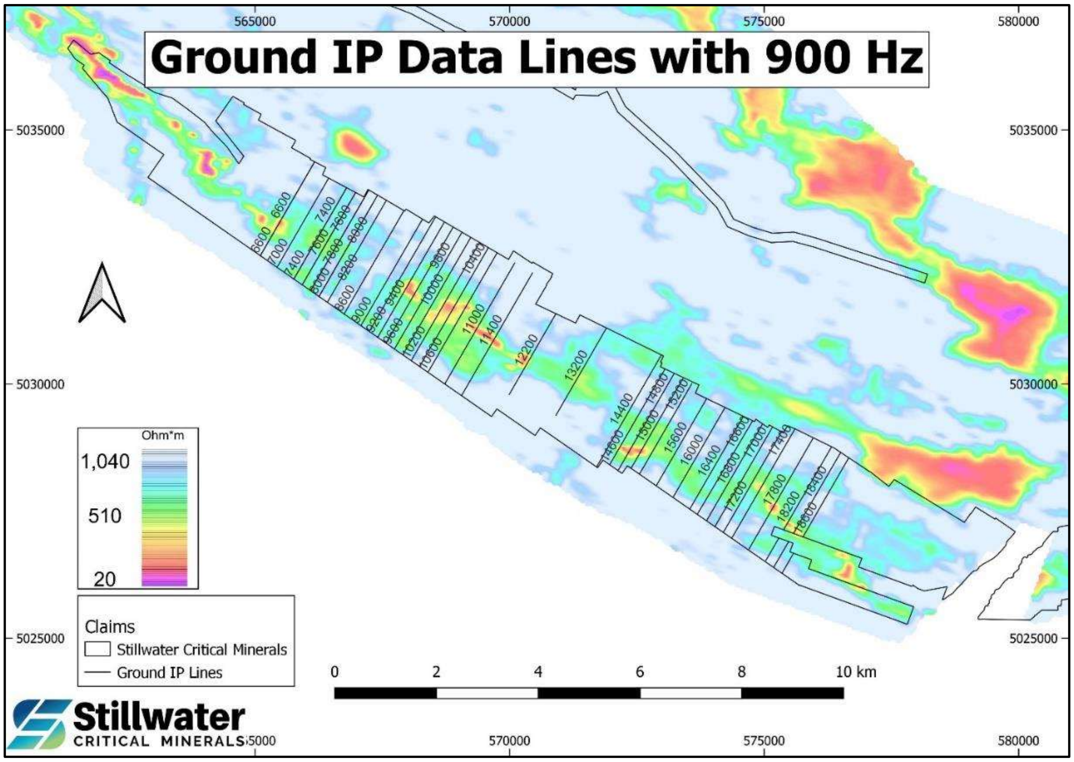
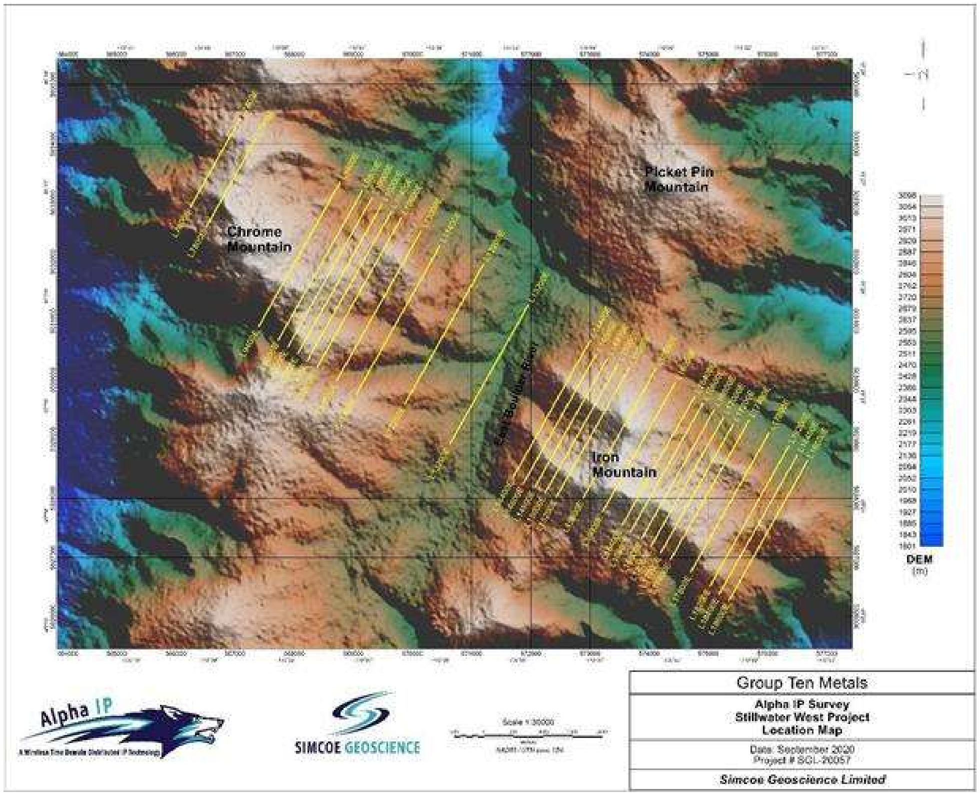


Figure 9-7 Map Showing Locations of IP Lines from the 2020 Simcoe Geoscience Ltd. IP Survey (from Childs and Armitage, 2021)

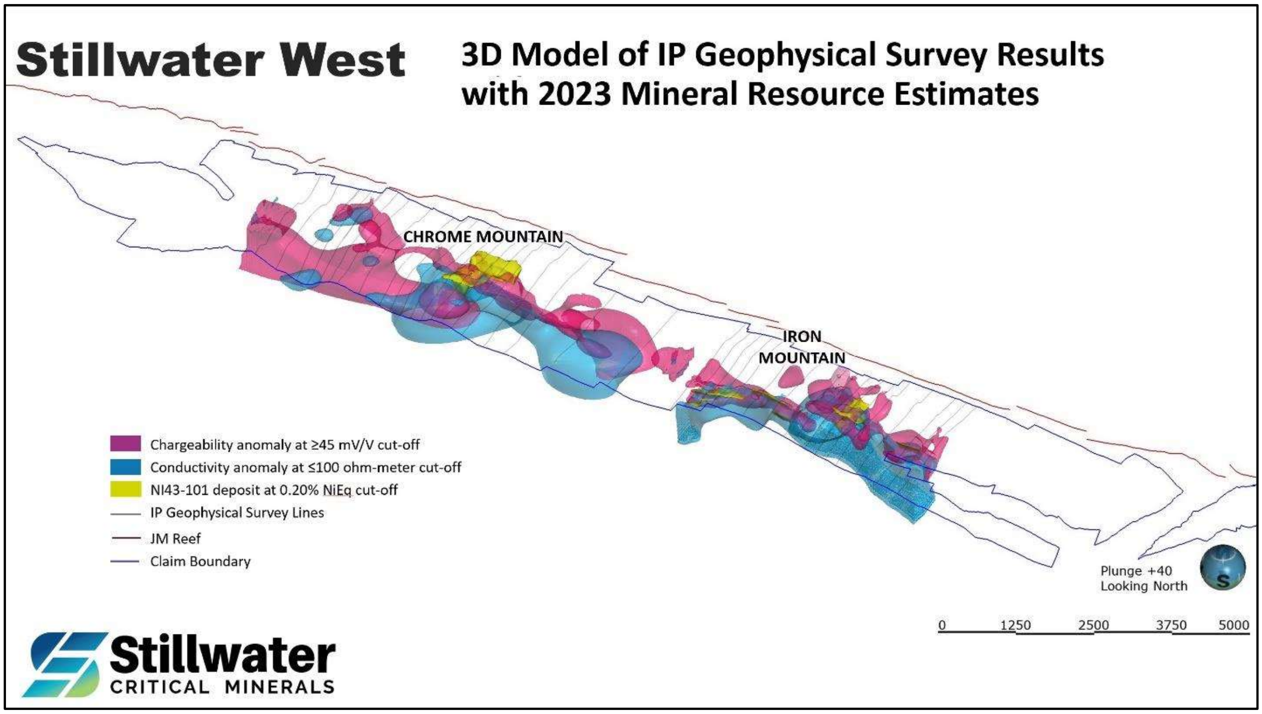


The 2021 IP survey expanded on the 2020 IP survey area, covering a portion of the Wild West target area, including the Pine target with approximately 26.7-line kilometers. This survey was done with a dipole-dipole configuration and the same Alpha IP system as in 2020. A total of 11 lines with 100-meter (328.1 ft) station spacing were completed. Line spacing was approximately 200 meters (656.2 ft) apart.

The IP results demonstrate exceptional continuity in robust conductivity and chargeability anomalies across the 20 km length of the survey, including most that was able to be modeled in 3D (Figure 9-8). Results were used to guide the 2020 and 2021 exploration drill campaign at Chrome Mountain, and will continue to guide exploration efforts for years to come. The high-level, large-scale geophysical anomalies identified in the IP surveys are consistent with large bodies of sulphide mineralization and show a strong correlation with the 2023 MREs as well as correlating Fugro EM anomalies, geochemical soil anomalies, and rock and drill data (where available).

A third phase IP survey is planned for 2023 to fill in the middle portion of the current grid in the East Boulder area. Results from the IP surveys have been incorporated into the 3D geologic and geophysical models that guide the exploration effort. Figure 9-8 displays an overview of the model for the more advanced part of the Property showing robust cutoff values for conductivity and chargeability anomalies identified in the IP geophysical surveys along with current mineral resource estimates (MRE's).

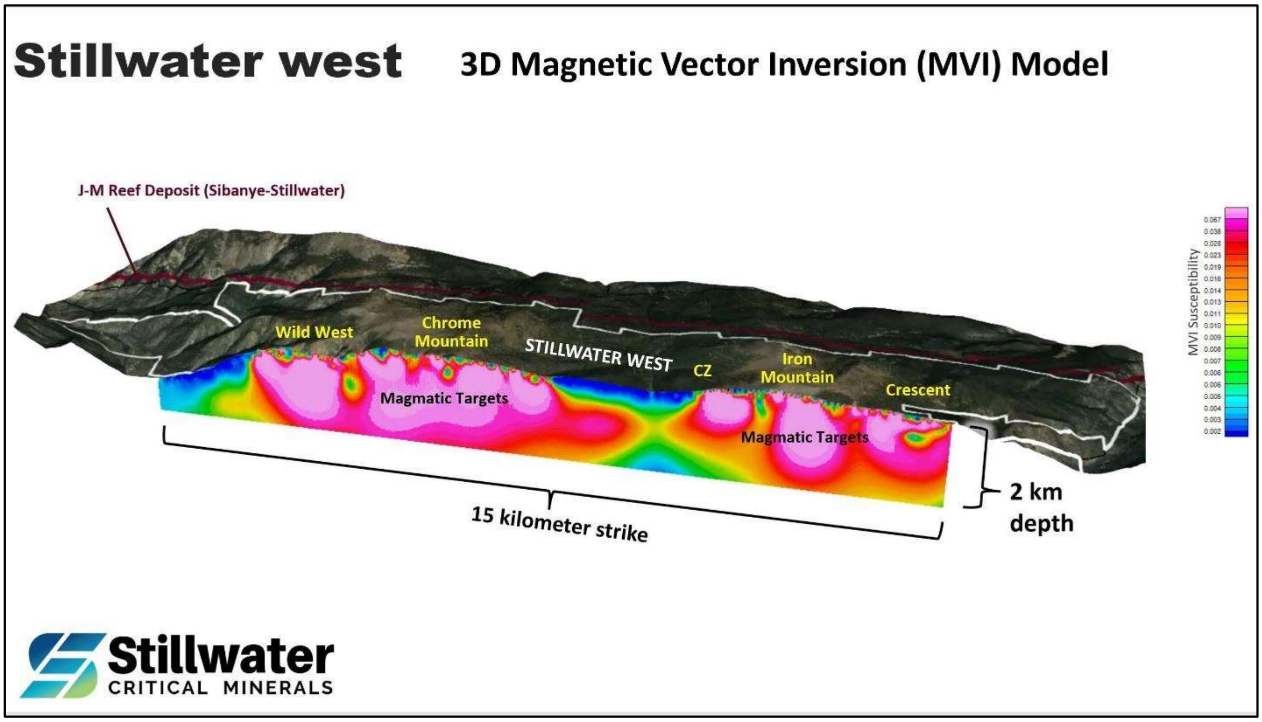
Figure 9-8 2021 3D IP Geophysical Model of Survey Results



In addition to EM and IP data, the Company has also incorporated previous ground-based magnetic survey data across various parts of the Property into its geologic model. Ground-based magnetic surveys were conducted in 2005, 2006, and 2021. All three ground magnetic survey data were collected using the Geometrics G-858 cesium vapor magnetometer for both the base station and rover unit. The rover was also equipped with a Trimble AG132 differential GPS unit to measure location. The 2005 survey covered parts of the Property including Iron Mountain and East Boulder. It also included a grid that partially covers Stillwater East area. The survey totaled approximately 120-line kilometers (74.6 mi) with 100 m (328.1 ft) line spacing. The 2006 survey was conducted over various parts of the property including Chrome Mountain, Iron Mountain, and the Picket Pin reef. A total of approximately 275-line kilometers (170.8-line miles) of data was collected with 100 m (328.1 ft) line spacing. The 2021 survey focused on the Stillwater East area, mapping 25-line kilometers of the furthest east known extent of outcropping Stillwater Complex.

The Company has integrated the ground-based magnetic data with the reprocessed Fugro magnetic data to create a 3D Magnetic Vector Inversion (MVI) model using Geosoft Oasis Montaj 3D modeling software produced by Seequent Ltd. The MVI model highlights the magmatic horizons, potentially indicating that mineralization may extend to several kilometers below known mineralization (Figure 9-9) and provides depth information up to 5 kilometers deep.

Figure 9-9 3D Magnetic Vector Inversion Model



10 DRILLING

The database used for the current MRE comprises data for 156 drill holes, including 131 historical drill holes completed to 2008 (Figure 10-1), and 25 drill hole completed by Stillwater from 2019 to 2021 (Figure 10-2). Representative drill results for historical drill holes from 2002 to 2008 are presented in Table 10-1. Results of drilling completed by Stillwater are presented below.

Figure 10-1 Location of Historical Drill Holes With Respect to the 2023 Mineral Resource Models

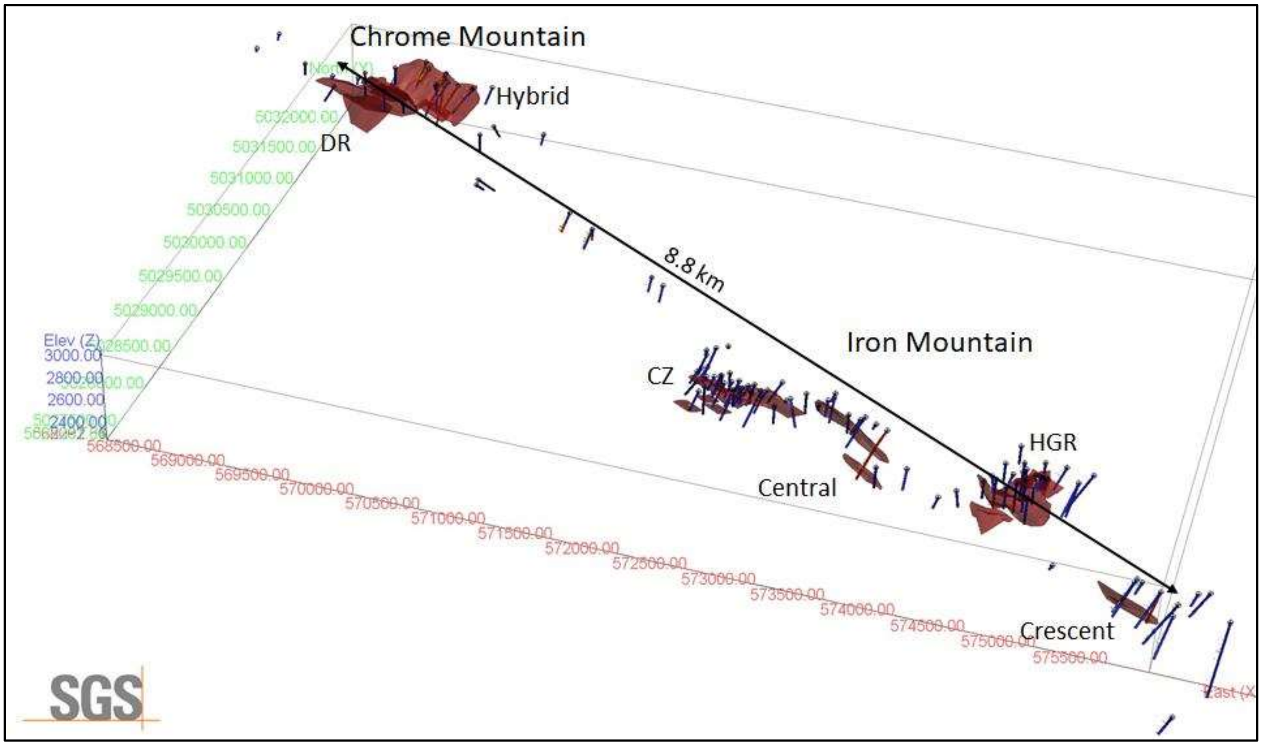


Figure 10-2 Location of Drill Holes Completed by Stillwater from 2019 to 2021 With Respect to the 2023 Mineral Resource Models

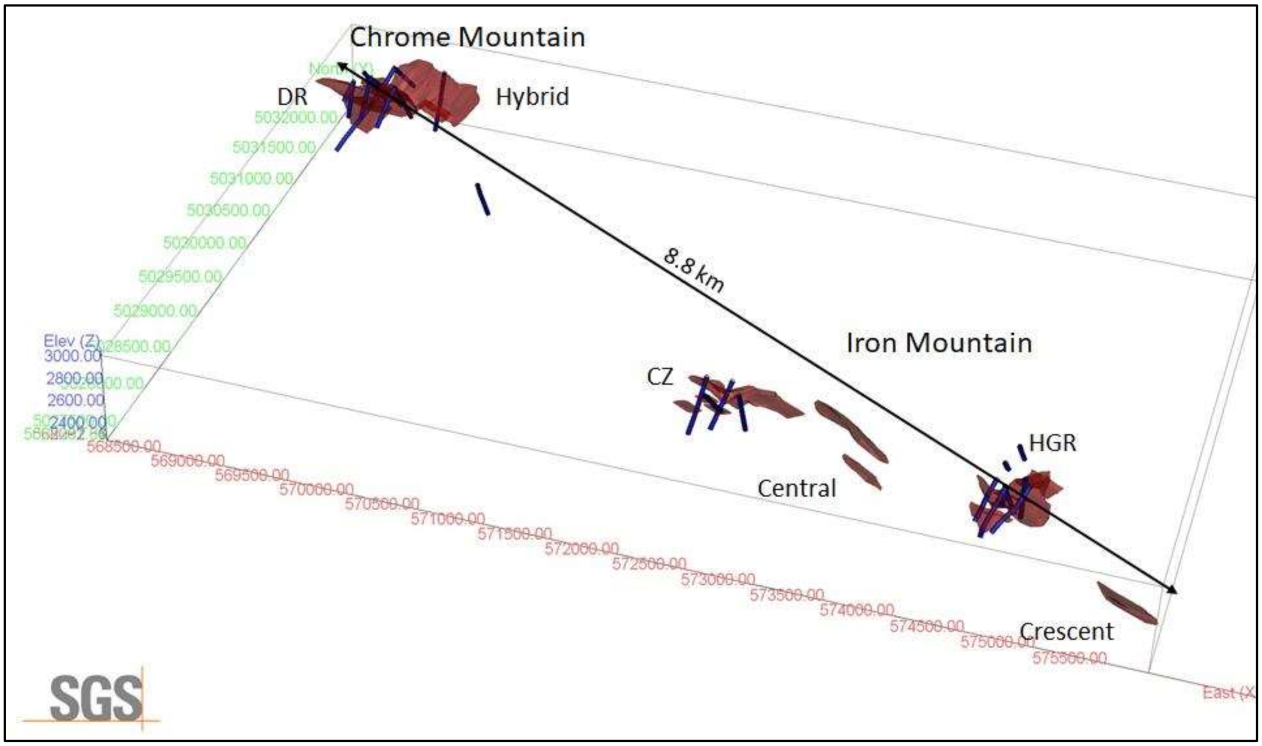


Table 10-1 2002 to 2008 Drill Results, all Target Areas

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
CM2007-01	12.80	25.91	13.11	0.09	0.01	0.01	0.53	0.66	0.03	0.80	0.00
CM2007-01	60.35	77.42	17.07	0.08	0.00	0.01	0.39	0.42	0.01	0.83	0.00
CM2007-01	109.12	123.75	14.63	0.08	0.00	0.01	0.33	0.24	0.01	0.28	0.00
CM2007-01	126.19	132.28	6.09	0.08	0.01	0.01	0.25	0.29	0.03	0.32	0.00
CM2007-02	24.08	70.41	46.33	0.15	0.03	0.01	0.51	0.97	0.06	0.91	0.00
CM2007-02	91.14	113.08	21.94	0.13	0.01	0.01	0.29	0.21	0.00	0.24	0.00
CM2007-02	304.50	308.76	4.26	0.20	0.08	0.01	0.14	0.13	0.03	1.12	0.00
CM2007-03	0.00	17.68	17.68	0.14	0.06	0.01	0.33	0.42	0.16	0.41	0.00
CM2007-03	20.12	43.89	23.77	0.14	0.05	0.01	0.33	0.52	0.12	0.43	0.00
CM2007-04	1.52	52.43	50.91	0.14	0.04	0.01	0.39	0.59	0.11	0.82	0.00
CM2007-04	71.32	119.48	48.16	0.13	0.04	0.01	0.44	0.70	0.11	0.50	0.00
CM2007-04	170.69	184.71	14.02	0.14	0.04	0.01	0.53	0.87	0.09	0.59	0.00
CM2007-04	199.34	201.78	2.44	0.14	0.02	0.02	0.44	0.22	0.00	0.39	0.00
CM2007-04	219.15	238.96	19.81	0.18	0.04	0.01	0.19	0.11	0.01	0.60	0.00
CM2007-05	1.22	13.72	12.50	0.15	0.05	0.02	0.23	0.28	0.05	0.40	0.00
CM2007-05	29.87	40.23	10.36	0.11	0.03	0.01	0.12	0.17	0.03	0.35	0.00
CM2007-05	64.62	82.91	18.29	0.12	0.04	0.01	0.20	0.22	0.06	0.40	0.00
CM2007-05	85.34	131.37	46.03	0.16	0.06	0.01	0.19	0.39	0.08	0.58	0.00
CM2007-05	146.00	179.83	33.83	0.14	0.04	0.01	0.16	0.30	0.04	0.28	0.00

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
CM2007-05	194.46	206.65	12.19	0.14	0.04	0.01	0.26	0.37	0.03	0.37	0.00
CM2007-06	8.84	36.58	27.74	0.16	0.05	0.01	0.19	0.43	0.05	1.06	0.00
CM2007-06	39.01	120.70	81.69	0.22	0.09	0.01	0.16	0.12	0.07	0.45	0.00
CM2007-07	20.12	26.21	6.09	0.11	0.03	0.01	0.16	0.30	0.05	0.30	0.00
CM2007-07	35.36	37.80	2.44	0.07	0.01	0.01	0.20	0.84	0.03	0.26	0.00
CM2007-07	41.76	45.72	3.96	0.11	0.03	0.01	0.28	0.62	0.04	0.34	0.00
CM2007-07	48.16	57.91	9.75	0.17	0.07	0.01	0.17	0.43	0.08	0.30	0.00
CM2007-07	68.28	93.27	24.99	0.17	0.05	0.02	0.21	0.48	0.06	1.21	0.00
CM2007-07	96.93	137.77	40.84	0.17	0.07	0.01	0.17	0.19	0.06	0.48	0.00
CM2007-07	145.08	176.17	31.09	0.16	0.06	0.01	0.22	0.59	0.07	0.97	0.00
CM2007-07	182.58	189.89	7.31	0.13	0.06	0.01	0.20	0.56	0.06	0.29	0.00
CM2007-07	197.21	209.40	12.19	0.12	0.05	0.01	0.28	0.64	0.12	0.37	0.00
CM2007-07	213.06	217.93	4.87	0.10	0.04	0.01	0.19	0.46	0.15	0.34	0.00
CM2007-08	17.07	31.09	14.02	0.17	0.04	0.01	0.11	0.13	0.05	0.26	0.00
CM2007-08	34.75	143.87	109.12	0.16	0.05	0.01	0.29	0.42	0.11	0.39	0.00
CM2007-08	159.72	174.35	14.63	0.12	0.03	0.01	0.22	0.12	0.01	0.33	0.00
CM2007-08	187.76	193.85	6.09	0.14	0.03	0.01	0.13	0.13	0.02	0.46	0.00
CM2007-09	3.66	22.86	19.20	0.14	0.04	0.01	0.37	0.60	0.10	0.42	0.00
CM2007-10	8.23	50.90	42.67	0.14	0.05	0.01	0.35	0.53	0.06	0.45	0.00
CM2007-10	53.34	119.18	65.84	0.16	0.05	0.01	0.20	0.25	0.04	0.37	0.00
CM2008-01	38.71	163.37	124.66	0.17	0.07	0.02	0.12	0.20	0.04	0.64	0.59
CM2008-03	102.11	150.88	48.77	0.20	0.08	0.02	0.09	0.14	0.04	0.30	0.75
CM2008-03	154.53	167.60	13.07	0.21	0.03	0.02	0.07	0.14	0.00	1.06	0.90
CM2008-06	0.00	9.14	9.14	0.12	0.02	0.02	0.10	0.25	0.03	0.41	0.01
CM2008-06	23.93	26.21	2.28	0.04	0.00	0.01	0.38	0.73	0.01	0.43	0.05
CM2008-08	0.00	7.77	7.77	0.11	0.01	0.01	0.21	0.33	0.03	0.64	0.03
CM2008-08	13.41	30.48	17.07	0.09	0.02	0.01	0.32	0.54	0.07	0.36	0.09
CM2008-08	32.92	57.00	24.08	0.12	0.02	0.01	0.33	0.33	0.01	0.31	0.24
CZ2004-01	3.05	14.42	11.37	0.11	0.06	0.01	0.09	0.21	0.04	0.71	0.01
CZ2004-01	20.73	27.82	7.09	0.03	0.01	0.01	0.30	0.36	0.10	0.06	0.30
CZ2004-01	88.48	150.27	61.79	0.25	0.16	0.02	0.08	0.24	0.05	0.21	3.97
CZ2004-02	5.00	17.08	12.08	0.06	0.08	0.01	0.04	0.45	0.14	0.14	0.04
CZ2004-02	23.00	27.70	4.70	0.15	0.06	0.02	0.13	0.24	0.03	0.17	0.95
CZ2004-02	30.17	44.54	14.37	0.21	0.12	0.02	0.06	0.17	0.03	0.17	2.37
CZ2004-02	79.71	91.70	11.99	0.30	0.29	0.02	0.04	0.17	0.06	0.15	4.28
CZ2004-02	100.22	106.43	6.21	0.10	0.01	0.01	0.15	0.47	0.04	0.39	0.23
IM2002-01	0.00	5.33	5.33	0.23	0.07	0.02	0.09	0.12	0.03	0.04	0.04
IM2002-01	8.44	26.70	18.26	0.14	0.03	0.01	0.08	0.13	0.01	0.03	0.05
IM2002-03	32.06	37.73	5.67	0.12	0.02	0.01	0.12	0.23	0.01	0.04	0.12
IM2002-04	0.00	18.62	18.62	0.16	0.04	0.01	0.21	0.45	0.03	0.02	0.05
IM2002-04	69.25	84.09	14.84	0.13	0.04	0.01	0.11	0.11	0.01	0.05	0.95
IM2002-05	0.00	8.72	8.72	0.11	0.01	0.01	0.21	0.41	0.01	0.04	0.05

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
IM2002-05	26.67	35.05	8.38	0.14	0.03	0.01	0.10	0.17	0.02	0.03	0.06
IM2002-06	12.10	17.37	5.27	0.12	0.06	0.01	0.12	0.10	0.01	0.06	0.05
IM2002-07	0.00	7.96	7.96	0.13	0.03	0.01	1.22	2.31	0.06	0.05	0.05
IM2002-07	10.82	19.87	9.05	0.14	0.02	0.01	0.06	0.12	0.01	0.03	0.04
IM2002-08	8.60	30.36	21.76	0.17	0.05	0.02	0.19	0.42	0.03	0.05	0.06
IM2002-08	37.52	44.65	7.13	0.13	0.05	0.01	0.10	0.14	0.04	0.04	0.06
IM2002-08	47.40	67.00	19.60	0.14	0.08	0.01	0.06	0.13	0.02	0.03	0.30
IM2002-08	71.96	83.36	11.31	0.13	0.06	0.01	0.10	0.20	0.02	0.07	0.43
IM2002-09	5.09	15.15	10.06	0.15	0.03	0.01	0.14	0.22	0.02	0.07	0.08
IM2002-09	25.33	36.21	10.88	0.17	0.03	0.01	0.22	0.42	0.03	0.05	0.05
IM2002-10	0.00	5.70	5.70	0.11	0.02	0.01	0.08	0.19	0.01	0.00	0.00
IM2002-10	23.65	34.78	10.92	0.16	0.10	0.01	0.07	0.14	0.02	0.00	0.00
IM2002-11	5.21	29.60	24.39	0.15	0.03	0.01	0.07	0.18	0.03	0.00	0.00
IM2002-12	51.18	92.51	41.33	0.15	0.05	0.01	0.24	0.62	0.04	0.04	0.13
IM2002-13	20.06	61.51	41.45	0.16	0.07	0.02	0.07	0.16	0.02	0.04	1.23
IM2002-14	18.59	25.27	6.68	0.16	0.05	0.01	0.06	0.14	0.02	0.03	0.04
IM2002-14	32.16	45.45	13.29	0.13	0.01	0.01	0.26	0.39	0.03	0.04	0.02
IM2006-01	154.81	170.90	16.09	0.20	0.08	0.00	0.17	0.25	0.08	0.37	0.00
IM2006-01	208.64	227.99	19.35	0.44	0.18	0.00	0.21	0.12	0.12	0.15	0.00
IM2006-02	28.62	38.59	9.97	0.17	0.04	0.00	0.29	1.04	0.04	1.00	0.00
IM2006-02	117.35	120.09	2.74	0.20	0.06	0.00	0.12	0.22	0.03	0.58	0.00
IM2006-02	152.49	184.71	32.22	0.19	0.09	0.00	0.07	0.12	0.05	0.38	0.00
IM2006-02	223.42	234.18	10.76	0.28	0.16	0.00	0.04	0.18	0.14	0.17	0.00
IM2006-02	237.44	243.54	6.10	0.16	0.09	0.00	0.04	0.11	0.10	0.05	0.00
IM2006-03	34.75	40.84	6.09	0.15	0.04	0.00	0.12	0.29	0.06	0.30	0.00
IM2006-03	101.38	104.24	2.86	0.11	0.01	0.00	0.47	1.00	0.04	9.68	0.00
IM2006-03	132.28	142.04	9.76	0.19	0.04	0.00	0.17	0.26	0.06	0.40	0.00
IM2006-04	105.55	121.31	15.55	0.18	0.02	0.00	0.04	0.18	0.01	0.90	0.00
IM2006-04	168.71	220.68	51.97	0.20	0.06	0.00	0.14	0.21	0.11	0.49	0.00
IM2006-05	7.53	20.48	12.95	0.36	0.08	0.00	0.10	0.11	0.04	0.25	0.00
IM2006-05	230.73	247.50	16.77	0.27	0.06	0.00	0.04	0.15	0.05	0.60	0.00
IM2006-05	291.39	299.01	7.62	0.17	0.10	0.00	0.08	0.15	0.06	1.43	0.00
IM2006-05	302.67	307.24	4.57	0.22	0.12	0.00	0.16	0.23	0.16	1.45	0.00
IM2006-06	133.50	142.04	8.54	0.15	0.01	0.00	0.07	0.22	0.05	0.75	0.00
IM2006-06	199.03	205.44	6.41	0.18	0.02	0.00	0.17	0.68	0.02	1.26	0.00
IM2006-06	207.87	216.41	8.54	0.14	0.03	0.00	0.07	0.14	0.02	0.63	0.00
IM2006-06	233.48	240.79	7.31	0.18	0.07	0.00	0.08	0.14	0.02	1.45	0.00
IM2007-01	62.18	84.12	21.94	0.12	0.05	0.01	0.08	0.27	0.02	0.57	0.00
IM2007-01	89.00	95.10	6.10	0.10	0.04	0.01	0.07	0.21	0.02	0.38	0.00
IM2007-01	153.62	156.06	2.44	0.17	0.07	0.02	0.11	0.25	0.05	0.37	0.00
IM2007-01	171.91	179.83	7.92	0.29	0.14	0.02	0.08	0.21	0.07	0.14	0.00
IM2007-01	189.59	203.00	13.41	0.12	0.06	0.01	0.15	0.21	0.07	0.53	0.00

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
IM2007-01	206.65	212.75	6.10	0.11	0.05	0.01	0.07	0.11	0.02	0.47	0.00
IM2007-01	243.17	256.64	13.47	0.15	0.04	0.01	0.09	0.21	0.03	1.06	0.00
IM2007-01	262.74	270.05	7.31	0.17	0.07	0.01	0.14	0.25	0.03	0.54	0.00
IM2007-01	312.12	340.16	28.04	0.18	0.06	0.02	0.13	0.31	0.04	0.44	0.00
IM2007-01	366.98	370.64	3.66	0.30	0.20	0.02	0.11	0.28	0.09	0.14	0.00
IM2007-02	78.67	129.84	51.17	0.14	0.05	0.02	0.08	0.22	0.02	0.67	0.00
IM2007-02	132.28	148.13	15.85	0.15	0.06	0.02	0.11	0.20	0.02	0.40	0.00
IM2007-02	243.23	250.55	7.32	0.18	0.08	0.02	0.04	0.13	0.02	0.15	0.00
IM2007-03	48.77	100.58	51.81	0.15	0.06	0.02	0.12	0.29	0.02	0.72	0.00
IM2007-03	104.24	121.92	17.68	0.16	0.06	0.02	0.03	0.15	0.02	0.11	0.00
IM2007-04	46.94	57.30	10.36	0.25	0.14	0.03	0.07	0.11	0.06	0.25	0.00
IM2008-01	7.01	53.64	46.63	0.29	0.10	0.02	0.16	0.30	0.17	0.34	1.84
IM2008-01	58.52	62.18	3.66	0.14	0.03	0.02	0.27	0.29	0.21	0.25	0.57
IM2008-02	92.05	97.54	5.49	0.24	0.13	0.02	0.09	0.11	0.04	0.32	1.98
IM2008-03	0.00	23.16	23.16	0.13	0.06	0.01	0.07	0.19	0.02	0.67	0.02
IM2008-03	46.33	48.77	2.44	0.11	0.03	0.01	0.18	0.60	0.02	0.32	0.38

10.1 2019 to 2021 drilling

In 2019, Stillwater completed 1,617 m of drilling in 6 drill holes in September to October 2019 at the Iron Mountain (Camp and HGR) target area (Figure 10-3). Representative drill results are presented in Table 10-2. The three holes drilled in the HGR zone at Iron Mountain were designed to confirm that PGEs occur systematically within broad zones of nickel and copper sulphides which were not previously analyzed for precious metals.

Figure 10-3 Location of Drill Holes Completed by Stillwater in 2019 With Respect to the 2023 Mineral Resource Models

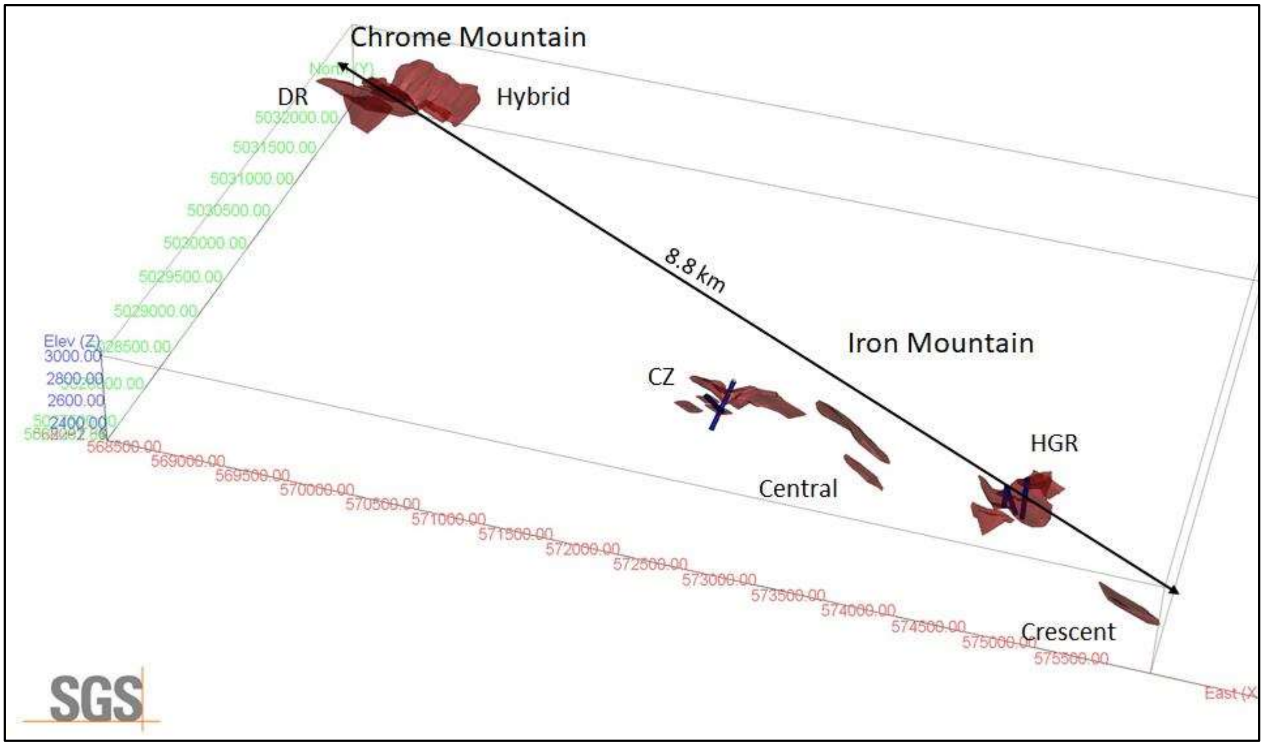


Table 10-2 2019 Drill Results, HGR Zone and Camp Zone Target Areas

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
CZ2019-01	117.20	124.97	7.77	0.50	0.20	0.04	0.24	0.48	0.04	0.55	9.39
CZ2019-01	137.77	150.27	12.50	0.37	0.20	0.03	0.04	0.38	0.07	0.32	5.65
CZ2019-01	158.50	179.22	20.72	0.37	0.16	0.03	0.40	0.55	0.08	0.30	3.12
CZ2019-01	217.63	225.55	7.92	0.28	0.30	0.01	0.61	1.19	0.21	0.24	0.34
CZ2019-01	258.47	261.52	3.05	0.10	0.08	0.01	0.25	0.45	0.32	0.26	0.08
CZ2019-01	363.32	368.20	4.88	0.13	0.05	0.01	0.23	0.82	0.06	0.35	0.29
CZ2019-01	393.50	398.53	5.03	0.12	0.31	0.01	0.10	0.21	0.09	0.14	3.74
CZ2019-03	58.83	74.07	15.24	0.15	0.06	0.02	0.09	0.15	0.04	0.20	2.81
CZ2019-03	89.92	92.96	3.04	0.49	0.39	0.04	0.02	0.17	0.05	0.67	11.08
CZ2019-03	246.28	249.33	3.05	0.10	0.07	0.01	0.16	0.48	0.03	0.18	0.50
CZ2019-03	280.87	287.73	6.86	0.20	0.20	0.02	0.05	0.18	0.09	0.12	1.75
CZ2019-03	306.02	313.64	7.62	0.13	0.00	0.01	0.07	0.23	0.01	0.12	0.17

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
CZ2019-03	317.45	325.53	8.08	0.16	0.05	0.02	0.08	0.09	0.01	0.28	0.30
IM2019-01	33.83	50.90	17.07	0.14	0.03	0.01	0.14	0.44	0.04	0.47	0.31
IM2019-01	56.39	89.61	33.22	0.16	0.02	0.02	0.10	0.24	0.02	1.05	0.23
IM2019-01	157.49	194.31	36.82	0.20	0.07	0.02	0.08	0.10	0.02	0.54	1.36
IM2019-01	225.55	242.01	16.46	0.21	0.14	0.02	0.05	0.16	0.04	0.20	2.11
IM2019-01	245.21	275.23	30.02	0.15	0.13	0.01	0.06	0.13	0.04	0.16	1.02
IM2019-01	277.37	284.68	7.31	0.21	0.25	0.01	0.03	0.12	0.04	0.07	3.03
IM2019-02	57.91	142.34	84.43	0.22	0.14	0.01	0.09	0.18	0.10	0.27	0.41
IM2019-02	145.39	158.50	13.11	0.17	0.15	0.02	0.02	0.07	0.04	0.15	1.10
IM2019-02	165.20	170.99	5.79	0.21	0.09	0.02	0.02	0.08	0.02	0.09	2.65
IM2019-03	18.84	48.62	29.78	0.12	0.02	0.01	0.15	0.24	0.02	0.38	0.03
IM2019-03	74.83	202.39	127.56	0.25	0.15	0.02	0.17	0.36	0.05	0.38	0.67
IM2019-03	204.83	220.68	15.85	0.28	0.21	0.02	0.11	0.16	0.06	0.28	3.13
IM2019-03	235.00	240.79	5.79	0.35	0.30	0.02	0.02	0.26	0.05	0.07	3.63
IM2019-03	243.84	254.20	10.36	0.16	0.18	0.01	0.03	0.09	0.03	0.13	1.23
IM2019-03	261.52	268.83	7.31	0.24	0.15	0.02	0.05	0.12	0.03	0.09	2.85

In 2020, Stillwater completed 1,823 m of drilling in 5 drill holes in the Chrome Mountain target area (Figure 10-4). Representative drill results are presented in Table 10-3.

Figure 10-4 Location of Drill Holes Completed by Stillwater in 2020 With Respect to the 2023 Mineral Resource Models

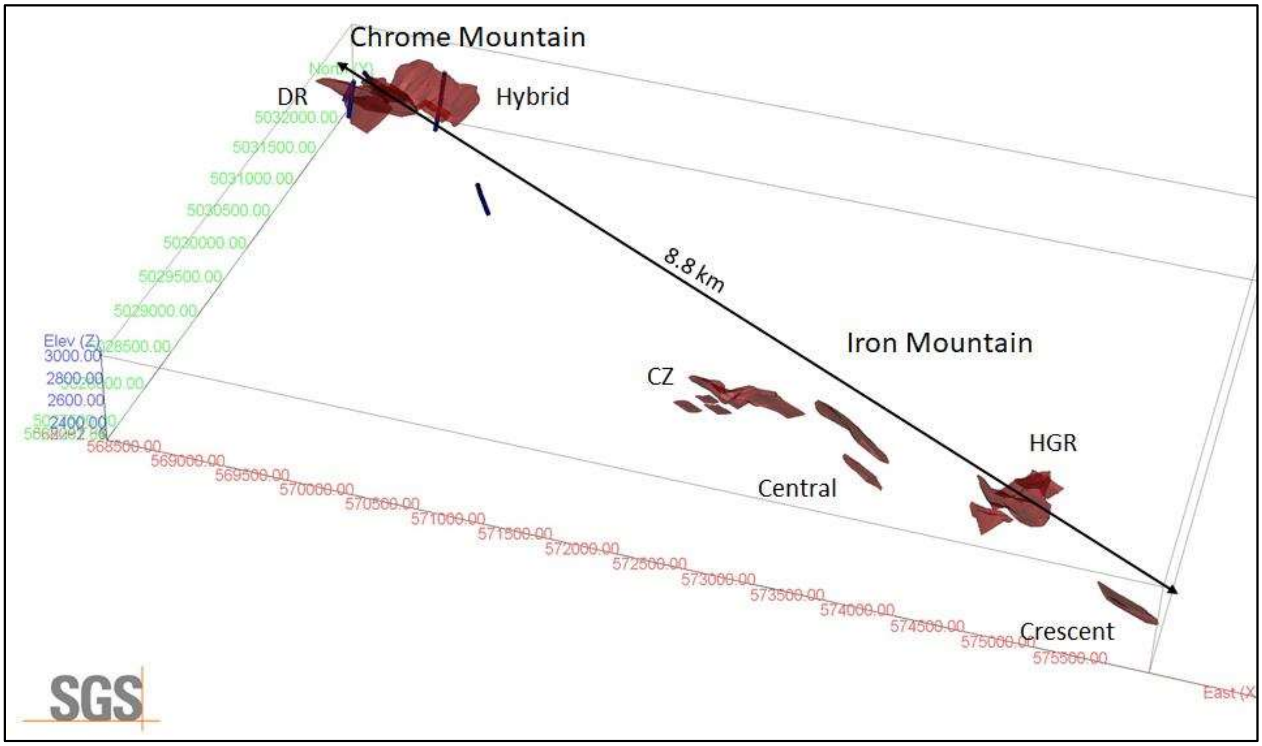


Table 10-3 2020 Drill Results, Chrome Mountain Target Area

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
CM2020-01	99.97	109.73	9.76	0.11	0.00	0.02	0.51	0.07	0.00	0.55	0.05
CM2020-01	403.56	407.21	3.65	0.16	0.01	0.02	0.01	0.01	0.00	0.27	0.12
CM2020-01	508.10	521.21	13.11	0.17	0.00	0.02	0.07	0.02	0.00	5.04	0.14
CM2020-01	523.65	532.18	8.53	0.18	0.01	0.02	0.02	0.01	0.00	1.76	0.14
CM2020-02	60.84	85.34	24.50	0.22	0.07	0.02	0.12	0.50	0.06	0.75	1.19
CM2020-02	114.60	133.50	18.90	0.16	0.03	0.01	0.23	0.38	0.06	0.83	0.20
CM2020-03	39.01	45.11	6.10	0.12	0.05	0.01	0.41	0.97	0.05	0.60	0.08
CM2020-03	59.44	63.40	3.96	0.26	0.08	0.02	0.09	0.20	0.03	0.25	2.47
CM2020-03	68.28	80.47	12.19	0.15	0.05	0.01	0.22	0.38	0.03	1.11	0.45
CM2020-03	109.73	112.17	2.44	0.14	0.08	0.01	0.18	0.18	0.05	0.41	0.27
CM2020-03	123.14	132.89	9.75	0.16	0.02	0.01	0.16	0.33	0.02	1.20	0.09
CM2020-03	135.33	141.43	6.10	0.10	0.02	0.01	0.40	0.17	0.04	0.35	0.10
CM2020-03	224.33	228.60	4.27	0.21	0.28	0.02	0.22	0.41	0.09	0.07	1.80
CM2020-04	121.31	142.04	20.73	0.56	0.08	0.03	0.04	0.14	0.29	0.46	2.79
CM2020-04	149.35	163.98	14.63	0.09	0.01	0.01	0.20	0.48	0.01	0.54	0.20
CM2020-04	174.96	177.39	2.43	0.06	0.00	0.01	0.30	0.55	0.01	0.46	0.06
CM2020-04	273.10	333.45	60.35	0.28	0.08	0.02	0.06	0.09	0.04	0.36	1.65
CM2020-05	3.66	6.71	3.05	0.26	0.16	0.02	0.01	0.09	0.03	0.13	5.27
CM2020-05	16.46	21.34	4.88	0.14	0.18	0.01	0.01	0.09	0.08	0.04	5.79
CM2020-05	54.25	64.01	9.76	0.14	0.08	0.03	0.11	0.08	0.04	0.29	3.10
CM2020-05	80.47	82.91	2.44	0.18	0.12	0.03	0.06	0.08	0.02	0.12	4.42
CM2020-05	170.69	194.46	23.77	0.15	0.01	0.01	0.03	0.07	0.00	0.39	0.17
CM2020-05	196.90	213.97	17.07	0.24	0.04	0.02	0.05	0.07	0.01	0.34	0.52
CM2020-05	288.95	300.53	11.58	0.11	0.03	0.01	0.41	0.54	0.02	0.32	0.17

In 2021, Stillwater completed 5,143 m of drilling in 14 drill holes focusing on expansion of the 2021 MRE, in the HGR and CZ deposit areas at Iron Mountain, and at the DR and Hybrid deposit areas at Chrome Mountain (Figure 10-5). Representative drill results are presented in Table 10-4.

Figure 10-5 Location of Drill Holes Completed by Stillwater in 2021 With Respect to the 2023 Mineral Resource Models

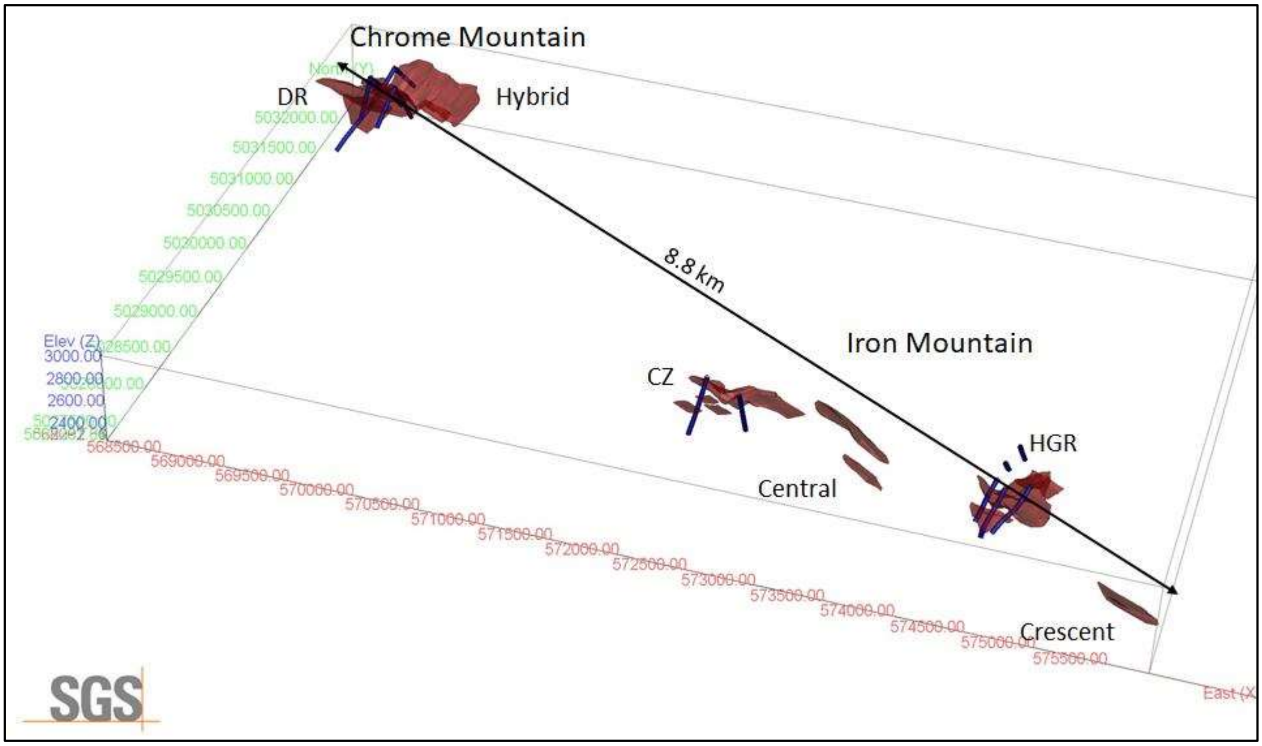


Table 10-4 2021 Drill Results, Chrome Mountain and Iron Mountain Target Areas

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
CM2021-01	62.40	77.50	15.10	0.17	0.01	0.02	0.07	0.07	0.01	0.42	0.21
CM2021-01	95.50	100.30	4.80	0.12	0.01	0.01	0.28	0.66	0.01	0.34	0.28
CM2021-01	233.50	238.60	5.10	0.31	0.07	0.03	0.03	0.03	0.01	0.22	4.60
CM2021-01	247.00	265.20	18.20	0.17	0.07	0.02	0.07	0.17	0.02	0.24	1.05
CM2021-01	271.20	285.60	14.40	0.14	0.05	0.01	0.07	0.13	0.03	0.21	0.38
CM2021-01	288.00	294.00	6.00	0.15	0.05	0.01	0.09	0.15	0.03	0.21	0.39
CM2021-01	296.40	319.20	22.80	0.12	0.03	0.01	0.28	0.32	0.02	0.33	0.23
CM2021-01	322.80	325.20	2.40	0.21	0.02	0.01	0.16	0.18	0.02	0.28	0.34
CM2021-01	327.60	556.40	228.80	0.19	0.04	0.02	0.27	0.34	0.04	0.42	0.31
CM2021-01	566.60	583.40	16.80	0.13	0.05	0.01	0.16	0.26	0.04	0.35	0.34
CM2021-01	623.60	627.20	3.60	0.18	0.08	0.02	0.01	0.06	0.01	0.10	3.44
CM2021-01	663.40	667.00	3.60	0.16	0.08	0.01	0.08	0.35	0.03	0.35	0.56
CM2021-01	669.40	674.20	4.80	0.20	0.08	0.02	0.08	0.42	0.02	0.30	0.84
CM2021-01	680.20	682.60	2.40	0.15	0.06	0.01	0.06	0.26	0.01	0.29	0.58
CM2021-01	688.60	698.20	9.60	0.16	0.08	0.02	0.07	0.30	0.02	0.32	0.98
CM2021-01	720.60	728.10	7.50	0.41	0.17	0.05	0.05	0.32	0.03	0.26	16.92

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
CM2021-02	95.00	98.60	3.60	0.10	0.01	0.01	0.31	0.33	0.03	0.30	0.17
CM2021-02	102.20	114.40	12.20	0.13	0.03	0.01	0.17	0.29	0.03	0.24	0.39
CM2021-02	118.74	125.60	6.86	0.16	0.06	0.01	0.15	0.38	0.04	0.88	0.41
CM2021-02	129.25	227.00	97.75	0.19	0.10	0.02	0.06	0.10	0.04	0.38	0.93
CM2021-02	248.20	274.20	26.00	0.18	0.08	0.01	0.15	0.29	0.06	0.78	0.46
CM2021-03	0.00	2.40	2.40	0.11	0.05	0.01	0.45	1.27	0.05	0.88	0.01
CM2021-03	4.80	12.00	7.20	0.13	0.07	0.01	0.23	0.68	0.05	0.96	0.01
CM2021-03	14.40	30.80	16.40	0.18	0.14	0.02	0.05	0.07	0.02	0.31	1.65
CM2021-03	66.80	83.60	16.80	0.19	0.07	0.02	0.01	0.03	0.02	0.26	2.73
CM2021-03	88.40	102.40	14.00	0.19	0.06	0.02	0.02	0.04	0.05	0.27	2.75
CM2021-03	104.80	115.20	10.40	0.27	0.10	0.04	0.03	0.03	0.06	0.19	6.50
CM2021-03	129.60	135.00	5.40	0.22	0.05	0.04	0.01	0.02	0.05	0.31	2.33
CM2021-03	165.00	175.80	10.80	0.24	0.08	0.04	0.02	0.05	0.03	0.22	4.87
CM2021-03	222.20	228.40	6.20	0.12	0.01	0.01	0.25	0.42	0.01	0.62	0.13
CM2021-03	240.10	266.80	26.70	0.15	0.03	0.01	0.33	0.68	0.06	1.71	0.25
CM2021-03	300.40	313.60	13.20	0.06	0.01	0.01	0.37	0.38	0.01	0.33	0.12
CM2021-03	316.00	334.00	18.00	0.08	0.01	0.01	0.27	0.28	0.02	0.23	0.20
CM2021-04	2.50	12.00	9.50	0.15	0.04	0.02	0.17	0.54	0.03	2.25	0.05
CM2021-04	14.40	18.00	3.60	0.18	0.05	0.01	0.23	0.61	0.04	1.28	0.09
CM2021-04	31.20	34.80	3.60	0.22	0.13	0.02	0.24	0.18	0.06	0.73	0.11
CM2021-04	37.20	48.00	10.80	0.14	0.08	0.02	0.11	0.12	0.04	0.46	1.08
CM2021-04	50.40	60.00	9.60	0.18	0.08	0.03	0.12	0.06	0.02	0.21	4.01
CM2021-04	102.00	109.20	7.20	0.24	0.13	0.02	0.03	0.08	0.04	0.20	3.31
CM2021-04	136.80	141.60	4.80	0.19	0.14	0.02	0.06	0.02	0.01	0.10	2.40
CM2021-04	148.80	162.00	13.20	0.15	0.06	0.02	0.06	0.06	0.02	0.25	1.02
CM2021-04	164.40	166.80	2.40	0.21	0.12	0.02	0.04	0.07	0.04	0.31	1.48
CM2021-04	198.00	208.80	10.80	0.25	0.22	0.03	0.02	0.04	0.03	0.25	1.84
CM2021-05	36.40	50.80	14.40	2.12	0.33	0.11	0.23	0.40	0.75	1.05	11.95
CM2021-05	187.60	210.40	22.80	0.15	0.04	0.01	0.15	0.50	0.03	1.57	0.21
CM2021-05	245.20	248.80	3.60	0.37	0.06	0.02	0.12	0.11	0.10	0.56	2.76
CM2021-05	344.80	365.20	20.40	0.15	0.05	0.01	0.20	0.41	0.05	1.04	0.43
CM2021-05	416.80	420.40	3.60	0.10	0.00	0.01	0.51	0.22	0.01	0.59	0.01
CM2021-06	35.00	37.80	2.80	0.44	0.05	0.02	0.03	0.09	0.02	0.53	0.01
CM2021-06	115.80	153.20	37.40	0.15	0.04	0.01	0.13	0.36	0.03	0.88	0.26
CM2021-06	162.80	165.20	2.40	0.13	0.03	0.01	0.51	0.33	0.26	0.88	0.32
CM2021-06	167.60	172.30	4.70	0.24	0.11	0.03	0.14	0.16	0.03	0.26	7.01
CM2021-06	174.70	188.80	14.10	0.17	0.08	0.02	0.12	0.21	0.05	0.19	4.06
CM2021-06	200.80	203.20	2.40	0.23	0.11	0.02	0.01	0.09	0.03	0.20	1.72
CM2021-06	228.40	230.80	2.40	0.11	0.15	0.02	0.03	0.06	0.01	0.10	3.74
CM2021-06	303.40	313.00	9.60	0.11	0.01	0.02	0.23	0.24	0.02	0.87	0.11
CM2021-06	315.40	351.20	35.80	0.13	0.02	0.02	0.25	0.33	0.02	0.57	0.19
CM2021-06	353.60	376.80	23.20	0.17	0.03	0.02	0.14	0.18	0.04	0.43	0.29

HOLE-ID	FROM	TO	LENGTH	NI_%	CU_%	CO_%	PT_GPT	PD_GPT	AU_GPT	CR_%	S_%
CZ2021-01	10.80	72.90	62.10	0.46	0.27	0.04	0.13	0.41	0.07	0.17	9.25
CZ2021-01	88.80	96.00	7.20	0.12	0.06	0.01	0.08	0.31	0.02	0.73	0.38
CZ2021-01	122.40	127.20	4.80	0.21	0.09	0.02	0.19	0.44	0.04	0.80	0.78
CZ2021-01	132.00	140.40	8.40	0.14	0.08	0.01	0.08	0.38	0.04	0.50	0.61
CZ2021-01	169.80	177.00	7.20	0.13	0.02	0.01	0.07	0.20	0.04	0.14	0.03
CZ2021-01	191.40	209.20	17.80	0.14	0.02	0.01	0.07	0.16	0.02	0.19	0.56
CZ2021-01	315.00	327.00	12.00	0.09	0.02	0.01	0.10	0.31	0.02	0.28	0.14
CZ2021-01	357.00	360.00	3.00	0.21	0.10	0.03	0.13	0.20	0.02	0.09	5.55
CZ2021-02	71.00	74.60	3.60	0.10	0.04	0.02	0.01	0.05	0.04	0.13	2.03
CZ2021-02	78.20	80.60	2.40	0.14	0.03	0.02	0.03	0.08	0.04	0.14	1.08
CZ2021-02	86.60	94.80	8.20	0.16	0.10	0.02	0.03	0.10	0.07	0.21	2.66
CZ2021-02	279.40	285.40	6.00	0.14	0.08	0.01	0.22	0.11	0.09	0.28	1.22
IM2021-03	51.20	63.20	12.00	0.12	0.04	0.01	0.11	0.27	0.02	0.28	0.35
IM2021-03	80.00	93.20	13.20	0.15	0.05	0.01	0.07	0.20	0.03	0.23	0.44
IM2021-03	98.00	106.40	8.40	0.19	0.06	0.01	0.05	0.21	0.04	0.31	1.12
IM2021-03	115.00	118.60	3.60	0.14	0.02	0.01	0.32	1.17	0.06	0.38	0.34
IM2021-03	131.80	133.87	2.07	0.14	0.02	0.02	0.09	0.28	0.01	0.34	0.33
IM2021-04	92.20	109.20	17.00	0.19	0.04	0.02	0.26	0.61	0.04	1.23	0.20
IM2021-04	145.20	202.80	57.60	0.22	0.15	0.01	0.07	0.10	0.03	0.26	0.29
IM2021-04	256.00	260.80	4.80	0.74	0.65	0.07	0.00	0.15	0.09	0.01	16.35
IM2021-04	287.20	302.40	15.20	0.19	0.22	0.01	0.05	0.10	0.04	0.05	3.70
IM2021-05	35.60	50.00	14.40	0.10	0.04	0.01	0.15	0.36	0.04	0.40	0.01
IM2021-05	52.40	104.00	51.60	0.19	0.09	0.01	0.11	0.23	0.03	0.55	0.47
IM2021-05	106.40	162.80	56.40	0.18	0.10	0.02	0.05	0.10	0.02	0.33	0.64
IM2021-05	238.40	257.60	19.20	0.27	0.23	0.02	0.09	0.15	0.03	0.09	4.45
IM2021-05	262.40	266.00	3.60	0.25	0.18	0.02	0.14	0.13	0.03	0.04	4.92
IM2021-05	270.80	276.60	5.80	0.34	0.27	0.02	0.18	0.16	0.03	0.07	8.03
IM2021-05	279.00	282.60	3.60	0.16	0.16	0.01	0.02	0.08	0.03	0.02	4.04
IM2021-05	310.20	317.00	6.80	0.65	0.14	0.04	0.04	0.28	0.05	0.04	10.17
IM2021-05	324.20	334.92	10.72	0.35	0.16	0.02	0.10	0.28	0.04	0.11	4.51
IM2021-05	345.60	347.80	2.20	1.18	0.20	0.05	0.12	0.22	0.08	0.09	10.99
IM2021-05	350.00	370.80	20.80	0.23	0.23	0.01	0.07	0.18	0.04	0.08	1.84
IM2021-05	374.40	378.00	3.60	0.12	0.20	0.01	0.09	0.21	0.04	0.01	1.00
IM2021-06	25.20	36.00	10.80	0.16	0.06	0.01	0.15	0.08	0.01	0.21	0.05
IM2021-06	57.60	164.80	107.20	0.19	0.08	0.01	0.14	0.30	0.04	0.31	0.52
IM2021-06	253.60	258.40	4.80	0.08	0.01	0.01	0.18	0.51	0.02	0.34	0.08
IM2021-06	297.40	316.60	19.20	0.15	0.03	0.02	0.14	0.28	0.02	1.77	0.14

11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

Since acquiring the Property in 2018, Stillwater has maintained a consistent system for the sample preparation, analysis and security of all surface samples and drill core samples, including the implementation of a QA/QC protocol. The current MRE consists of drilling data collected by Stillwater since the acquisition of the Property in addition to drilling data collected by previous operators (Table 11-1). The following describes sample preparation, analyses and security protocols implemented by Stillwater and previous operators with analytical labs and analysis methods summarised in Table 11-2.

QA/QC programs are typically set in place to ensure the reliability and trustworthiness of the exploration data. They include written field procedures and independent verifications of drilling, surveying, sampling, assaying, data management, and database integrity. Appropriate documentation of quality-control measures and regular analysis of quality-control data are essential for the project data and form the basis for the quality-assurance program implemented during exploration.

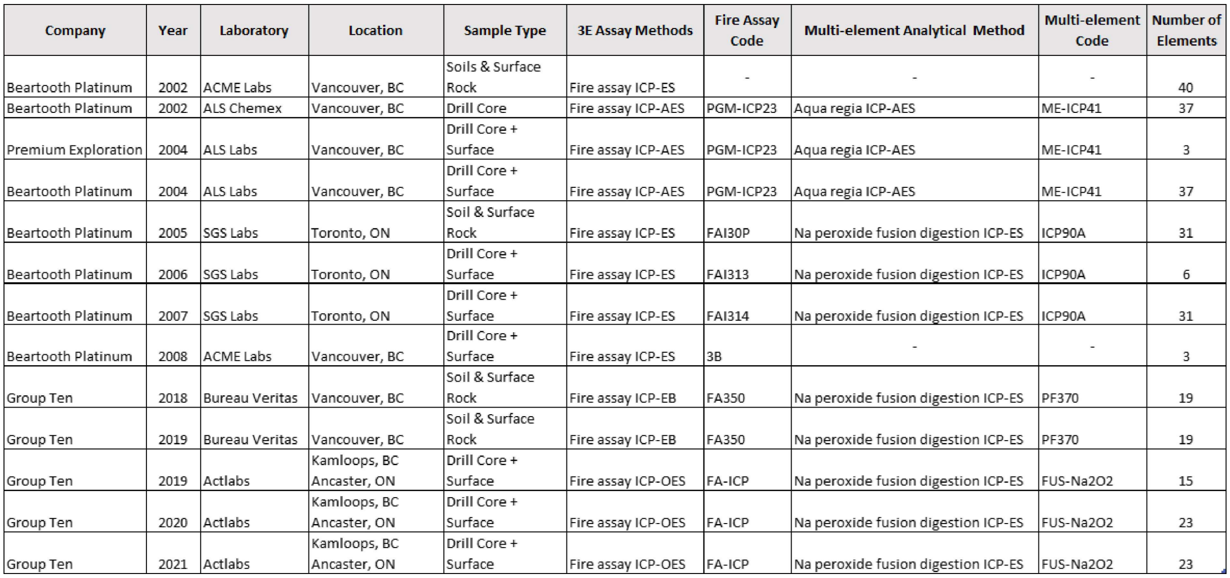
Analytical control measures typically involve internal and external laboratory control measures implemented to monitor the precision and accuracy of the sampling, preparation, and assaying. They are also essential to prevent sample mix-up and monitor the voluntary or inadvertent contamination of samples. Assaying protocols typically involve regular duplicate and replicate assays and insertion of quality-control samples. Routine monitoring of quality control samples (blanks and standards of certified reference material) is undertaken to ensure accuracy of laboratory analyses. Sample batches with suspected cross sample contamination or certified reference materials returning assay values outside of the mean ± 3SD control limits are considered as analytical failures and affected batches should be generally re-analyzed in a timely fashion to ensure data accuracy. Check assaying is typically performed as an additional reliability test of assaying results. These checks involve re-assaying a set number of rejects and pulps at a second umpire laboratory.

Since the beginning of drilling by Stillwater in 2019, all samples are shipped to Activation Laboratories Ltd. (“Actlabs”) in Kamloops, British Columbia, Canada for sample preparation and for analysis. The Actlabs facilities are CAN-P-1579 and CAN-P-4E ISO/IEC 17025 certified. Base metals and pathfinder elements are analyzed using a sodium peroxide fusion method with an inductively coupled plasma (ICP) finish as part of an ore grade analysis suite (Actlabs Method Code FUS-Na2O2/8-Peroxide ICP-OES). Platinum, palladium and gold are analyzed using fire assay with an ICP-OES finish on 30 g sample pulps (Actlabs Method Code 1C-OES) and rhodium is analyzed using fire assay with an ICP-MS finish on 30 g sample pulps (Actlabs Method Code 1C-Rh). Control samples comprising certified reference samples, blank samples, and duplicates were systematically inserted into the sample stream and analyzed as part of the Company’s QA/QC protocol. The Authors are independent of Actlabs and all previous analytical laboratories used by previous operators.

Table 11-1 Summary of Drilling Samples by Year

Year	Drillhole Start	Drillhole Finish	Drillhole Count	Target Corridor	Total Assays
1971-1974	355-01	355-72	70		864
Historical	BG01	BG02	2		17
Historical	CC2		1		380
Historical	FG01	FG02	2		32
1983-1984	PC-01	PC-10	8		54
Historical Total			**83**		**1347**
2002	IM2002-01	IM2002-14	14	Iron Mountain	922
2002 Total			**14**		**922**
2004	CZ2004-01	CZ2004-02	2	Iron Mountain - CZ	319
2004	IMC04-1	IMC04-2	2	Iron Mountain	207
2004	PC2004-01	PC2004-07	7		317
2004 Total			**11**		**843**
2006	IM2006-01	IM2006-11	11	Iron Mountain	2762
2006 Total			**11**		**2762**
2007	CM2007-01	CM2007-10	10	Chrome Mountain	2119
2007	IM2007-01	IM2007-04	4	Iron Mountain	792
2007 Total			**14**		**2911**
2008	CM2008-01	CM2008-09	9	Chrome Mountain	971
2008	IM2008-01	IM2008-03	3	Iron Mountain	472
2008 Total			**12**		**1443**
2019	CZ2019-01	CZ2019-03	3	Iron Mountain - CZ	641
2019	IM2019-01	IM2019-03	3	Iron Mountain	775
2019 Total			**6**		**1416**
2020	CM2020-01	CM2020-05	5	Chrome Mountain	1737
2020 Total			**5**		**1737**
2021	CM2021-01	CM2021-06	6	Chrome Mountain	2439
2021	CZ2021-01	CZ2021-02	2	Iron Mountain - CZ	704
2021	IM2021-01	IM2021-06	6	Iron Mountain	1141
2021 Total			**14**		**4284**
Total			**170**		**17665**

Table 11-2 Summary of Analytical Labs and Analysis Methods 2002 – 2021



Company	Year	Laboratory	Location	Sample Type	3E Assay Methods	Fire Assay Code	Multi-element Analytical Method	Multi-element Code	Number of Elements
Beartooth Platinum	2002	ACME Labs	Vancouver, BC	Soils & Surface Rock	Fire assay ICP-ES	-	-	-	40
Beartooth Platinum	2002	ALS Chemex	Vancouver, BC	Drill Core	Fire assay ICP-AES	PGM-ICP23	Aqua regia ICP-AES	ME-ICP41	37
Premium Exploration	2004	ALS Labs	Vancouver, BC	Drill Core + Surface	Fire assay ICP-AES	PGM-ICP23	Aqua regia ICP-AES	ME-ICP41	3
Beartooth Platinum	2004	ALS Labs	Vancouver, BC	Drill Core + Surface	Fire assay ICP-AES	PGM-ICP23	Aqua regia ICP-AES	ME-ICP41	37
Beartooth Platinum	2005	SGS Labs	Toronto, ON	Soil & Surface Rock	Fire assay ICP-ES	FAI30P	Na peroxide fusion digestion ICP-ES	ICP90A	31
Beartooth Platinum	2006	SGS Labs	Toronto, ON	Drill Core + Surface	Fire assay ICP-ES	FAI313	Na peroxide fusion digestion ICP-ES	ICP90A	6
Beartooth Platinum	2007	SGS Labs	Toronto, ON	Drill Core + Surface	Fire assay ICP-ES	FAI314	Na peroxide fusion digestion ICP-ES	ICP90A	31
Beartooth Platinum	2008	ACME Labs	Vancouver, BC	Drill Core + Surface	Fire assay ICP-ES	3B	-	-	3
Group Ten	2018	Bureau Veritas	Vancouver, BC	Soil & Surface Rock	Fire assay ICP-EB	FA350	Na peroxide fusion digestion ICP-ES	PF370	19
Group Ten	2019	Bureau Veritas	Vancouver, BC	Soil & Surface Rock	Fire assay ICP-EB	FA350	Na peroxide fusion digestion ICP-ES	PF370	19
Group Ten	2019	Actlabs	Kamloops, BC Ancaster, ON	Drill Core + Surface	Fire assay ICP-OES	FA-ICP	Na peroxide fusion digestion ICP-ES	FUS-Na2O2	15
Group Ten	2020	Actlabs	Kamloops, BC Ancaster, ON	Drill Core + Surface	Fire assay ICP-OES	FA-ICP	Na peroxide fusion digestion ICP-ES	FUS-Na2O2	23
Group Ten	2021	Actlabs	Kamloops, BC Ancaster, ON	Drill Core + Surface	Fire assay ICP-OES	FA-ICP	Na peroxide fusion digestion ICP-ES	FUS-Na2O2	23

11.1 Historical Drilling Programs

The majority (70 holes) of the historical drilling (total of 83 holes) included in the current MRE data set was completed by AMAX between 1971 and 1974. Additional drilling was completed by Anaconda, Cyprus, Chrome Corp., International Platinum Corp., and Platinum Fox LLC. Documentation of sampling and analytical protocols for historical drilling is limited.

11.1.1 Core Sampling

The majority of the historical core was NQ-size (47.6 mm diameter), although some HQ-size (63.5 mm) and BQ-size (36.5 mm) coring was done. The sampling methods used by all companies were all similar; i.e., halving the core with a rock saw on site with samples composited over 4- or 5-foot (1.2 or 1.5 m) intervals, except in areas of visually obvious chromite, which were sampled according to the modal percentage of contained chromite (Suda et al., 2009).

11.1.2 Sample Preparation and Analyses

Drill core samples collected by AMAX were sent for routine assay of Cu and Ni at Skyline Laboratories Inc. (Wheat Ridge, Colorado) and Climax Molybdenum Company (Golden, Colorado) laboratories. Sample digestion methods consisted of 3-Acid (HF, $HClO_4$, HNO_3) digestion for total Cu and Ni determinations and ammonium citrate – H2O2 partial digestion for Ni sulphide. Cu and Ni concentrations were determined by atomic absorption.

A limited number of selected samples were sent for analysis by Bondar-Clegg, Inc., predecessor to ALS Chemex, in Ottawa, Ontario, and the United States Department of Interior, Bureau of Mines in Reno, Nevada. These were assayed for PGE using fire assay with an unknown finish (Bondar-Clegg) and fire assay - spectrographic technique (BoM).

11.1.3 Quality Assurance/Quality Control

QAQC procedures for historical sample analysis were limited the use of outside laboratory internal procedures, which were unavailable to the Author, and selected check assays at third-party laboratories. The Author assumes that the procedures followed were consistent with industry standards at the time.

11.2 2002 – 2008 Drilling Programs (Beartooth Platinum and Premium Exploration)

Beartooth Platinum (“Beartooth”) and Premium Exploration (“Premium”) both completed surface geochemical sampling and exploration drilling on portions of the Project during the period from 2002 until 2008. During this period ample preparation, analyses and security protocols implemented by the operators remained fairly consistent with the exception of some variability in sampling QA/QC programs.

11.2.1 Rock and Soil Samples

All samples were collected by an experienced geologist or under the supervision of one. The sample number and description are always collected with the sample. Plastic, fabric, or cambric bags are used to collect samples. The surface rock sample types include:

- Grab Samples – collected by breaking up larger rocks or collecting a single piece of rock, representative of a specific type of rock or mineralization
- Composite Samples – consist of small chips of uniform/ homogenous rock material taken from a large area (> 2.5 m across)

- Chip Samples – collected by cutting a grove or chipping along the edge of an exposed rock outcrop with a chisel or geologic hammer and pick. The goal is to obtain the most representative sample for the specified interval
- Channel Samples – cutting a channel across a rock face or outcrop with a portable diamond saw. Can be cut vertically, horizontally, or at an angle to the mineralization or layering, typically along trend to capture the most homogenous sample
- Trench Samples – these samples were collected by digging trenches and pits with hand-held tools such as a shovel and pick axe

Soil sampling procedures for Beartooth Platinum and the Company are consistent. The procedures included locating the sample site with a hand-held GPS and using a shovel, small hoe, or geologic pick to collect soil in an unbleached kraft bag. The bags are never reused. A cordless drill with an auger bit was also used to excavate soil in some cases. The C horizon is collected where possible after the organic material is scraped off. The sample number is written on the outside of the bag with a sample tag placed inside the bag. Samples from Beartooth Platinum were taken on a grid with 100-meter line spacing and 25-meter sample spacing. Soil samples typically consisted of 2 kg (4 lbs.) of weakly developed C-horizon material above bedrock.

11.2.2 Core Samples

Drilling took place under the direct supervision of the on-site geologist. The geologist sites the drill and sets the azimuth and dip of the drill hole. As drilling commence the geologist logs the core and is responsible for quality control, ascertaining that the core is placed in the core boxes correctly and that the core boxes are correctly marked with the hole number and footages. The core boxes are then temporarily stored on site in a small shelter or under a tarp, prior to transport to the Company's core logging, core cutting and core storage facilities that were located near Nye, Montana and field facilities in the Stillwater valley (Struck, 2005).

Core is transported by a Company geologist or geological assistant to the core storage property and secured behind a locked gate. During logging the core boxes are removed from the storage area and laid out on a table for detailed logging by a Company or contract geologist. The geologist notes rock type, alteration, sulphide content, magnetism, texture, color and other relevant items on the log sheet and also determines the break points for the samples. The sample length is not to exceed 5 feet but may be less than that based on the geologist's discretion. Once the core is logged and sample intervals determined, the core boxes are carried to the core cutting facility and the core is cut length-wise along the core axis using a diamond bladed saw which is flushed with water. The water is changed on a regular basis as it becomes clouded with saw cuttings. The core is split and then the samples are placed into numbered sample bags. The sample is placed in a plastic bag. Only new bags are utilized. The core is cut by a geologic technician under the supervision of the geologist and then boxed for shipment to the assay labs (Struck, 2005).

11.2.3 Sample Preparation and Security

Drill core samples were delivered via parcel transport companies to three analytical labs between 2002 and 2008. Laboratories provide confirmation email with detail of samples received upon delivery.

Sample preparation and analysis was carried out at ALS Chemex, North Vancouver (2002); ALS Canada Ltd., North Vancouver (2004); SGS Canada Inc., Toronto (2006-2007) and Acme Analytical Laboratories Ltd., East Vancouver (2008). The Authors are independent of these laboratories.

Samples are dried, weighed, crushed to at least 70% passing (P_{70}) 2 mm, and subsequently riffle split to obtain a representative 250 g sub-sample. The sub-sample is pulverized to at least 85% passing (P_{85}) 75 µm.

11.2.4 Sample Analyses

The analytical assay methodology has varied slightly over time.

Base metal and pathfinder elements were analyzed by aqua regia partial digestion with an inductively coupled plasma optical emission spectroscopy (ICP-OES) finish (Method Code ME-ICP41) at ALS Chemex (2002) and ALS (2004). Beginning in 2005, the digestion method was switched to a sodium peroxide 'total' fusion method preferred for nickel sulphide deposits for base metal and pathfinder elements using an inductively coupled plasma optical emission spectroscopy (ICP-OES) finish (Method Code ICP90A) at SGS (2005-2007). Drill core samples in 2006 were not assayed for cobalt and samples in 2008 were not assayed for base metals or pathfinder elements.

Platinum, palladium and gold ("3E suite") were analyzed consistently using fire assay with an inductively coupled plasma optical emission spectroscopy (ICP-OES) finish on 30 g sample pulps (Method Code PGM-ICP23) at ALS Chemex (2002) and ALS (2004), (Method Code FAI313) at SGS (2005 - 2006), and (Method Code 3B) at ACME (2008). Rhodium was not routinely analyzed between 2002 and 2008.

All laboratories utilized between 2002 and 2008 are considered reputable and subsequently gained accreditation from the Standards Council of Canada (SCC) for specific tests listed in thier Scope of Accreditation which conforms with CAN-P-4E ISO/IEC 17025: General Requirements for the Competence of Testing and Calibration Laboratories. The Authors are independent of all laboratories utilized between 2002 and 2008.

11.2.5 Data Management

It is assumed that geological data collected by Beartooth and Premium was done so in a professional manner and that data was verified and double-checked by senior geologists on site for data entry verification, error analysis, and adherence to the analytical quality-control protocols in place at the time.

Detailed geological logs, sampling sheets and certificates of assay from these programs have been obtained by the Company to validate the MRE drilling data set.

11.2.6 Certified Reference Material

Beartooth and Premium QAQC programs in place between 2002 and 2008 involved a mixture of internal and external laboratory control measures implemented to monitor the precision and accuracy of the sampling, preparation, and assaying. They were designed to prevent sample mix-up and monitor the voluntary or inadvertent contamination of samples. QAQC protocols in place varied throughout this period. Assaying protocols involved regular insertion of quality-control samples from 2006 – 2008 at a frequency of 1 QC sample per 25 samples. Routine monitoring of quality control samples (standards of certified reference material and blanks) is undertaken to ensure accuracy of laboratory analyses.

A selection of 12 CRMs (Table 11-3) were used by Beartooth between 2006 and 2008 on the Stillwater West Project drill programs: multi-element standards from Ore Research & Exploration in Bayswater North, Australia (OREAS-13P) in 2006, 2007, and 2008; and from CANMET Mining and Mineral Science Laboritories in Ottawa, Ontario (WMG-1) in 2007. PGE-Au standards were used from MINTEK in Randburg, South Africa (SARM-7b, SARM-65) in 2006; and from CDN Resource Laboratories Ltd. in Delta, British Columbia (PGMS-9) in 2007 and 2008. An additional suite of 7 unknown standards (UNK-2764, UNK-2765, UNK-2766, UNK-3134, UNK-3136, UNK-3890, and UNK-3893) were used in 2006. The origin of these standards is uncertain and certified values for these 7 standards are not available. The means and standard deviations (SD), and warning and control limits for standards are utilized as per the QA/QC program described below.

CRM performance and analytical accuracy is evaluated by using the assay concentration values relative to the certified mean concentration (Z-score) versus sample sequence with warning and failure limits. Warning limits are indicated by a Z-score of between ±2 SD and ±3 SD, and control limits/failures are indicated by a Z-score of greater than ±3 SD from the certified mean. Sample batches with certified reference materials returning assay values outside of the mean ± 3SD control limits, or with suspected cross sample contamination indicated by blank sample analysis, are considered as analytical failures and selected affected batches should be re-analyzed to ensure data accuracy.

The analytical labs used between 2002 and 2006 utilized internal QA/QC programs, which is reported in the assay certificates, but no account is taken of this in determination of batch acceptance or failure.

Shewhart CRM control charts are presented below for Ni, Cu, Co, Pt, Pd, Au, by year for the programs where external CRMs were utilized (Figure 11-1 to Figure 11-14) and do not indicate a significant sustained analytical bias of the metals included in the Stillwater West MRE as assayed by from 2006 - 2008. Control charts suggest a weak negative bias (under estimation) of CRM Co in 2007. There was a high number of analytical failures (both low and high) for Pt, Pd, and Au associated with CRM SARM-7b in 2006. The Author speculates that this may been the result of insufficient homogenization of the CRM or PGE-Au settling within old stock CRMs.

Beartooth's QA/QC program from 2006 – 2008 included the insertion of 134 CRM samples, of which 134 CRMs were certified for PGE-Au and 83 CRMs were certified for base metals. The combined CRM failure rates during this period were Ni 6.0%, Cu 2.4%, Co 18.4%, Pt 12.7%, Pd 5.2%, and Au 3.7%.

In the Authors opinion, the QA/QC programs in place during this period were consistent with industry practices at the time and review of the QA/QC programs indicates that there are no significant issues with the drill core assay data. The data verification programs undertaken on the data collected from the Project support the geological interpretations, and the analytical and database quality, and therefore data can support resource estimation of Inferred mineral resources.

Table 11-3 Certified Reference Materials 2006-2008

CRM	Ni (%)		Cu (%)		Co (%)		Pt (ppm)		Pd (ppm)		Au (ppm)		Rh (ppm)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
OREAS-13P	0.226	0.005	0.25	0.011	0.009	0.0005	0.047	0.002	0.07	0.005	0.047	0.004	0.003	0.0007
SARM-7b	N/A	N/A	N/A	N/A	N/A	N/A	3.74	0.023	1.54	0.016	0.27	0.008	0.24	0.0065
SARM-65	N/A	N/A	N/A	N/A	N/A	N/A	2.64	0.128	1.28	0.131	0.034	0.012	0.522	0.043
WMG-1	0.27	0.03	0.59	0.05	0.02	0.0021	0.731	0.081	0.382	0.028	0.11	0.025	0.026	0.0035
PGMS-9	N/A	N/A	N/A	N/A	N/A	N/A	0.71	0.045	2.6	0.12	1.04	0.05	N/A	N/A
UNK-2764	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UNK-2765	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UNK-2766	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UNK-3134	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UNK-3136	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UNK-3890	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UNK-3893	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Figure 11-1 CRM Control Chart for Nickel (2006)

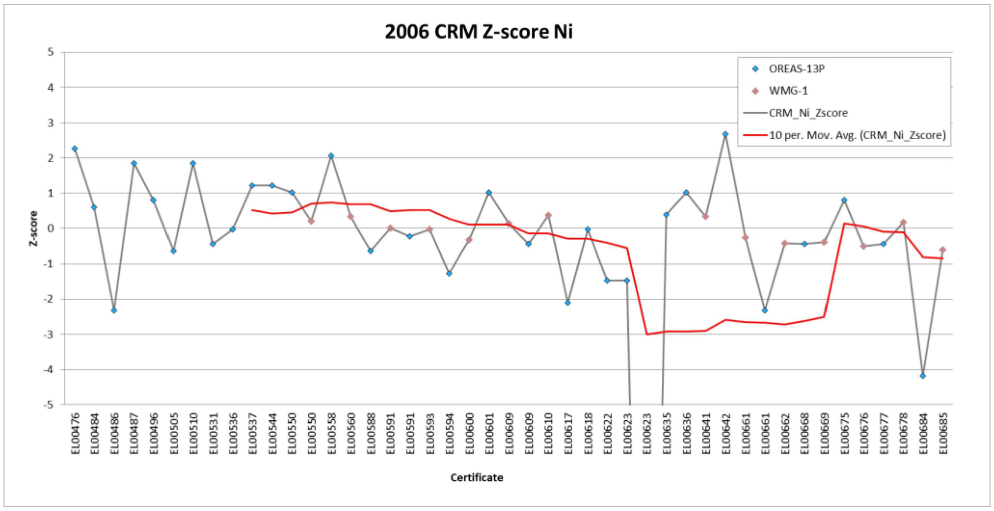


Figure 11-2 CRM Control Chart for Nickel (2007)

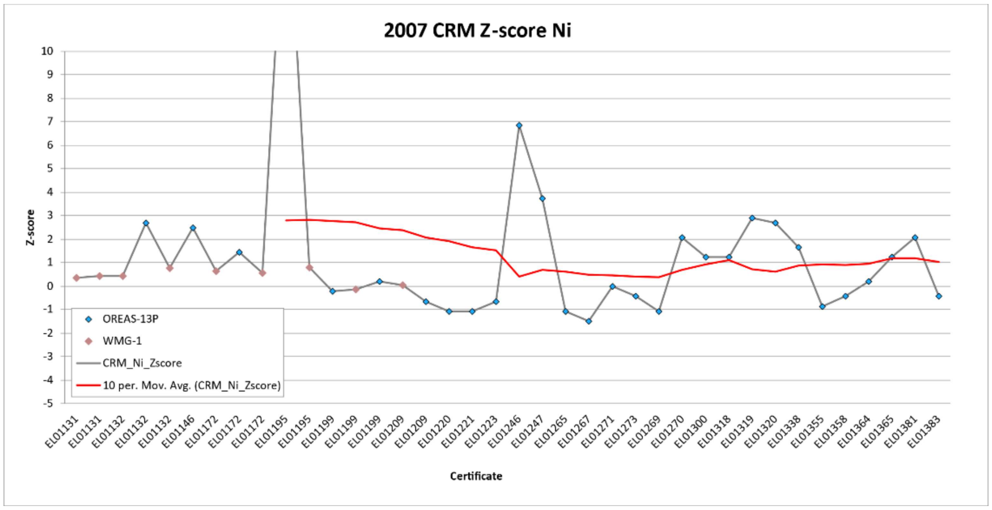


Figure 11-3 CRM Control Chart for Copper (2006)

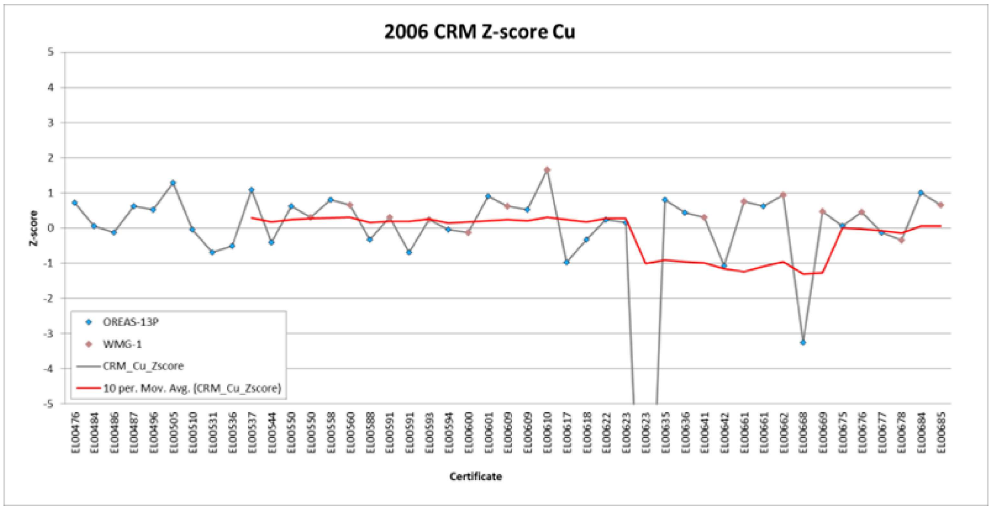


Figure 11-4 CRM Control Chart for Copper (2007)

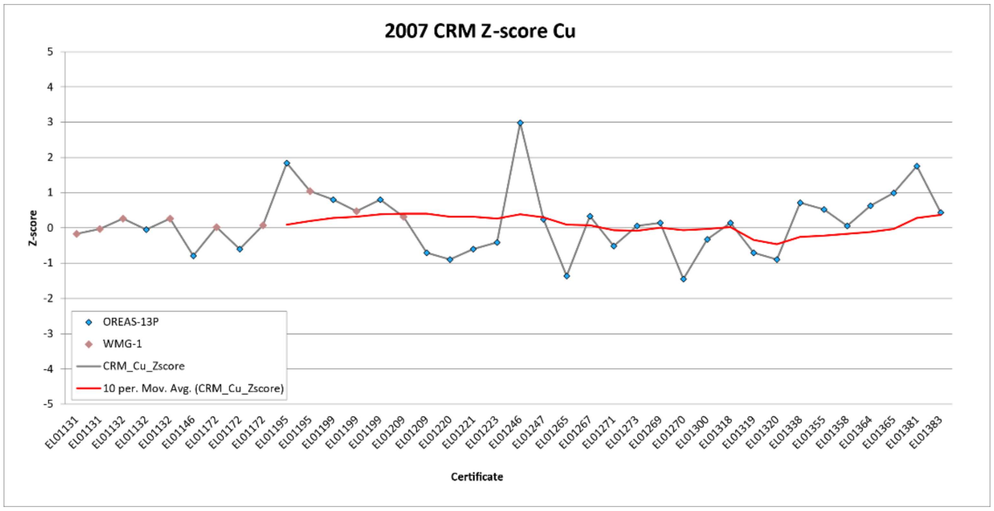


Figure 11-5 CRM Control Chart for Cobalt (2007)

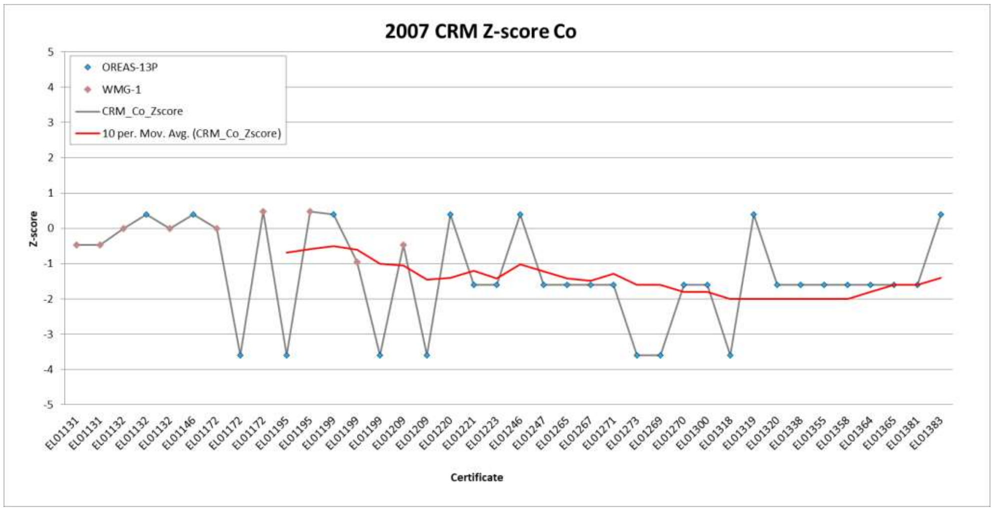


Figure 11-6 CRM Control Chart for Platinum (2006)

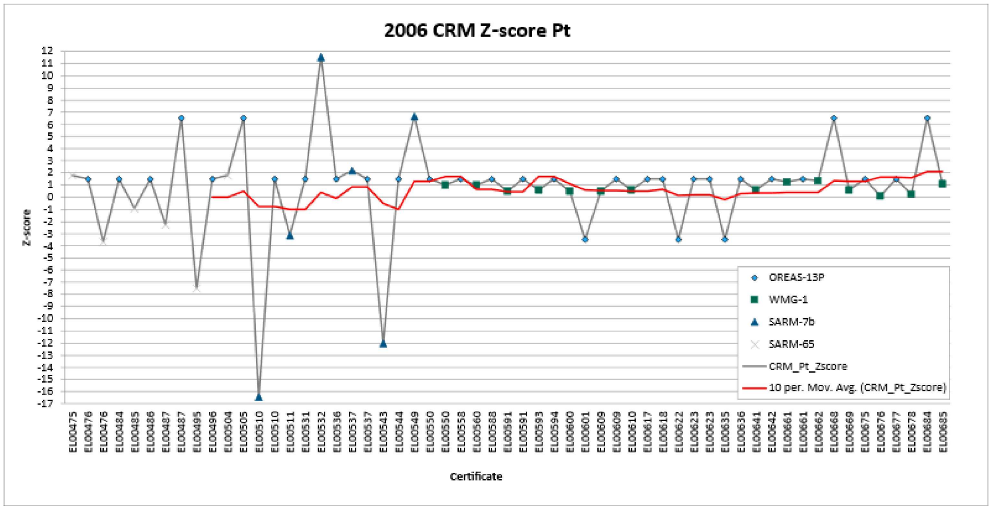


Figure 11-7 CRM Control Chart for Platinum (2007)

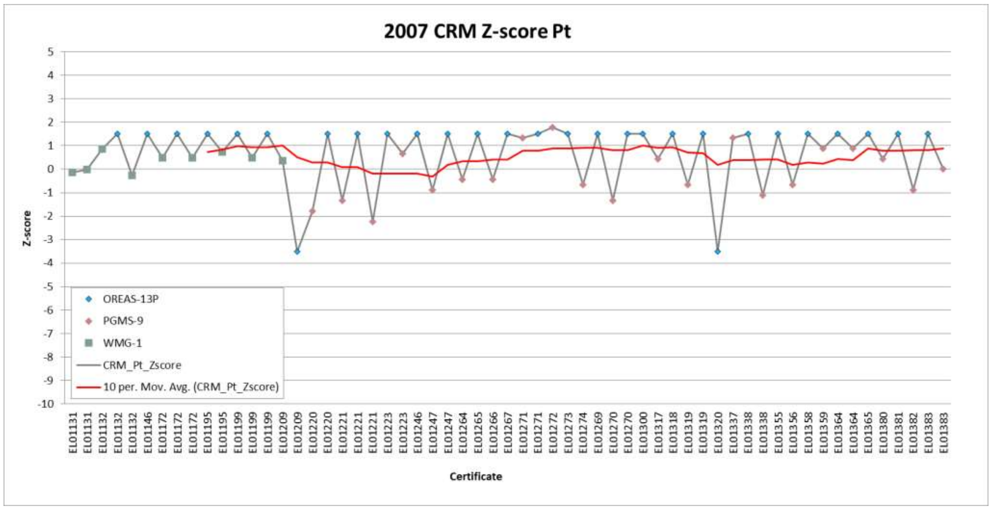


Figure 11-8 CRM Control Chart for Platinum (2008)

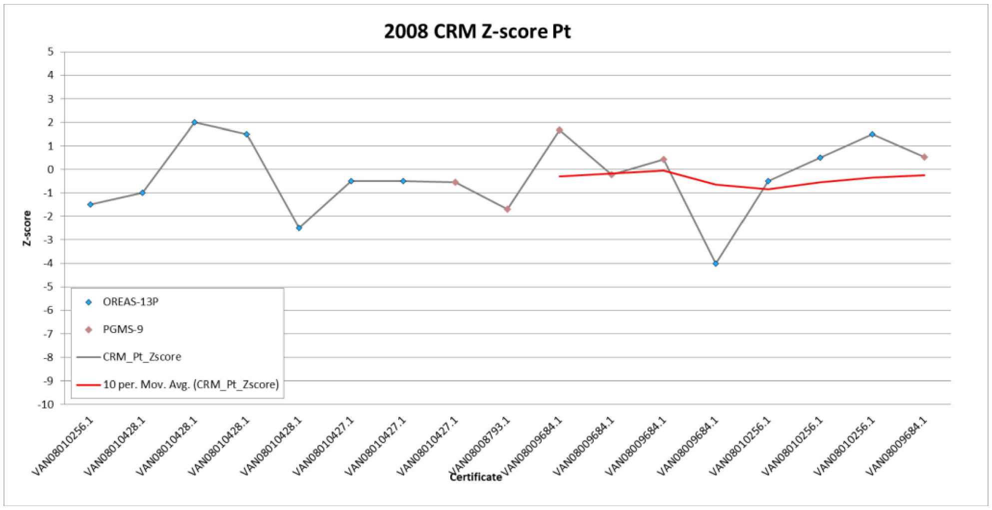


Figure 11-9 CRM Control Chart for Palladium (2006)

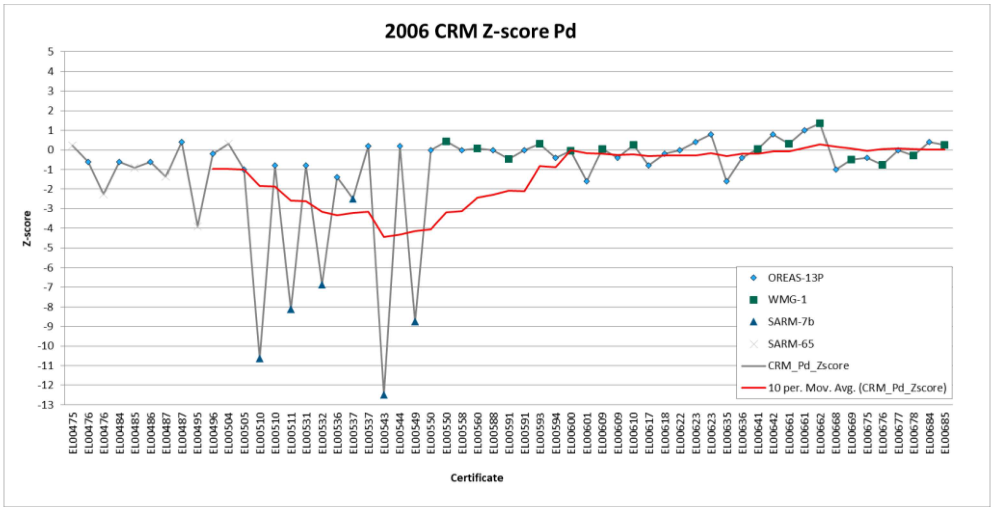


Figure 11-10 CRM Control Chart for Palladium (2007)

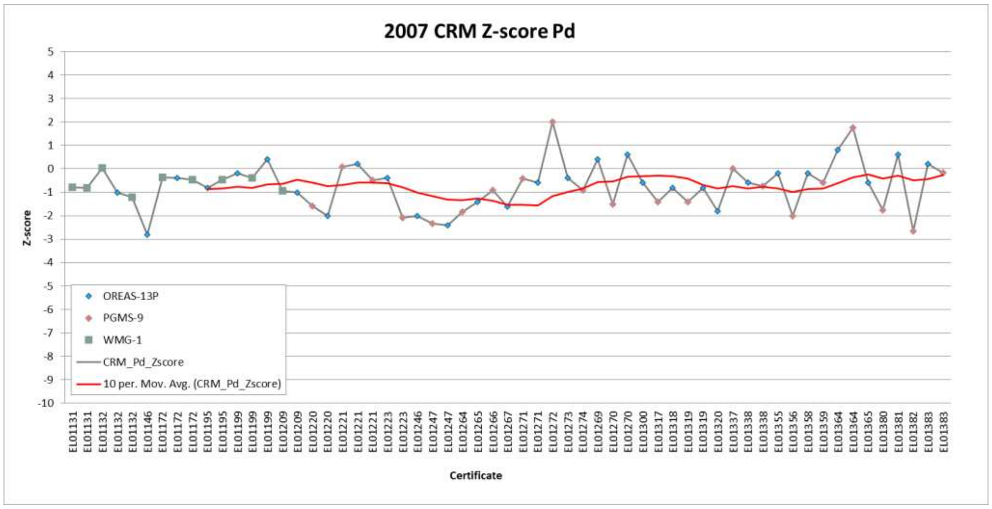


Figure 11-11 CRM Control Chart for Palladium (2008)

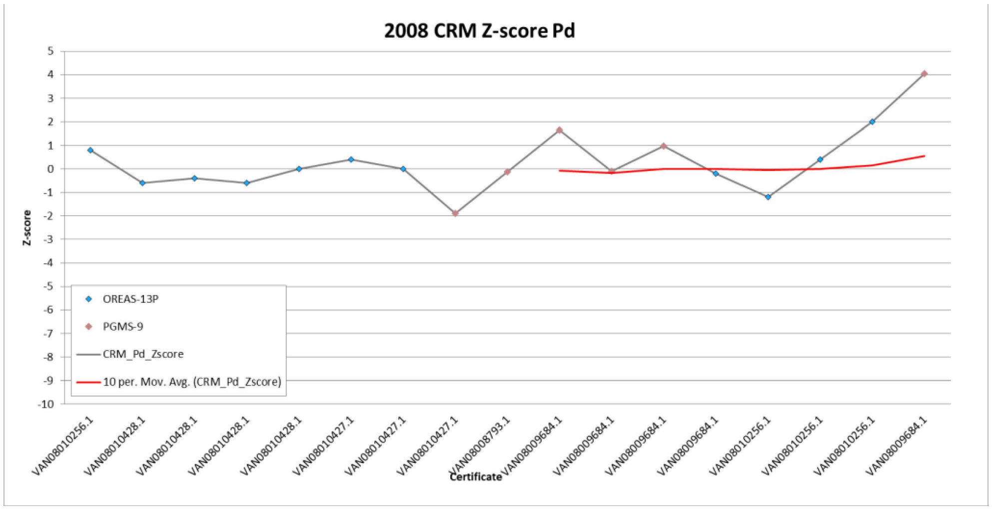


Figure 11-12 CRM Control Chart for Gold (2006)

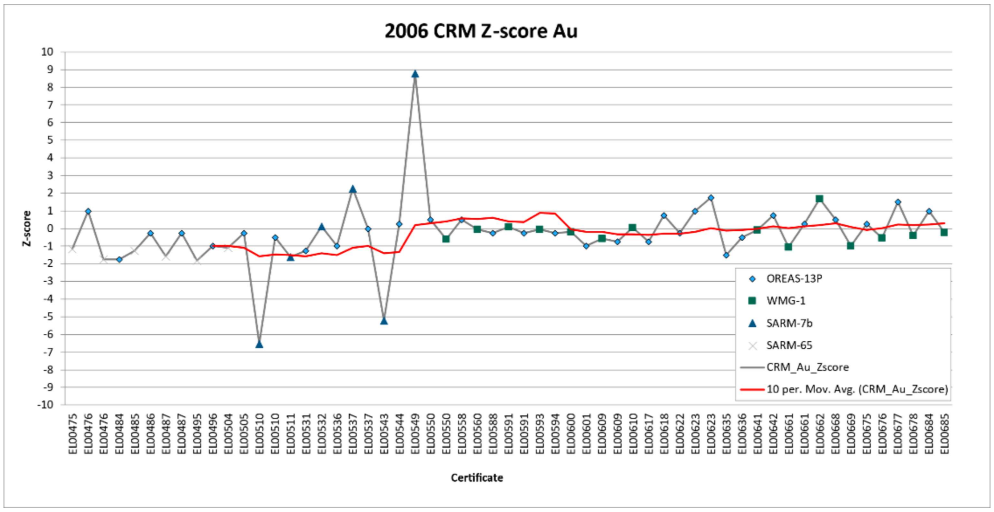


Figure 11-13 CRM Control Chart for Gold (2007)

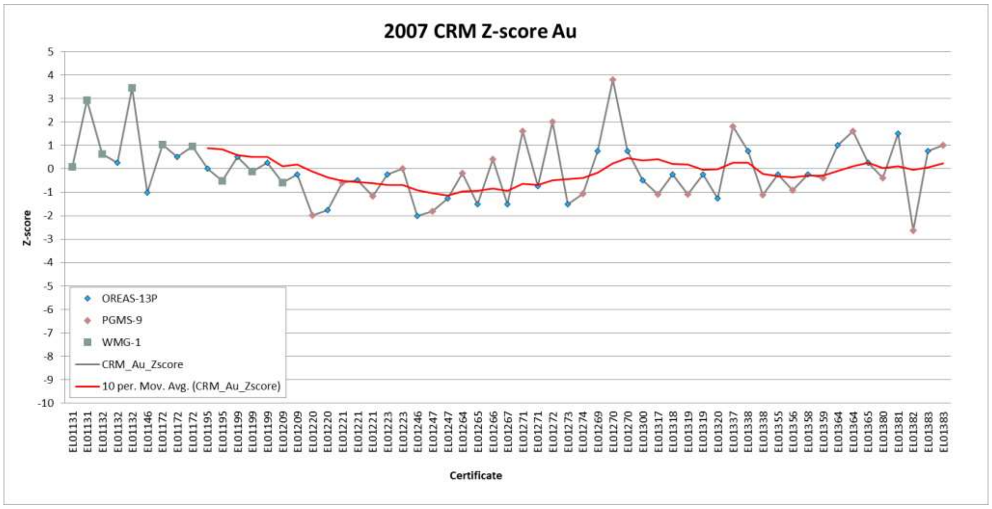
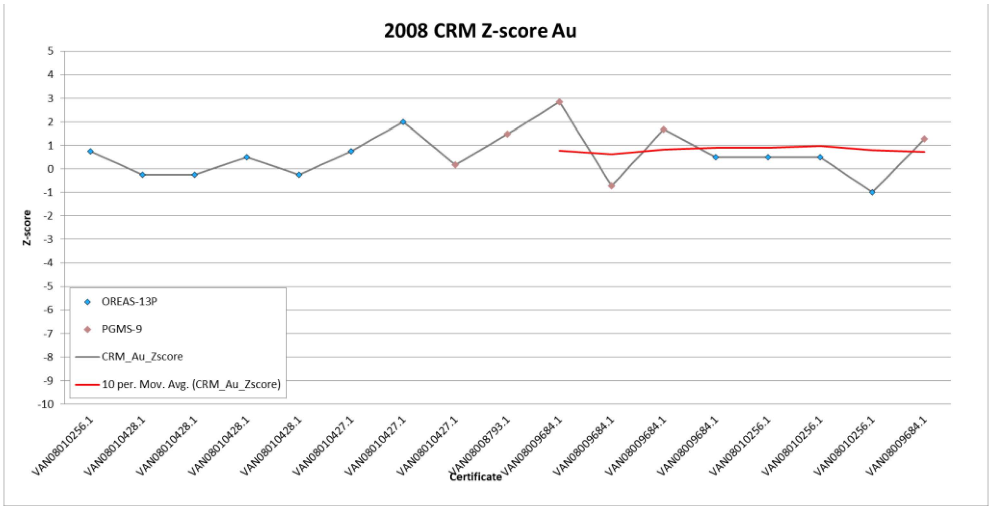


Figure 11-14 CRM Control Chart for Gold (2008)



11.2.7 Blank Material

During 2007 and 2008, blank QC samples consisting of an unknown source were inserted into the sample stream in the field to determine the degree of sample contamination after sample collection, particularly during the sample preparation process. This material does not have certified values established by a third party through round robin lab testing. The QA/QC program from 2007 - 2008 included the insertion of 58 blank QC samples.

For blank sample values, failure is more subjective, and a hard failure ceiling value has not been set for the Project. Evaluation of blank samples using a failure ceiling for platinum and palladium of 0.1 ppm (10x detection limit) and gold of 0.01 ppm (10x detection limit) indicates that the combined blank failure rate from 2007 – 2008 was 3.4% for platinum and 17.2% for gold. The highest blank assay values were 0.64 ppm platinum and 0.052 ppm gold (Figure 11-15 and Figure 11-16). Based on the low risk of cross sample contamination and the low amounts of platinum and gold that may have contaminated blank material, it is considered unlikely that there is a contamination problem with the Project drilling data.

Figure 11-15 Blank Control Chart for Platinum (2007)

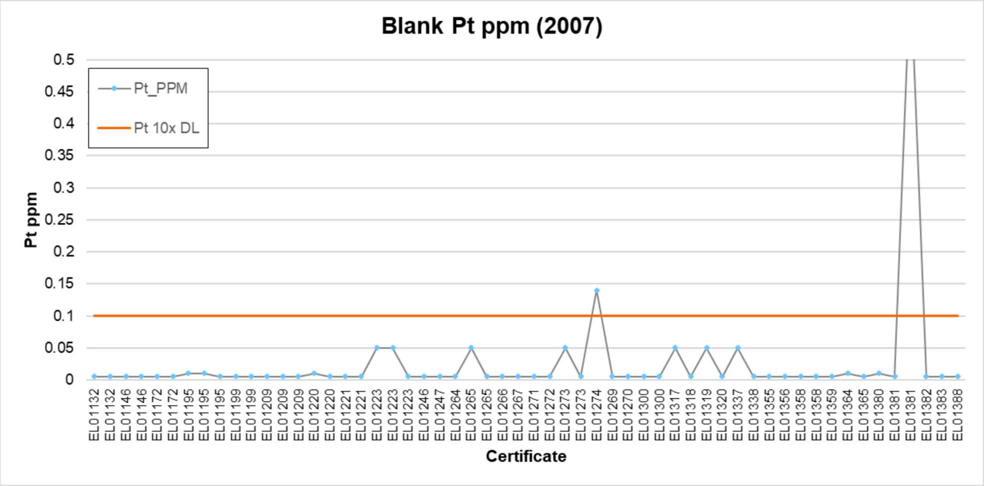
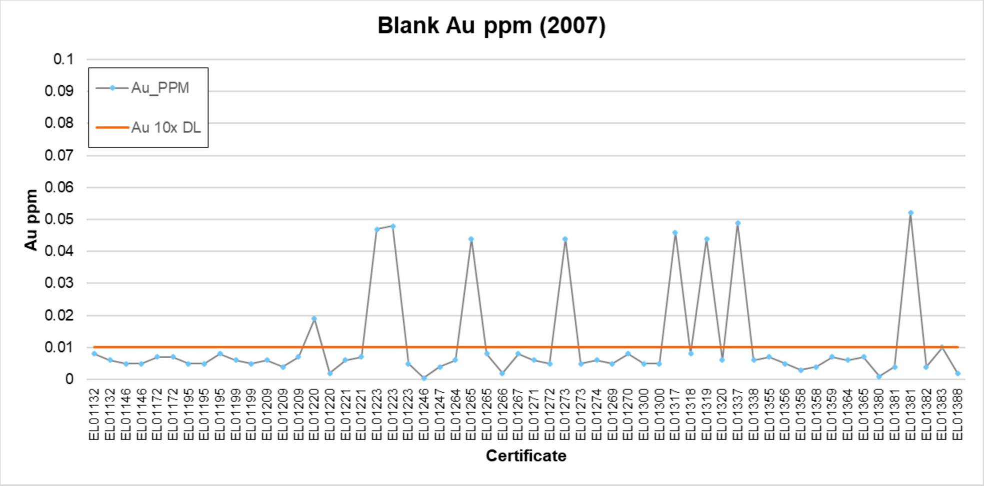


Figure 11-16 Blank Control Chart for Gold (2007)



11.2.8 Duplicate Material

The QAQC program in place during the 2004 drilling program completed by Premium included field duplicate samples inserted at a frequency of approximately 1 field duplicate sample in every 10 samples, for a total of 24 field duplicate samples. In the event that variation in assay values was noted, follow-up analysis was conducted to determine the source of the variation. (Struck, 2005). In 2008, Beartooth inserted field duplicates into the sample sequence at a frequency of 1 field duplicate sample in every 50 samples for a total of 16 field duplicate samples.

11.2.9 Umpire Laboratory

During the 2002 exploration season, ALS Chemex was used as the primary lab, with ACME Labs used a as a third party umpire check lab. Additional samples were selected based on their chromium content and sent to Genalysis of Australia for comparison purposes (Struck, 2003). The check sampling data completed in 2002 has not been reviewed by the Author.

11.2.10 Sample Storage

Drill core, surface rock, and soil samples from previous programs on the Property is stored in the Company's secure storage facility in Nye, Montana. Samples from 2011 were stored in Red Lodge by Picket Pin Resources prior to being transferred to the Company's secure storage facility in Nye, Montana in 2017.

11.3 2019 – 2021 Drilling Programs (Stillwater Critical Minerals)

Since acquiring the Property in 2017, Stillwater has maintained a consistent system for the sample preparation, analysis and security of all surface samples and drill core samples, including the implementation of a QA/QC program. The following describes sample preparation, analyses and security protocols implemented by Stillwater.

11.3.1 Rock and Soil Samples

Rock and soil sampling procedures were consistent with those of Beartooth Platinum and Premium Exploration as detailed in Section 11.2.1.

Procedures for the 2019 soil sampling grids completed by the Company consisted of samples spaced 25 meters apart with 200-meter line spacing.

11.3.2 Core Sampling

Since 2019, Stillwater has maintained consistent methods and practices for core sampling. Drilling in 2019 consisted of NQ, oriented, split tube, diamond drill core. Drilling in 2020 and 2021 consisted of HQ3, oriented, split tube diamond drill core.

Core is transported from the Property to the Company's core logging and long-term storage facility in Nye, Montana (Figure 11-17 and Figure 11-18). The drill core is logged for lithology, structure, alteration, and mineralization prior to marking out sample intervals. Sample intervals are defined to honor mineralization, alteration and lithology contacts. Suspect high-grade intervals are sampled separately. Sample intervals and cut lines were determined by the core logger. Core sample intervals were a maximum of 1.2 m (4 ft) with occasional larger intervals in non-mineralized zones, the minimum sample length was 0.6 m (2 ft). Areas of stronger mineralization were sampled at 0.6 m (2 ft) intervals with some samples as short as 20 cm (8 inches) in strongly mineralized horizons.

Samples with notable amounts of chromite were given orange flagging tape in the sample bags. This was to notify the lab so they could adjust the flux to fully dissolve the chromite for analysis. All recovered core was cut in half with an electric diamond saw at the facility; one half was sampled and the other half, with the orientation line preserved, was kept for future reference. When the core was too friable to cut, the core was cleaved or divided in half with a putty knife. Protocols to minimize cross contamination were taken such as cleaning the saw after mineralized zones and end of shifts, as well as, by making shallow cuts with the saw blade through a brick. The core was photographed with the hole ID, box number, and interval shown before being cut.

After being cut, samples are put into heavy duty plastic bags. The bags are put into cardboard banker boxes in groups of four to six samples, depending on lengths of samples, and put onto a wood pallet. Each individual box with four to six samples typically weighs around 22 kg (50 lbs). Individual pallets are wrapped tightly in plastic and typically weigh around 544 kg (1,200 lbs).

Stillwater's QA/QC program comprises the systematic insertion of standards or certified reference materials (CRMs), blanks, and field duplicates. QC samples are inserted into the sample sequence at a frequency of 1 sample per 60 samples for each QC sample type (CRM, blank, field duplicate) in 2019 and 1 sample per 30 samples for each QC sample type in 2020/2021. Approximately 12% of samples assayed have been

QC samples. In total, 249 CRMs, 251 blanks, and 236 field duplicate pairs have been submitted for drilling completed by Stillwater (Table 11-4). All QC samples are analyzed by the primary analytical lab.

Table 11-4 QC Sample Statistics for Stillwater Core Sampling Programs 2019 - 2021

Standards	Blanks	Field Duplicates
249	251	236 duplicate pairs

Figure 11-17 Core Logging Area and Core Archive in the Secure Stillwater Facility Located in Nye, Montana

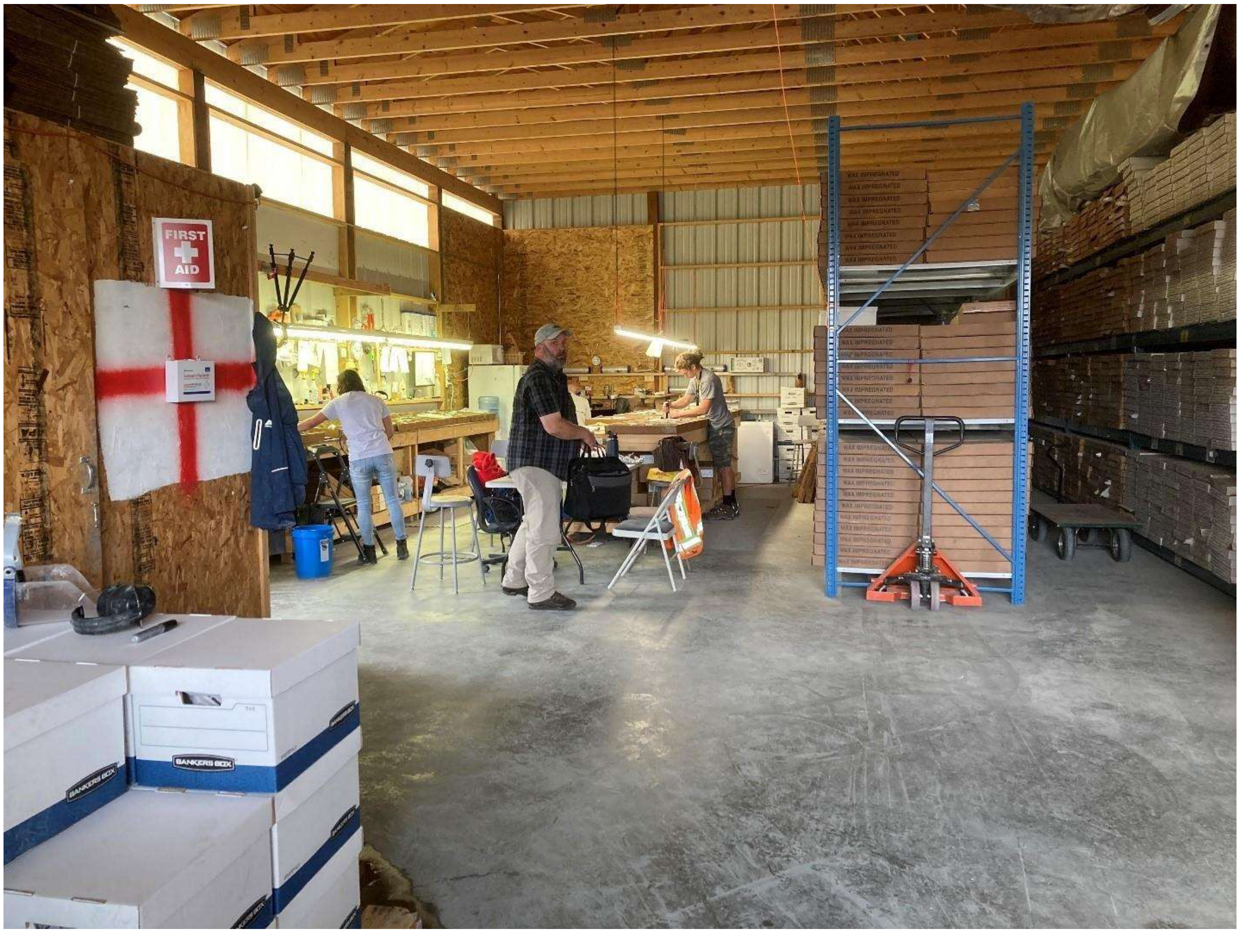


Figure 11-18 **Core Archive in the Secure Stillwater Facility Located in Nye, Montana**

11.3.3 Sample Preparation and Security

Prior to shipment, samples are secured at the Company's core facility which remains locked when no one is present and is also enclosed in a fenced property with a locked gate.

To ensure appropriate chain of custody protocols, geologists are responsible for loading the sample shipments into the contracted carrier's trailer. A sample dispatch form and bill of landing accompanies the sample shipment to the lab. Drill core samples were delivered via parcel transport companies to Activation Laboratories Ltd. (Actlabs) in Kamloops, British Columbia from 2019 to 2021 for both sample preparation and analysis. Actlabs provides confirmation email with detail of samples received upon delivery.

Actlabs is an internationally recognized laboratory accredited in 2017 by the Standards Council of Canada (SCC) for specific tests listed in Actlab's Scope of Accreditation which conforms with CAN-P-1579: Requirements for the Accreditation of Mineral Analysis Testing Laboratories and CAN-P-4E ISO/IEC 17025: General Requirements for the Competence of Testing and Calibration Laboratories. The Authors are independent of Actlabs.

Samples are dried, weighed, crushed to at least 80% passing (P_{80}) 2 mm, and subsequently riffle split to obtain a representative 250 g sub-sample. The sub-sample is pulverized to at least 95% passing (P_{95}) 105 µm (Actlabs Method Code RX-1).

11.3.4 Sample Analyses

Base metals and pathfinder elements are analyzed using a sodium peroxide fusion method with an inductively coupled plasma (ICP) finish as part of an ore grade analysis suite (Actlabs Method Code FUS-Na2O2/8-Peroxide ICP-OES). Platinum, palladium and gold are analyzed using fire assay with an ICP-OES finish on 30 g sample pulps (Actlabs Method Code 1C-OES) and rhodium is analyzed using fire assay with an ICP-MS finish on 30 g sample pulps (Actlabs Method Code 1C-Rh).

11.3.5 Density Data

Stillwater collected specific gravity measurements from drill core samples across the Stillwater West deposits in 2019, 2020, and 2021. Measurements were taken from drill core in and adjacent to mineralized zones, attempting to produce measurements for a variety of rock types and grades of mineralization and alteration.

Samples are weighed using a high precision electronic scale, in air and suspended in a bucket of water. Each pair of measurements produces a specific gravity (SG) using the following equation:

$$SG = \frac{(Sample\ Weight\ in\ Air)}{(Sample\ Weight\ in\ Air - Sample\ Weight\ in\ Water)}$$

The scale is calibrated with a calibrated 2 kg weight at the start of each day of measurements. The scale is tared/zeroed before every measurement, and measurement will not proceed until the scale has stabilized at each reading.

11.3.6 Data Management

Data are verified and double-checked by senior geologists on site for data entry verification, error analysis, and adherence to analytical quality-control protocols.

11.3.7 Certified Reference Material

Stillwater’s analytical control measures involve internal and external laboratory control measures implemented to monitor the precision and accuracy of the sampling, preparation, and assaying. They are also essential to prevent sample mix-up and monitor the voluntary or inadvertent contamination of samples. Assaying protocols involve regular insertion of quality-control samples. Routine monitoring of quality control samples (standards of certified reference material and blanks) is undertaken to ensure accuracy of laboratory analyses.

A selection of 8 CRMs (Table 11-5) have been used to-date by Stillwater in the course of the Stillwater West Project drill programs: multi-element standards from Ore Research & Exploration in Bayswater North, Australia (OREAS-13P, OREAS-681, OREAS-683, OREAS-684), and PGE-Au standards from African Mineral Standards in Isando, South Africa (AMIS0063) and Moment Exploration Geochemistry in Lamoille, Nevada, USA (MEG-Pt.09.11 , MEG-Pt.10.02, MEG-Pt.10.05). The means and standard deviations (SD), and warning and control limits for standards are utilized as per the QA/QC program described below.

CRM performance and analytical accuracy is evaluated by Stillwater using the assay concentration values relative to the certified mean concentration (Z-score) versus sample sequence with warning and failure limits. Warning limits are indicated by a Z-score of between ±2 SD and ±3 SD, and control limits/failures are indicated by a Z-score of greater than ±3 SD from the certified mean. Sample batches with certified reference materials returning assay values outside of the mean ± 3SD control limits, or with suspected cross sample contamination indicated by blank sample analysis, are considered as analytical failures by Stillwater and selected affected batches are re-analyzed to ensure data accuracy.

Actlabs has its own internal QA/QC program, which is reported in the assay certificates, but no account is taken of this in determination of batch acceptance or failure.

Shewhart CRM control charts are presented below for Ni, Cu, Co, Pt, Pd, Au, and Rh by year (Figure 11-19 to Figure 11-37) and do not indicate sustained analytical bias of the metals included in the Stillwater West MRE as assayed by Actlabs from 2019 - 2021. Control charts suggest a weak positive bias (over estimation) of CRM Ni assay values in 2021 and a weak negative bias (under estimation) of CRM Pd and Rh values in 2021. These potential analytical biases should continue to be monitored and evaluated for future drilling programs.

Stillwater's QA/QC program from 2019 – 2021 included the insertion of 249 CRM samples, of which 249 CRMs were certified for PGE-Au and 127 CRMs were certified for base metals. The combined CRM failure rates during this period have been Ni 6.3%, Cu 1.6%, Co 1.6%, Pt 8.0%, Pd 6.8%, Au 6.8%, and Rh 6.3%.

Review of Stillwater's QA/QC program indicates that there are no significant issues with the drill core assay data. The data verification programs undertaken on the data collected from the Project support the geological interpretations, and the analytical and database quality, and therefore data can support resource estimation of Inferred mineral resources.

Table 11-5 Certified Reference Materials 2019-2021

CRM	Ni (%)		Cu (%)		Co (%)		Pt (ppm)		Pd (ppm)		Au (ppm)		Rh (ppm)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
AMIS0063	N/A	N/A	N/A	N/A	N/A	N/A	2.24	0.14	1.53	0.07	0.068	0.008	N/A	N/A
OREAS-13P	0.226	0.005	0.25	0.011	0.009	0.0005	0.047	0.002	0.07	0.005	0.047	0.004	0.003	0.0007
OREAS-681	0.052	0.004	0.027	0.002	0.005	0.0006	0.526	0.016	0.243	0.013	0.051	0.003	0.032	0.0028
OREAS-683	0.122	0.006	0.041	0.003	0.009	0.0008	1.76	0.113	0.853	0.041	0.207	0.008	0.146	0.013
OREAS-684	0.223	0.008	0.1	0.004	0.012	0.0008	3.87	0.213	1.72	0.068	0.248	0.014	0.28	0.013
MEG-Pt.09.11	N/A	N/A	N/A	N/A	N/A	N/A	0.176	0.008	0.98	0.039	0.084	0.01	N/A	N/A
MEG-Pt.10.02	N/A	N/A	N/A	N/A	N/A	N/A	0.692	0.044	3.689	0.268	0.612	0.046	N/A	N/A
MEG-Pt.10.05	N/A	N/A	N/A	N/A	N/A	N/A	0.044	0.006	0.223	0.016	0.027	0.01	N/A	N/A

Figure 11-19 CRM Control Chart for Nickel (2019)

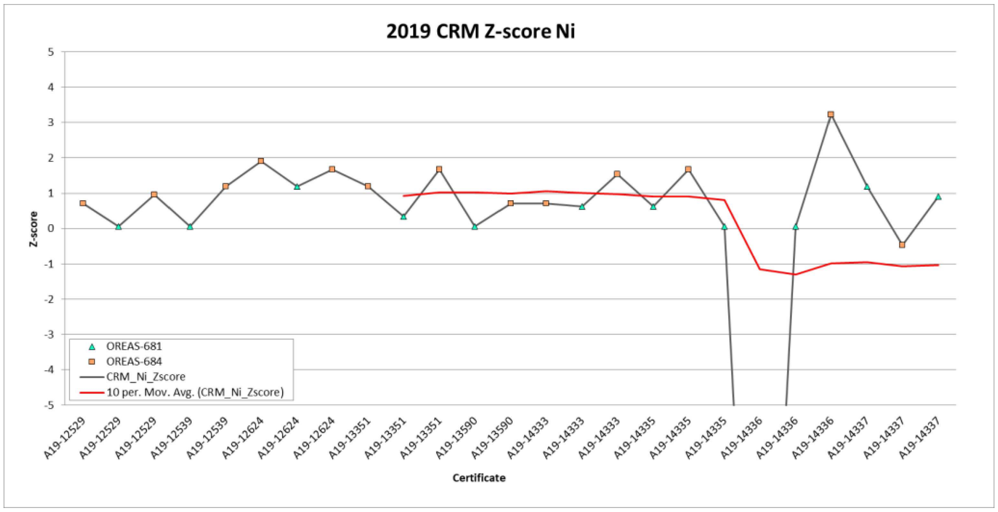


Figure 11-20 CRM Control Chart for Nickel (2020)

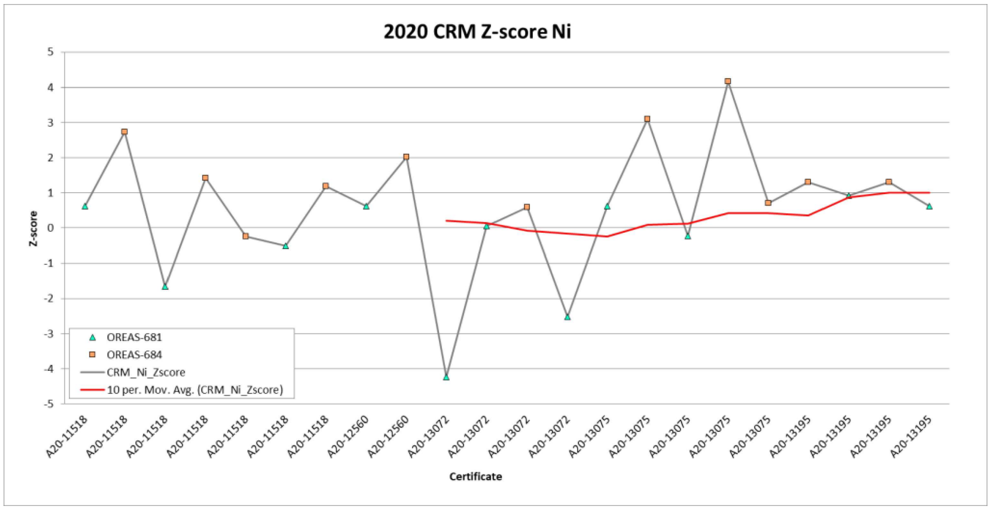


Figure 11-21 CRM Control Chart for Nickel (2021)

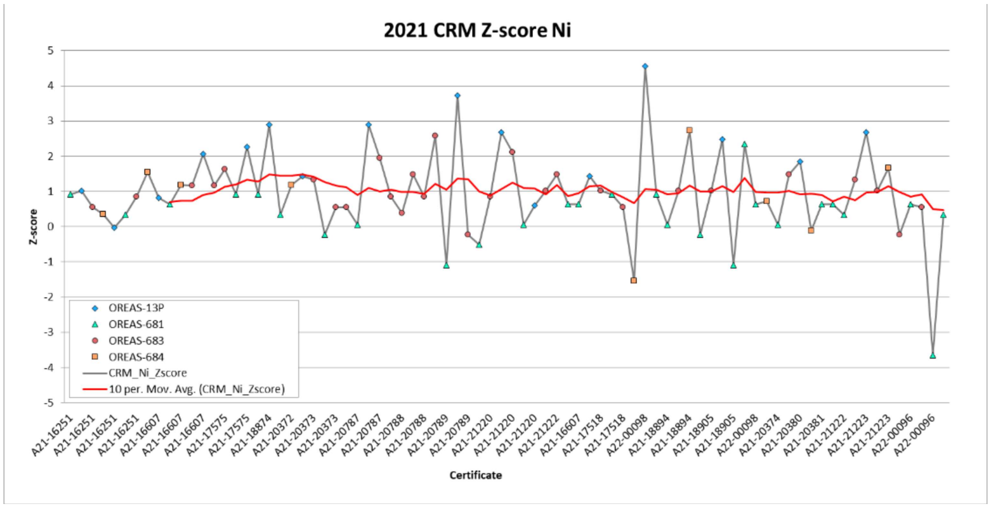


Figure 11-22 CRM Control Chart for Copper (2019)

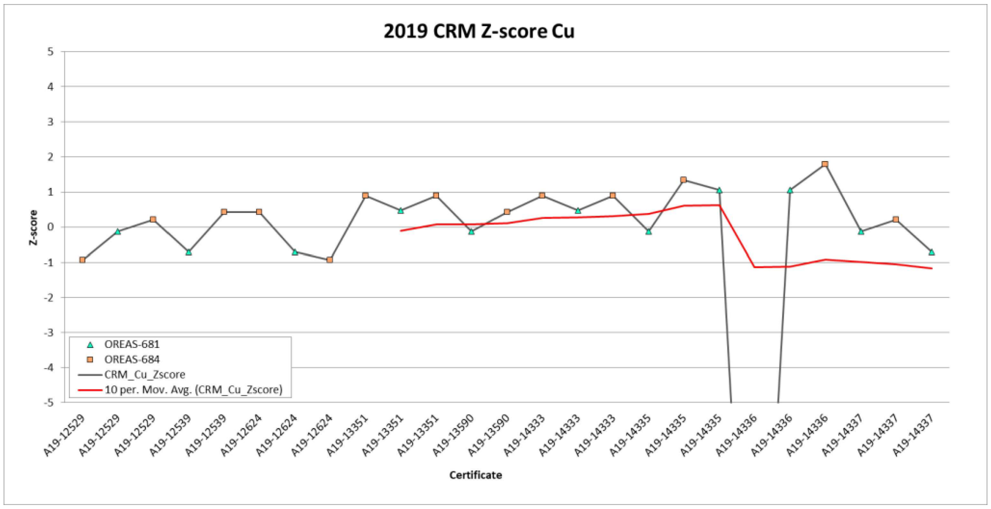


Figure 11-23 CRM Control Chart for Copper (2020)

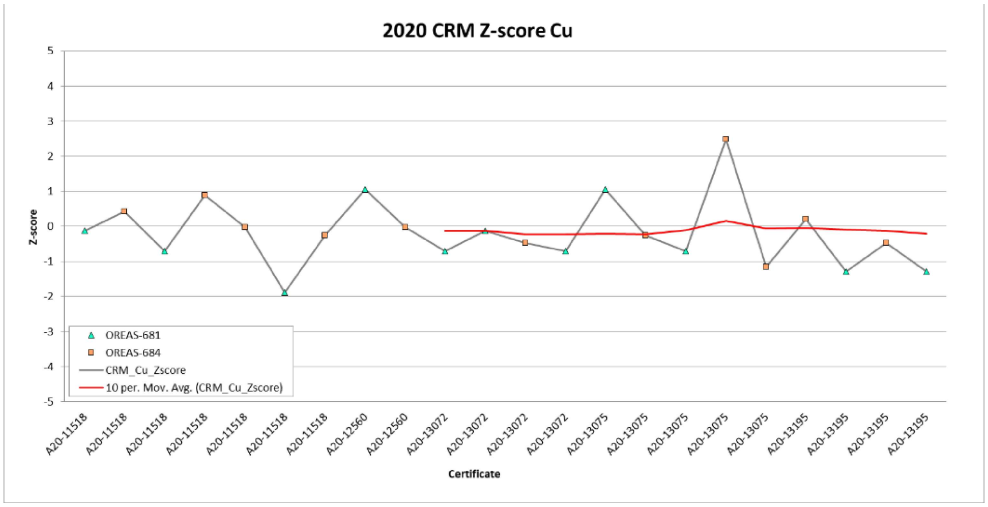


Figure 11-24 CRM Control Chart for Copper (2021)

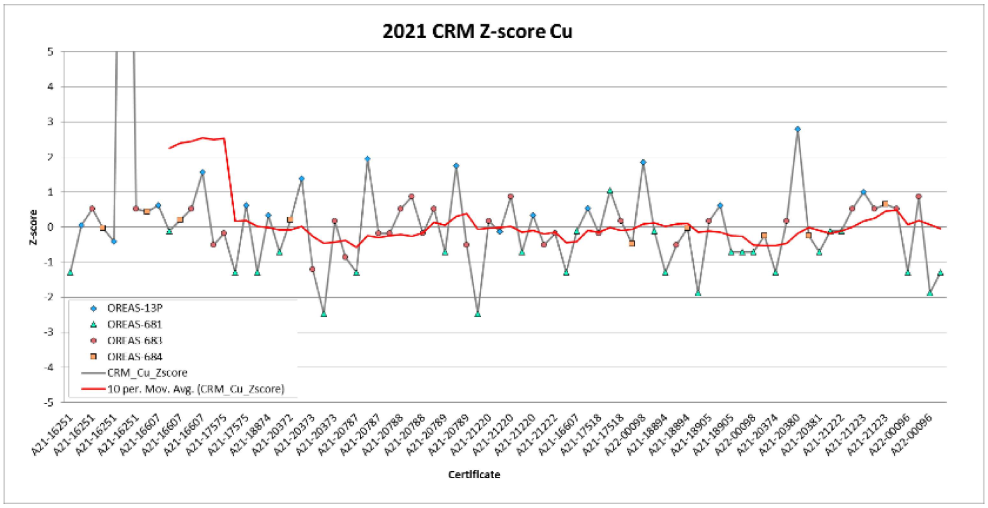


Figure 11-25 CRM Control Chart for Cobalt (2019)

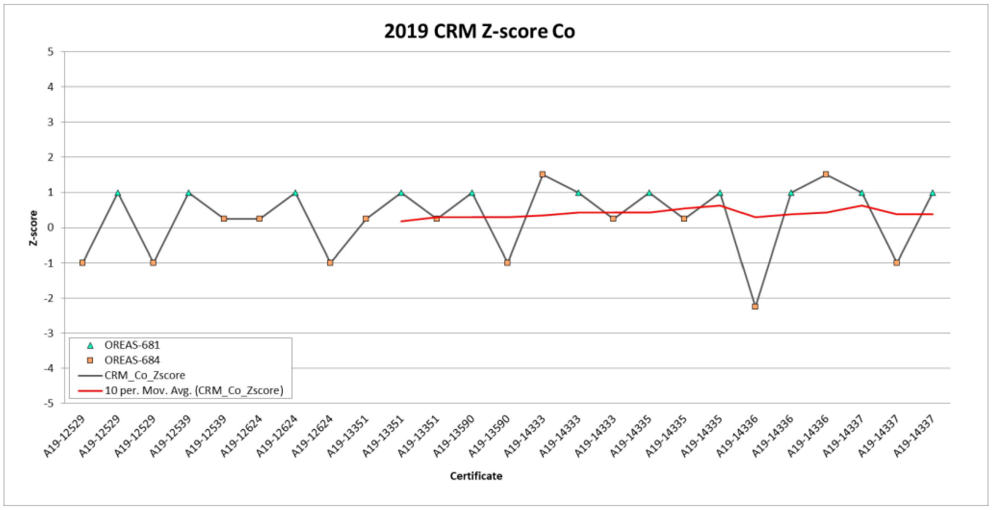


Figure 11-26 CRM Control Chart for Cobalt (2020)

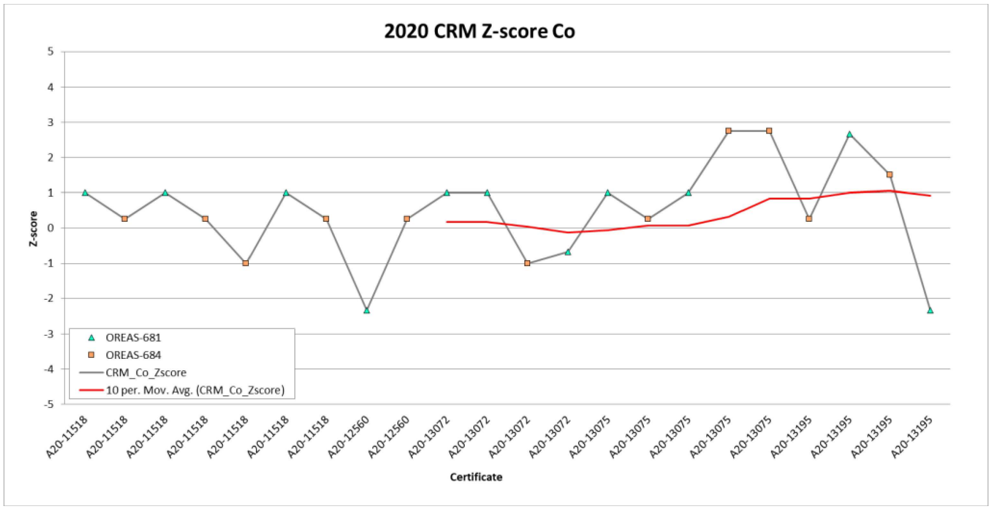


Figure 11-27 CRM Control Chart for Cobalt (2021)

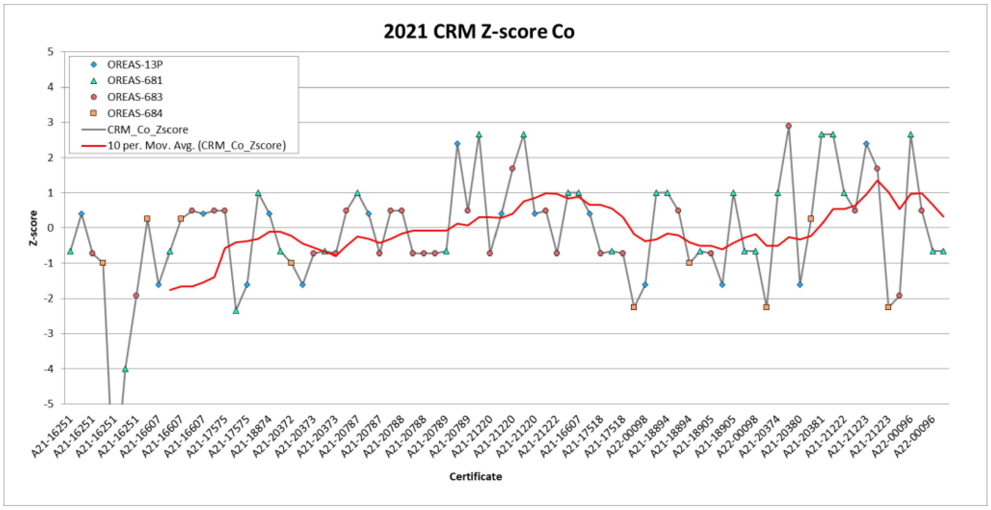


Figure 11-28 CRM Control Chart for Platinum (2019)

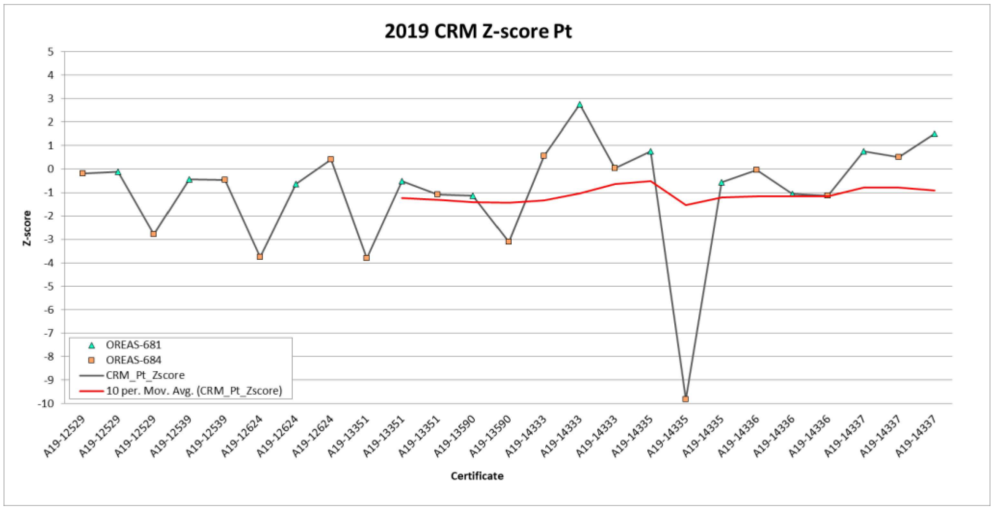


Figure 11-29 CRM Control Chart for Platinum (2020)

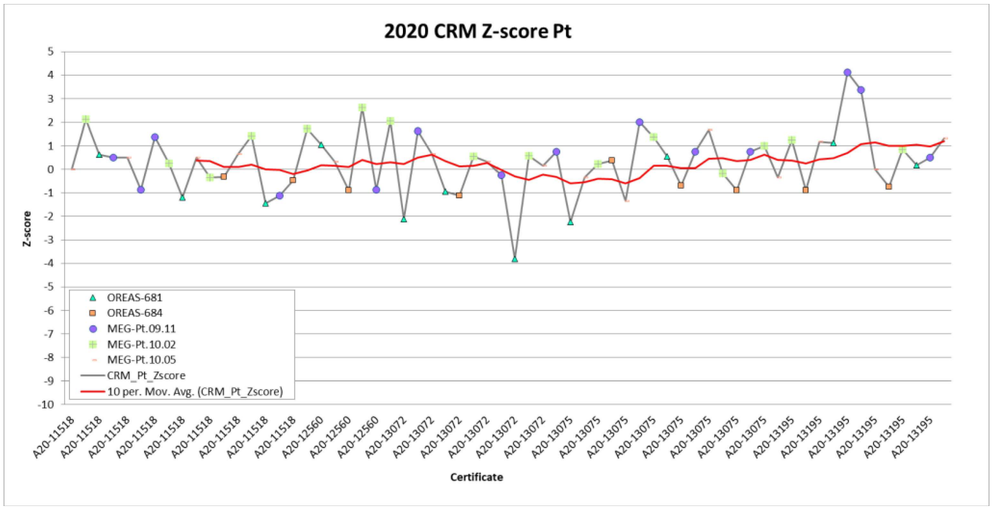


Figure 11-30 CRM Control Chart for Platinum (2021)

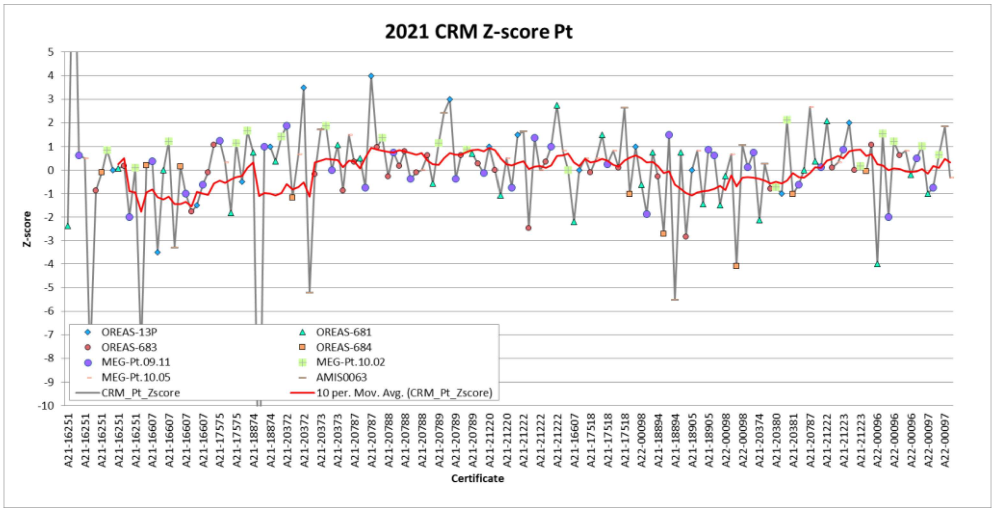


Figure 11-31 CRM Control Chart for Palladium (2019)

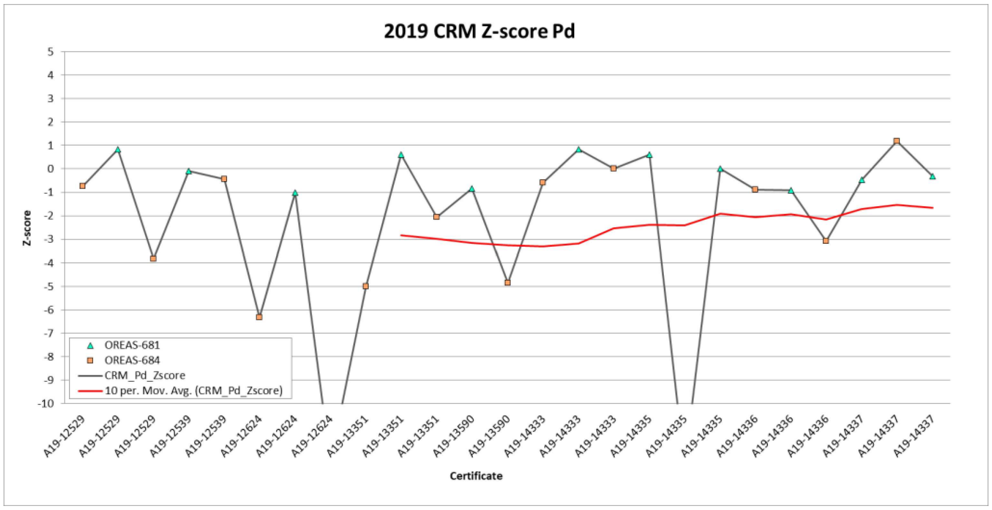


Figure 11-32 CRM Control Chart for Palladium (2020)

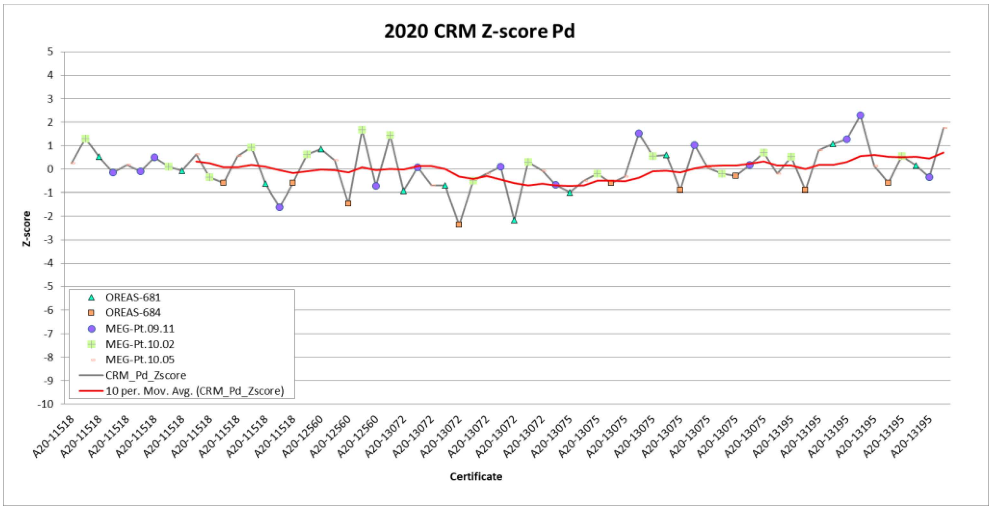


Figure 11-33 CRM Control Chart for Palladium (2021)

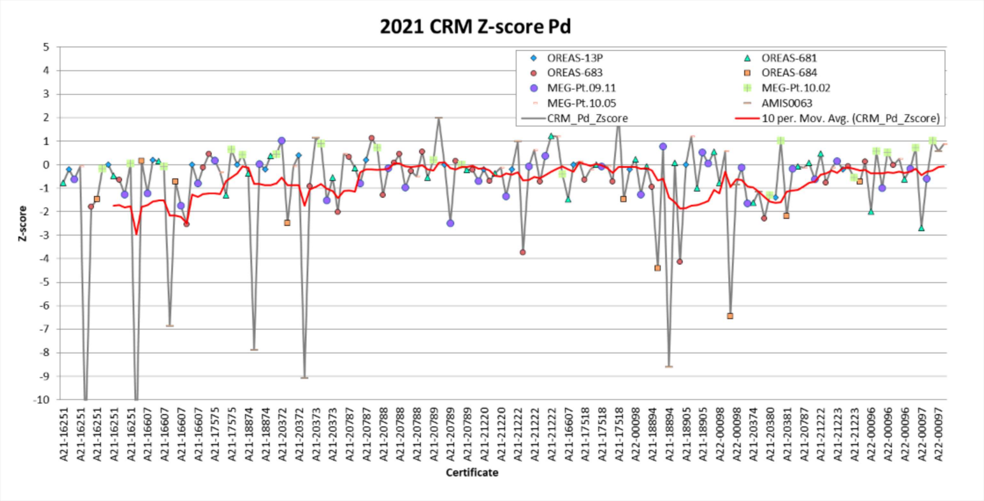


Figure 11-34 CRM Control Chart for Gold (2019)

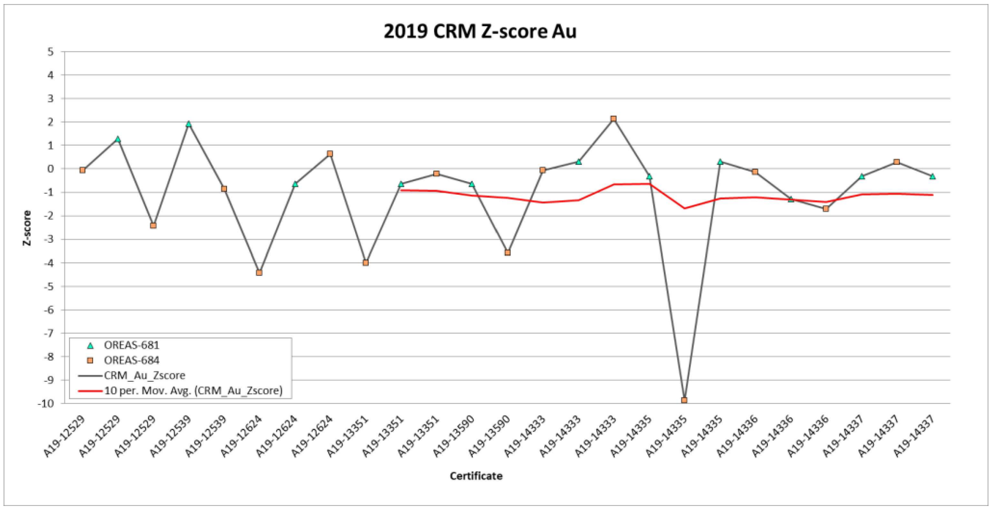


Figure 11-35 CRM Control Chart for Gold (2020)

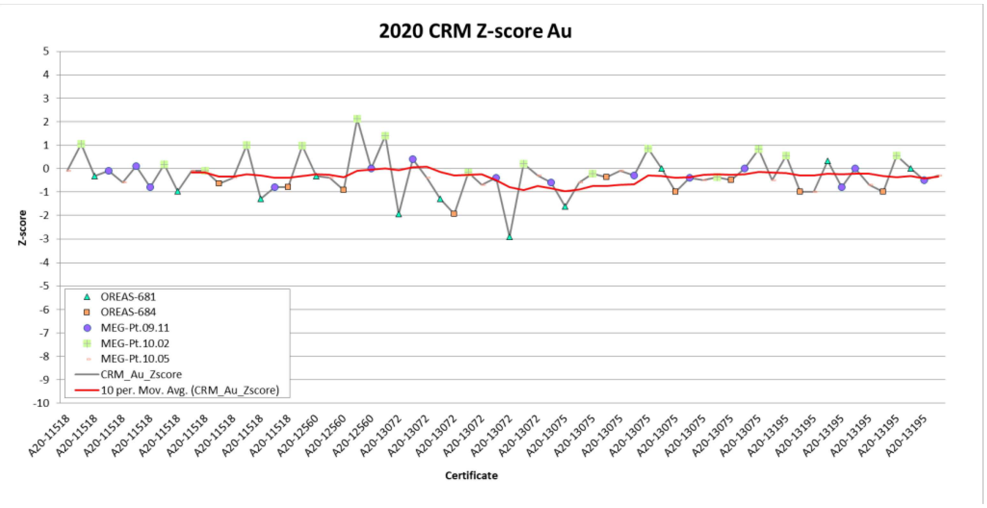


Figure 11-36 CRM Control Chart for Gold (2021)

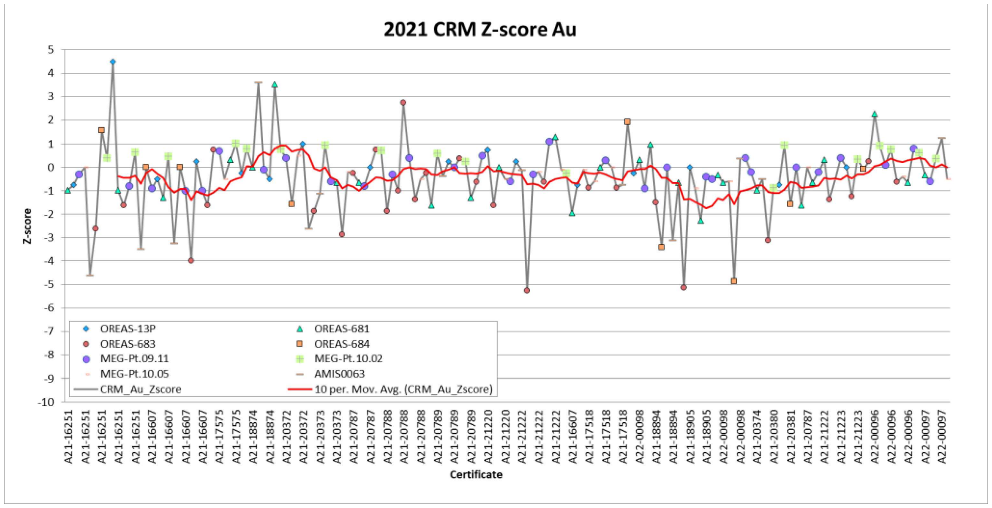
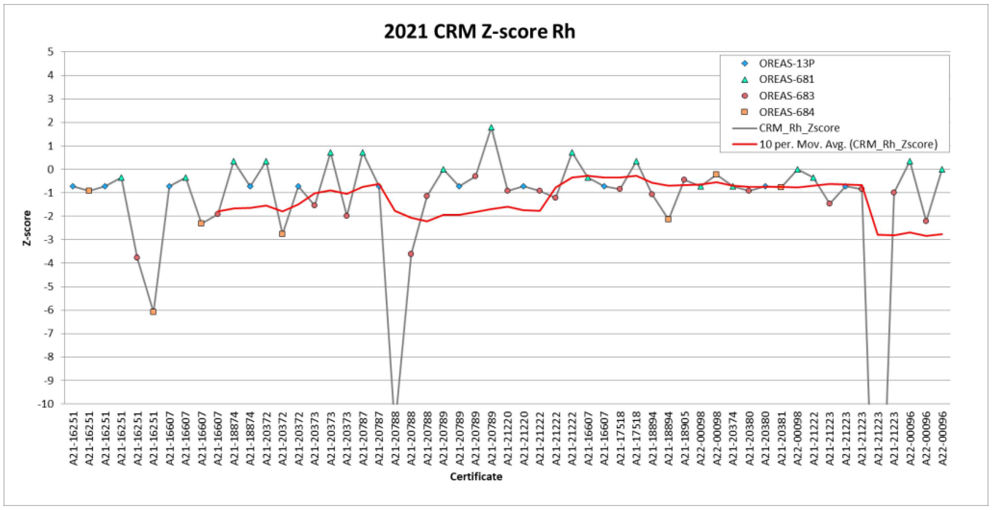


Figure 11-37 CRM Control Chart for Rhodium (2021)



11.3.8 Blank Material

Blank QC samples consisting of high purity industrial quartz sand were inserted into the sample stream in the field to determine the degree of sample contamination after sample collection, particularly during the sample preparation process. This material does not have certified values established by a third party through round robin lab testing. The QA/QC program from 2019 – 2022 included the insertion of 251 blank QC samples.

For blank sample values, failure is more subjective, and a hard failure ceiling value has not been set for the Project. Evaluation of blank samples using a failure ceiling for platinum and palladium of 0.05 ppm (10x detection limit) and gold of 0.02 ppm (10x detection limit) shows zero samples failing this criterion from 2019 – 2022. The highest blank assay values were 0.017 ppm platinum, 0.016 ppm palladium, and 0.013 ppm gold (Figure 11-38 and Figure 11-39). The blank failure rate is considered acceptable by industry standards. Based on the low risk of cross sample contamination and the low amounts of platinum and gold that may have contaminated blank material, it is considered unlikely that there is a contamination problem with the Project drilling data.

Figure 11-38 Blank Control Chart for Gold (2019 – 2021)

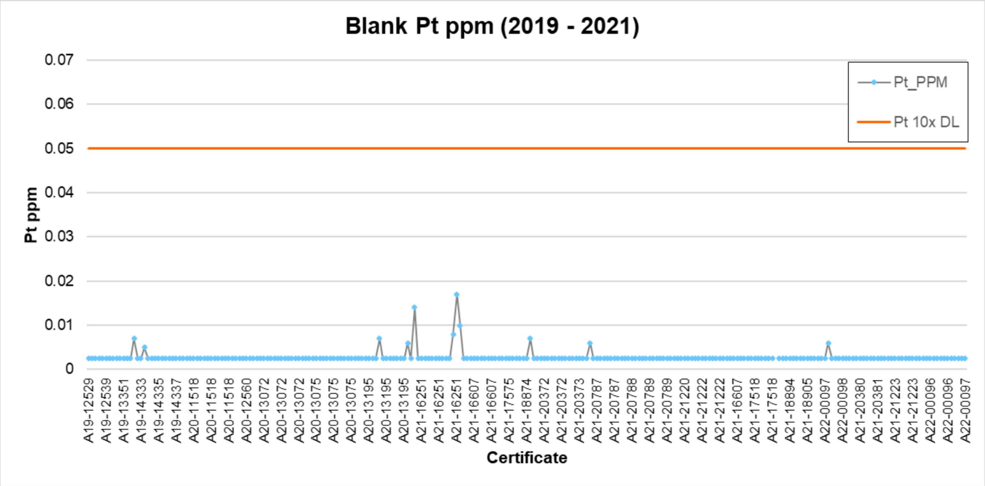
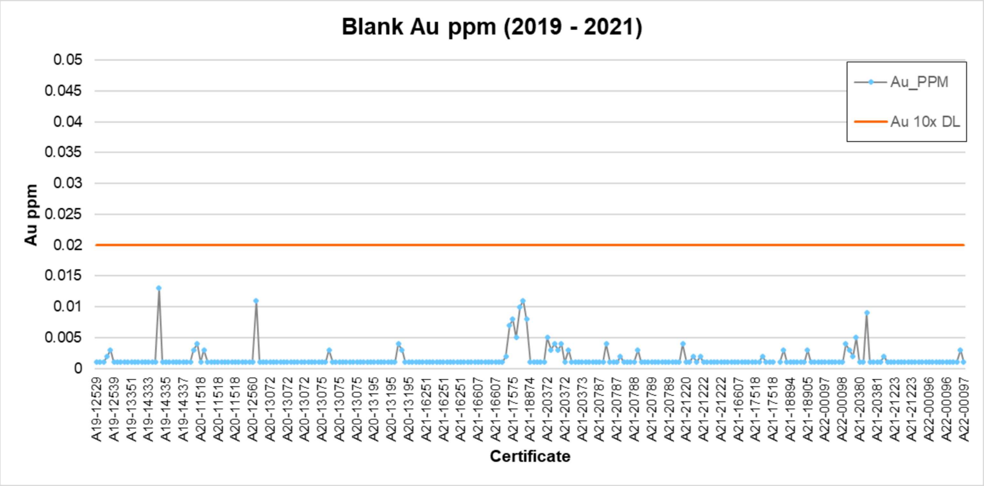


Figure 11-39 Blank Control Chart for Gold (2019 – 2021)



11.3.9 Duplicate Material

As part of the QA/QC program from 2019 – 2022 Stillwater included the insertion of 236 field duplicate (1/4 core) samples, all analysed by Actlabs. Figure 11-40 to Figure 11-46 illustrate the variability in precision of field duplicate samples for metals included in the Stillwater West MRE.

To obtain a relatively accurate estimate of the sampling precision, or average relative error, a large number of duplicate sample pairs are required. In the case of the Stillwater West deposits, reliably determining the base metal data precision, which typically exhibits relatively small average relative errors (such as 5%), would require 500 – 1000 duplicate data pairs. Reliable determination of the PGE-Au data precision, which typically exhibits relatively large average relative errors (such as 25%), likely requires a data set of greater than 2000 duplicate pairs (Stanley and Lawie, 2007). Based on the current limited data set size (236 duplicate pairs), analysis of the precision should be considered preliminary in nature only and should not be considered as reliable.

The average Coefficient of Variation (CV) for metals included in the Stillwater West MRE is shown in Table 11-6 calculated using the root mean square coefficient of variation calculated from the individual coefficients of variation (Stanley and Lawie, 2007). The preliminary estimates of precisions errors (CV_{AVR}%) for Stillwater sampling precision are relatively high by industry standards for field duplicates for this style of mineralization (Abzalov, 2008); however, more data is required to produce reliable estimates of sampling precision.

The precision of field and preparation duplicates should continue to be monitored as the drill program progresses and the size of the duplicate data set becomes more representative.

Table 11-6 Average Relative Error of Field Duplicate Samples (2019-2022)

Year	Ni CV_{AVR}%	Cu CV_{AVR}%	Co CV_{AVR}%	Pt CV_{AVR}%	Pd CV_{AVR}%	Au CV_{AVR}%	Rh CV_{AVR}%
2019-2021	18.3	32.5	14.1	42.6	36.5	44.7	42.1

Figure 11-40 Log X-Y Plot of Field Duplicate Samples for Nickel (2019 – 2021)

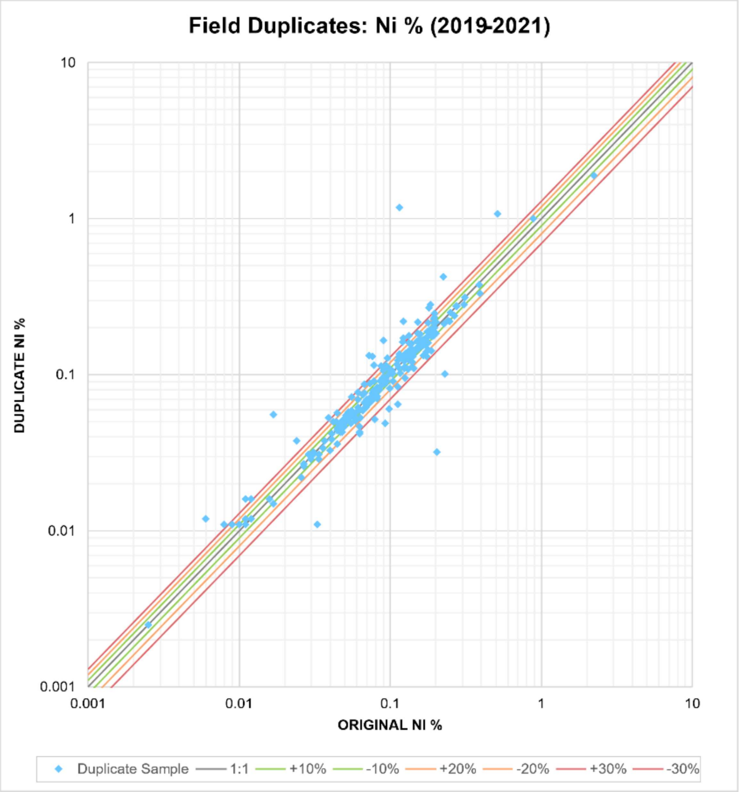


Figure 11-41 Log X-Y Plot of Field Duplicate Samples for Copper (2019 – 2021)

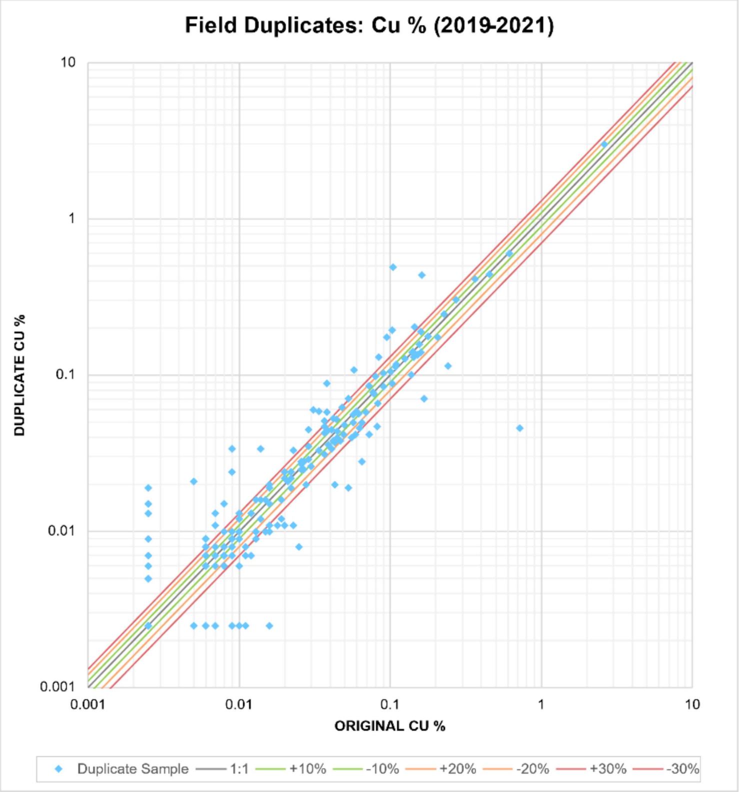


Figure 11-42 Log X-Y Plot of Field Duplicate Samples for Cobalt (2019 – 2021)

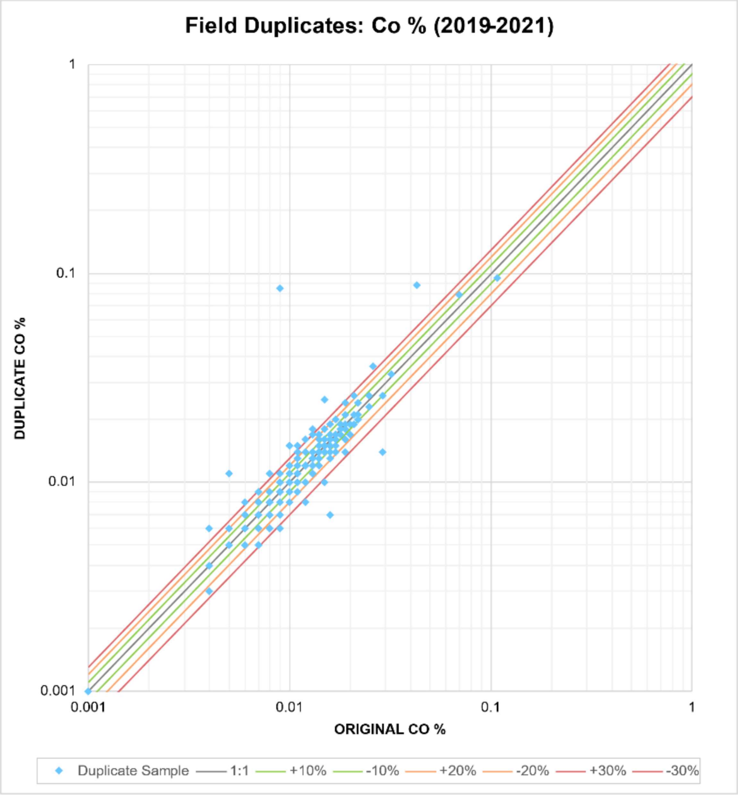


Figure 11-43 Log X-Y Plot of Field Duplicate Samples for Platinum (2019 – 2021)

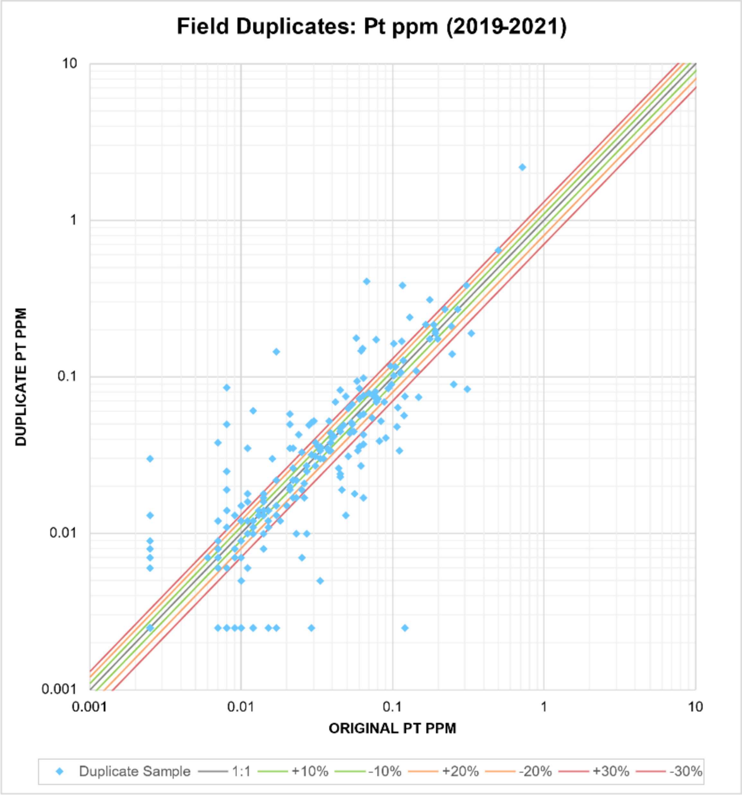


Figure 11-44 Log X-Y Plot of Field Duplicate Samples for Palladium (2019 – 2021)

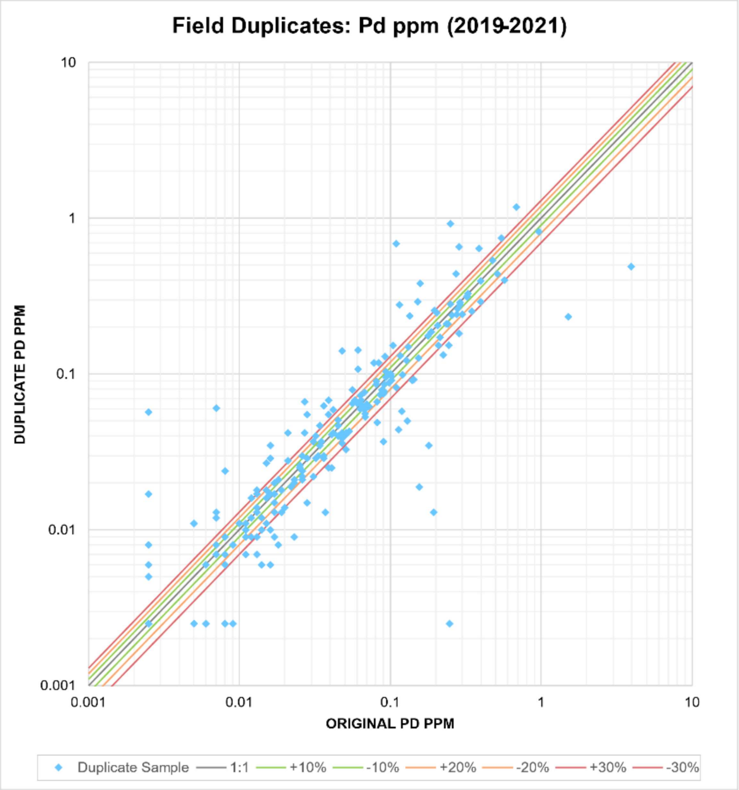


Figure 11-45 Log X-Y Plot of Field Duplicate Samples for Gold (2019 – 2021)

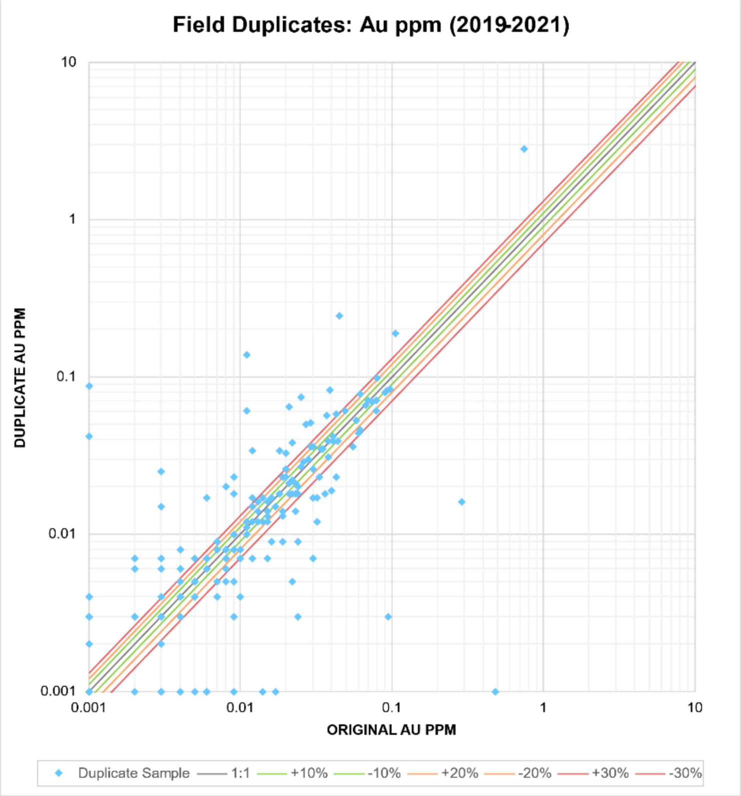
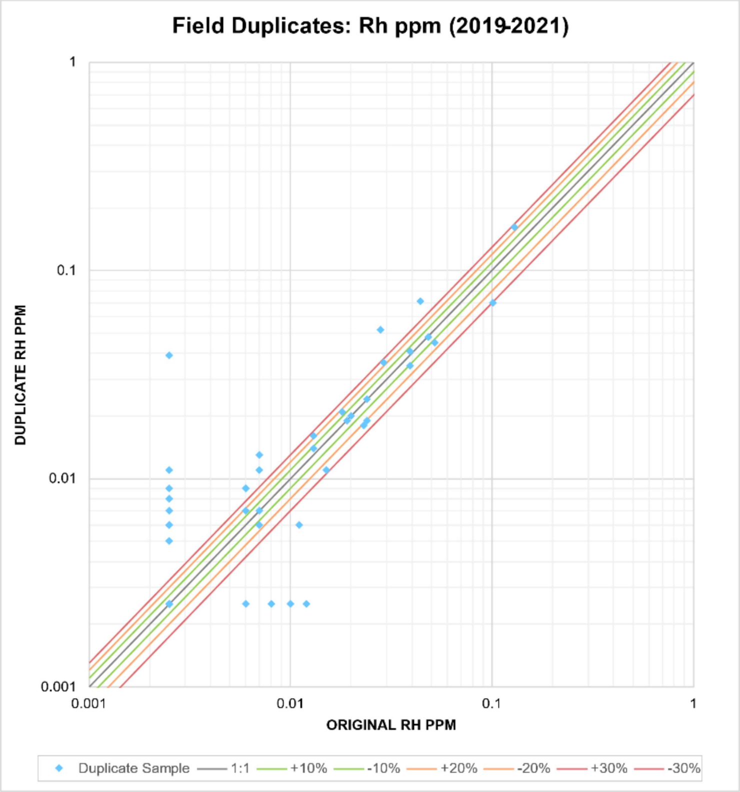


Figure 11-46 Log X-Y Plot of Field Duplicate Samples for Rhodium (2019 – 2021)



11.3.10 Umpire Laboratory

Check assaying of samples at a third-party umpire laboratory has not yet been undertaken as an additional QA/QC measure by Stillwater for the Project.

11.4 Sample Storage

Archived drill core and surface rock from the Property is secured at the Company's core logging and long-term storage facility in Nye, Montana (Figure 11-17 and Figure 11-18).

11.5 QP's Comments

Eggers recommends phasing out the use of CRMs that do not have certified sodium peroxide fusion ICP values for Ni, Cu, Co and fire assay values for Rh to improve the Company's ability to monitor assay accuracy and obtain reruns of sample batches where analytical failures are noted.

Eggers recommends that future drilling programs include the analysis of umpire duplicate samples at a reputable third-party laboratory from selected mineralized zones representative of the various mineralization styles and domains that occur on the Project as an added measure to ensure sampling accuracy.

It is the Author's opinion, based on a review of all possible information, that the sample preparation, analyses and security used on the Project by the Company meet acceptable industry standards (past and current) and the drill data can and has been used for geological and resource modeling, and resource estimation of Inferred mineral resources.

12 DATA VERIFICATION

The following section summarise the data verification procedures that were carried out and completed and documented by the Authors for this technical report, including verification of all drill data collected by Stillwater during their 2019 to 2021 drill programs and data obtained by previous operators, as of the effective date of this report.

12.1 Drill Sample Database

Eggers conducted an independent verification of the assay data in the drill sample database used for the current MRE. Approximately 15% of the digital assay records were randomly selected and checked against the available laboratory assay certificate reports. Assay certificates were available for all diamond drilling completed by Stillwater, Beartooth and Premium and for a portion of the historical (pre-2002) drilling. Eggers reviewed the assay database for errors, including overlaps and gapping in intervals and typographical errors in assay values. In general, the database was in good shape and no adjustments were required to be made to the assay values contained in the assay database.

Verifications were also carried out on drill hole locations, down hole surveys, lithology, SG and topography information. Minor errors were noted and corrected during the validation. The database is considered of sufficient quality to be used for the current MRE.

Eggers has reviewed the sample preparation, analyses and security (see section 11) completed by Stillwater and previous operators for the Property. Based on a review of all possible information, the sample preparation, analyses and security used on the Project by Stillwater and previous operators, including QA/QC procedures, are consistent with standard industry practices and the drill data can be used for geological and resource modeling, and resource estimation of Inferred mineral resources.

12.2 Site Visits

Armitage has conducted two site visits to the Property, on August 9 and 10, 2021 and on June 29 and 30, 2022. As a result of the 2 site visits, the Author was able to become familiar with conditions on the Property, was able to observe and gain an understanding of the geology and various styles mineralization, which helped guide the mineral resource modeling, was able to verify the work done and, on that basis, is able to review and recommend to Stillwater an appropriate exploration program.

The Author considers the site visit completed in 2022 as current, per Section 6.2 of NI 43-101CP. To the Authors knowledge there is no new material scientific or technical information about the Property since that personal inspection. The technical report contains all material information about the Property.

12.2.1 2021 Site Visit

Armitage conducted a site visit to the Property on August 9 and 10, 2021, accompanied by Justin Modroo, P.Geo., and Project Geophysicist for Stillwater. During the 2021 site visit, Armitage inspected the core logging and sampling facilities and core storage areas, and reviewed the core sampling, QA/QC and core security procedures. Armitage examined a number of selected mineralized core intervals from diamond drill holes from the several mineralized areas, including core from new 2021 drilling. Armitage examined accompanying drill logs and assay certificates and assays were examined against the drill core mineralized zones. All core boxes were labelled and properly stored in a warehouse. Sample tags were present in all core boxes, and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones. At the time of the site visit, there were no assays available for the 2021 drilling as core samples had yet to be shipped.

Drilling and core logging was in progress during the time of the site visit and Armitage had the opportunity to review and discuss the entire path of the drill core, from the drill rig to the logging and sampling facility and finally to the laboratory. All core boxes were accessible, well labelled, and properly stored indoors in core racks. Sample tags were present in the boxes and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones.

Armitage is of the opinion that current protocols in place, as have been described and documented by Stillwater, are adequate.

Armitage completed a field tour of the Property, accompanied by Justin Modroo and Dr. Craig Bow, Senior Geological Advisor for Stillwater. The field tour included visits to various outcrops to review the property geology, visit to various mineralized outcrops, visit to historic drill sites and recent and current drill sites. At the time of the site visit, the 2021 drilling was in progress and two drill rigs were in operation (Figure 12-2 and Figure 12-3).

12.2.2 2022 Site Visit

Armitage conducted a second visit to the Project on June 29 and 30, 2022, accompanied by Justin Modroo and Dr. Craig Bow (Figure 12-4). The main purpose of the second visit was to review the 2021 drilling and data that was not available during the 2021 site visit. The 2021 drilling is used in the updated MRE presented in section 14. At the time of this second site visit, there was no active drilling and there has been no additional drilling in 2022. The site visit was restricted to the core logging facility as snow cover and recent flooding prevented road access to the Property and there was no helicopter available.

During this second site visit the Author was able to examine the 2021 drill core with accompanying drill logs and assay certificates and was able to examine assays against the 2021 drill core mineralized zones. Drill holes examined included IM-2021-01, 05 and 06, CZ-2021-05, and CM-2021-01, 03 and 05. Additional holes previously completed by Stillwater were also reviewed for comparison purposes. All core boxes were accessible, well labelled and properly stored indoors in core racks. Sample tags were present in the boxes and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones.

12.3 Conclusion

All geological data has been reviewed and verified by the Authors as being accurate to the extent possible and to the extent possible all geologic information was reviewed and confirmed. There were no significant or material errors or issues identified with the database. Based on a review of all possible information, the Authors are of the opinion that the database is of sufficient quality to be used for the current Inferred MRE.

Figure 12-1 Stillwater Core Logging Facility near Nye Montana

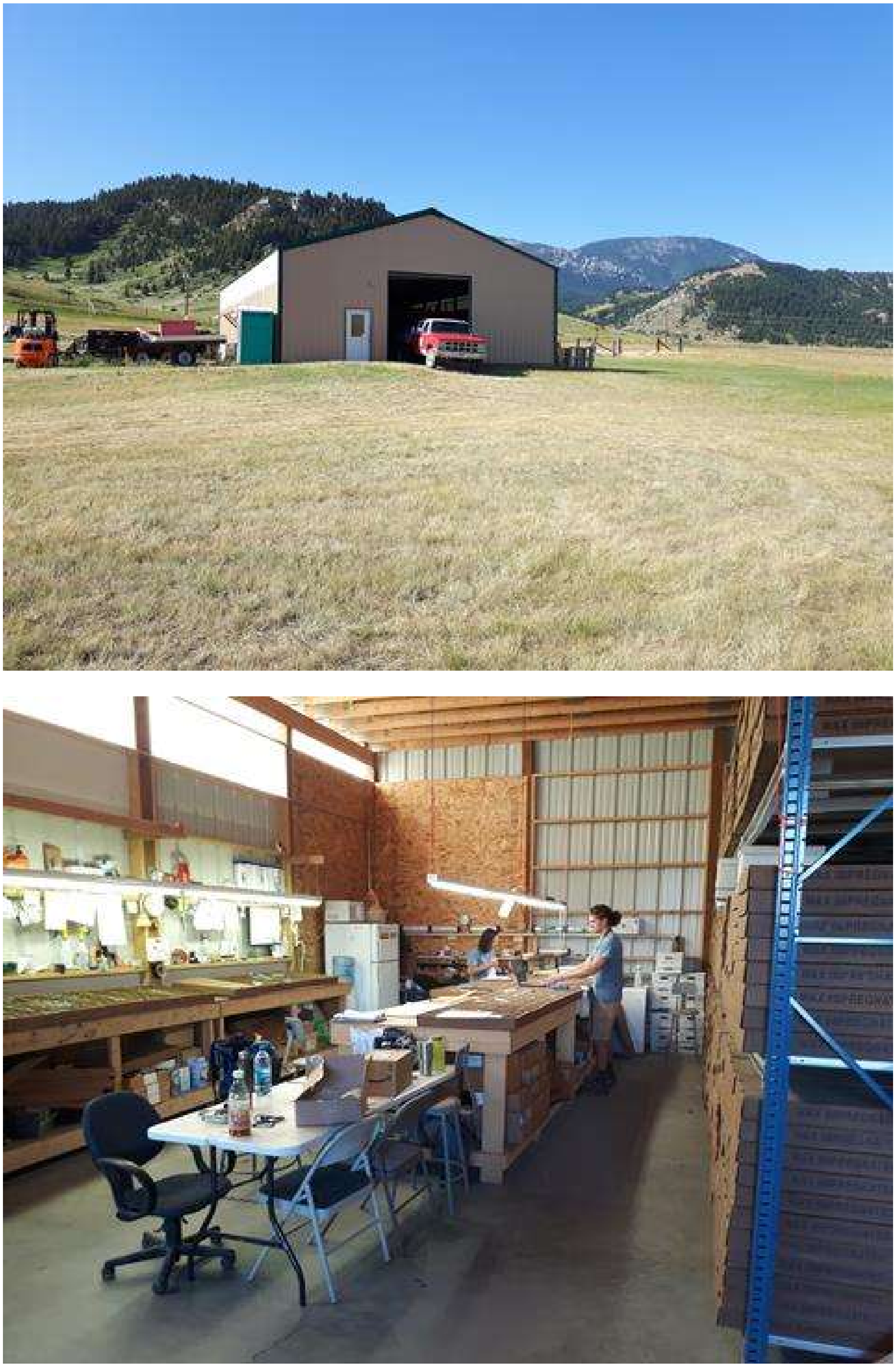


Figure 12-2 Drilling in 2021 on the Stillwater Property

Figure 12-3 Mapping in the Chrome Mountain Target Area (Justin Modroo and Dr. Craig Bow)

Figure 12-4 Reviewing 2121 and Historical Core in the Stillwater Core Logging and Core Storage Facility with Craig Bow

13 MINERAL PROCESSING AND METALLURGICAL TESTING

Stillwater has yet to complete mineral processing or metallurgical test work on the Property.

14 MINERAL RESOURCE ESTIMATES

Completion of the update MRE's for the Property involved the assessment of a drill hole database, which included all data for surface drilling completed through the end of 2021, as well as three-dimensional (3D) mineral resource models (resource domains), a 3D topographic surface model and, and available written reports.

Inverse Distance Squared ("ID^2") calculation method restricted to mineralized domains was used to interpolate grades for Ni (%), Cu (%), Co (%), Pt (g/t), Pd (g/t) and Au (g/t) into block models.

Inferred mineral resources are reported in the summary tables in Section 14.11. The updated MREs takes into consideration that the Projects deposits may be mined by open pit mining methods.

The reporting of the updated MREs comply with all disclosure requirements for Mineral Resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects. The classification of the updated MRE is consistent with the 2014 Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards (2014 CIM Definitions) and adhere as best as possible to the 2019 CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Guidelines).

14.1 Drill Hole Database

In order to complete the MREs for the Stillwater West deposits, a database comprising a series of comma delimited spreadsheets containing drill hole information was provided by Stillwater. The database included hole location data (NAD83 / UTM Zone 12), survey data, assay data, lithology data and specific gravity data. The original database received contained data for more than 1,370 historical and recent drill holes. This database was reduced to data for 156 historical and recent drill holes that have been completed in and around the main areas of interest of the current project and form the basis of the current (Figure 14-1 and Table 14-1). The main area of interest covers a strike length of approximately 10.4 km.

The data in the assay table included assays for Ni (ppm), Cu (ppm), Co (ppm), Pt (g/t), Pd (g/t) and Au (g/t) (Table 14-1) as well as a number of additional elements including Rh (ppb), Cr (ppm) and S (ppm). It should be noted that not all samples in the historical drill holes were analyzed for all elements. Missing data was reviewed and dealt with using linear regression analysis after compositing of assays and subdividing composites by domain (see section 14.5 below). Values for Nickel Equivalent (NiEq %) were calculated for each assay sample based on selected metal prices (see below).

The assay data was then imported into GEOVIA GEMS version 6.8.3 software ("GEMS") for 3D modeling of the mineralization, statistical analysis, block modeling and resource estimation. The data was validated in GEMS and no erroneous data, data overlaps or duplication of data was identified.

The database was checked for typographical errors in drill hole locations, down hole surveys, lithology, assay values and supporting information on source of assay values. Overlaps and gapping in survey, lithology and assay values in intervals were checked. Gaps in the assay sampling and un-sampled elements were assigned a grade value of 0.0001 for Co, Pt, Pd and Au.

Figure 14-1 Plan View Showing Locations of Drillholes Completed in the Main Areas of Interest for the Project and Areas of the MRE's

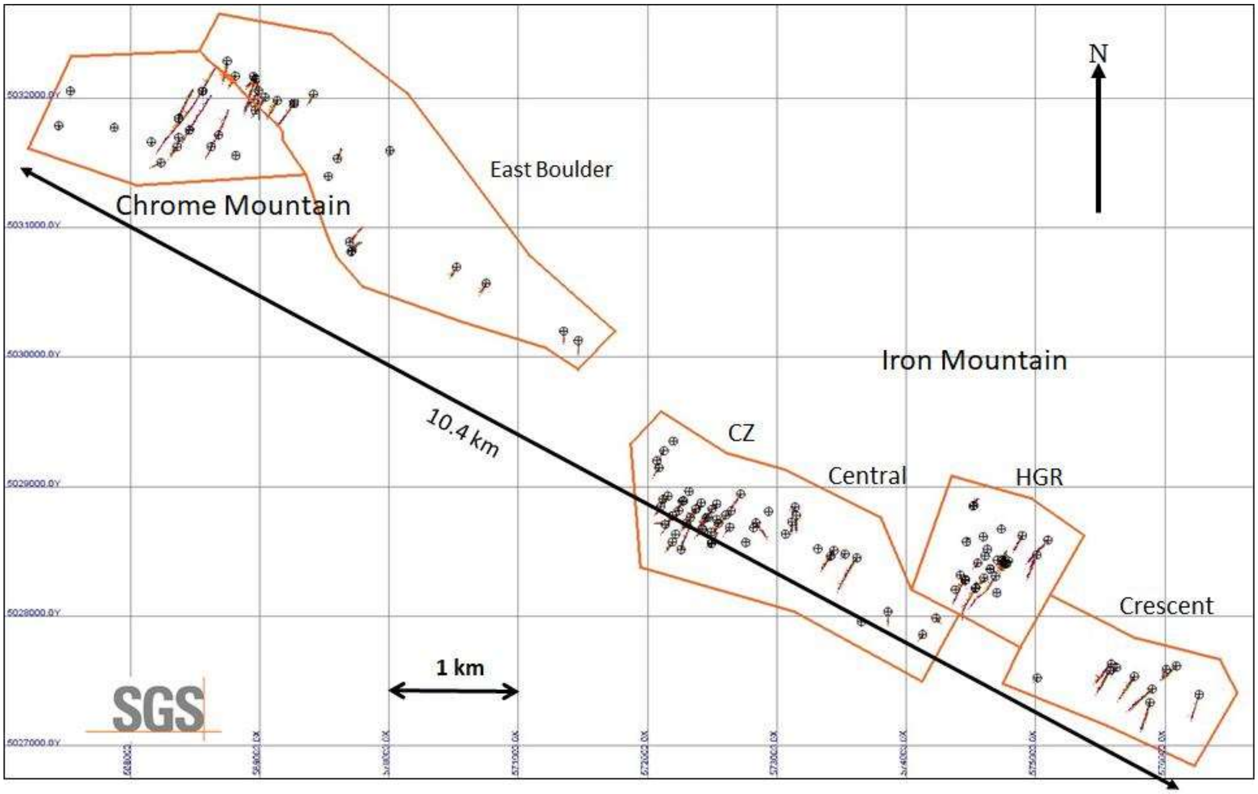


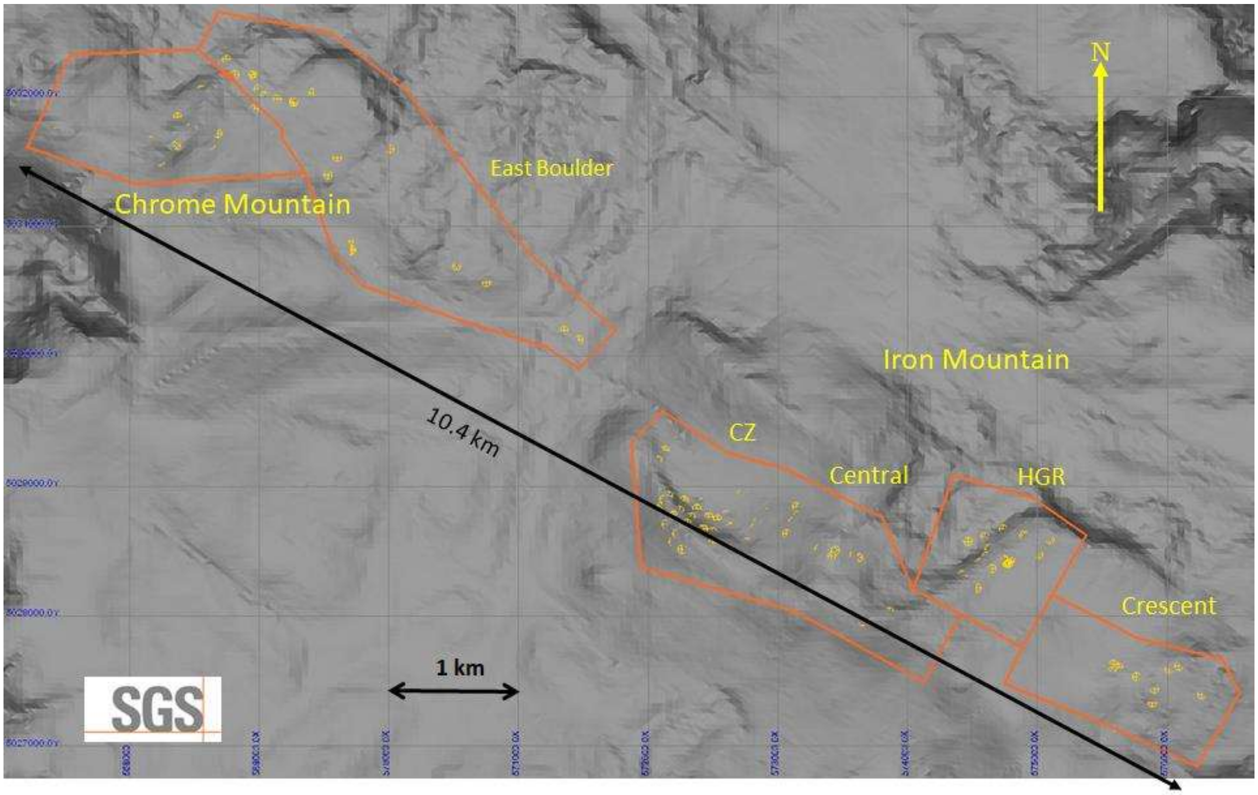
Table 14-1 Summary of Database used for the Stillwater West Project MRE's

	Year	Data used for the MRE		Assays							
		Number	Metres	Total	Ni	Cu	Co	Pt	Pd	Au	Rh
Drill Holes	Historical (to 2008)	131	20,810	9,947	9,142	6,825	5,035	8,597	8,597	8,564	1,305
	2019	6	1,617	1,416	1,416	1,416	1,416	1,416	1,416	1,416	765
	2020	5	1,823	1,737	1,737	1,737	1,737	1,737	1,737	1,737	682
	2021	14	5,143	4,284	4,284	4,284	4,284	4,284	4,284	4,284	3,393
Total		**156**	**29,393**	**17,384**	**16,579**	**14,262**	**12,472**	**16,034**	**16,034**	**16,001**	**6,145**

14.2 Topography

A topographic surface, in 3D DXF format was provided by Stillwater. The topographic surface is based on data obtained from an airborne LIDAR (Light Detection and Ranging) survey completed in 2019 (Figure 14-2). The topography surface was imported into GEMS, to be used to assist in mineral resource modeling, block modeling and resource reporting.

Figure 14-2 Plan View of Stillwater West Deposit Areas Showing Topographic Surface and Drill Hole Locations



14.3 Mineral Resource Modelling

For the updated MREs for the Project, 3D grade controlled wireframe models, representing separate mineralized zones for the Chrome Mountain and Iron Mountain deposit areas were constructed by SGS (Figure 14-3 to Figure 14-9), and reviewed by Stillwater. The models cover a strike length of approximately 8.8 km.

The 3D grade controlled models were built in GEMS by visually interpreting mineralized intercepts from cross sections using Ni, Cu and NiEq values (approximately 0.2% NiEq). Polygons of mineral intersections (snapped to drill holes) were made on sections and these were tied together to create continuous resource wireframe models in GEMS. Polygons of mineral intersections were constructed on 50 m spaced sections with a 25 m influence. The sections were created perpendicular to the general strike of the mineralization.

The models were extended 50 to 100 m beyond the last known intersection along strike. The modeling exercise provided broad controls of the dominant mineralizing direction. All domains were clipped to the 2018 topographic surface. The total volume of the grade control models is 66,042,258 m^3 (196,954,656 tonnes) (Table 14-2).

Table 14-2 Stillwater West Deposit – Domain Description: clipped to topography

Domain	Rock Code	Density	Domain Volume	Domain Tonnage
Chrome Mtn	10, 12	2.90	62,397,673	83,117,982
Iron Mtn - CZ	20	3.10	11,851,334	33,330,778
Iron Mtn - Central	40	3.10	10,123,718	31,383,526
Iron Mtn - HGR	30	2.95	21,265,664	40,200,034
Iron Mtn - Crescent	50	3.10	3,314,170	8,922,336
			108,952,559	**322,083,549**

The Chrome Mountain deposit models (Hybrid and DR) include multiple horizons of mineralization which define a bowl shaped structure dipping shallowly to the northeast and southwest (~10 to 30°) (Figure 3-7). Models extend for up to 960 m along strike to the southeast, and to a maximum depth of approximately 500 m.

The Camp deposit model includes multiple horizons of mineralization dipping shallowly to the northeast (~25°) (Figure 14-6). Models extend for up to 850 m along strike to the southeast, and to a depth of approximately 290 m.

The Iron Mountain Central Zone deposit model includes multiple horizons of mineralization dipping moderately to the northeast (~60°) (Figure 14-7). Models extend for up to 870 m along strike to the southeast, and to a depth of approximately 400 m.

The Iron Mountain East (also known as HGR) deposit model includes multiple horizons of mineralization which define a bowl shape structure dipping shallowly to the northeast and southwest (0 to 25°) (Figure 14-8). Models extend for up to 450 m along strike to the southeast, and to a depth of approximately 340 m.

The Crescent Zone deposit model dips moderately to the northeast (~45°) (Figure 14-9). Models extend for up to 400 m along strike to the southeast, and to a depth of approximately 250 m.

SGS was also provided with 3D geological models, 3D structural models and 3D models of the results of the 2020 IP survey. The SGS mineralization models correlate well with the trend of geology, structure and IP anomalies. The main host to the mineralization is the Peridotite unit (Figure 14-10).

Figure 14-3 Plan Map: Deposit Areas Showing Drill Holes and Mineralized Models

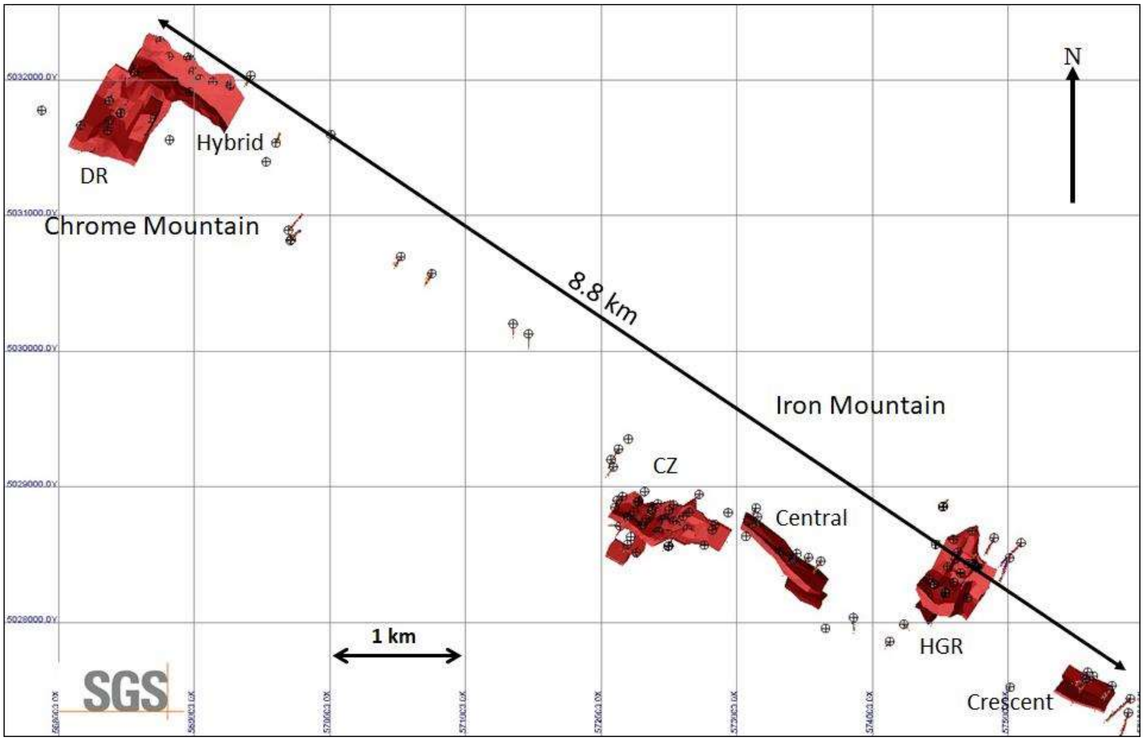


Figure 14-4 Isometric View Looking Northwest: Deposit Areas Showing Drill Holes and Mineralized Models

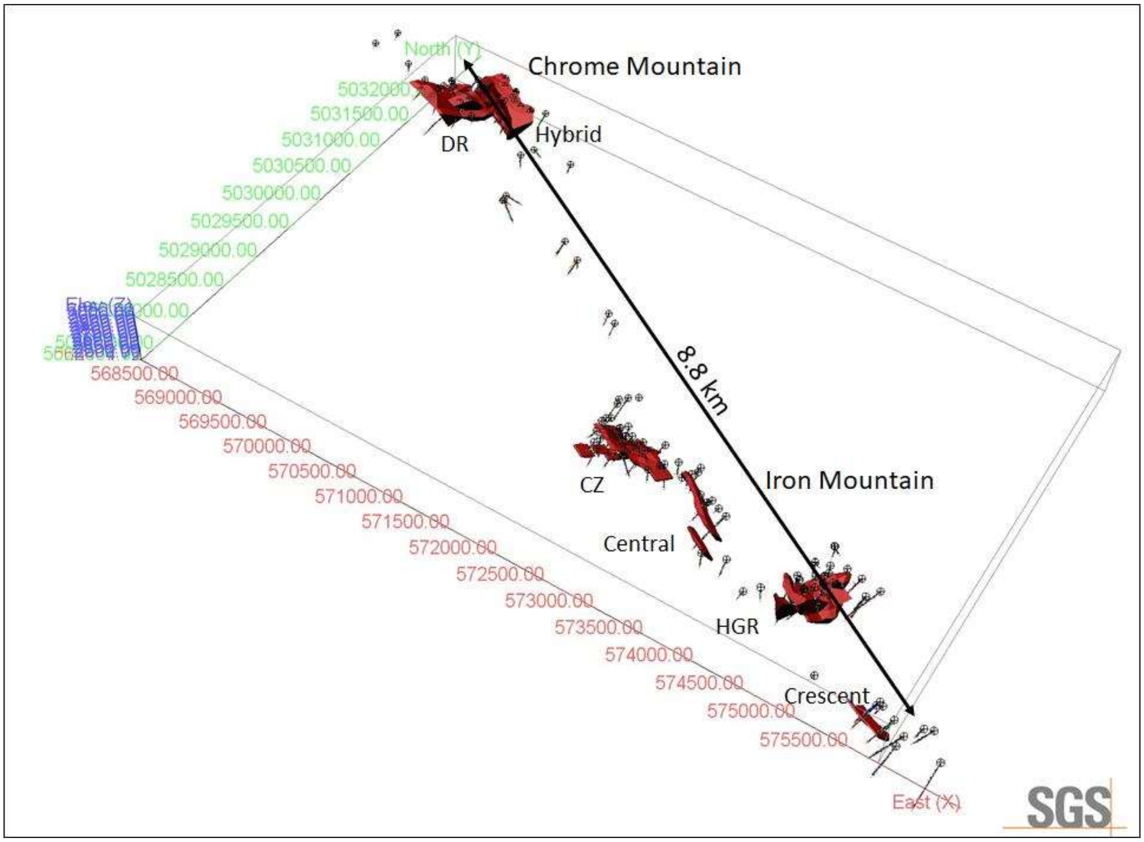


Figure 14-5 Isometric View Looking Northwest: Chrome Mountain Area Showing Drill Holes and Mineralized Models

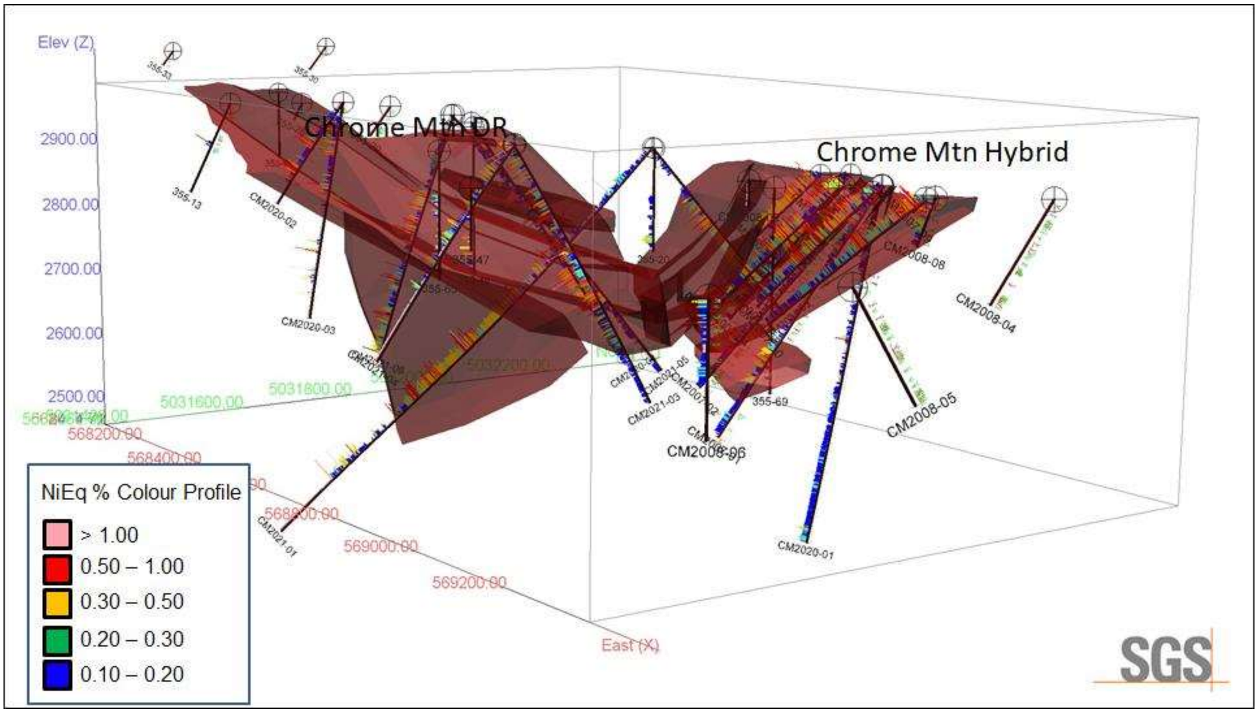


Figure 14-6 Isometric View Looking Northwest: Iron Mtn - Camp Zone Showing Drill Holes and Mineralized Models

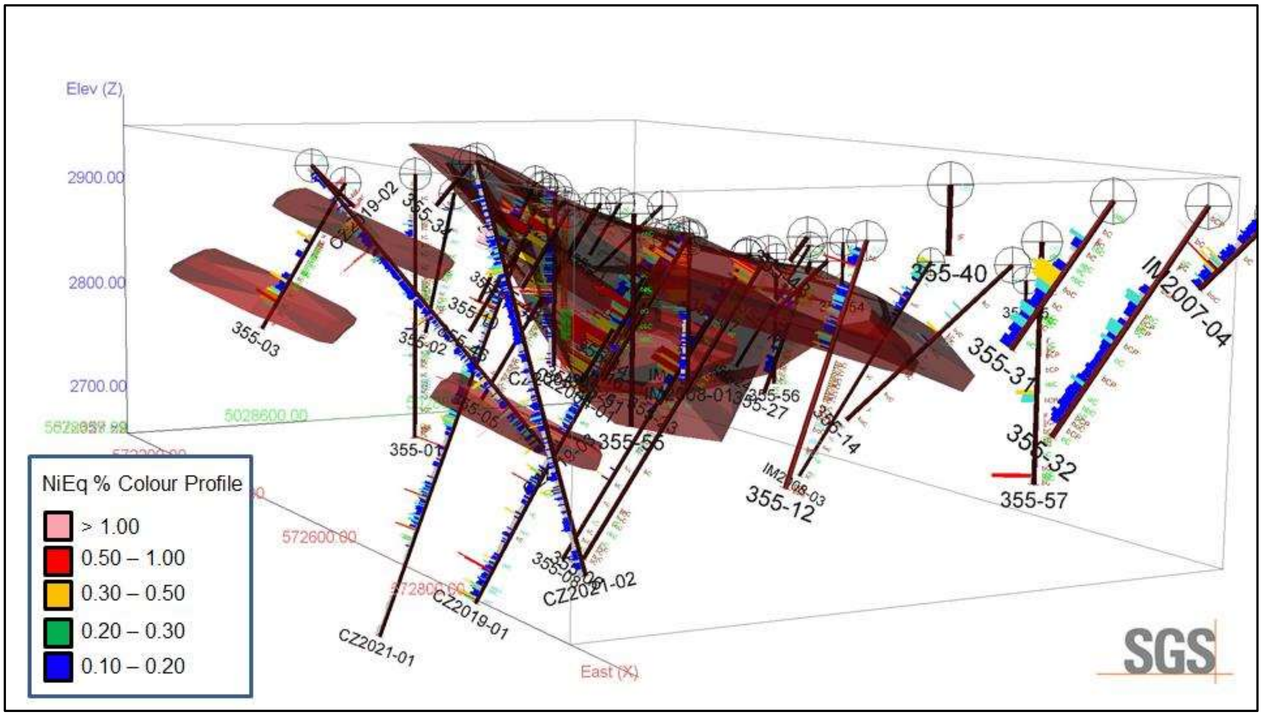


Figure 14-7 Isometric View Looking Northwest: Iron Mtn - Central Showing Drill Holes and Mineralized Models

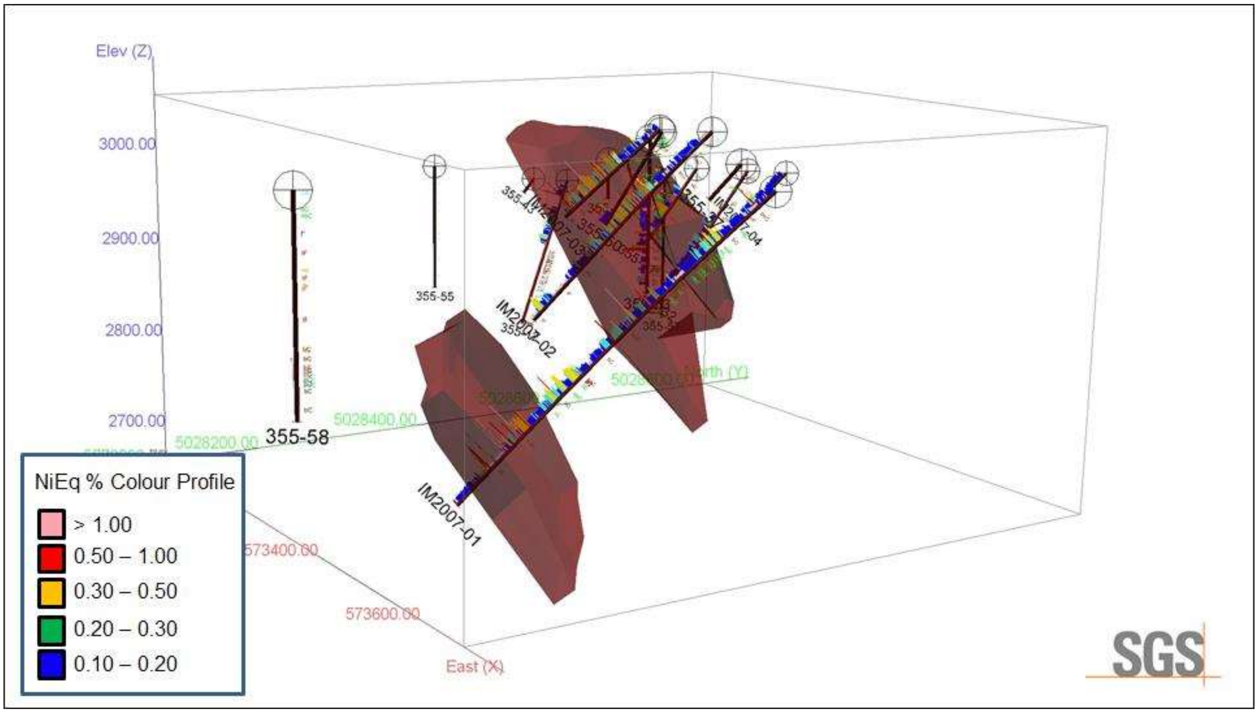


Figure 14-8 Isometric View Looking Northwest: Iron Mtn - HGR Area Showing Drill Holes and Mineralized Models

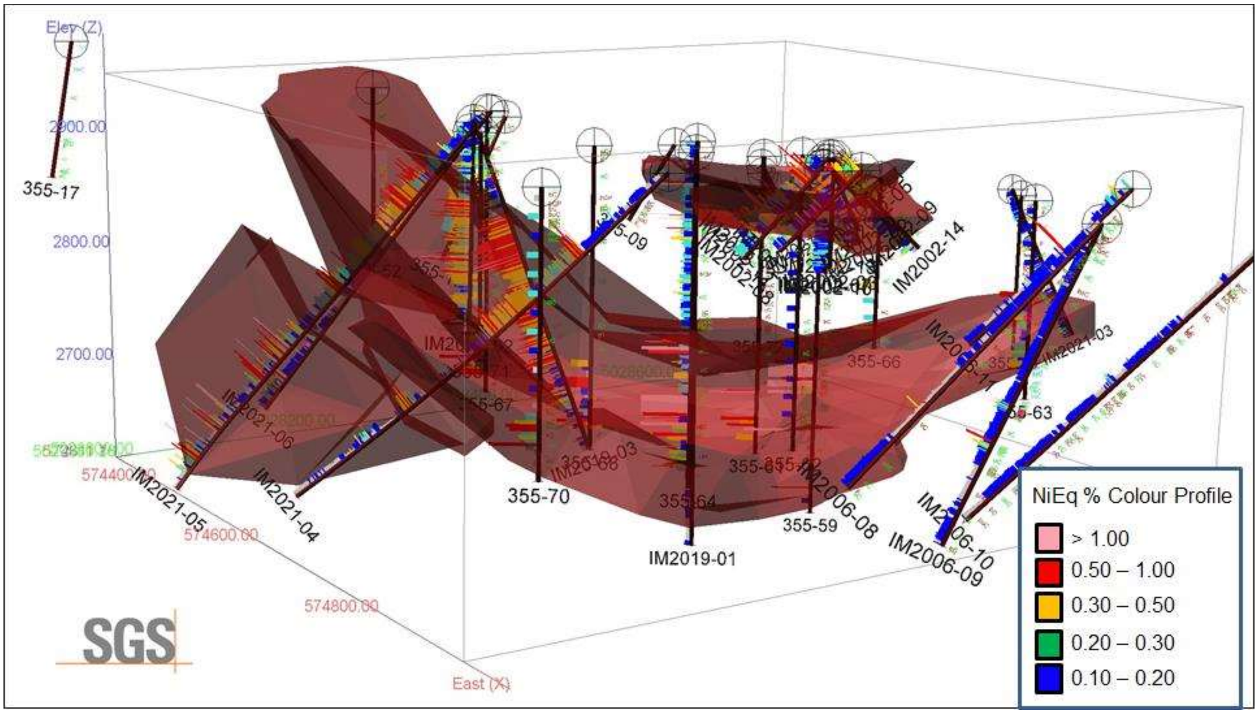


Figure 14-9 Isometric View Looking Northwest: Iron Mtn - Crescent Area Showing Drill Holes and Mineralized Models

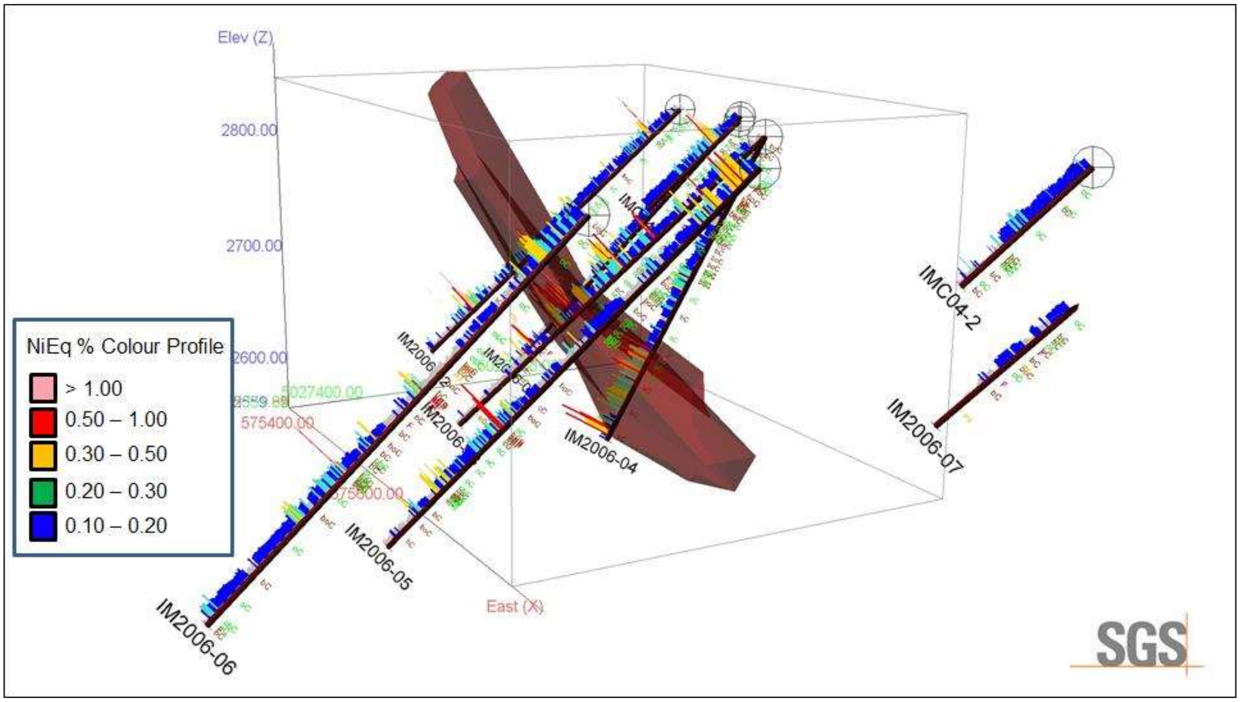
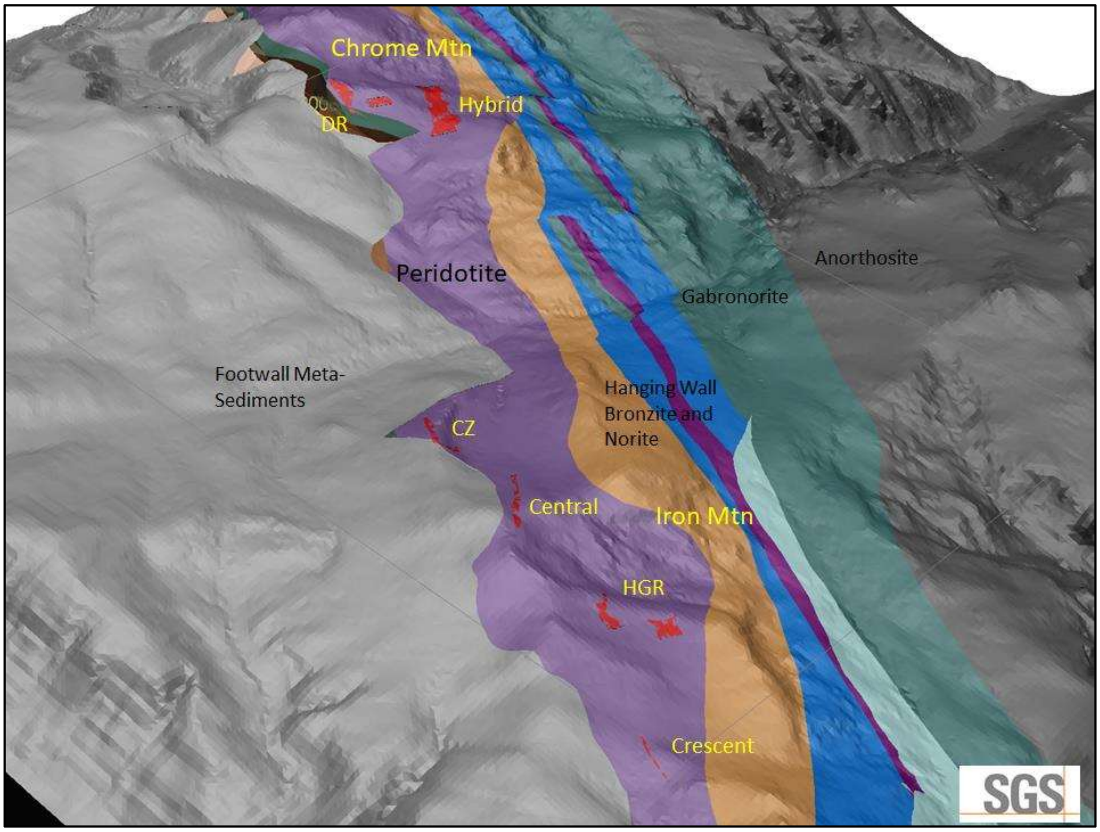


Figure 14-10 General Geology of the Stillwater West Deposit Area: Mineralization Is Generally Hosted Within the Peridotite Unit



14.4 Compositing

The assay sample database available for the resource modelling totalled 17,384 samples representing 21,662 metres of drilling (average length of 1.25 m). This includes 7,437 assays representing 8,460 m of drilling (average 1.14 m) from the 2019 and 2021 drill holes completed by Stillwater. A total of 5,844 assays from 92 drill holes occur within the Deposit mineral domains. The majority of drill holes completed since 2004 have complete assay data sets; the 355- series holes generally only have Ni and Cu assays. A statistical analysis of the assay data from within the mineralized domains is presented in (Table 14-3).

The average length of drill hole samples completed since 2004 is 1.04 m, within a range of 0.12 m to 6.10 m (5,354 assays). A total of 5,058 assays are less than 1.22 m (1,608 are 1.22 m). The average sample length of the 355- series holes is 3.30 m (489 assays; 439 ≤ 3.05), within a range of 0.30 m to 18.29 m. To minimize the dilution and over smoothing due to compositing, a composite length of 1.20 m was chosen as an appropriate composite length for the more recent drill holes (since 2004) and 3.00 m was chosen for the 355- drill holes. This was done to limit the influence of the 355- drill hole data on the MREs.

Further analysis of the data indicates the elements of interest within the Deposits are generally poorly correlated (Table 14-4). The best correlation is between Ni-Cu, Ni-Co, Pt-Pd. There is a weak correlation between Cr and Pt and Pd.

Composites were generated starting from the collar of each hole. Composites were then constrained to the mineral domains. The constrained composites were extracted to point files for statistical analysis and capping studies. The constrained composites were grouped based on the mineral domain (rock code) of the constraining wireframe model. A total of 5,430 composite sample points occur within the resource wire frame models; 511 three-metre composites (355- drill holes) and 4,919 1.2 m composites. Of the total composites, the 1.2 metre composites (94.1% of the total) have complete data.

The 511 three-metre composites only have Ni and Cu values with a few additional samples having Pt and Pd values. The missing values were originally given a null value (0.0001). However, based on the fact that 94.1 % of the composites have complete data, it was decided the null values be given a value based on a liner regression analysis. This was completed by domain; i.e. missing values in a particular domain were given a value based on analysis of composites in that domain. Although the correlation coefficient of most elements is low, based on the assay data (Table 14-3) as well as the composite data, it was decided to calculate linear regression formulas based on the relationship between Ni and all other elements. Regression formulas are presented in Table 14-5.

The final 5,430 composite sample points, restricted to each domain (Table 14-6; Table 14-7) were used to interpolate grade into resource blocks.

Table 14-3 Statistical Analysis of the Drill Hole Assay Data from Within the Stillwater West Deposit Mineral Domains

Variable	Ni %	Cu %	Co %	Pt g/t	Pd g/t	Au g/t	Rh g/t
Total # Assay Samples	5,844						
Average Sample Length	1.23 m (0.12 to 18.3 m)						
Assays	5,842	5,842	5,223	5,385	5,385	5,353	3,568
Minimum Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Maximum Grade	5.32	2.97	0.32	6.03	6.79	2.84	0.530
Mean	0.18	0.08	0.01	0.14	0.24	0.04	0.012
Median	0.14	0.04	0.01	0.07	0.11	0.02	0.003
Standard Deviation	0.21	0.12	0.01	0.24	0.41	0.09	0.030
Coefficient of variation	1.15	1.61	0.91	1.74	1.72	2.13	2.50
97.5 Percentile	0.65	0.36	0.04	0.65	1.29	0.22	0.090

Table 14-4 Stillwater West Deposit Correlation Coefficient Analysis of Assays

	NI %	*CU %*	*CO %*	*AU g/t*	*PT g/t*	*PD g/t*	*CR %*
NI %	1.00						
CU %	**0.49**	1.00					
CO %	**0.88**	0.44	1.00				
AU g/t	0.47	0.25	0.31	1.00			
PT g/t	0.06	0.02	0.01	0.28	1.00		
PD g/t	0.18	0.10	0.12	0.33	**0.72**	1.00	
CR %	0.04	-0.03	0.05	0.11	0.29	0.38	1.00

Table 14-5 Linear Regression Formulas, Based on Composites by Domain, used to Calculate Missing Data

Element	Linear Regression formula by Domain			
	Chrome Mtn	Camp	Iron Mtn Central	Iron Mtn East/HGR
Pt g/t	2E-06 * Ni + 0.1978	3E-05 * Ni + 0.0407	3E-05 * Ni + 0.0638	3E-05 * Ni + 0.0709
Pd g/t	4E-05 * Ni + 0.2421	8E-05 * Ni + 0.0569	8E-05 * Ni + 0.0959	8E-05 * Ni + 0.0936
Au g/t	4E-05 * Ni - 0.0026	1E-05 * Ni - 0.0244	2E-05 * Ni - 0.0028	3E-05 * Ni - 0.0119
Co ppm	0.0498 * Ni + 55.33	0.0609 * Ni + 65.07	0.0493 * Ni + 66.07	0.0457 * Ni + 66.83
S %	0.0007 * Ni + 0.6592	0.0013 * Ni - 0.4931	0.0009 * Ni + 1.0265	0.0009 * Ni + 1.0267
Cr ppm	0.7182 * Ni + 3803	0.073 * Ni + 2779	0.2872 * Ni + 2128	0.5919 * Ni + 974

Table 14-6 Summary of the Composite Data Constrained by the Stillwater West Deposit Mineral Domains

Variable	**Ni ppm**	**Cu ppm**	**Co ppm**	**Pt g/t**	**Pd g/t**	**Au g/t**
Total # of Composites	5,430 (511 three-metre and 4,919 1.2-metre)					
Minimum value	0.00	0.00	0.00	0.00	0.00	0.00
Maximum value	4.37	1.93	0.25	3.79	4.87	1.91
Mean	0.17	0.07	0.01	0.13	0.23	0.04
Median	0.14	0.04	0.01	0.08	0.14	0.03
Standard Deviation	0.18	0.10	0.01	0.18	0.30	0.07
Coefficient of variation	1.04	1.42	0.70	1.31	1.33	1.68
97.5 Percentile	0.54	0.31	0.04	0.55	1.02	0.20

Table 14-7 Summary of the 1.2 – 3.0 metre Composite Data Subdivided by Domain

Variable	Ni ppm	Cu ppm	Co ppm	Pt g/t	Pd g/t	Au g/t
Domain	Chrome Mtn					
Total # of Composites	2,851					
Minimum value	0.00	0.00	0.00	0.00	0.00	0.00
Maximum value	4.37	1.20	0.25	2.16	2.81	1.91
Mean	0.15	0.04	0.01	0.16	0.24	0.05
Median	0.13	0.03	0.01	0.10	0.13	0.03
Standard Deviation	0.18	0.05	0.01	0.18	0.32	0.08
Coefficient of variation	1.19	1.19	0.80	1.14	1.32	1.84
97.5 Percentile	0.34	0.16	0.03	0.61	1.19	0.20
Domain	Camp					
Total # of Composites	701					
Minimum value	0.01	0.00	0.00	0.00	0.00	0.00
Maximum value	2.14	1.93	0.14	3.78	2.52	0.46
Mean	0.21	0.11	0.02	0.10	0.23	0.05
Median	0.13	0.06	0.01	0.07	0.16	0.04
Standard Deviation	0.21	0.14	0.01	0.19	0.24	0.06
Coefficient of variation	0.99	1.31	0.70	1.90	1.07	1.20
97.5 Percentile	0.73	0.48	0.06	0.38	0.76	0.23
Domain	Iron Mtn Central					
Total # of Composites	320					
Minimum value	0.00	0.00	0.00	0.00	0.00	0.00
Maximum value	1.07	0.46	0.06	0.43	1.33	1.11
Mean	0.14	0.06	0.02	0.09	0.19	0.03
Median	0.13	0.05	0.01	0.08	0.18	0.02
Standard Deviation	0.10	0.05	0.01	0.07	0.15	0.07
Coefficient of variation	0.70	0.85	0.43	0.79	0.77	2.29
97.5 Percentile	0.43	0.18	0.03	0.30	0.53	0.11
Domain	Iron Mtn East/HGR					
Total # of Composites	1,408					
Minimum value	0.00	0.00	0.00	0.00	0.00	0.00
Maximum value	2.11	1.20	0.10	2.41	4.87	0.86
Mean	0.19	0.11	0.02	0.11	0.22	0.04
Median	0.15	0.07	0.01	0.07	0.13	0.02
Standard Deviation	0.16	0.14	0.01	0.15	0.32	0.05
Coefficient of variation	0.86	1.27	0.52	1.41	1.50	1.54
97.5 Percentile	0.61	0.44	0.04	0.44	0.97	0.16
Domain	Crescent Zone					
Total # of Composites	150					
Minimum value	0.00	0.00	0.00	0.00	0.00	0.00
Maximum value	0.80	0.29	0.04	1.89	1.23	0.33
Mean	0.24	0.09	0.02	0.11	0.13	0.09
Median	0.20	0.08	0.02	0.06	0.08	0.07
Standard Deviation	0.14	0.06	0.01	0.20	0.17	0.07
Coefficient of variation	0.61	0.66	0.38	1.78	1.31	0.76
97.5 Percentile	0.68	0.24	0.04	0.63	0.53	0.28

14.5 Grade Capping

A statistical analysis of the composite database within the Stillwater West 3D wireframe models (the "resource" population) was conducted to investigate the presence of high grade outliers which can have a disproportionately large influence on the average grade of a mineral deposit. High grade outliers in the composite data were investigated using statistical data (Table 14-6 and Table 14-7), histogram plots, and cumulative probability plots of the composite data. The statistical analysis was conducted globally and by domain and was completed using GEMS.

After review, it is the opinion of Armitage that no capping of high grade composites to limit their influence during the grade estimation is necessary at this early stage of the project. Analysis of the composite data for all zones indicates very few outliers within the database. Analysis of the spatial location of these samples and the sample values proximal, to them led the Author to believe that the high values were legitimate parts of the population and that the impact of including these high composite values un-capped would be negligible to the overall resource estimate for these deposits.

14.6 Specific Gravity

SGS was provided with a database of Specific Gravity ("SG") measurements totaling 3,331 values from 25 drill holes completed from 2007 to 2021. The 3,331 SG measurements ranged from 2.24 g/cm^3 to 4.62 g/cm^3 and averaged 2.93 g/cm^3. SG data was then subdivided by domain. The SG data is presented in Table 14-8. Based on the limited data, Armitage is of the opinion that the use of a fixed SG value for each domain is valid at this stage of the project. Armitage recommends that additional data be collected as drilling proceeds and SG values by domain should be re-evaluated.

Based on an evaluation of the results of the SG measurements by domain, a fixed SG value of 2.90 g/cm^3 is used for the Chrome Mountain deposit, 3.10 g/cm^3 for the Camp, Iron Mountain and Crescent deposits, and 2.95 g/cm^3 for the Iron Mountain East/HGR deposit (Table 14-8). A fixed SG of 2.90 g/cm^3 is used for waste.

Table 14-8 Specific Gravity Data for Stillwater West Deposits

Domain	Specific Gravity (SG) (g/cm^3)				
	# of Samples	Min	Max	Avg	**Used for Resource**
All	3,331	2.24	4.62	2.93	
Chrome Mtn	1,071	2.24	4.60	2.91	**2.90**
Iron Mtn - Camp	39	2.77	4.56	3.17	**3.10**
Iron Mtn - Central	39	2.72	4.55	3.13	**3.10**
Iron Mtn - HGR	282	2.60	3.97	2.89	**2.95**
Iron Mtn - Crescent	12	2.63	3.35	3.07	**3.10**
Waste	1,888	2.24	4.62	2.93	**2.90**

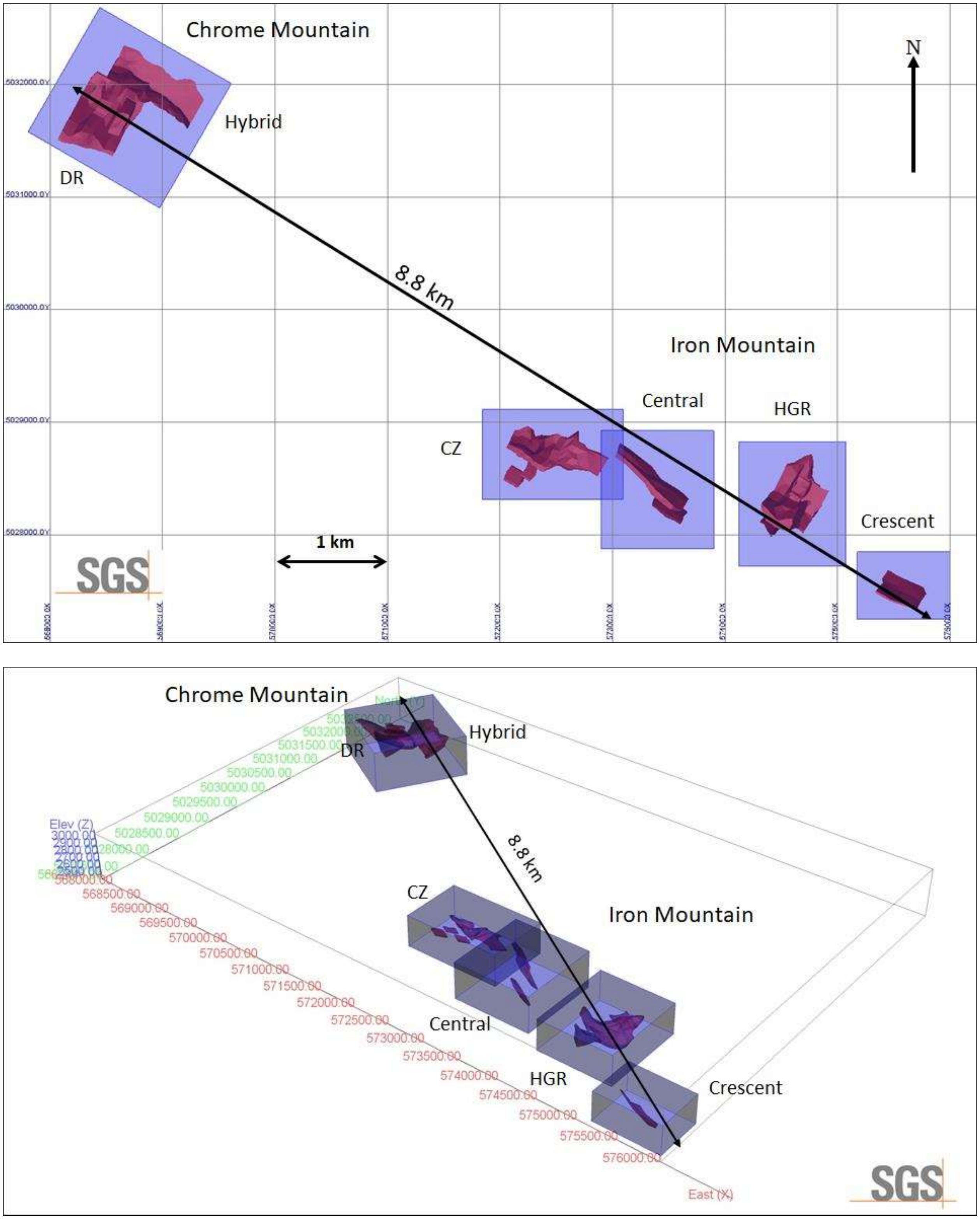
14.7 Block Model Parameters

The Stillwater West deposit wireframe grade control models are used to constrain composite values chosen for interpolation, and the mineral blocks reported in the estimate of the mineral resource. Block models (Table 14-9; Figure 14-11) within NAD83 / UTM Zone 12 space were placed over the wireframe models with only that portion of each block inside the wireframe models recorded (as a percentage of the block) as part of the MREs (% Block Model). Block sizes were selected based on borehole spacing, composite assay length, the geometry of the mineralized structures, and the selected starting mining method (open pit). At the scale of the Deposits this provides a reasonable block size for discerning grade distribution, while still being large enough not to mislead when looking at higher cut-off grade distribution within the models. The models were intersected with a LiDAR topographic surface model to exclude blocks, or portions of blocks, that extend above the bedrock surface.

Table 14-9 Deposit Block Model Geometry

Model Name	X (East; Columns)	Y (North; Rows)	Z (Level)
Chrome Mtn			
Origin (NAD83 / UTM Zone 12)	567805.944	5031579.247	3024
Extent	270	255	115
Block Size	5	5	5
Rotation (counter-clockwise)	-30°		
Iron Mtn - Camp Zone			
Origin NAD83 / UTM Zone 12)	571845	5028315	3020
Extent	250	160	82
Block Size	5	5	5
Rotation (counter-clockwise)	0°		
Iron Mtn - Central			
Origin (NAD83 / UTM Zone 12)	572900	5027875	3090
Extent	200	210	95
Block Size	5	5	5
Rotation (counter-clockwise)	0°		
Iron Mtn - HGR			
Origin (NAD83 / UTM Zone 12)	574125	5027725	3000
Extent	190	220	80
Block Size	5	5	5
Rotation (counter-clockwise)	0°		
Iron Mtn - Crescent			
Origin (NAD83 / UTM Zone 12)	575175	5027250	2900
Extent	165	120	75
Block Size	5	5	5
Rotation (counter-clockwise)	0°		

Figure 14-11 Plan View (upper) and Isometric View Looking Northwest Showing the Stillwater West Deposit Mineral Resource Block Models and Mineralization Domains



14.8 Grade Interpolation

The main elements of interest, nickel, copper, cobalt, platinum, palladium, gold as well as chrome, sulphur and rhodium were estimated for each domain in the Stillwater West deposits. Blocks within each mineralized domain were interpolated using composites assigned to that domain. To generate grade within the blocks, the inverse distance squared (ID^2) interpolation method was used for all domains. Search ellipses for each of the mineral domains was interpreted based on drill hole (data) spacing, and orientation and size of the resource wireframe models (Figure 14-5 to Figure 14-8). The search ellipse axes are generally oriented to reflect the observed preferential long axis (geological trend) of the mineral structures and the observed trend of the mineralization down dip (Table 14-10).

Two passes were used to interpolate grade into all the blocks in the grade shells (Table 14-10). For Pass 1 the search ellipse size (in metres) for all mineralized domains was set at 75 x 75 x 15 in the X, Y, Z direction; for Pass 2 the search ellipse size for each domain was set at 200 x 200 x 30. All blocks were classified as Inferred regardless whether they were populated with grade during Pass 1 or during Pass 2 of the interpolation procedure. The Pass 2 search ellipse size was set to assure the majority of blocks within the wireframes not populated with grade during Pass 1 were assigned a grade.

Grades were interpolated into blocks using a minimum of 5 and maximum of 10 composites to generate block grades during Pass 1 (maximum of 3 composites per hole), and a minimum of 3 and maximum of 10 composites (maximum of 4 composites per hole) to generate block grades during Pass 2 (Table 14-10).

Table 14-10 Grade Interpolation Parameters by Domain

Parameter	Chrome Mtn - Hybrid, Central and Southwest		Iron Mtn - Camp Zone	
	Pass 1	Pass 2	Pass 1	Pass 2
	Inferred	Inferred	Inferred	Inferred
Calculation Method	Inverse Distance squared		Inverse Distance squared	
Search Type	Ellipsoid - Hybrid, Central and Southwest		Ellipsoid	
Principle Azimuth	210°, 30°, 30°		10°	
Principle Dip	-25°, -10°, -30°		-25°	
Intermediate Azimuth	120°, 120°, 120°		100°	
Anisotropy X	75	200	75	200
Anisotropy Y	75	200	75	200
Anisotropy Z	15	40	15	30
Min. Samples	5	3	5	3
Max. Samples	10	10	10	10
Max. Samples per Drill Hole	3	4	3	4

Parameter	Iron Mtn - Central		Iron Mtn - HGR	
Calculation Method	Inverse Distance squared		Inverse Distance squared	
Search Type	Ellipsoid		Ellipsoid	
Principle Azimuth	40°		30°	
Principle Dip	-60°		-10°	
Intermediate Azimuth	130°		120°	
Anisotropy X	75	200	75	200
Anisotropy Y	75	200	75	200
Anisotropy Z	15	30	15	30
Min. Samples	5	3	5	3
Max. Samples	10	10	10	10
Max. Samples per Drill Hole	3	4	3	4

Parameter	Iron Mtn - Central	
Calculation Method	Inverse Distance squared	
Search Type	Ellipsoid	
Principle Azimuth	25°	
Principle Dip	-50°	
Intermediate Azimuth	115°	
Anisotropy X	75	200
Anisotropy Y	75	200
Anisotropy Z	15	30
Min. Samples	5	3
Max. Samples	10	10
Max. Samples per Drill Hole	3	4

14.9 Mineral Resource Classification Parameters

The Inferred Mineral Resource Estimates presented in this Technical Report were prepared and disclosed in compliance with all current disclosure requirements for mineral resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2016). The classification of the current Mineral Resource Estimate into Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves, including the critical requirement that all mineral resources “have reasonable prospects for eventual economic extraction”.

Following the 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves, Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.

Interpretation of the word ‘eventual’ in this context may vary depending on the commodity or mineral involved. For example, for some coal, iron, potash deposits and other bulk minerals or commodities, it may be reasonable to envisage ‘eventual economic extraction’ as covering time periods in excess of 50 years. However, for many gold deposits, application of the concept would normally be restricted to perhaps 10 to 15 years, and frequently to much shorter periods of time.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

There may be circumstances, where appropriate sampling, testing, and other measurements are sufficient to demonstrate data integrity, geological and grade/quality continuity of a Measured or Indicated Mineral Resource, however, quality assurance and quality control, or other information may not meet all industry norms for the disclosure of an Indicated or Measured Mineral Resource. Under these circumstances, it may be reasonable for the Qualified Person to report an Inferred Mineral Resource if the Qualified Person has taken steps to verify the information meets the requirements of an Inferred Mineral Resource.

14.10 Reasonable Prospects of Eventual Economic Extraction

The general requirement that all Mineral Resources have “reasonable prospects for economic extraction” implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral

Resources are reported at an appropriate cut-off grade taking into account extraction scenarios and assumed processing recoveries. Based on the location and size of the resource, tenor of the grade, grade distribution, and proximity to surface, Armitage is of the opinion that with current metal pricing levels and knowledge of the mineralization, open pit mining offers the most reasonable approach for development of the Stillwater West deposits.

In order to determine the quantities of material offering "reasonable prospects for economic extraction" by an open pit, Whittle™ pit optimization software 4.7.1 and reasonable mining assumptions to evaluate the proportions of the block model (Inferred blocks) that could be "reasonably expected" to be mined from an open pit are used. The pit optimization was completed by SGS. The pit optimization parameters used are summarized in Table 14-11. Whittle™ pit shells at a revenue factor of 1.0 were selected as ultimate pit shells for the purposes of the updated MREs (Figure 14-12). The corresponding strip ratios for Chrome, Camp, Central and HGR deposits range from 1.5:1 to 3.0:1 and up to 8.0:1 for the Crescent deposit. Pits reach a maximum depth of approximately 280 up to 450 m below surface at Chrome.

The project is at an early stage of exploration and all deposits are open along strike and down dip, based on a review of results of additional regional historical drill holes and recent property-scale IP and magnetic geophysical surveys.

The reader is cautioned that the results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. Pit optimization does not represent an economic study. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade. A selected base case cut-off grade of 0.2% NiEq is used to determine the in-pit MREs for the Stillwater West deposits.

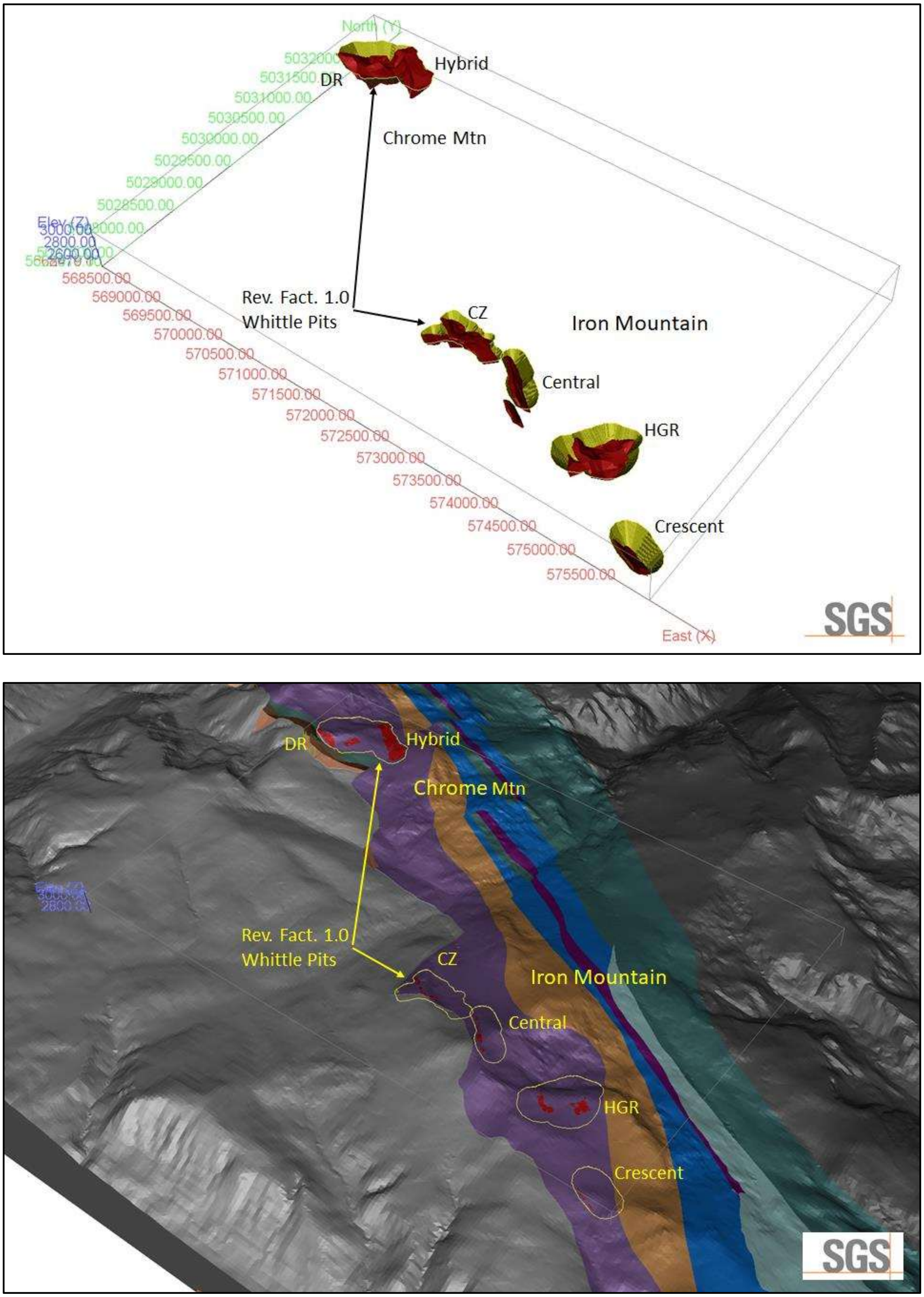
At the base case cut-off grade of 0.2% NiEq the deposits show good deposit continuity. The open pit Mineral Resource grade blocks were quantified above the base case cut-off grade, above the constraining pit shell and within the 3D constraining mineralized wireframes (considered potentially mineable shapes).

The QP is of the opinion that the stated Mineral Resources satisfy the requirement of reasonable prospects for eventual economic extraction by open pit mining methods.

Table 14-11 Parameters used to Determine In-Pit Resources and Base Case Cut-off Grade

Parameter	Value	Unit
Nickel Price	\$9.00	US\$ per pound
Copper Price	\$3.75	US\$ per pound
Cobalt Price	\$24.00	US\$ per pound
Platinum Price	\$1,000.00	US\$ per ounce
Palladium Price	\$2,000.00	US\$ per ounce
Gold Price	\$1,800.00	US\$ per ounce
Open Pit Mining Cost	\$2.50	US\$ per tonne mined
Processing Cost and G&A	\$18.00	US\$ per tonne milled
Overall Pit Slope	55	Degrees
Ni, Co, Pt, Pd, Au Recovery	80	Percent (%)
Cu Recovery	85	Percent (%)
Mining loss/Dilution (underground)	5/5	Percent (%) / Percent (%)
Waste Specific Gravity	2.90	g/cm^3
Mineral Zone Specific Gravity	2.90 – 3.10	g/cm^3
Block Size	5 x 5 x 5	

Figure 14-12 Whittle™ Pits within the Stillwater West Project area, with respect to the Deposits and Peridotite unit



14.11 Mineral Resource Statement

The updated open pit Inferred MRE for the Property, by grade and metal content, is presented in Table 14-12 and presented in figures (Figure 14-13). The global in-pit resource at various cut-off grades by grade and metal content is presented in Table 14-13 (to show sensitivity to cut-off grade).

Highlights of the Stillwater West Mineral Resource Estimates are as follows:

- The global in-pit Inferred Mineral Resource includes, at a base case cut-off grade of 0.20% NiEq, 254.8 Mt grading 0.19 % Ni, 0.09 % Cu, 0.02 % Co, 0.15 g/t Pt, 0.25 g/t Pd and 0.05 g/t Au (0.39 % NiEq).

Table 14-12 Stillwater West Property Inferred In-pit MRE by Grade (A) and Contained Metal (B) at a base case cut-off grade of 0.20% NiEq, January 20, 2023. Cr% and S% are presented in (C)

(A) Grades

DEPOSIT	TONNAGE	Base Metals			Platinum Group & Precious Metals				Total
		Ni	Cu	Co	Pt	Pd	Au	Rh	NiEq*
	Tonnes	%	%	%	g/t	g/t	g/t	g/t	%
Chrome Mtn - Hybrid & DR	136.9	0.16	0.05	0.01	0.18	0.26	0.04	0.019	0.34
Iron Mtn - CZ	29.2	0.24	0.13	0.02	0.11	0.26	0.06	0.011	0.46
Iron Mtn - HGR	58.2	0.23	0.17	0.02	0.13	0.26	0.05	0.012	0.46
Iron Mtn - Central	20.4	0.16	0.07	0.02	0.10	0.21	0.04	NA	0.32
Iron Mtn - Crescent	9.3	0.26	0.11	0.02	0.22	0.15	0.09	NA	0.46
Total	254.8	0.19	0.09	0.02	0.15	0.25	0.05	0.016	**0.39**

(B) Metal Content

DEPOSIT	TONNAGE	Base Metals			Platinum Group & Precious Metals				Total
		Ni	Cu	Co	Pt	Pd	Au	Rh	NiEq*
	Tonnes	Mlbs	Mlbs	Mlbs	Koz	Koz	Koz	Koz	Mlbs
Chrome Mtn - Hybrid & DR	136.9	479	146	45	771	1,136	198	82	1,037
Iron Mtn - CZ	29.2	156	84	14	104	249	55	11	306
Iron Mtn - HGR	58.2	292	216	21	249	478	92	22	592
Iron Mtn - Central	20.4	71	31	7	67	139	23	NA	145
Iron Mtn - Crescent	9.3	53	23	4	65	44	27	NA	95
Total	254.8	1,051	499	91.1	1,256	2,046	395	115	**2,175**

* ***Does not include Rh*** ***NA – Not assayed***

(1) The classification of the current Mineral Resource Estimate into Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves.

(2) All figures are rounded to reflect the relative accuracy of the estimate. Totals may not add or calculate exactly due to rounding.

(3) All Resources are presented undiluted and in situ, constrained by continuous 3D wireframe models, and are considered to have reasonable prospects for eventual economic extraction.

(4) Mineral resources which are not mineral reserves do not have demonstrated economic viability. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and

must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

(5) *The update MRE is based on data for 156 surface drill holes representing 29,392 m of drilling, including data for 14 surface drill holes for 5,143 m completed by Stillwater in 2021.*

(6) *The mineral resource estimate is based on 6 three-dimensional ("3D") resource models representing the Chrome Mountain (Hybrid and DR), Camp, HGR, Central and Crescent Zones.*

(7) *Composites of 1.2 to 3.0 m have been capped where appropriate.*

(8) *Fixed specific gravity values of 2.90 – 3.10 g/cm^3 (depending on deposit) were used to estimate the Mineral Resource tonnage from block model volumes (% block model). Waste in all areas was given a fixed density of 2.9 g/cm^3.*

(9) *Cu, Ni, Co, Pt, Pd, Au and Cr are estimated for each mineralized zone; S and Rh for the majority of the zones. Blocks (5x5x5) within each resource model were interpolated using 1.2 to 3.0 metre capped composites assigned to that resource model. To generate grade within the blocks, the inverse distance squared (ID^2) interpolation method was used for all domains.*

(10) *Based on a review of the project location, size, geometry, continuity of mineralization and proximity to surface of the Deposits, and spatial distribution of the five main deposits of interest (all within a 8.8 km strike length), it is envisioned that the Deposits may be mined by open pit.*

(11) *In-pit Mineral Resources are reported at a base case cut-off grade of 0.20% NiEq. Pit optimization and Cut-off grades are based on metal prices of $9.00/lb Ni, $3.75/lb Cu, $24.00/lb Co, $1,000/oz Pt, $2,000/oz Pd and $1,800/oz Au, assumed metal recoveries of 80% for Ni, 85% for copper, 80% for Co, Pt, Pd and Au, a mining cost of US$2.50/t rock and processing and G&A cost of US$18.00/t mineralized material.*

(12) *The in-pit Mineral Resource grade blocks were quantified above the base case cut-off grade. At this base case cut-off grade the deposits show excellent geologic and grade continuity. The project is at an early stage of exploration and all deposits are open along strike and down dip. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rates, mining costs etc.).*

(13) *The results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade. Pit optimization does not represent an economic study.*

(14) *The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

(15) *The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the current Mineral Resource Estimate.*

(16) *Nickel equivalent grades are calculated using this formula: Ni (%) + [Cu (%) X 2204.6 X Cu Price / Ni Price] + [Co (%) X 2204.6 X Co Price / Ni Price] + [Pt / 31.1 X Pt Price / Ni Price X 0.0454] + [Pd / 31.1 X Pt Price / Ni Price X 0.0454] + [Au / 31.1 X Pt Price / Ni Price X 0.0454]*

(C)

Deposit	**Tonnes**	**S**	**Cr**	**S**	**Cr**
		%	**%**	**Mlbs**	**Mlbs**
Chrome Mtn - Hybrid & DR	136.9	0.65	0.48	1,969	1,440
Iron Mtn - CZ	29.2	3.07	0.27	2,023	175
Iron Mtn - HGR	58.2	1.51	0.33	1,933	422
Iron Mtn - Central	20.4	0.47	0.36	210	164
Iron Mtn - Crescent	9.3	NA	0.32	NA	66
Total	254.8	1.13	0.40	6,134	2,267

Table 14-13 Stillwater West Property Global Inferred In-pit MRE by Grade (A) and Contained Metal (B), at various Cut-off Grades, January 20, 2023

(A)

		Base & Battery Metals			Platinum Group & Precious Metals				Total
NiEq %	**TONNAGE**	**Ni**	**Cu**	**Co**	**Pt**	**Pd**	**Au**	**Rh**	**NiEq***
Cut-off Grade	**MT**	**%**	**%**	**%**	**g/t**	**g/t**	**g/t**	**g/t**	**%**
0.10 %	296.0	0.17	0.08	0.02	0.14	0.23	0.04	0.015	0.36
0.15 %	284.8	0.18	0.08	0.02	0.14	0.23	0.04	0.015	0.36
0.20 %	254.8	0.19	0.09	0.02	0.15	0.25	0.05	0.016	0.39
0.25 %	212.1	0.20	0.10	0.02	0.16	0.27	0.05	0.016	0.42
0.30 %	167.4	0.22	0.11	0.02	0.18	0.30	0.06	0.017	0.46
0.35 %	119.6	0.25	0.13	0.02	0.20	0.33	0.07	0.019	0.51
0.40 %	80.2	0.28	0.16	0.02	0.22	0.37	0.08	0.020	0.58
0.50 %	38.0	0.36	0.22	0.02	0.25	0.44	0.10	0.020	0.73
0.70 %	11.6	0.56	0.33	0.03	0.27	0.54	0.15	0.019	1.05

(B)

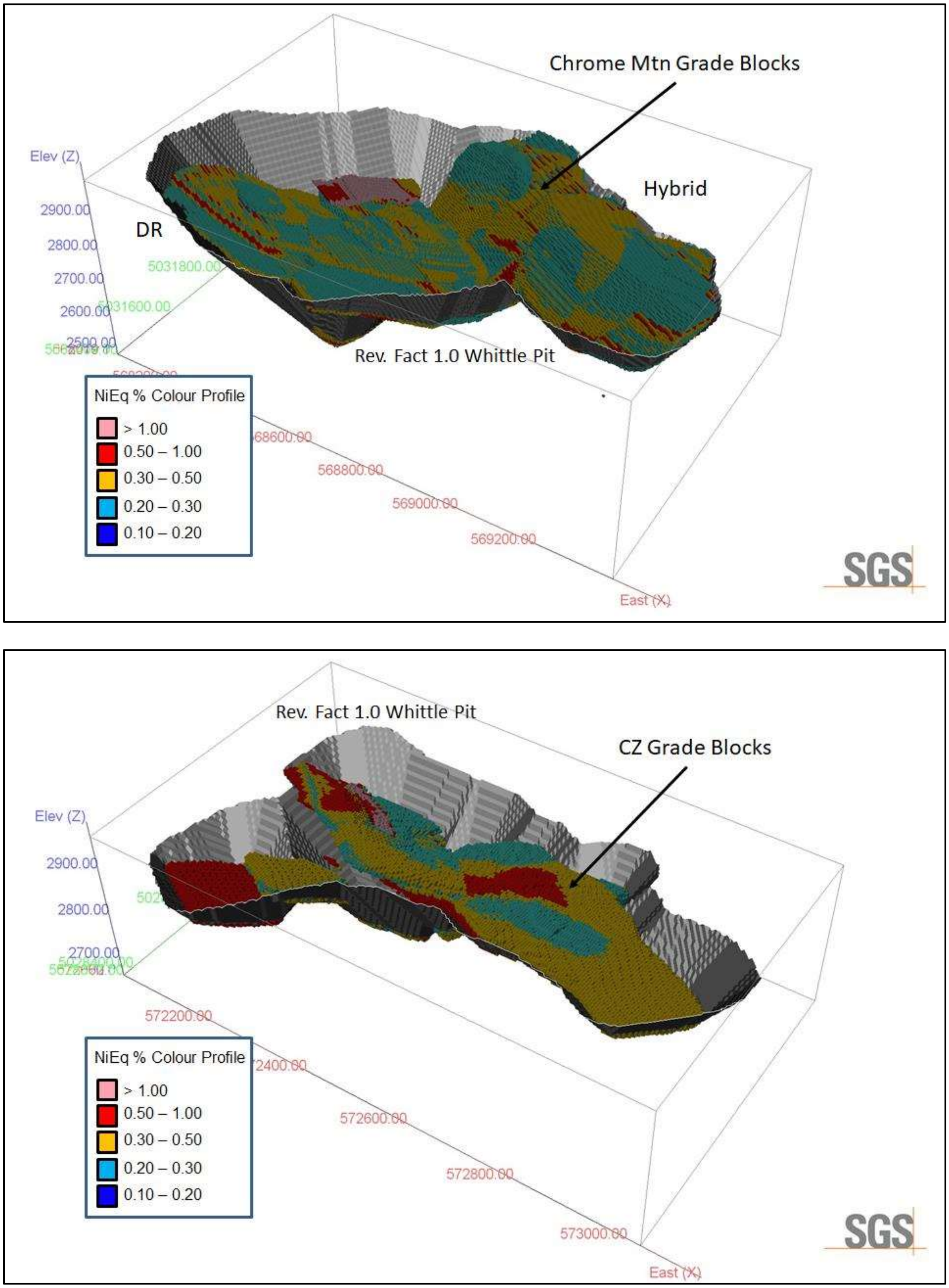
		Base Metals			Platinum Group & Precious Metals				Total
NiEq %	**TONNAGE**	**Ni**	**Cu**	**Co**	**Pt**	**Pd**	**Au**	**Rh**	**NiEq***
Cut-off Grade	**MT**	**Mlbs**	**Mlbs**	**Mlbs**	**Koz**	**Koz**	**Koz**	**Koz**	**Mlbs**
0.10 %	296.0	1,128	521	101.4	1,335	2,143	416	128	2,324
0.15 %	284.8	1,111	517	98.8	1,320	2,125	412	125	2,291
0.20 %	254.8	1,051	499	91.1	1,256	2,046	395	115	2,175
0.25 %	212.1	948	465	79.4	1,115	1,853	359	99	1,961
0.30 %	167.4	819	418	65.8	952	1,589	315	83	1,690
0.35 %	119.6	651	352	50.1	753	1,271	257	64	1,349
0.40 %	80.2	495	286	36.2	558	958	195	46	1,025
0.50 %	38.0	301	186	20.5	301	537	118	21	610
0.70 %	11.6	143	83	8.9	100	202	55	7	268

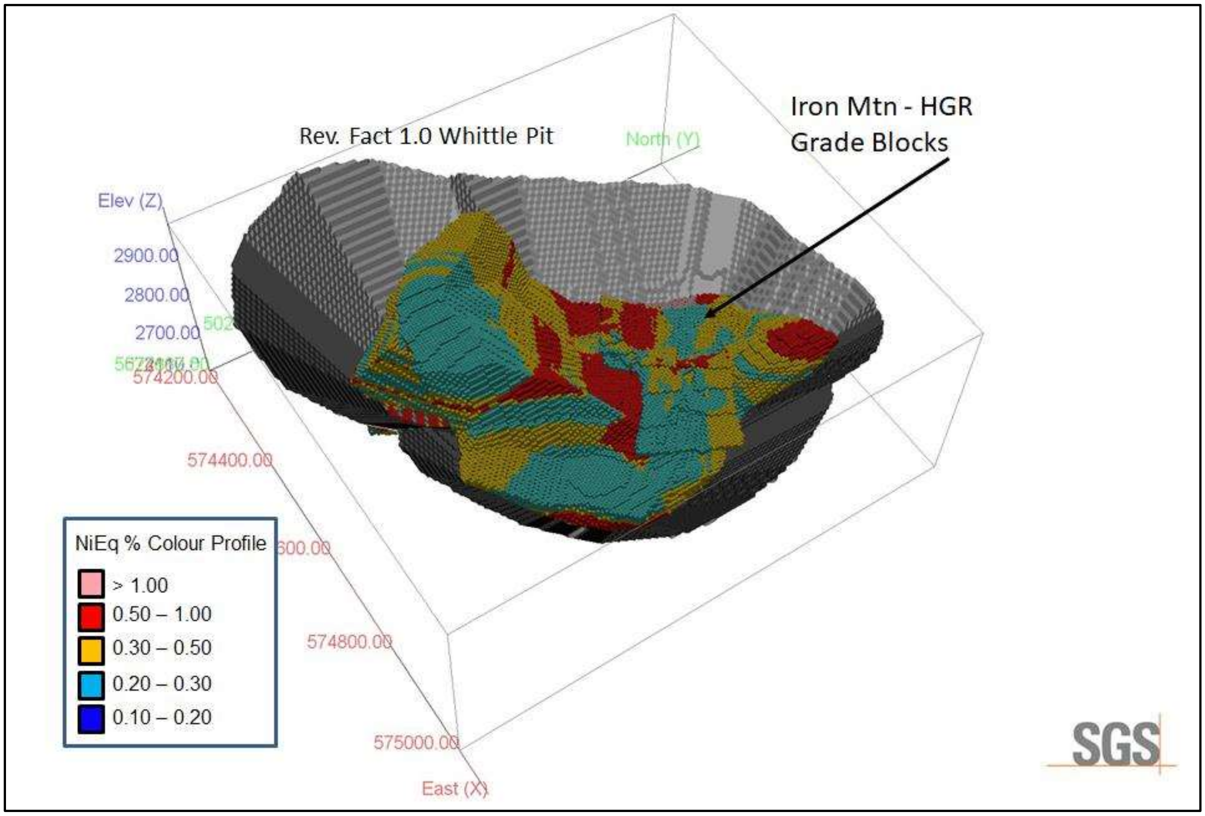
* *Does not include Rh*

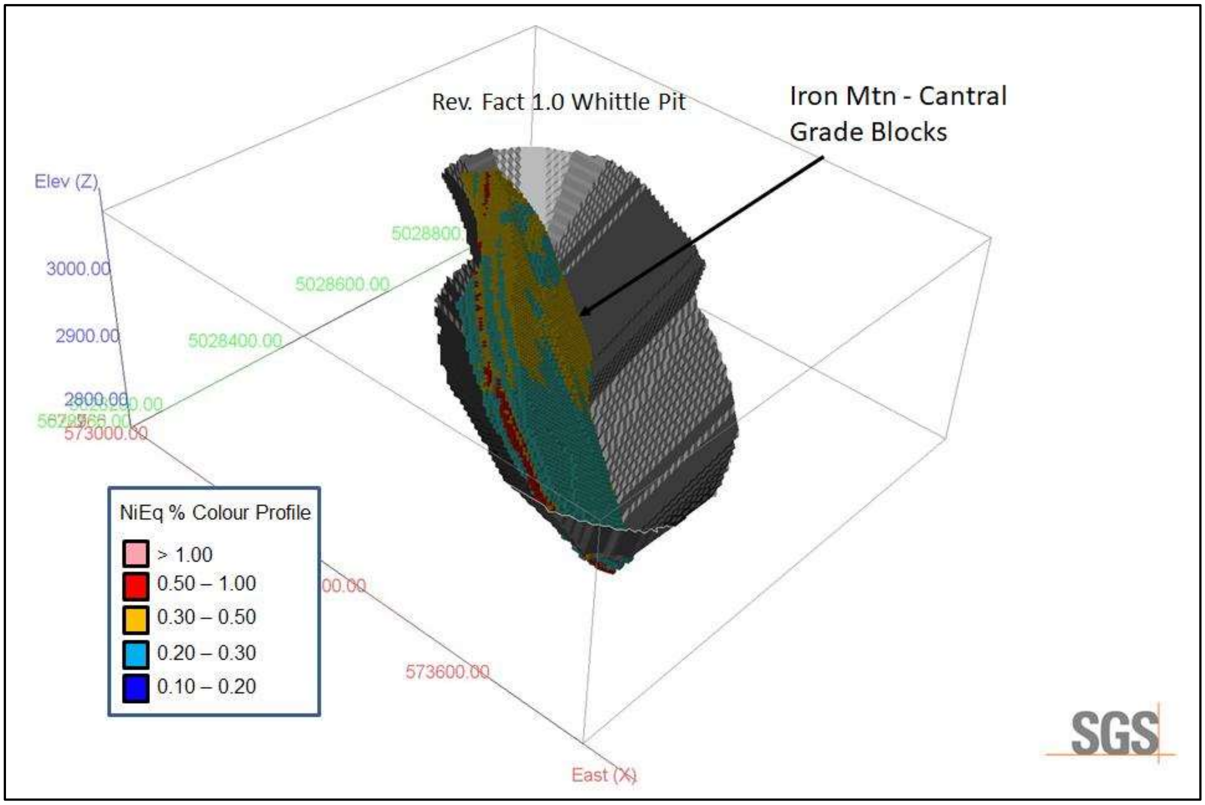
(1) In-Pit Inferred Mineral Resources are reported at a base case cut-off grade of 0.20% NiEq. Values in this table reported above and below the cut-off grades should not be misconstrued with a Mineral Resource Statement. The values are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

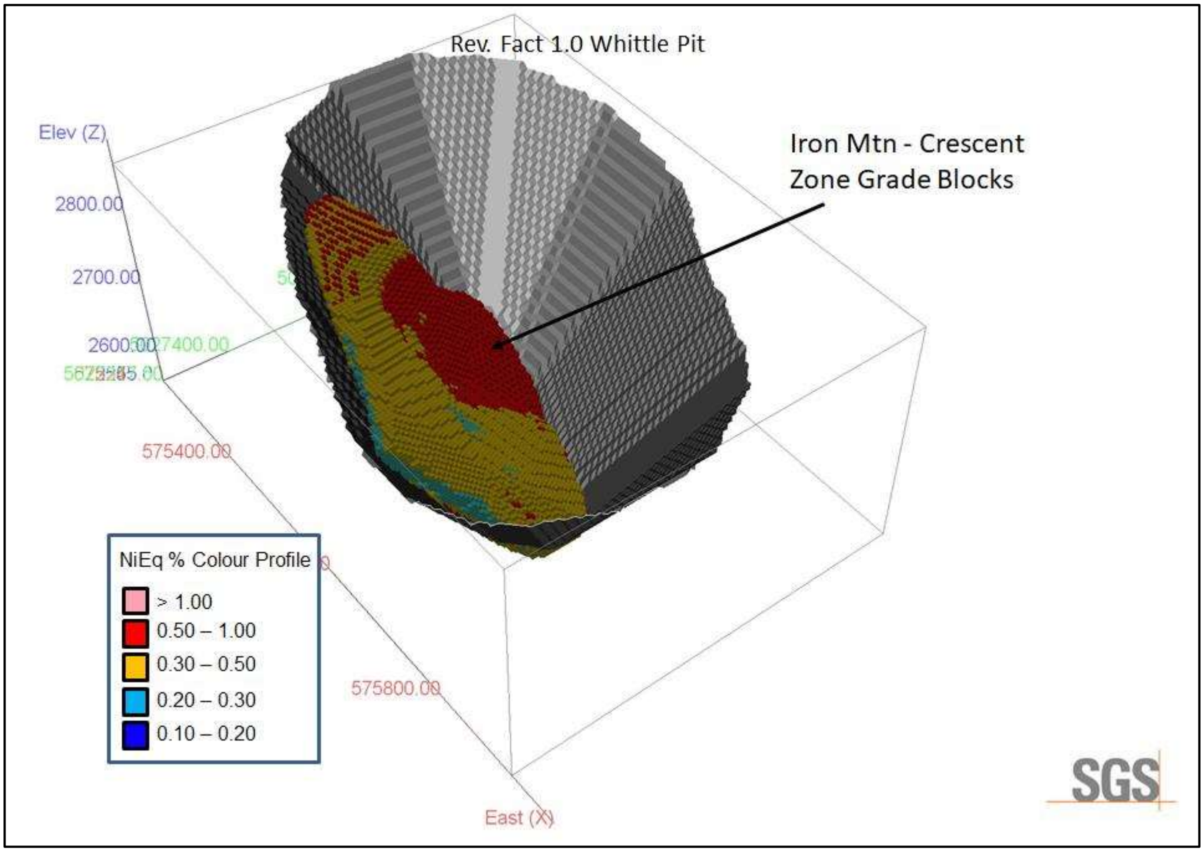
(2) All figures are rounded to reflect the relative accuracy of the estimate. Totals may not add or calculate exactly due to rounding.

Figure 14-13 Isometric Views Looking North of the Stillwater West Deposits Mineral Resource Block Grades and Whittle Pit




Rev. Fact 1.0 Whittle Pit
North (Y)
Iron Mtn - HGR
Grade Blocks
Elev (Z)
2900.00
2800.00
2700.00
574200.00
574400.00
600.00
574800.00
575000.00
East (X)
NiEq % Colour Profile
🟥 > 1.00
🟥 0.50 – 1.00
🟧 0.30 – 0.50
🟦 0.20 – 0.30
🟦 0.10 – 0.20
SGS


Rev. Fact 1.0 Whittle Pit
Iron Mtn - Cantral
Grade Blocks
Elev (Z)
3000.00
2900.00
2800.00
5028800
5028600.00
5028400.00
573000.00
00.00
573600.00
East (X)
NiEq % Colour Profile
🟥 > 1.00
🟥 0.50 – 1.00
🟧 0.30 – 0.50
🟦 0.20 – 0.30
🟦 0.10 – 0.20
SGS



14.12 Model Validation and Sensitivity Analysis

The total volume of the Stillwater West deposit resource blocks in the Mineral Resource model, at a 0.0% NiEq cut-off grade value is essentially the same (Table 14-14).

Visual checks of block grades against the composite data on vertical section showed good correlation between block grades and drill intersections.

Table 14-14 Comparison of Block Model Volume with the Total Volume of the Vein Structures

Stillwater West Deposit	Domain Volume (m^3)	Block Model Volume (m^3)	Difference %
Global	108,952,559	108,946,170	0.00%
In-Pit	103,423,178	103,350,480	0.01%

14.12.1 Sensitivity to Cut-off Grade

The Stillwater West deposit Mineral Resource has been estimated at a range of cut-off grades presented in Table 14-15 to demonstrate the sensitivity of the resource to cut-off grades. In-pit Mineral Resources are reported at a base case cut-off grade of 0.2% NiEq.

Table 14-15 Stillwater West Property Inferred In-pit MRE by deposit, at Various NiEq Cut-off Grades, January 20, 2023

NiEq Cut-off Grade	Tonnes	Ni %	Cu %	Co %	Pt g/t	Pd g/t	Au g/t	Rh g/t	NiEq %*
Chrome Mountain: Inferred									
0.10%	167.9	0.15	0.04	0.01	0.15	0.22	0.04	0.017	0.31
0.15%	159.2	0.15	0.04	0.01	0.16	0.23	0.04	0.018	0.32
0.20%	136.9	0.16	0.05	0.01	0.18	0.26	0.04	0.019	0.34
0.25%	106.7	0.17	0.05	0.02	0.19	0.29	0.05	0.020	0.38
0.30%	82.1	0.18	0.06	0.02	0.21	0.32	0.06	0.022	0.41
0.35%	53.9	0.20	0.06	0.02	0.24	0.38	0.07	0.025	0.45
0.40%	29.2	0.22	0.07	0.02	0.29	0.48	0.08	0.030	0.52
0.50%	9.1	0.27	0.07	0.02	0.37	0.69	0.12	0.034	0.67
0.70 %	1.9	0.55	0.10	0.03	0.40	0.73	0.26	0.025	1.05
Camp Zone: Inferred									
0.10%	34.9	0.21	0.11	0.02	0.10	0.24	0.05	0.011	0.42
0.15%	33.7	0.22	0.12	0.02	0.10	0.24	0.05	0.011	0.43
0.20%	29.9	0.24	0.13	0.02	0.11	0.26	0.06	0.011	0.46
0.25%	26.4	0.25	0.14	0.02	0.11	0.27	0.06	0.012	0.50
0.30%	22.5	0.28	0.15	0.02	0.12	0.29	0.06	0.012	0.53
0.35%	17.8	0.31	0.17	0.03	0.13	0.31	0.06	0.014	0.59
0.40%	13.8	0.35	0.18	0.03	0.14	0.33	0.07	0.016	0.65
0.50%	9.7	0.40	0.21	0.03	0.15	0.37	0.07	0.018	0.74
0.70 %	4.4	0.52	0.27	0.04	0.17	0.47	0.09	0.027	0.94
Iron Mountain East/HGR: Inferred									
0.10%	60.7	0.22	0.16	0.02	0.13	0.25	0.05	0.012	0.45
0.15%	59.9	0.22	0.16	0.02	0.13	0.25	0.05	0.012	0.45
0.20%	58.2	0.23	0.17	0.02	0.13	0.26	0.05	0.012	0.46
0.25%	53.6	0.24	0.18	0.02	0.14	0.27	0.05	0.011	0.48
0.30%	43.6	0.26	0.20	0.02	0.15	0.28	0.06	0.011	0.53
0.35%	35.2	0.29	0.23	0.02	0.16	0.30	0.06	0.011	0.58
0.40%	28.8	0.31	0.26	0.02	0.17	0.32	0.07	0.011	0.62
0.50%	14.9	0.39	0.34	0.02	0.21	0.40	0.09	0.012	0.78
0.70 %	4.6	0.62	0.49	0.03	0.29	0.59	0.16	0.010	1.20
Iron Mountain Central: Inferred									
0.10%	23.0	0.15	0.06	0.01	0.10	0.20	0.03	NA	0.31
0.15%	22.6	0.15	0.07	0.02	0.10	0.20	0.03	NA	0.31
0.20%	20.4	0.16	0.07	0.02	0.10	0.21	0.04	NA	0.32

0.25%	16.6	0.17	0.07	0.02	0.11	0.23	0.03	NA	0.34
0.30%	10.9	0.19	0.08	0.02	0.12	0.25	0.04	NA	0.38
0.35%	5.6	0.22	0.09	0.02	0.13	0.27	0.04	NA	0.43
0.40%	2.6	0.27	0.11	0.02	0.14	0.29	0.05	NA	0.50
0.50%	0.9	0.37	0.15	0.03	0.13	0.31	0.07	NA	0.64
0.70 %	0.3	0.46	0.21	0.03	0.12	0.32	0.10	NA	0.78
Crescent Zone: Inferred									
0.10%	9.5	0.26	0.11	0.02	0.21	0.14	0.09	NA	0.46
0.15%	9.5	0.26	0.11	0.02	0.21	0.14	0.09	NA	0.46
0.20%	9.3	0.26	0.11	0.02	0.22	0.15	0.09	NA	0.46
0.25%	8.9	0.27	0.11	0.02	0.22	0.15	0.09	NA	0.48
0.30%	8.3	0.27	0.12	0.02	0.23	0.16	0.09	NA	0.49
0.35%	7.1	0.29	0.13	0.02	0.25	0.17	0.10	NA	0.52
0.40%	5.9	0.30	0.13	0.02	0.28	0.17	0.10	NA	0.55
0.50%	3.4	0.35	0.15	0.02	0.38	0.16	0.11	NA	0.62
0.70 %	0.4	0.45	0.18	0.03	0.48	0.15	0.14	NA	0.77

** Does not include Rh NA – Not assayed*

(1) In-Pit Inferred Mineral Resources are reported at a base case cut-off grade of 0.20% NiEq. Values in this table reported above and below the cut-off grades should not be misconstrued with a Mineral Resource Statement. The values are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

(2) All figures are rounded to reflect the relative accuracy of the estimate. Totals may not add or calculate exactly due to rounding.

15 MINERAL RESERVE ESTIMATE

There are no Mineral Reserve Estimates for the Property.

16 MINING METHODS

This section does not apply to the Technical Report.

17 RECOVERY METHODS

This section does not apply to the Technical Report.

18 PROJECT INFRASTRUCTURE

This section does not apply to the Technical Report.

19 MARKET STUDIES AND CONTRACTS

This section does not apply to the Technical Report.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

This section does not apply to the Technical Report.

21 CAPITAL AND OPERATING COSTS

This section does not apply to the Technical Report.

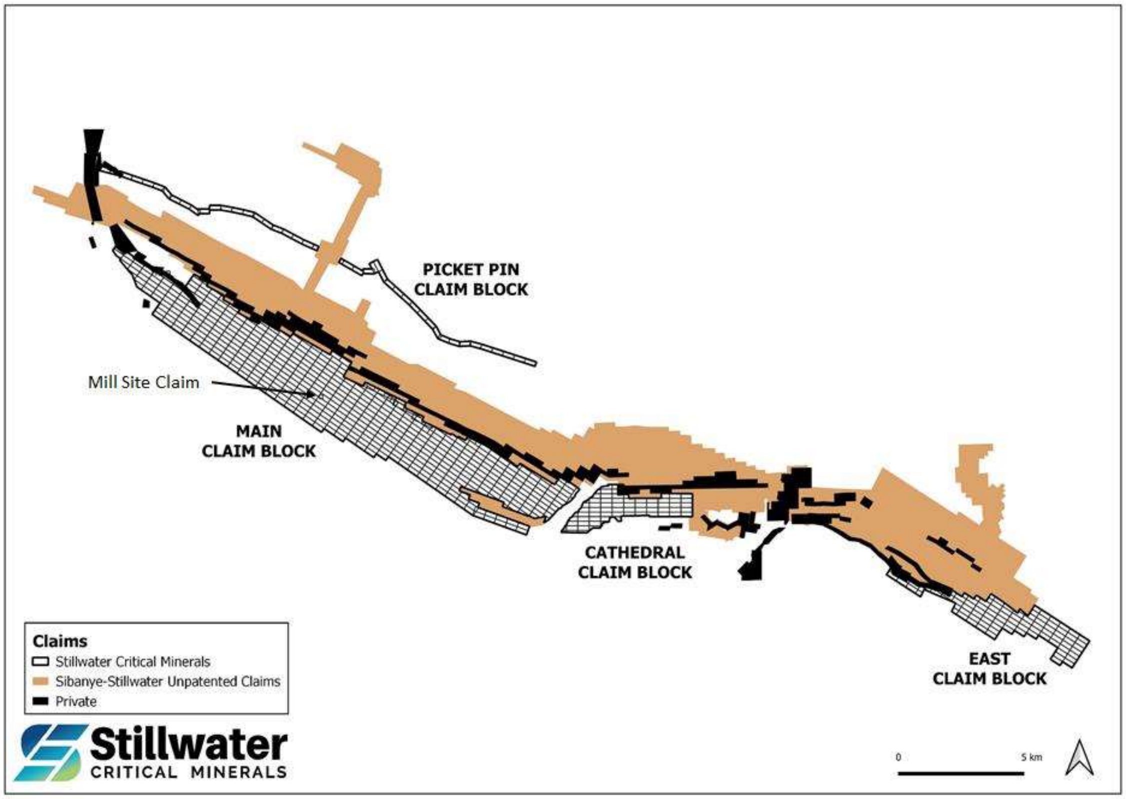
22 ECONOMIC ANALYSIS

This section does not apply to the Technical Report.

23 ADJACENT PROPERTIES

The Property lies adjacent to Sibanye-Stillwater's producing PGE mining properties (East Boulder Mine, Stillwater Mine, and Blitz Extension) (Figure 23-1 and Figure 23-2). The following information regarding the Sibanye-Stillwater's mining properties has been extracted from Sibanye-Stillwater's 2021 Mineral Resources and Mineral Reserves Report, which has been downloaded from their website at www.sibanyestillwater.com. Armitage has been unable to verify the information and the information is not necessarily indicative of the mineralization on the Stillwater West property that is the subject of the technical report.

Figure 23-1 Claim map for the Property owned 100% by Stillwater



Stillwater (including the Stillwater East expansion project) and East Boulder are underground mining operations. The mines both target the J-M Reef zone, predominantly via selective mechanised ramp and fill mining methods. Ore from the operations is milled and treated at integrated concentrator complexes located at each operation (Figure 23-2). Concentrate smelting and refining takes place at the Columbus smelter complex, situated in the town of Columbus, Montana.

The Stillwater mine has two principal mining sections: the current (Western) section, which has been in operation since 1986, produces approximately 250-300koz per annum of platinum and palladium in concentrate; and the Stillwater East section, a major project currently under development, started ore production in 2017. The western section of the operation is accessed by a 580m deep shaft and five surface portals, while the Stillwater East section is accessed via three portals.

The East Boulder mine has been in operation since 2002, and currently produces approximately 240Koz per annum of platinum and palladium in concentrate. The East Boulder mine is accessed via twin 5,800m long tunnel bored portal drives.

Mineralization is characterized as follow:

- The J-M Reef is a magmatic reef type PGM bearing deposit defined as the palladium-platinum rich stratigraphic interval, mainly occurring within a troctolite (OB-I zone) of the Lower Banded Series
- Palladium and platinum are the main PGMs, both constituting between 7g/t to 40g/t over a variable economic mineralised thickness ranging from 0.9m – 2.7m and averaging 1.8m
- Ratios of palladium to platinum in metallurgical concentrate are known to range from 3.4:1 (in situ 3.5:1) at Stillwater to 3.5:1 (in situ 3.6:1) at East Boulder

Current mineral resources and mineral reserves for the Stillwater and East Boulder Mines, as of 31 December 2021, are presented in Table 23-1.

At the Stillwater Mine, it is estimated that current Mineral Reserves will sustain the Stillwater mine until 2055 and the Stillwater East project has the potential to significantly expand Mineral Reserves beyond 2055. At East Boulder, t is estimated that the current Mineral Reserves will sustain East Boulder until 2061.

Figure 23-2 Map of the Stillwater and East Boulder Mines (from Sibanye-Stillwater's 2021 Mineral Resources and Mineral Reserves Report, www.sibanyestillwater.com)

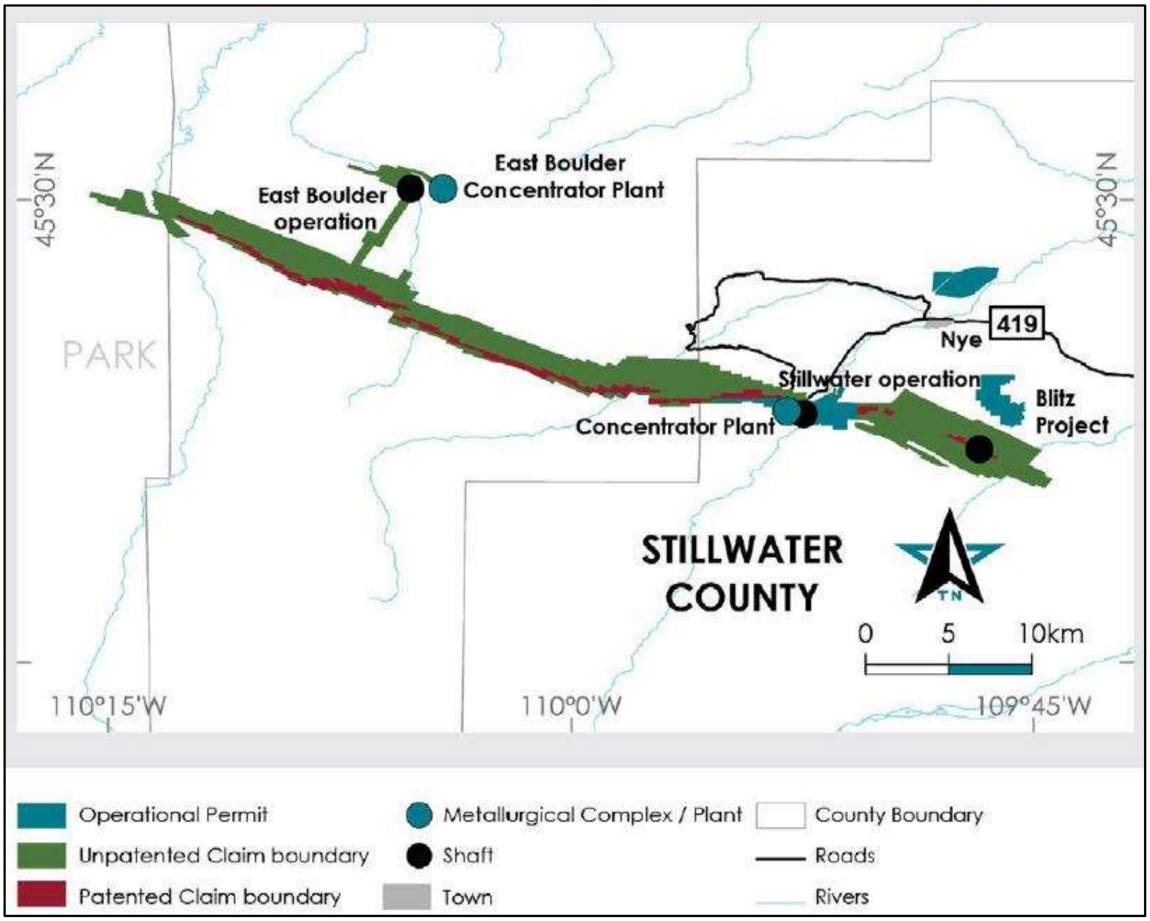
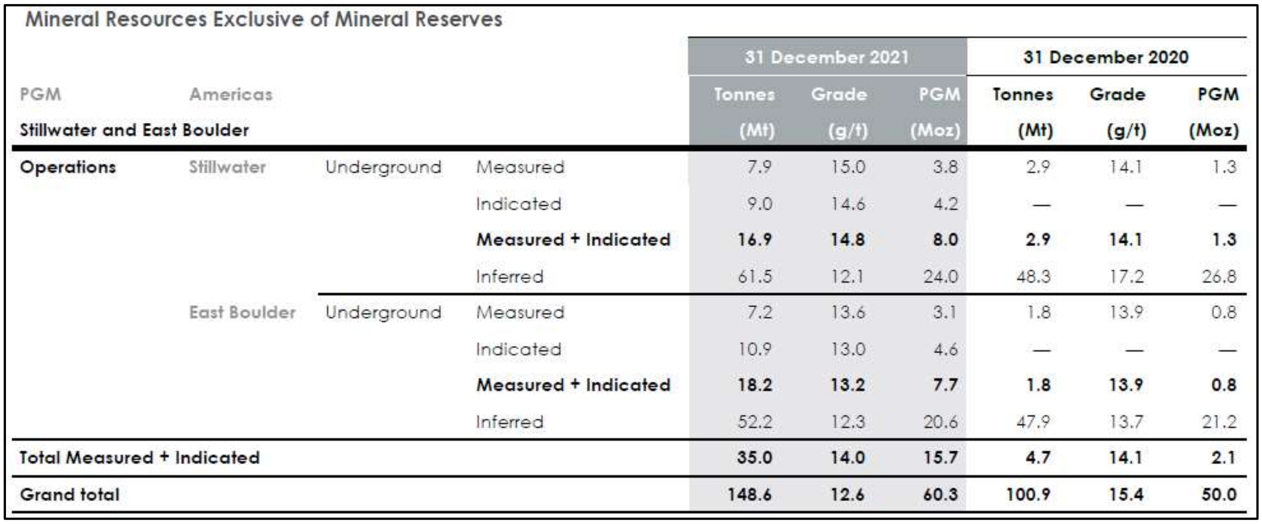
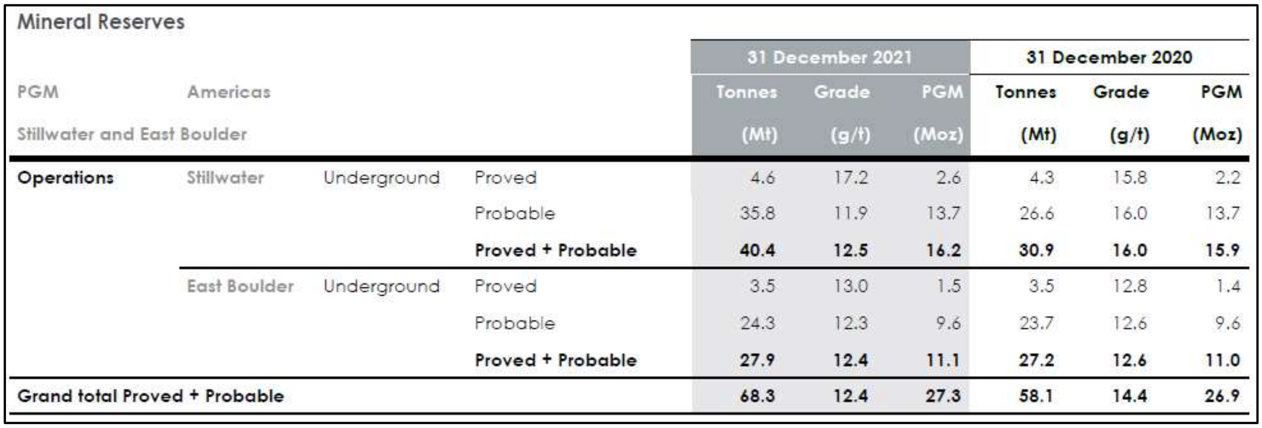


Table 23-1 Mineral Resources and Mineral Reserves for the Stillwater and East Boulder Mines, as of 31 December 2021 (from Sibanye-Stillwater's 2021 Mineral Resources and Mineral Reserves Report, www.sibanyestillwater.com)



Mineral Resources Exclusive of Mineral Reserves

				31 December 2021			31 December 2020		
PGM	Americas			Tonnes	Grade	PGM	Tonnes	Grade	PGM
Stillwater and East Boulder				(Mt)	(g/t)	(Moz)	**(Mt)**	**(g/t)**	**(Moz)**
Operations	Stillwater	Underground	Measured	7.9	15.0	3.8	2.9	14.1	1.3
			Indicated	9.0	14.6	4.2	—	—	—
			Measured + Indicated	**16.9**	**14.8**	**8.0**	**2.9**	**14.1**	**1.3**
			Inferred	61.5	12.1	24.0	48.3	17.2	26.8
	East Boulder	Underground	Measured	7.2	13.6	3.1	1.8	13.9	0.8
			Indicated	10.9	13.0	4.6	—	—	—
			Measured + Indicated	**18.2**	**13.2**	**7.7**	**1.8**	**13.9**	**0.8**
			Inferred	52.2	12.3	20.6	47.9	13.7	21.2
Total Measured + Indicated				**35.0**	**14.0**	**15.7**	**4.7**	**14.1**	**2.1**
Grand total				**148.6**	**12.6**	**60.3**	**100.9**	**15.4**	**50.0**



Mineral Reserves

				31 December 2021			31 December 2020		
PGM	Americas			Tonnes	Grade	PGM	Tonnes	Grade	PGM
Stillwater and East Boulder				(Mt)	(g/t)	(Moz)	**(Mt)**	**(g/t)**	**(Moz)**
Operations	Stillwater	Underground	Proved	4.6	17.2	2.6	4.3	15.8	2.2
			Probable	35.8	11.9	13.7	26.6	16.0	13.7
			Proved + Probable	**40.4**	**12.5**	**16.2**	**30.9**	**16.0**	**15.9**
	East Boulder	Underground	Proved	3.5	13.0	1.5	3.5	12.8	1.4
			Probable	24.3	12.3	9.6	23.7	12.6	9.6
			Proved + Probable	**27.9**	**12.4**	**11.1**	**27.2**	**12.6**	**11.0**
Grand total Proved + Probable				**68.3**	**12.4**	**27.3**	**58.1**	**14.4**	**26.9**

24 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. To the Authors’ knowledge, there are no significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information or MRE.

25 INTERPRETATION AND CONCLUSIONS

SGS Geological Services Inc. was contracted by Stillwater Critical Minerals Corp. (formerly Group Ten Metals Inc.) to complete an updated Mineral Resource Estimate for the Stillwater West Ni-PGE-Cu-Co Project in the state of Montana, USA, and to prepare a National Instrument 43-101 Technical Report written in support of the updated MRE. The Project is considered an early-stage exploration project.

On June 9, 2022, Group Ten announced that effective at market opening on June 13, 2022, the common shares of the Company will trade on the TSX Venture Exchange under the name "Stillwater Critical Minerals Corp." to better reflect the commodity suite of battery, catalytic and precious metals at the Stillwater West project.

Stillwater is a growth stage exploration company, focused on the development of exploration properties that host battery metals including nickel, copper and cobalt along with platinum group elements ("PGE") platinum, palladium and rhodium as well as gold. The Company was originally incorporated on April 28, 2006, under the laws of British Columbia, Canada and its key assets include the 100% owned Stillwater West project, adjacent to Sibanye-Stillwater's high-grade PGE mines in the Stillwater district of Montana, USA, the Kluane PGE-Ni-Cu project, on trend with Nickel Creek Platinum's Wellgreen deposit in the Kluane belt of Canada's Yukon Territory, and the Drayton-Black Lake Gold project, adjoining Treasury Metals' Goliath Gold Complex in the Rainy River district of Northwest Ontario.

The Company's shares are listed on the TSX-V under the symbol "PGE". The Company's shares are also listed on the OTC QB in the United States under the symbol "PGEZF", and on the Frankfurt Stock Exchange under the symbol "5D32".

The head office and principal address of the Company is located at #904 – 409 Granville St, Vancouver, BC, V6C 1T2.

The current report is authored by Allan Armitage, Ph.D., P. Geo., and Ben Eggers, MAIG, P.Geo. of SGS. The MRE presented in this report was estimated by Armitage. Armitage and Eggers are independent Qualified Persons as defined by NI 43-101 and are responsible for all sections of this report.

The reporting of the updated MRE complies with all disclosure requirements for Mineral Resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects. The classification of the updated MRE is consistent with the 2014 Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards (2014 CIM Definitions) and adhere as best as possible to the 2019 CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Guidelines).

The current Technical Report will be used by Stillwater in fulfillment of their continuing disclosure requirements under Canadian securities laws, including National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101"). This Technical Report is written in support of an updated MRE completed for Stillwater.

25.1 Surface Exploration and Diamond Drilling

Stillwater has conducted successively larger field programs in each year since acquisition in 2017, including drill campaigns in 2019, 2020, and 2021, and geophysical surveys in 2020, 2021 and 2022, among other programs.

The Stillwater West Property has been divided into eight main target areas based on their exploration history, geology, and geochemical and geophysical signatures. The target areas are as follows: Boulder, Wild West, Chrome Mountain, East Boulder, Iron Mountain, East Crescent, Cathedral, Picket Pin, and East. The Cathedral, Picket Pin and East target areas are allocated to their respective claim blocks, the Cathedral Claim Block, Picket Pin Claim Block and the East Claim Block. The Main Claim Block, which has been the focus of exploration by the Company, is comprised of the Boulder, Wild West, Chrome Mountain, East Boulder, Iron Mountain, and East Crescent target areas.

Starting in 2017, Stillwater launched the systematic compilation of the substantial historic database including drill results, geophysical surveys, geologic data, soil surveys, and surface rock geochemistry in a Phase One work program with the objective of compiling all data into the first property-wide 3D geologic database and developing a predictive geological model.

Historic drill data was obtained from the U.S. Geological Survey (USGS), from public documents, and from the initial asset acquisition from Picket Pin Resources that included original assays and geologic logs. Most of the historic core data was originally assayed for base metals and not precious metals. The USGS provided results of re-assayed historic AMAX drill core data. Select sulphide and chromite bearing hand samples from AMAX core were archived at the USGS and re-assayed for precious metals.

Other work completed in 2018 as part of Phase One included detailed geologic mapping, surface rock sampling, prospecting, land expansion by staking more claims, and characterization of physical rock properties on representative core and grab samples. The drill database compiled by the Company included a total of approximately 29,400 m (96,457 ft), derived from 205 drill holes prior to Stillwater's first drill campaign in 2019.

Phase Two exploration efforts commenced in 2019 with the first drilling done by the Company as well as detailed mapping, surface rock sampling, and continued re-logging and re-assaying of drill core obtained from previous operators. In addition to newly generated core, approximately 1,160 meters (3,806 ft) of past core obtained by the Company was re-assayed for complete multi-element geochemistry and additional core was re-logged to target new deposit models. Stillwater completed analyses of samples collected during soil a geochemical survey over the western portion of the Main Claim Block by Beartooth Platinum that had never previously been assayed. In November 2019 Stillwater engaged GoldSpot Discoveries Inc. to apply their proprietary AI and Machine-Learning technologies to the Property.

Work during the 2020 season included drilling at the Chrome Mountain target area, detailed mapping, surface rock sampling, and completion of the Company's first Induced Polarization (IP) geophysical survey over the core project area.

In 2021, the Company completed a multi-rig drill program focused on advancing block models of drill-defined mineralization to inaugural inferred resource estimates in the Main Claim Block as detailed in Section 14 of the present Report. The 2021 season also included expansion of the 2020 IP survey, detailed mapping, surface rock sampling, GPS re-location of historic AMAX drill hole locations, and continued compilation of historic and recent data into the drill database. Additionally, the Company conducted preliminary surface sampling and orientation surveys in the East target area. Assays are still pending from the 2021 drilling season at the time of writing this Report.

The database used for the current MRE comprises data for 156 drill holes, including 131 historical drill holes completed to 2008, and 25 drill holes completed by Stillwater from 2019 to 2021.

In 2019, Stillwater completed 1,617 m of drilling in 6 drill holes in September to October 2019 at the Iron Mountain (Camp and HGR) target area. In 2020, Stillwater completed 1,823 m of drilling in 5 drill holes in the Chrome Mountain target area. In 2021, Stillwater completed 5,143 m of drilling in 14 drill holes focusing on expansion of the 2021 MRE, in the HGR and CZ deposit areas at Iron Mountain, and at the DR and Hybrid deposit areas at Chrome Mountain.

In 2022 the Company completed a gravity geophysical survey in addition to rhodium analysis on past core, recovery of past core and data from the Pine target, and channel sampling and prospecting programs at a number of target areas.

Since acquiring the Property in 2018, Stillwater has maintained a consistent system for the sample preparation, analysis and security of all surface samples and drill core samples, including the implementation of a QA/QC protocol. The current MRE consists of drilling data collected by Stillwater since the acquisition of the Property in addition to drilling data collected by previous operators (Table 11 1).

Based on a review of all possible information, the sample preparation, analyses and security used on the Project by the Company meet acceptable industry standards (past and current) and the drill data can and has been used for geological and resource modeling, and resource estimation of Inferred mineral resources.

All geological data has been reviewed and verified as being accurate to the extent possible and to the extent possible all geologic information was reviewed and confirmed. There were no significant or material errors or issues identified with the drill hole database. Based on a review of all possible information, the Authors are of the opinion that the database is of sufficient quality to be used for the current Inferred MRE.

25.2 Updated Mineral Resource Estimate

The Inferred Mineral Resource Estimates presented in this Technical Report were prepared and disclosed in compliance with all current disclosure requirements for mineral resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2016). The classification of the current Mineral Resource Estimate into Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves, including the critical requirement that all mineral resources "have reasonable prospects for eventual economic extraction".

The general requirement that all Mineral Resources have "reasonable prospects for economic extraction" implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade taking into account extraction scenarios and assumed processing recoveries. Based on the location and size of the resource, tenor of the grade, grade distribution, and proximity to surface, Armitage is of the opinion that with current metal pricing levels and knowledge of the mineralization, open pit mining offers the most reasonable approach for development of the Stillwater West deposits.

In order to determine the quantities of material offering "reasonable prospects for economic extraction" by an open pit, Whittle™ pit optimization software 4.7.1 and reasonable mining assumptions to evaluate the proportions of the block model (Inferred blocks) that could be "reasonably expected" to be mined from an open pit are used. The pit optimization was completed by SGS. The pit optimization parameters used are summarized in Table 25-1. Whittle™ pit shells at a revenue factor of 1.0 were selected as ultimate pit shells for the purposes of the updated MREs. The corresponding strip ratios for Chrome, Camp, Central and HGR deposits range from 1.5:1 to 3.0:1 and up to 8.0:1 for the Crescent deposit. Pits reach a maximum depth of approximately 280 up to 450 m below surface at Chrome.

The project is at an early stage of exploration and all deposits are open along strike and down dip, based on a review of results of additional regional historical drill holes and recent property-scale IP and magnetic geophysical surveys.

The reader is cautioned that the results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. Pit optimization does not represent an economic study. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade. A selected base case cut-off grade of 0.2% NiEq is used to determine the in-pit MREs for the Stillwater West deposits.

At the base case cut-off grade of 0.2% NiEq the deposits show good deposit continuity. The open pit Mineral Resource grade blocks were quantified above the base case cut-off grade, above the constraining pit shell and within the 3D constraining mineralized wireframes (considered potentially mineable shapes). The 3D models have sufficient widths and continuity suitable for open pit mining methods.

The QP is of the opinion that the stated Mineral Resources satisfy the requirement of reasonable prospects for eventual economic extraction by open pit mining methods.

Table 25-1 Parameters used to Determine In-Pit Resources and Base Case Cut-off Grade

Parameter	Value	Unit
Nickel Price	$9.00	US$ per pound
Copper Price	$3.75	US$ per pound
Cobalt Price	$24.00	US$ per pound
Platinum Price	$1,000.00	US$ per ounce
Palladium Price	$2,000.00	US$ per ounce
Gold Price	$1,800.00	US$ per ounce
Open Pit Mining Cost	$2.50	US$ per tonne mined
Processing Cost and G&A	$18.00	US$ per tonne milled
Overall Pit Slope	55	Degrees
Ni, Co, Pt, Pd, Au Recovery	80	Percent (%)
Cu Recovery	85	Percent (%)
Mining loss/Dilution (underground)	5/5	Percent (%) / Percent (%)
Waste Specific Gravity	2.90	g/cm^3
Mineral Zone Specific Gravity	2.90 – 3.10	g/cm^3
Block Size	5 x 5 x 5	

25.2.1 Mineral Resource Statement

The updated open pit Inferred MRE for the Property, by grade and metal content, is presented in Table 25-2. The global in-pit resource at various cut-off grades by grade and metal content is presented in

Table 25-3 (to show sensitivity to cut-off grade).

Highlights of the Stillwater West Mineral Resource Estimates are as follows:

- The global in-pit Inferred Mineral Resource includes, at a base case cut-off grade of 0.20% NiEq, 254.8 Mt grading 0.19 % Ni, 0.09 % Cu, 0.02 % Co, 0.15 g/t Pt, 0.25 g/t Pd and 0.05 g/t Au (0.39 % NiEq).

Table 25-2 Stillwater West Property Inferred In-pit MRE by Grade (A) and Contained Metal (B) at a base case cut-off grade of 0.20% NiEq, January 20, 2023. Cr% and S% are presented in (C)

(D) Grades

DEPOSIT	TONNAGE	Base Metals			Platinum Group & Precious Metals				Total
		Ni	Cu	Co	Pt	Pd	Au	Rh	NiEq*
	Tonnes	%	%	%	g/t	g/t	g/t	g/t	%
Chrome Mtn - Hybrid & DR	136.9	0.16	0.05	0.01	0.18	0.26	0.04	0.019	0.34
Iron Mtn - CZ	29.2	0.24	0.13	0.02	0.11	0.26	0.06	0.011	0.46
Iron Mtn - HGR	58.2	0.23	0.17	0.02	0.13	0.26	0.05	0.012	0.46
Iron Mtn - Central	20.4	0.16	0.07	0.02	0.10	0.21	0.04	NA	0.32
Iron Mtn - Crescent	9.3	0.26	0.11	0.02	0.22	0.15	0.09	NA	0.46
Total	254.8	0.19	0.09	0.02	0.15	0.25	0.05	0.016	**0.39**

(E) Metal Content

DEPOSIT	TONNAGE	Base Metals			Platinum Group & Precious Metals				Total
		Ni	Cu	Co	Pt	Pd	Au	Rh	NiEq*
	Tonnes	Mlbs	Mlbs	Mlbs	Koz	Koz	Koz	Koz	Mlbs
Chrome Mtn - Hybrid & DR	136.9	479	146	45	771	1,136	198	82	1,037
Iron Mtn - CZ	29.2	156	84	14	104	249	55	11	306
Iron Mtn - HGR	58.2	292	216	21	249	478	92	22	592
Iron Mtn - Central	20.4	71	31	7	67	139	23	NA	145
Iron Mtn - Crescent	9.3	53	23	4	65	44	27	NA	95
Total	254.8	1,051	499	91.1	1,256	2,046	395	115	**2,175**

* ***Does not include Rh*** ***NA – Not assayed***

(1) The classification of the current Mineral Resource Estimate into Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves.

(2) All figures are rounded to reflect the relative accuracy of the estimate. Totals may not add or calculate exactly due to rounding.

(3) All Resources are presented undiluted and in situ, constrained by continuous 3D wireframe models, and are considered to have reasonable prospects for eventual economic extraction.

(4) Mineral resources which are not mineral reserves do not have demonstrated economic viability. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

(5) *The update MRE is based on data for 156 surface drill holes representing 29,392 m of drilling, including data for 14 surface drill holes for 5,143 m completed by Stillwater in 2021.*

(6) *The mineral resource estimate is based on 6 three-dimensional ("3D") resource models representing the Chrome Mountain (Hybrid and DR), Camp, HGR, Central and Crescent Zones.*

(7) *Composites of 1.2 to 3.0 m have been capped where appropriate.*

(8) *Fixed specific gravity values of 2.90 – 3.10 g/cm^3 (depending on deposit) were used to estimate the Mineral Resource tonnage from block model volumes (% block model). Waste in all areas was given a fixed density of 2.9 g/cm^3.*

(9) *Cu, Ni, Co, Pt, Pd, Au and Cr are estimated for each mineralized zone; S and Rh for the majority of the zones. Blocks (5x5x5) within each resource model were interpolated using 1.2 to 3.0 metre capped composites assigned to that resource model. To generate grade within the blocks, the inverse distance squared (ID^2) interpolation method was used for all domains.*

(10) *Based on a review of the project location, size, geometry, continuity of mineralization and proximity to surface of the Deposits, and spatial distribution of the five main deposits of interest (all within a 8.8 km strike length), it is envisioned that the Deposits may be mined by open pit.*

(11) *In-pit Mineral Resources are reported at a base case cut-off grade of 0.20% NiEq. Pit optimization and Cut-off grades are based on metal prices of $9.00/lb Ni, $3.75/lb Cu, $24.00/lb Co, $1,000/oz Pt, $2,000/oz Pd and $1,800/oz Au, assumed metal recoveries of 80% for Ni, 85% for copper, 80% for Co, Pt, Pd and Au, a mining cost of US$2.50/t rock and processing and G&A cost of US$18.00/t mineralized material.*

(12) *The in-pit Mineral Resource grade blocks were quantified above the base case cut-off grade. At this base case cut-off grade the deposits show excellent geologic and grade continuity. The project is at an early stage of exploration and all deposits are open along strike and down dip. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rates, mining costs etc.).*

(13) *The results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade. Pit optimization does not represent an economic study.*

(14) *The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

(15) *The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the current Mineral Resource Estimate.*

(16) *Nickel equivalent grades are calculated using this formula: Ni (%) + [Cu (%) X 2204.6 X Cu Price / Ni Price] + [Co (%) X 2204.6 X Co Price / Ni Price] + [Pt / 31.1 X Pt Price / Ni Price X 0.0454] + [Pd / 31.1 X Pt Price / Ni Price X 0.0454] + [Au / 31.1 X Pt Price / Ni Price X 0.0454]*

(F)

Deposit	Tonnes	S	Cr	S	Cr
		%	%	Mlbs	Mlbs
Chrome Mtn - Hybrid & DR	136.9	0.65	0.48	1,969	1,440
Iron Mtn - CZ	29.2	3.07	0.27	2,023	175
Iron Mtn - HGR	58.2	1.51	0.33	1,933	422
Iron Mtn - Central	20.4	0.47	0.36	210	164
Iron Mtn - Crescent	9.3	NA	0.32	NA	66
Total	254.8	1.13	0.40	6,134	2,267

Table 25-3 Stillwater West Property Global Inferred In-pit MRE by Grade (A) and Contained Metal (B), at various Cut-off Grades, January 20, 2023

(A)

		Base & Battery Metals			Platinum Group & Precious Metals				Total
NiEq %	TONNAGE	Ni	Cu	Co	Pt	Pd	Au	Rh	NiEq*
Cut-off Grade	MT	%	%	%	g/t	g/t	g/t	g/t	%
0.10 %	296.0	0.17	0.08	0.02	0.14	0.23	0.04	0.015	0.36
0.15 %	284.8	0.18	0.08	0.02	0.14	0.23	0.04	0.015	0.36
0.20 %	254.8	0.19	0.09	0.02	0.15	0.25	0.05	0.016	0.39
0.25 %	212.1	0.20	0.10	0.02	0.16	0.27	0.05	0.016	0.42
0.30 %	167.4	0.22	0.11	0.02	0.18	0.30	0.06	0.017	0.46
0.35 %	119.6	0.25	0.13	0.02	0.20	0.33	0.07	0.019	0.51
0.40 %	80.2	0.28	0.16	0.02	0.22	0.37	0.08	0.020	0.58
0.50 %	38.0	0.36	0.22	0.02	0.25	0.44	0.10	0.020	0.73
0.70 %	11.6	0.56	0.33	0.03	0.27	0.54	0.15	0.019	1.05

(B)

		Base Metals			Platinum Group & Precious Metals				Total
NiEq %	TONNAGE	Ni	Cu	Co	Pt	Pd	Au	Rh	NiEq*
Cut-off Grade	MT	Mlbs	Mlbs	Mlbs	Koz	Koz	Koz	Koz	Mlbs
0.10 %	296.0	1,128	521	101.4	1,335	2,143	416	128	2,324
0.15 %	284.8	1,111	517	98.8	1,320	2,125	412	125	2,291
0.20 %	254.8	1,051	499	91.1	1,256	2,046	395	115	2,175
0.25 %	212.1	948	465	79.4	1,115	1,853	359	99	1,961
0.30 %	167.4	819	418	65.8	952	1,589	315	83	1,690
0.35 %	119.6	651	352	50.1	753	1,271	257	64	1,349
0.40 %	80.2	495	286	36.2	558	958	195	46	1,025
0.50 %	38.0	301	186	20.5	301	537	118	21	610
0.70 %	11.6	143	83	8.9	100	202	55	7	268

* *Does not include Rh*

(1) In-Pit Inferred Mineral Resources are reported at a base case cut-off grade of 0.20% NiEq. Values in this table reported above and below the cut-off grades should not be misconstrued with a Mineral Resource Statement. The values are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

(2) All figures are rounded to reflect the relative accuracy of the estimate. Totals may not add or calculate exactly due to rounding.

25.3 Risk and Opportunities

The following risks and opportunities were identified that could affect the future economic outcome of the project. The following does not include external risks that apply to all exploration and development projects (e.g., changes in metal prices, exchange rates, availability of investment capital, change in government regulations, etc.).

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. To the Authors knowledge, there are no additional risks or uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information or MRE.

25.3.1 Risks

25.3.1.1 Mineral Resource Estimate

All of the contained metal of the Deposit, at the reported base-case cut-off grade for the updated MRE, is in the Inferred Mineral Resource classification. It is reasonably expected that the majority of Inferred Mineral resources could be upgraded to Indicated Minerals Resources with continued exploration.

The mineralized models (mineralized domains) in all zones are relatively well understood. However, due to the limited drilling in most areas, all mineralization zones might be of slightly variable shapes from what have been modeled. A different interpretation from the current mineralization models may adversely affect the updated MRE. Continued drilling may help define with more precision the shapes of the zones and confirm the geological and grade continuities of the mineralized zones.

25.3.2 Opportunities

25.3.2.1 Mineral Resource Estimate

There is an opportunity in all deposit areas to extend known mineralization at depth, on strike and elsewhere on the Property and to potentially convert Inferred Mineral Resources to Indicated Mineral Resources. The project is at an early stage of exploration and all deposits are open along strike and down dip, based on a review of results of additional regional historical drill holes and recent property-scale IP and magnetic geophysical surveys. Stillwater's intentions are to direct their exploration efforts towards resource growth in 2023 with a focus on extending the limits of known mineralization and testing other targets on the greater Stillwater West Property.

26 RECOMMENDATIONS

The Deposits of the Stillwater West Property contain In-pit Inferred Mineral Resources that are associated with relatively well-defined mineralized trends and models. All deposits are open along strike and at depth.

Armitage considers that the Project has potential for delineation of additional Mineral Resources and that further exploration is warranted. Given the prospective nature of the Property, it is the opinion of Armitage that the Property merits further exploration and that a proposed plan for further work by Stillwater is justified.

Armitage is recommending Stillwater conduct further exploration, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

Stillwater's 2023 intentions are to conduct exploration and resource expansion drilling of 7,200 m utilizing up to three drill rigs with priority on step-out holes for expansion of existing resources. Drilling is also expected to include in-fill drilling with the objective of upgrading current inferred resources, along with a lesser proportion of holes allocated to earlier stage targets. Exploration in 2023 is also expected to include IP and Gravity geophysical surveys as expansions and in-fills on past surveys. Geological mapping and sampling programs are also planned at earlier stage targets. The total cost of the planned work program by Stillwater is estimated at US$3.66 million (Table 26-1).

Table 26-1 Recommended 2023 Work Program for the Project

TASK	UNITS	UNIT COST (USD)	LINE TOTAL (USD)
GEOLOGIC MAPPING			
Labor plus expenses per day	40	$ 700	$ 28,000
Analytical and other direct costs, per sample	100	$ 65	$ 6,500
SAMPLING			
Labor	40	$ 350	$ 14,000
Analytical and other direct costs, per sample	100	$ 65	$ 6,500
DRILLING			
Contractor: Core @ $200/m	7,200	$ 200	$ 1,440,000
Analytical and other direct costs, per sample	6,800	$ 65	$ 442,000
Helicopter Support: $8,000/day	70	$ 8,000	$ 560,000
CORE LOGGING AND SHIPPING			
Labor, person-days, including costs	300	$ 500	$ 150,000
GEOPHYSICS			
25-line kilometers IP	25	$ 20,000	$ 500,000
Data reduction and interpretation	30	$ 500	$ 15,000
100-line kilometers Gravity	100	$ 4,000	$ 400,000
INTERNAL REPORT PREPARATION			
Labor	30	$ 1,000	$ 30,000
UPDATE MRE AND TECHNICAL REPORT			
Independent Consultant			$ 65,000
PROGRAM TOTAL (USD)			**$ 3,657,000**

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28 DATE AND SIGNATURE PAGE

This report titled “Mineral Resource Estimate Update for the Stillwater West Ni-PGE-Cu-Co+Au Project, Montana USA” dated March 11, 2023 (the “Technical Report”) for Stillwater Critical Minerals was prepared and signed by the following authors:

The effective date of the report is January 20, 2023
The date of the report is March 11, 2023.

Signed by:

Qualified Persons	Company
Allan Armitage, Ph.D., P. Geo.,	SGS Geological Services (“SGS”)
Ben Eggers, MAIG, P.Geo.	SGS Geological Services (“SGS”)

March 11, 2023

29 CERTIFICATES OF QUALIFIED PERSONS

QP CERTIFICATE – ALLAN ARMITAGE

To accompany the technical report titled “Mineral Resource Estimate Update for the Stillwater West Ni-PGE-Cu-Co+Au Project, Montana USA” with an effective date of January 20, 2023 (the “Technical Report”) prepared for Stillwater Critical Minerals (the “Company”).

I, Allan E. Armitage, Ph. D., P. Geol. of 62 River Front Way, Fredericton, New Brunswick, hereby certify that:

1. I am a Senior Resource Geologist with SGS Canada Inc., 10 de la Seigneurie E blvd., Unit 203 Blainville, QC, Canada, J7C 3V5.
2. I am a graduate of Acadia University having obtained the degree of Bachelor of Science - Honours in Geology in 1989, a graduate of Laurentian University having obtained the degree of Master of Science in Geology in 1992 and a graduate of the University of Western Ontario having obtained a Doctor of Philosophy in Geology in 1998.
3. I have been employed as a geologist for every field season (May - October) from 1987 to 1996. I have been continuously employed as a geologist since March of 1997.
4. I have been involved in mineral exploration and resource modeling at the grass roots to advanced exploration stage, including producing mines, since 1991, including mineral resource estimation and mineral resource and mineral reserve auditing since 2006 in Canada and internationally. I have extensive experience in Archean and Proterozoic load gold deposits, volcanic and sediment hosted base metal massive sulphide deposits, porphyry copper-gold-silver deposits, low and intermediate sulphidation epithermal gold and silver deposits, magmatic Ni-Cu-PGE deposits, and unconformity- and sandstone-hosted uranium deposits.
5. I am a member of: the Association of Professional Engineers, Geologists and Geophysicists of Alberta (P.Geol.) (License No. 64456; 1999), the Association of Professional Engineers and Geoscientists of British Columbia (P.Geo.) (Licence No. 38144; 2012), and the Professional Geoscientists Ontario (P.Geo.) (Licence No. 2829; 2017).
6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects – (“NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43 101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43 101.
7. I am the author of the Technical Report and responsible for sections 1 through 10, 12.2, 12.3, 13 to 27. I have reviewed all sections and accept professional responsibility for these sections of the Technical Report.
8. I conducted a site visit to the Stillwater Project on August 9 and 10, 2021 and again on June 29 and 30, 2022. I consider the site visit completed in 2022 as current, per Section 6.2 of NI 43-101CP.
9. I have had prior involvement with the Stillwater Property. I was the author of a previous NI 43-101 Technical Repots for the Stillwater Property, dated December 6, 2021 for Group Ten Metals Inc., now Stillwater Critical Minerals.
10. I am independent of the Company as described in Section 1.5 of NI 43-101.
11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
12. I have read NI 43-101 and Form 43-101F1 (the “Form”), and the Technical Report has been prepared in compliance with NI 43-101 and the Form.

Signed and dated March 11, 2023 at Fredericton, New Brunswick.

"Original Signed and Sealed"

Allan Armitage, Ph. D., P. Geo., SGS Canada Inc.

QP CERTIFICATE – BEN EGGERS

To accompany the technical report **titled “Mineral Resource Estimate Update for the Stillwater West Ni-PGE-Cu-Co+Au Project, Montana, USA”** with an effective date of January 20, 2023 (the “Technical Report”) prepared for Stillwater Critical Minerals Corp. (the “Company”).

I, Benjamin K. Eggers, B. Sc. (Hons)., MAIG, P. Geo. of 321 Olsen Road, Tofino, British Columbia, hereby certify that:

1. I am a Senior Geologist with SGS Canada Inc., 10 Boulevard de la Seigneurie E., Suite 203, Blainville, QC, J7C 3V5, Canada.
2. I am a graduate of the University of Otago, New Zealand having obtained the degree of Bachelor of Science - Honours in Geology in 2004.
3. I have been continuously employed as a geologist since February of 2005.
4. I have been involved in mineral exploration and resource modeling at the greenfield to advanced exploration stage, including producing mines, in Canada and Australia since 2005, including mineral resource estimation since 2022 in Canada and internationally. I have experience in lode gold deposits, porphyry copper-gold-silver deposits, low and high sulphidation epithermal gold and silver deposits, volcanic and sediment hosted base metal massive sulphide deposits, and albitite-hosted uranium deposits.
5. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia and use the designation (P.Geo.) (Licence No. 40384; 2014), and I am a member of the Australian Institute of Geoscientists and use the designation (MAIG) (Licence No. 3824; 2013).
6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects – (“NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
7. I am an author of the Technical Report and responsible for sections 11, 12.1 and 12.3. I have reviewed all sections and accept professional responsibility for these sections of the Technical Report.
8. I have not personally conducted a site visit.
9. I have had no prior involvement with the Stillwater Property.
10. I am independent of the Company as described in Section 1.5 of NI 43-101.
11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
12. I have read NI 43-101 and Form 43-101F1 (the “Form”), and the Technical Report has been prepared in compliance with NI 43-101 and the Form.

Signed and dated March 11, 2023 at Tofino, British Columbia.

“Original Signed and Sealed”

Ben Eggers, MAIG, P. Geo., SGS Canada Inc.

APPENDIX A

List of Claims Comprising the Stillwater West Property

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
1	MMC224270	MT101427131	5 A'S #1	Group Ten (USA) Inc.	2011
2	MMC224271	MT101427132	5 A'S #2	Group Ten (USA) Inc.	2011
3	MMC224272	MT101427133	5 A'S #3	Group Ten (USA) Inc.	2011
4	MMC224273	MT101427134	5 A'S #4	Group Ten (USA) Inc.	2011
5	MMC224274	MT101427135	5 A'S #5	Group Ten (USA) Inc.	2011
6	MMC224280	MT101427136	PGMSKI	Group Ten (USA) Inc.	2011
7	MMC224282	MT101427137	PICKET PINSKI	Group Ten (USA) Inc.	2011
8	MMC231720	MT101753336	IR	Group Ten (USA) Inc.	2015
9	MMC231725	MT101753337	PD	Group Ten (USA) Inc.	2015
10	MMC231726	MT101753338	PT	Group Ten (USA) Inc.	2015
11	MMC231727	MT101753339	RH	Group Ten (USA) Inc.	2015
12	MMC234160	MT101740189	BZ #1	Group Ten (USA) Inc.	2017
13	MMC234161	MT101740190	BZ #2	Group Ten (USA) Inc.	2017
14	MMC234162	MT101740191	BZ #3	Group Ten (USA) Inc.	2017
15	MMC234163	MT101740192	BZ #4	Group Ten (USA) Inc.	2017
16	MMC234164	MT101740193	BZ #5	Group Ten (USA) Inc.	2017
17	MMC234165	MT101851334	BZ #6	Group Ten (USA) Inc.	2017
18	MMC234166	MT101851335	BZ #7	Group Ten (USA) Inc.	2017
19	MMC234167	MT101851336	C #1	Group Ten (USA) Inc.	2017
20	MMC234168	MT101851337	C #2	Group Ten (USA) Inc.	2017
21	MMC234169	MT101851338	C #3	Group Ten (USA) Inc.	2017
22	MMC234170	MT101851339	C #4	Group Ten (USA) Inc.	2017
23	MMC234171	MT101851340	C #5	Group Ten (USA) Inc.	2017
24	MMC234172	MT101851341	C #6	Group Ten (USA) Inc.	2017
25	MMC234173	MT101851342	C #7	Group Ten (USA) Inc.	2017
26	MMC234174	MT101851343	C #8	Group Ten (USA) Inc.	2017
27	MMC234175	MT101851344	C #9	Group Ten (USA) Inc.	2017
28	MMC234176	MT101851345	C #10	Group Ten (USA) Inc.	2017
29	MMC234177	MT101851346	C #11	Group Ten (USA) Inc.	2017
30	MMC234178	MT101851347	C #12	Group Ten (USA) Inc.	2017
31	MMC234179	MT101851348	C #13	Group Ten (USA) Inc.	2017
32	MMC234180	MT101851349	C #14	Group Ten (USA) Inc.	2017
33	MMC234181	MT101851350	C #15	Group Ten (USA) Inc.	2017
34	MMC234182	MT101851351	C #16	Group Ten (USA) Inc.	2017
35	MMC234183	MT101851352	C #17	Group Ten (USA) Inc.	2017
36	MMC234184	MT101851353	C #18	Group Ten (USA) Inc.	2017
37	MMC234185	MT101851354	C #19	Group Ten (USA) Inc.	2017
38	MMC234186	MT101851355	C #20	Group Ten (USA) Inc.	2017
39	MMC234187	MT101852485	C #21	Group Ten (USA) Inc.	2017
40	MMC234188	MT101852486	C #22	Group Ten (USA) Inc.	2017
41	MMC234189	MT101852487	C #23	Group Ten (USA) Inc.	2017
42	MMC234190	MT101852488	C #24	Group Ten (USA) Inc.	2017
43	MMC234191	MT101852489	C #25	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
44	MMC234192	MT101852490	C #26	Group Ten (USA) Inc.	2017
45	MMC234193	MT101852491	C #27	Group Ten (USA) Inc.	2017
46	MMC234194	MT101852492	C #28	Group Ten (USA) Inc.	2017
47	MMC234195	MT101852493	C #29	Group Ten (USA) Inc.	2017
48	MMC234196	MT101852494	C #30	Group Ten (USA) Inc.	2017
49	MMC234197	MT101852495	C #31	Group Ten (USA) Inc.	2017
50	MMC234198	MT101852496	C #32	Group Ten (USA) Inc.	2017
51	MMC234199	MT101852497	C #33	Group Ten (USA) Inc.	2017
52	MMC234200	MT101852498	C #34	Group Ten (USA) Inc.	2017
53	MMC234201	MT101852499	C #35	Group Ten (USA) Inc.	2017
54	MMC234202	MT101852500	C #36	Group Ten (USA) Inc.	2017
55	MMC234203	MT101852501	C #37	Group Ten (USA) Inc.	2017
56	MMC234204	MT101852502	C #38	Group Ten (USA) Inc.	2017
57	MMC234205	MT101852503	C #39	Group Ten (USA) Inc.	2017
58	MMC234206	MT101852504	C #40	Group Ten (USA) Inc.	2017
59	MMC234207	MT101852505	C #41	Group Ten (USA) Inc.	2017
60	MMC234208	MT101852506	C #42	Group Ten (USA) Inc.	2017
61	MMC234209	MT101853580	C #43	Group Ten (USA) Inc.	2017
62	MMC234210	MT101853581	C #44	Group Ten (USA) Inc.	2017
63	MMC234211	MT101853582	C #45	Group Ten (USA) Inc.	2017
64	MMC234212	MT101853583	C #46	Group Ten (USA) Inc.	2017
65	MMC234213	MT101853584	C #47	Group Ten (USA) Inc.	2017
66	MMC234214	MT101853585	C #48	Group Ten (USA) Inc.	2017
67	MMC234215	MT101853586	C #49	Group Ten (USA) Inc.	2017
68	MMC234216	MT101853587	C #50	Group Ten (USA) Inc.	2017
69	MMC234217	MT101853588	C #51	Group Ten (USA) Inc.	2017
70	MMC234218	MT101853589	C #52	Group Ten (USA) Inc.	2017
71	MMC234219	MT101853590	C #53	Group Ten (USA) Inc.	2017
72	MMC234220	MT101853591	C #54	Group Ten (USA) Inc.	2017
73	MMC234221	MT101853592	C #55	Group Ten (USA) Inc.	2017
74	MMC234222	MT101853593	C #56	Group Ten (USA) Inc.	2017
75	MMC234223	MT101853594	C #57	Group Ten (USA) Inc.	2017
76	MMC234224	MT101853595	C #58	Group Ten (USA) Inc.	2017
77	MMC234225	MT101853596	C #59	Group Ten (USA) Inc.	2017
78	MMC234226	MT101853597	C #60	Group Ten (USA) Inc.	2017
79	MMC234227	MT101853598	C #61	Group Ten (USA) Inc.	2017
80	MMC234228	MT101853599	C #62	Group Ten (USA) Inc.	2017
81	MMC234229	MT101853600	C #63	Group Ten (USA) Inc.	2017
82	MMC234230	MT101853644	C #64	Group Ten (USA) Inc.	2017
83	MMC234231	MT101854733	C #65	Group Ten (USA) Inc.	2017
84	MMC234232	MT101854734	C #66	Group Ten (USA) Inc.	2017
85	MMC234233	MT101854735	C #67	Group Ten (USA) Inc.	2017
86	MMC234234	MT101854736	C #68	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
87	MMC234235	MT101854737	C #69	Group Ten (USA) Inc.	2017
88	MMC234236	MT101854738	C #70	Group Ten (USA) Inc.	2017
89	MMC234237	MT101854739	C #71	Group Ten (USA) Inc.	2017
90	MMC234238	MT101854740	C #72	Group Ten (USA) Inc.	2017
91	MMC234239	MT101854741	C #73	Group Ten (USA) Inc.	2017
92	MMC234240	MT101854742	C #74	Group Ten (USA) Inc.	2017
93	MMC234241	MT101854743	C #75	Group Ten (USA) Inc.	2017
94	MMC234242	MT101854744	C #76	Group Ten (USA) Inc.	2017
95	MMC234243	MT101854745	C #77	Group Ten (USA) Inc.	2017
96	MMC234244	MT101854746	C #78	Group Ten (USA) Inc.	2017
97	MMC234245	MT101854747	C #79	Group Ten (USA) Inc.	2017
98	MMC234246	MT101854748	C #80	Group Ten (USA) Inc.	2017
99	MMC234247	MT101854749	C #81	Group Ten (USA) Inc.	2017
100	MMC234248	MT101854750	C #82	Group Ten (USA) Inc.	2017
101	MMC234249	MT101854751	C #83	Group Ten (USA) Inc.	2017
102	MMC234250	MT101854752	C #84	Group Ten (USA) Inc.	2017
103	MMC234251	MT101854753	C #85	Group Ten (USA) Inc.	2017
104	MMC234252	MT101854754	C #86	Group Ten (USA) Inc.	2017
105	MMC234253	MT101855882	C #87	Group Ten (USA) Inc.	2017
106	MMC234254	MT101855883	C #88	Group Ten (USA) Inc.	2017
107	MMC234255	MT101855884	C #89	Group Ten (USA) Inc.	2017
108	MMC234256	MT101855885	C #90	Group Ten (USA) Inc.	2017
109	MMC234257	MT101855886	C #91	Group Ten (USA) Inc.	2017
110	MMC234258	MT101855887	C #92	Group Ten (USA) Inc.	2017
111	MMC234259	MT101855888	C #93	Group Ten (USA) Inc.	2017
112	MMC234260	MT101855889	C #94	Group Ten (USA) Inc.	2017
113	MMC234261	MT101855890	C #95	Group Ten (USA) Inc.	2017
114	MMC234262	MT101855891	C #96	Group Ten (USA) Inc.	2017
115	MMC234263	MT101855892	C #97	Group Ten (USA) Inc.	2017
116	MMC234264	MT101855893	C #98	Group Ten (USA) Inc.	2017
117	MMC234265	MT101855894	C #99	Group Ten (USA) Inc.	2017
118	MMC234266	MT101855895	C #100	Group Ten (USA) Inc.	2017
119	MMC234267	MT101855896	C #101	Group Ten (USA) Inc.	2017
120	MMC234268	MT101855897	C #102	Group Ten (USA) Inc.	2017
121	MMC234269	MT101855898	C #103	Group Ten (USA) Inc.	2017
122	MMC234270	MT101855899	C #104	Group Ten (USA) Inc.	2017
123	MMC234271	MT101855900	C #105	Group Ten (USA) Inc.	2017
124	MMC234272	MT101855901	C #106	Group Ten (USA) Inc.	2017
125	MMC234273	MT101855902	C #107	Group Ten (USA) Inc.	2017
126	MMC234274	MT101855903	C #108	Group Ten (USA) Inc.	2017
127	MMC234275	MT101736878	C #109	Group Ten (USA) Inc.	2017
128	MMC234276	MT101736879	C #110	Group Ten (USA) Inc.	2017
129	MMC234277	MT101736880	C #111	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
130	MMC234278	MT101736881	C #112	Group Ten (USA) Inc.	2017
131	MMC234279	MT101736882	C #113	Group Ten (USA) Inc.	2017
132	MMC234280	MT101736883	IM #1	Group Ten (USA) Inc.	2017
133	MMC234281	MT101736884	IM #2	Group Ten (USA) Inc.	2017
134	MMC234282	MT101736885	IM #3	Group Ten (USA) Inc.	2017
135	MMC234283	MT101736886	IM #4	Group Ten (USA) Inc.	2017
136	MMC234284	MT101736887	IM #5	Group Ten (USA) Inc.	2017
137	MMC234285	MT101736888	IM #6	Group Ten (USA) Inc.	2017
138	MMC234286	MT101736889	IM #7	Group Ten (USA) Inc.	2017
139	MMC234287	MT101736890	IM #8	Group Ten (USA) Inc.	2017
140	MMC234288	MT101736891	IM #9	Group Ten (USA) Inc.	2017
141	MMC234289	MT101736892	IM #10	Group Ten (USA) Inc.	2017
142	MMC234290	MT101736893	IM #11	Group Ten (USA) Inc.	2017
143	MMC234291	MT101736894	IM #12	Group Ten (USA) Inc.	2017
144	MMC234292	MT101736895	IM #13	Group Ten (USA) Inc.	2017
145	MMC234293	MT101736896	IM #14	Group Ten (USA) Inc.	2017
146	MMC234294	MT101736897	IM #15	Group Ten (USA) Inc.	2017
147	MMC234295	MT101736898	IM #16	Group Ten (USA) Inc.	2017
148	MMC234296	MT101736899	IM #17	Group Ten (USA) Inc.	2017
149	MMC234297	MT101851356	IM #18	Group Ten (USA) Inc.	2017
150	MMC234298	MT101851357	IM #19	Group Ten (USA) Inc.	2017
151	MMC234299	MT101851358	IM #20	Group Ten (USA) Inc.	2017
152	MMC234300	MT101851359	IM #21	Group Ten (USA) Inc.	2017
153	MMC234301	MT101851360	IM #22	Group Ten (USA) Inc.	2017
154	MMC234302	MT101851361	IM #23	Group Ten (USA) Inc.	2017
155	MMC234303	MT101851362	IM #24	Group Ten (USA) Inc.	2017
156	MMC234304	MT101851363	IM #25	Group Ten (USA) Inc.	2017
157	MMC234305	MT101851364	IM #26	Group Ten (USA) Inc.	2017
158	MMC234306	MT101851365	IM #27	Group Ten (USA) Inc.	2017
159	MMC234307	MT101851366	IM #28	Group Ten (USA) Inc.	2017
160	MMC234308	MT101851367	IM #29	Group Ten (USA) Inc.	2017
161	MMC234309	MT101851368	IM #30	Group Ten (USA) Inc.	2017
162	MMC234310	MT101851369	IM #31	Group Ten (USA) Inc.	2017
163	MMC234311	MT101851370	IM #32	Group Ten (USA) Inc.	2017
164	MMC234312	MT101851371	IM #33	Group Ten (USA) Inc.	2017
165	MMC234313	MT101851372	IM #34	Group Ten (USA) Inc.	2017
166	MMC234314	MT101851373	IM #35	Group Ten (USA) Inc.	2017
167	MMC234315	MT101851374	IM #36	Group Ten (USA) Inc.	2017
168	MMC234316	MT101851375	IM #37	Group Ten (USA) Inc.	2017
169	MMC234317	MT101851376	IM #38	Group Ten (USA) Inc.	2017
170	MMC234318	MT101851377	IM #39	Group Ten (USA) Inc.	2017
171	MMC234319	MT101852507	IM #40	Group Ten (USA) Inc.	2017
172	MMC234320	MT101852508	IM #41	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
173	MMC234321	MT101852509	IM #42	Group Ten (USA) Inc.	2017
174	MMC234322	MT101852510	IM #43	Group Ten (USA) Inc.	2017
175	MMC234323	MT101852511	IM #44	Group Ten (USA) Inc.	2017
176	MMC234324	MT101852512	IM #45	Group Ten (USA) Inc.	2017
177	MMC234325	MT101852513	IM #46	Group Ten (USA) Inc.	2017
178	MMC234326	MT101852514	IM #47	Group Ten (USA) Inc.	2017
179	MMC234327	MT101852515	IM #48	Group Ten (USA) Inc.	2017
180	MMC234328	MT101852516	IM #49	Group Ten (USA) Inc.	2017
181	MMC234329	MT101852517	IM #50	Group Ten (USA) Inc.	2017
182	MMC234330	MT101852518	IM #51	Group Ten (USA) Inc.	2017
183	MMC234331	MT101852519	IM #52	Group Ten (USA) Inc.	2017
184	MMC234332	MT101852520	IM #53	Group Ten (USA) Inc.	2017
185	MMC234333	MT101852521	IM #54	Group Ten (USA) Inc.	2017
186	MMC234334	MT101852522	IM #55	Group Ten (USA) Inc.	2017
187	MMC234335	MT101852523	IM #56	Group Ten (USA) Inc.	2017
188	MMC234336	MT101852524	IM #57	Group Ten (USA) Inc.	2017
189	MMC234337	MT101852525	IM #58	Group Ten (USA) Inc.	2017
190	MMC234338	MT101852526	IM #59	Group Ten (USA) Inc.	2017
191	MMC234339	MT101852527	IM #60	Group Ten (USA) Inc.	2017
192	MMC234340	MT101852528	IM #61	Group Ten (USA) Inc.	2017
193	MMC234341	MT101853645	IM #62	Group Ten (USA) Inc.	2017
194	MMC234342	MT101853646	IM #63	Group Ten (USA) Inc.	2017
195	MMC234343	MT101853647	IM #64	Group Ten (USA) Inc.	2017
196	MMC234344	MT101853648	MG #1	Group Ten (USA) Inc.	2017
197	MMC234345	MT101853649	MG #2	Group Ten (USA) Inc.	2017
198	MMC234346	MT101853650	MG #3	Group Ten (USA) Inc.	2017
199	MMC234347	MT101853651	MG #4	Group Ten (USA) Inc.	2017
200	MMC234348	MT101853652	MG #5	Group Ten (USA) Inc.	2017
201	MMC234349	MT101853653	MG #6	Group Ten (USA) Inc.	2017
202	MMC234350	MT101853654	MG #7	Group Ten (USA) Inc.	2017
203	MMC234351	MT101853655	MG #8	Group Ten (USA) Inc.	2017
204	MMC234352	MT101853656	MG #9	Group Ten (USA) Inc.	2017
205	MMC234353	MT101853657	MG #10	Group Ten (USA) Inc.	2017
206	MMC234354	MT101853658	MG #11	Group Ten (USA) Inc.	2017
207	MMC234355	MT101853659	MG #12	Group Ten (USA) Inc.	2017
208	MMC234356	MT101853660	MG #13	Group Ten (USA) Inc.	2017
209	MMC234357	MT101853661	MG #14	Group Ten (USA) Inc.	2017
210	MMC234358	MT101853662	MG #15	Group Ten (USA) Inc.	2017
211	MMC234359	MT101853663	MG #16	Group Ten (USA) Inc.	2017
212	MMC234360	MT101853664	MG #17	Group Ten (USA) Inc.	2017
213	MMC234361	MT101853665	MG #18	Group Ten (USA) Inc.	2017
214	MMC234362	MT101853666	MG #19	Group Ten (USA) Inc.	2017
215	MMC234363	MT101854755	MG #20	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
216	MMC234364	MT101854756	MG #21	Group Ten (USA) Inc.	2017
217	MMC234365	MT101854757	MG #22	Group Ten (USA) Inc.	2017
218	MMC234366	MT101854758	MG #23	Group Ten (USA) Inc.	2017
219	MMC234367	MT101854759	MG #24	Group Ten (USA) Inc.	2017
220	MMC234368	MT101854760	MG #25	Group Ten (USA) Inc.	2017
221	MMC234369	MT101854761	MG #26	Group Ten (USA) Inc.	2017
222	MMC234370	MT101854762	MG #27	Group Ten (USA) Inc.	2017
223	MMC234371	MT101854763	MG #28	Group Ten (USA) Inc.	2017
224	MMC234372	MT101854764	MG #29	Group Ten (USA) Inc.	2017
225	MMC234373	MT101854765	MG #30	Group Ten (USA) Inc.	2017
226	MMC234374	MT101854766	MG #31	Group Ten (USA) Inc.	2017
227	MMC234375	MT101854767	MG #32	Group Ten (USA) Inc.	2017
228	MMC234376	MT101854768	MG #33	Group Ten (USA) Inc.	2017
229	MMC234377	MT101854769	MG #34	Group Ten (USA) Inc.	2017
230	MMC234378	MT101854770	P #1	Group Ten (USA) Inc.	2017
231	MMC234379	MT101854771	P #2	Group Ten (USA) Inc.	2017
232	MMC234380	MT101854772	P #3	Group Ten (USA) Inc.	2017
233	MMC234381	MT101854773	P #4	Group Ten (USA) Inc.	2017
234	MMC234382	MT101854774	P #5	Group Ten (USA) Inc.	2017
235	MMC234383	MT101854775	P #6	Group Ten (USA) Inc.	2017
236	MMC234384	MT101854776	P #7	Group Ten (USA) Inc.	2017
237	MMC234385	MT101855904	P #8	Group Ten (USA) Inc.	2017
238	MMC234386	MT101855905	P #9	Group Ten (USA) Inc.	2017
239	MMC234387	MT101855906	P #10	Group Ten (USA) Inc.	2017
240	MMC234388	MT101855907	P #11	Group Ten (USA) Inc.	2017
241	MMC234389	MT101855908	P #12	Group Ten (USA) Inc.	2017
242	MMC234390	MT101855909	P #13	Group Ten (USA) Inc.	2017
243	MMC234391	MT101855910	P #14	Group Ten (USA) Inc.	2017
244	MMC234392	MT101855911	P #15	Group Ten (USA) Inc.	2017
245	MMC234393	MT101855912	P #16	Group Ten (USA) Inc.	2017
246	MMC234394	MT101855913	P #17	Group Ten (USA) Inc.	2017
247	MMC234395	MT101855914	P #18	Group Ten (USA) Inc.	2017
248	MMC234396	MT101855915	P #19	Group Ten (USA) Inc.	2017
249	MMC234397	MT101855916	P #20	Group Ten (USA) Inc.	2017
250	MMC234398	MT101855917	P #21	Group Ten (USA) Inc.	2017
251	MMC234399	MT101855918	P #22	Group Ten (USA) Inc.	2017
252	MMC234400	MT101855919	P #23	Group Ten (USA) Inc.	2017
253	MMC234401	MT101855920	P #24	Group Ten (USA) Inc.	2017
254	MMC234402	MT101855921	P #25	Group Ten (USA) Inc.	2017
255	MMC234403	MT101855922	P #26	Group Ten (USA) Inc.	2017
256	MMC234404	MT101855923	P #27	Group Ten (USA) Inc.	2017
257	MMC234405	MT101855924	P #28	Group Ten (USA) Inc.	2017
258	MMC234406	MT101855925	P #29	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
259	MMC234407	MT101857039	P #30	Group Ten (USA) Inc.	2017
260	MMC234408	MT101857040	P #31	Group Ten (USA) Inc.	2017
261	MMC234409	MT101857041	P #32	Group Ten (USA) Inc.	2017
262	MMC234410	MT101857042	P #33	Group Ten (USA) Inc.	2017
263	MMC234411	MT101857043	P #34	Group Ten (USA) Inc.	2017
264	MMC234412	MT101857044	P #35	Group Ten (USA) Inc.	2017
265	MMC234413	MT101857045	P #36	Group Ten (USA) Inc.	2017
266	MMC234414	MT101857046	P #37	Group Ten (USA) Inc.	2017
267	MMC234415	MT101857047	P #38	Group Ten (USA) Inc.	2017
268	MMC234416	MT101857048	P #39	Group Ten (USA) Inc.	2017
269	MMC234417	MT101857049	V #1	Group Ten (USA) Inc.	2017
270	MMC234418	MT101857050	V #2	Group Ten (USA) Inc.	2017
271	MMC234419	MT101857051	V #3	Group Ten (USA) Inc.	2017
272	MMC234420	MT101857052	V #4	Group Ten (USA) Inc.	2017
273	MMC234421	MT101857053	V #5	Group Ten (USA) Inc.	2017
274	MMC234422	MT101857054	V #6	Group Ten (USA) Inc.	2017
275	MMC234423	MT101857055	V #7	Group Ten (USA) Inc.	2017
276	MMC234424	MT101857056	V #8	Group Ten (USA) Inc.	2017
277	MMC234425	MT101857057	V #9	Group Ten (USA) Inc.	2017
278	MMC234426	MT101857058	V #10	Group Ten (USA) Inc.	2017
279	MMC234427	MT101857059	V #11	Group Ten (USA) Inc.	2017
280	MMC234428	MT101857060	V #12	Group Ten (USA) Inc.	2017
281	MMC234429	MT101735766	V #13	Group Ten (USA) Inc.	2017
282	MMC235380	MT101386194	TITAN	Group Ten (USA) Inc.	2017
283	MMC234795	MT101360183	NW 1	Group Ten (USA) Inc.	2017
284	MMC234799	MT101360184	NW 5	Group Ten (USA) Inc.	2017
285	MMC234803	MT101360185	NW 9	Group Ten (USA) Inc.	2017
286	MMC234804	MT101360186	NW 10	Group Ten (USA) Inc.	2017
287	MMC234805	MT101360187	NW 11	Group Ten (USA) Inc.	2017
288	MMC234806	MT101360188	NW 12	Group Ten (USA) Inc.	2017
289	MMC234807	MT101360189	NW 13	Group Ten (USA) Inc.	2017
290	MMC234808	MT101360190	NW 14	Group Ten (USA) Inc.	2017
291	MMC234809	MT101360191	NW 15	Group Ten (USA) Inc.	2017
292	MMC234810	MT101360192	NW 16	Group Ten (USA) Inc.	2017
293	MMC234811	MT101360193	NW 17	Group Ten (USA) Inc.	2017
294	MMC234812	MT101360194	NW 18	Group Ten (USA) Inc.	2017
295	MMC234813	MT101360195	NW 19	Group Ten (USA) Inc.	2017
296	MMC234814	MT101360196	NW 20	Group Ten (USA) Inc.	2017
297	MMC234815	MT101360197	NW 21	Group Ten (USA) Inc.	2017
298	MMC234816	MT101360198	NW 22	Group Ten (USA) Inc.	2017
299	MMC234817	MT101360199	NW 23	Group Ten (USA) Inc.	2017
300	MMC234818	MT101360200	NW 24	Group Ten (USA) Inc.	2017
301	MMC234819	MT101485379	NW 25	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
302	MMC234820	MT101485380	NW 26	Group Ten (USA) Inc.	2017
303	MMC234821	MT101485381	NW 27	Group Ten (USA) Inc.	2017
304	MMC234822	MT101485382	NW 28	Group Ten (USA) Inc.	2017
305	MMC234823	MT101485383	NW 29	Group Ten (USA) Inc.	2017
306	MMC234824	MT101485384	NW 30	Group Ten (USA) Inc.	2017
307	MMC234825	MT101485385	NW 31	Group Ten (USA) Inc.	2017
308	MMC234826	MT101485386	NW 32	Group Ten (USA) Inc.	2017
309	MMC234827	MT101485387	NW 33	Group Ten (USA) Inc.	2017
310	MMC234828	MT101485388	NW 34	Group Ten (USA) Inc.	2017
311	MMC234829	MT101485389	NW 35	Group Ten (USA) Inc.	2017
312	MMC234830	MT101485390	NW 36	Group Ten (USA) Inc.	2017
313	MMC234831	MT101485391	NW 37	Group Ten (USA) Inc.	2017
314	MMC234832	MT101485392	NW 38	Group Ten (USA) Inc.	2017
315	MMC234833	MT101485393	NW 39	Group Ten (USA) Inc.	2017
316	MMC234834	MT101485394	NW 40	Group Ten (USA) Inc.	2017
317	MMC234835	MT101485395	NW 41	Group Ten (USA) Inc.	2017
318	MMC234836	MT101485396	NW 42	Group Ten (USA) Inc.	2017
319	MMC234837	MT101485397	NW 43	Group Ten (USA) Inc.	2017
320	MMC234838	MT101485398	NW 44	Group Ten (USA) Inc.	2017
321	MMC234839	MT101485399	NW 45	Group Ten (USA) Inc.	2017
322	MMC234840	MT101485400	NW 46	Group Ten (USA) Inc.	2017
323	MMC234841	MT101486379	NW 47	Group Ten (USA) Inc.	2017
324	MMC234842	MT101486380	NW 48	Group Ten (USA) Inc.	2017
325	MMC234843	MT101486381	NW 49	Group Ten (USA) Inc.	2017
326	MMC234958	MT101357186	SBW 1	Group Ten (USA) Inc.	2017
327	MMC234959	MT101357187	SBW 2	Group Ten (USA) Inc.	2017
328	MMC234960	MT101357188	SBW 3	Group Ten (USA) Inc.	2017
329	MMC234961	MT101357189	SBW 4	Group Ten (USA) Inc.	2017
330	MMC234962	MT101357190	SBW 5	Group Ten (USA) Inc.	2017
331	MMC234963	MT101357191	SBW 6	Group Ten (USA) Inc.	2017
332	MMC234964	MT101357192	SBW 7	Group Ten (USA) Inc.	2017
333	MMC234965	MT101357193	SBW 8	Group Ten (USA) Inc.	2017
334	MMC234966	MT101357194	SBW 9	Group Ten (USA) Inc.	2017
335	MMC234967	MT101357195	SBW 10	Group Ten (USA) Inc.	2017
336	MMC234968	MT101357196	SBW 11	Group Ten (USA) Inc.	2017
337	MMC234969	MT101357197	SBWB 1	Group Ten (USA) Inc.	2017
338	MMC234970	MT101357198	SBWB 2	Group Ten (USA) Inc.	2017
339	MMC234971	MT101357199	SBWB 3	Group Ten (USA) Inc.	2017
340	MMC234972	MT101357200	SBWB 4	Group Ten (USA) Inc.	2017
341	MMC234973	MT101353380	SBWB 5	Group Ten (USA) Inc.	2017
342	MMC234974	MT101353381	SBWB 6	Group Ten (USA) Inc.	2017
343	MMC234975	MT101353382	SBWB 7	Group Ten (USA) Inc.	2017
344	MMC234844	MT101486382	SB 1	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
345	MMC234845	MT101486383	SB 2	Group Ten (USA) Inc.	2017
346	MMC234846	MT101486384	SB 3	Group Ten (USA) Inc.	2017
347	MMC234847	MT101486385	SB 4	Group Ten (USA) Inc.	2017
348	MMC234848	MT101486386	SB 5	Group Ten (USA) Inc.	2017
349	MMC234849	MT101486387	SB 6	Group Ten (USA) Inc.	2017
350	MMC234850	MT101486388	SB 7	Group Ten (USA) Inc.	2017
351	MMC234851	MT101486389	SB 8	Group Ten (USA) Inc.	2017
352	MMC234852	MT101486390	SB 9	Group Ten (USA) Inc.	2017
353	MMC234853	MT101486391	SB 10	Group Ten (USA) Inc.	2017
354	MMC234854	MT101486392	SB 11	Group Ten (USA) Inc.	2017
355	MMC234855	MT101486393	SB 12	Group Ten (USA) Inc.	2017
356	MMC234856	MT101486394	SB 13	Group Ten (USA) Inc.	2017
357	MMC234857	MT101486395	SB 14	Group Ten (USA) Inc.	2017
358	MMC234858	MT101486396	SB 15	Group Ten (USA) Inc.	2017
359	MMC234859	MT101486397	SB 16	Group Ten (USA) Inc.	2017
360	MMC234860	MT101486398	SB 17	Group Ten (USA) Inc.	2017
361	MMC234861	MT101486399	SB 18	Group Ten (USA) Inc.	2017
362	MMC234862	MT101486400	SB 19	Group Ten (USA) Inc.	2017
363	MMC234863	MT103354190	SB 20	Group Ten (USA) Inc.	2017
364	MMC234864	MT103354191	SB 21	Group Ten (USA) Inc.	2017
365	MMC234865	MT103354192	SB 22	Group Ten (USA) Inc.	2017
366	MMC234866	MT101354193	SB 23	Group Ten (USA) Inc.	2017
367	MMC234867	MT101354194	SB 24	Group Ten (USA) Inc.	2017
368	MMC234868	MT101354195	SB 25	Group Ten (USA) Inc.	2017
369	MMC234869	MT101354196	SB 26	Group Ten (USA) Inc.	2017
370	MMC234870	MT101354197	SB 27	Group Ten (USA) Inc.	2017
371	MMC234871	MT101354198	SB 28	Group Ten (USA) Inc.	2017
372	MMC234872	MT101354199	SB 29	Group Ten (USA) Inc.	2017
373	MMC234873	MT101354200	SB 30	Group Ten (USA) Inc.	2017
374	MMC234874	MT101354390	SB 31	Group Ten (USA) Inc.	2017
375	MMC234875	MT101354391	SB 32	Group Ten (USA) Inc.	2017
376	MMC234876	MT101354392	SB 33	Group Ten (USA) Inc.	2017
377	MMC234877	MT101354393	SB 34	Group Ten (USA) Inc.	2017
378	MMC234878	MT101354394	SB 35	Group Ten (USA) Inc.	2017
379	MMC234879	MT101354395	SB 36	Group Ten (USA) Inc.	2017
380	MMC234880	MT101354396	SB 37	Group Ten (USA) Inc.	2017
381	MMC234881	MT101354397	SB 38	Group Ten (USA) Inc.	2017
382	MMC234882	MT101354398	SB 39	Group Ten (USA) Inc.	2017
383	MMC234883	MT101354399	SB 40	Group Ten (USA) Inc.	2017
384	MMC234771	MT101359181	DH 1	Group Ten (USA) Inc.	2017
385	MMC234772	MT101359182	DH 2	Group Ten (USA) Inc.	2017
386	MMC234773	MT101359183	DH 3	Group Ten (USA) Inc.	2017
387	MMC234774	MT101359184	DH 4	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
388	MMC234775	MT101359185	DH 5	Group Ten (USA) Inc.	2017
389	MMC234776	MT101359186	DH 6	Group Ten (USA) Inc.	2017
390	MMC234777	MT101359187	DH 7	Group Ten (USA) Inc.	2017
391	MMC234778	MT101359188	DH 8	Group Ten (USA) Inc.	2017
392	MMC234779	MT101359189	DH 9	Group Ten (USA) Inc.	2017
393	MMC234780	MT101359190	DH 10	Group Ten (USA) Inc.	2017
394	MMC234781	MT101359191	DH 11	Group Ten (USA) Inc.	2017
395	MMC234782	MT101359192	DH 12	Group Ten (USA) Inc.	2017
396	MMC234783	MT101359193	DH 13	Group Ten (USA) Inc.	2017
397	MMC234784	MT101359194	DH 14	Group Ten (USA) Inc.	2017
398	MMC234785	MT101359195	DH 15	Group Ten (USA) Inc.	2017
399	MMC234786	MT101359196	DH 16	Group Ten (USA) Inc.	2017
400	MMC234787	MT101359197	DH 17	Group Ten (USA) Inc.	2017
401	MMC234788	MT101359198	DH 18	Group Ten (USA) Inc.	2017
402	MMC234789	MT101359199	DH 19	Group Ten (USA) Inc.	2017
403	MMC234790	MT101359200	DH 20	Group Ten (USA) Inc.	2017
404	MMC234791	MT101360179	DH 21	Group Ten (USA) Inc.	2017
405	MMC234792	MT101360180	DH 22	Group Ten (USA) Inc.	2017
406	MMC234793	MT101360181	DH 23	Group Ten (USA) Inc.	2017
407	MMC234794	MT101360182	DH 24	Group Ten (USA) Inc.	2017
408	MMC234884	MT101354400	SBE 1	Group Ten (USA) Inc.	2017
409	MMC234885	MT101355179	SBE 2	Group Ten (USA) Inc.	2017
410	MMC234886	MT101355180	SBE 3	Group Ten (USA) Inc.	2017
411	MMC234887	MT101355181	SBE 4	Group Ten (USA) Inc.	2017
412	MMC234888	MT101355182	SBE 5	Group Ten (USA) Inc.	2017
413	MMC234889	MT101355183	SBE 6	Group Ten (USA) Inc.	2017
414	MMC234890	MT101355184	SBE 7	Group Ten (USA) Inc.	2017
415	MMC234891	MT101355185	SBE 8	Group Ten (USA) Inc.	2017
416	MMC234892	MT101355186	SBE 9	Group Ten (USA) Inc.	2017
417	MMC234893	MT101355187	SBE 10	Group Ten (USA) Inc.	2017
418	MMC234894	MT101355188	SBE 11	Group Ten (USA) Inc.	2017
419	MMC234895	MT101355189	SBE 12	Group Ten (USA) Inc.	2017
420	MMC234896	MT101355190	SBE 13	Group Ten (USA) Inc.	2017
421	MMC234897	MT101355191	SBE 14	Group Ten (USA) Inc.	2017
422	MMC234898	MT101355192	SBE 15	Group Ten (USA) Inc.	2017
423	MMC234899	MT101355193	SBE 16	Group Ten (USA) Inc.	2017
424	MMC234900	MT101355194	SBE 17	Group Ten (USA) Inc.	2017
425	MMC234901	MT101355195	SBE 18	Group Ten (USA) Inc.	2017
426	MMC234902	MT101355196	SBE 19	Group Ten (USA) Inc.	2017
427	MMC234903	MT101355197	SBE 20	Group Ten (USA) Inc.	2017
428	MMC234904	MT101355198	SBE 21	Group Ten (USA) Inc.	2017
429	MMC234905	MT101355199	SBE 22	Group Ten (USA) Inc.	2017
430	MMC234906	MT101355200	SBE 23	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
431	MMC234907	MT101356179	SBE 24	Group Ten (USA) Inc.	2017
432	MMC234908	MT101356180	SBE 25	Group Ten (USA) Inc.	2017
433	MMC234909	MT101356181	SBE 26	Group Ten (USA) Inc.	2017
434	MMC234910	MT101356182	SBE 27	Group Ten (USA) Inc.	2017
435	MMC234911	MT101356183	SBE 28	Group Ten (USA) Inc.	2017
436	MMC234912	MT101356184	SBE 29	Group Ten (USA) Inc.	2017
437	MMC234913	MT101356185	SBE 30	Group Ten (USA) Inc.	2017
438	MMC234914	MT101356186	SBE 31	Group Ten (USA) Inc.	2017
439	MMC234915	MT101356187	SBE 32	Group Ten (USA) Inc.	2017
440	MMC234916	MT101356188	SBE 33	Group Ten (USA) Inc.	2017
441	MMC234917	MT101356189	SBE 34	Group Ten (USA) Inc.	2017
442	MMC234918	MT101356190	SBE 35	Group Ten (USA) Inc.	2017
443	MMC234919	MT101356191	SBE 36	Group Ten (USA) Inc.	2017
444	MMC234920	MT101356192	SBE 37	Group Ten (USA) Inc.	2017
445	MMC234921	MT101356193	SBE 38	Group Ten (USA) Inc.	2017
446	MMC234922	MT101356194	SBE 39	Group Ten (USA) Inc.	2017
447	MMC234923	MT101356195	SBE 40	Group Ten (USA) Inc.	2017
448	MMC234924	MT101356196	SBE 41	Group Ten (USA) Inc.	2017
449	MMC234925	MT101356197	SBE 42	Group Ten (USA) Inc.	2017
450	MMC234926	MT101356198	SBE 43	Group Ten (USA) Inc.	2017
451	MMC234927	MT101356199	SBE 44	Group Ten (USA) Inc.	2017
452	MMC234928	MT101356200	SBE 45	Group Ten (USA) Inc.	2017
453	MMC234929	MT101487379	SBE 46	Group Ten (USA) Inc.	2017
454	MMC234930	MT101487380	SBE 47	Group Ten (USA) Inc.	2017
455	MMC234931	MT101487381	SBE 48	Group Ten (USA) Inc.	2017
456	MMC234932	MT101487382	SBE 49	Group Ten (USA) Inc.	2017
457	MMC234933	MT101487383	SBE 50	Group Ten (USA) Inc.	2017
458	MMC234934	MT101487384	SBE 51	Group Ten (USA) Inc.	2017
459	MMC234935	MT101487385	SBE 52	Group Ten (USA) Inc.	2017
460	MMC234936	MT101487386	SBE 53	Group Ten (USA) Inc.	2017
461	MMC234937	MT101487387	SBE 54	Group Ten (USA) Inc.	2017
462	MMC234938	MT101487388	SBE 55	Group Ten (USA) Inc.	2017
463	MMC234939	MT101487389	SBE 56	Group Ten (USA) Inc.	2017
464	MMC234940	MT101487390	SBE 57	Group Ten (USA) Inc.	2017
465	MMC234941	MT101487391	SBE 58	Group Ten (USA) Inc.	2017
466	MMC234942	MT101487392	SBE 59	Group Ten (USA) Inc.	2017
467	MMC234943	MT101487393	SBE 60	Group Ten (USA) Inc.	2017
468	MMC234944	MT101487394	SBE 61	Group Ten (USA) Inc.	2017
469	MMC234945	MT101487395	SBE 62	Group Ten (USA) Inc.	2017
470	MMC234946	MT101487396	SBE 63	Group Ten (USA) Inc.	2017
471	MMC234947	MT101487397	SBE 64	Group Ten (USA) Inc.	2017
472	MMC234948	MT101487398	SBE 65	Group Ten (USA) Inc.	2017
473	MMC234949	MT101487399	SBE 66	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
474	MMC234950	MT101487400	SBE 67	Group Ten (USA) Inc.	2017
475	MMC234951	MT101357179	SBE 68	Group Ten (USA) Inc.	2017
476	MMC234952	MT101357180	SBE 69	Group Ten (USA) Inc.	2017
477	MMC234953	MT101357181	SBE 70	Group Ten (USA) Inc.	2017
478	MMC234954	MT101357182	SBE 71	Group Ten (USA) Inc.	2017
479	MMC234955	MT101357183	SBE 72	Group Ten (USA) Inc.	2017
480	MMC234956	MT101357184	SBE 73	Group Ten (USA) Inc.	2017
481	MMC234957	MT101357185	SBE 74	Group Ten (USA) Inc.	2017
482	MMC236034	MT101638700	CC 1	Group Ten (USA) Inc.	2017
483	MMC236035	MT101638701	CC 2	Group Ten (USA) Inc.	2017
484	MMC236036	MT101638702	CC 3	Group Ten (USA) Inc.	2017
485	MMC236037	MT101638703	CC 4	Group Ten (USA) Inc.	2017
486	MMC236038	MT101638704	CC 5	Group Ten (USA) Inc.	2017
487	MMC236039	MT101638705	CC 6	Group Ten (USA) Inc.	2017
488	MMC236040	MT101638706	CC 7	Group Ten (USA) Inc.	2017
489	MMC236041	MT101639818	CC 8	Group Ten (USA) Inc.	2017
490	MMC236042	MT101639819	CC 9	Group Ten (USA) Inc.	2017
491	MMC236043	MT101639820	CC 10	Group Ten (USA) Inc.	2017
492	MMC236044	MT101639821	CC 11	Group Ten (USA) Inc.	2017
493	MMC236045	MT101639822	CC 12	Group Ten (USA) Inc.	2017
494	MMC236046	MT101639823	CC 13	Group Ten (USA) Inc.	2017
495	MMC236047	MT101639824	CC 14	Group Ten (USA) Inc.	2017
496	MMC236048	MT101639825	CC 15	Group Ten (USA) Inc.	2017
497	MMC236049	MT101639826	CC 16	Group Ten (USA) Inc.	2017
498	MMC236050	MT101639827	CC 17	Group Ten (USA) Inc.	2017
499	MMC236051	MT101639828	CC 18	Group Ten (USA) Inc.	2017
500	MMC236052	MT101639829	CC 19	Group Ten (USA) Inc.	2017
501	MMC236053	MT101639830	CC 20	Group Ten (USA) Inc.	2017
502	MMC236054	MT101639831	CC 21	Group Ten (USA) Inc.	2017
503	MMC236055	MT101639832	CC 22	Group Ten (USA) Inc.	2017
504	MMC236056	MT101639833	CC 23	Group Ten (USA) Inc.	2017
505	MMC236057	MT101639834	CC 24	Group Ten (USA) Inc.	2017
506	MMC236058	MT101594886	CC 25	Group Ten (USA) Inc.	2017
507	MMC236059	MT101594887	CC 26	Group Ten (USA) Inc.	2017
508	MMC236060	MT101594888	CC 27	Group Ten (USA) Inc.	2017
509	MMC236061	MT101594889	CC 28	Group Ten (USA) Inc.	2017
510	MMC236062	MT101594890	CC 29	Group Ten (USA) Inc.	2017
511	MMC236063	MT101594891	CC 30	Group Ten (USA) Inc.	2017
512	MMC236064	MT101594892	CC 31	Group Ten (USA) Inc.	2017
513	MMC236065	MT101594893	CC 32	Group Ten (USA) Inc.	2017
514	MMC236066	MT101594894	CCR 1	Group Ten (USA) Inc.	2017
515	MMC236067	MT101594895	CCR 2	Group Ten (USA) Inc.	2017
516	MMC236068	MT101596848	CCR 3	Group Ten (USA) Inc.	2017

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
517	MMC236069	MT101596849	CCR 4	Group Ten (USA) Inc.	2017
518	MMC236070	MT101596850	CCR 5	Group Ten (USA) Inc.	2017
519	MMC236071	MT101596851	CCR 6	Group Ten (USA) Inc.	2017
520	MMC236072	MT101596852	CCR 7	Group Ten (USA) Inc.	2017
521	MMC236073	MT101596853	CCR 8	Group Ten (USA) Inc.	2017
522	MMC236074	MT101596854	CCR 9	Group Ten (USA) Inc.	2017
523	MMC236075	MT101596855	CCR 10	Group Ten (USA) Inc.	2017
524	MMC236076	MT101596856	CCR 11	Group Ten (USA) Inc.	2017
525	MMC236077	MT101596857	CCR 12	Group Ten (USA) Inc.	2017
526	MMC236078	MT101596858	CCR 13	Group Ten (USA) Inc.	2017
527	MMC236079	MT101596859	CCR 14	Group Ten (USA) Inc.	2017
528	MMC236080	MT101596860	X 1	Group Ten (USA) Inc.	2017
529	MMC236081	MT101596861	X 2	Group Ten (USA) Inc.	2017
530	MMC236082	MT101596862	X 3	Group Ten (USA) Inc.	2017
531	MMC236083	MT101596863	X 4	Group Ten (USA) Inc.	2017
532	MMC236084	MT101596864	X 5	Group Ten (USA) Inc.	2017
533	MMC236650	MT101782157	XL 1	Group Ten (USA) Inc.	2018
534	MMC236651	MT101782158	XL 2	Group Ten (USA) Inc.	2018
535	MMC236652	MT101782159	XL 3	Group Ten (USA) Inc.	2018
536	MMC236653	MT101783337	XL 4	Group Ten (USA) Inc.	2018
537	MMC236654	MT101783338	XL 5	Group Ten (USA) Inc.	2018
538	MMC236655	MT101783339	XL 6	Group Ten (USA) Inc.	2018
539	MMC236656	MT101783340	XL 7	Group Ten (USA) Inc.	2018
540	MMC236657	MT101783341	XL 8	Group Ten (USA) Inc.	2018
541	MMC236658	MT101783342	XL 9	Group Ten (USA) Inc.	2018
542	MMC236659	MT101783343	XL 10	Group Ten (USA) Inc.	2018
543	MMC236660	MT101783344	XL 11	Group Ten (USA) Inc.	2018
544	MMC236661	MT101783345	XL 12	Group Ten (USA) Inc.	2018
545	MMC236662	MT101783346	XL 13	Group Ten (USA) Inc.	2018
546	MMC236663	MT101783347	XL 14	Group Ten (USA) Inc.	2018
547	MMC236664	MT101783348	XL 15	Group Ten (USA) Inc.	2018
548	MMC236665	MT101783349	XL 16	Group Ten (USA) Inc.	2018
549	MMC236666	MT101783350	XL 17	Group Ten (USA) Inc.	2018
550	MMC236667	MT101783351	XL 18	Group Ten (USA) Inc.	2018
551	MMC236668	MT101783352	XL 19	Group Ten (USA) Inc.	2018
552	MMC236669	MT101783353	XL 20	Group Ten (USA) Inc.	2018
553	MMC236670	MT101783354	XL 21	Group Ten (USA) Inc.	2018
554	MMC236671	MT101783355	XL 22	Group Ten (USA) Inc.	2018
555	MMC236672	MT101783356	XL 23	Group Ten (USA) Inc.	2018
556	MMC236673	MT101783357	XL 24	Group Ten (USA) Inc.	2018
557	MMC236674	MT101783358	XL 25	Group Ten (USA) Inc.	2018
558	MMC236675	MT101784537	XL 26	Group Ten (USA) Inc.	2018
559	MMC236676	MT101784538	XL 27	Group Ten (USA) Inc.	2018

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
560	MMC236677	MT101784539	XL 28	Group Ten (USA) Inc.	2018
561	MMC236678	MT101784540	XL 29	Group Ten (USA) Inc.	2018
562	MMC236679	MT101784541	XL 30	Group Ten (USA) Inc.	2018
563	MMC236680	MT101784542	XL 31	Group Ten (USA) Inc.	2018
564	MMC236681	MT101784543	XL 32	Group Ten (USA) Inc.	2018
565	MMC236682	MT101784544	XL 33	Group Ten (USA) Inc.	2018
566	MMC236683	MT101784545	XL 34	Group Ten (USA) Inc.	2018
567	MMC236684	MT101784546	XL 35	Group Ten (USA) Inc.	2018
568	MMC236685	MT101784547	XL 36	Group Ten (USA) Inc.	2018
569	MMC236686	MT101784548	XL 37	Group Ten (USA) Inc.	2018
570	MMC236687	MT101784549	XL 38	Group Ten (USA) Inc.	2018
571	MMC236688	MT101784550	XL 39	Group Ten (USA) Inc.	2018
572	MMC236689	MT101784551	XL 40	Group Ten (USA) Inc.	2018
573	MMC236690	MT101784552	XL 41	Group Ten (USA) Inc.	2018
574	MMC236691	MT101784553	XL 42	Group Ten (USA) Inc.	2018
575	MMC236692	MT101784554	XL 43	Group Ten (USA) Inc.	2018
576	MMC236693	MT101784555	XL 44	Group Ten (USA) Inc.	2018
577	MMC236694	MT101784556	XL 45	Group Ten (USA) Inc.	2018
578	MMC236695	MT101784557	XL 46	Group Ten (USA) Inc.	2018
579	MMC236696	MT101784558	XL 47	Group Ten (USA) Inc.	2018
580	MMC236697	MT101786936	XL 48	Group Ten (USA) Inc.	2018
581	MMC236698	MT101786937	XL 49	Group Ten (USA) Inc.	2018
582	MMC236699	MT101786938	XL 50	Group Ten (USA) Inc.	2018
583	MMC236700	MT101786939	XL 51	Group Ten (USA) Inc.	2018
584	MMC236701	MT101786940	XL 52	Group Ten (USA) Inc.	2018
585	MMC236702	MT101786941	XL 53	Group Ten (USA) Inc.	2018
586	MMC236703	MT101786942	XL 54	Group Ten (USA) Inc.	2018
587	MMC236704	MT101786943	XL 55	Group Ten (USA) Inc.	2018
588	MMC236705	MT101786944	XL 56	Group Ten (USA) Inc.	2018
589	MMC236706	MT101786945	XL 57	Group Ten (USA) Inc.	2018
590	MMC236707	MT101786946	XL 58	Group Ten (USA) Inc.	2018
591	MMC236708	MT101786947	XL 59	Group Ten (USA) Inc.	2018
592	MMC236709	MT101786948	XL 60	Group Ten (USA) Inc.	2018
593	MMC236710	MT101786949	XL 61	Group Ten (USA) Inc.	2018
594	MMC236711	MT101786950	XL 62	Group Ten (USA) Inc.	2018
595	MMC236712	MT101786951	XL 63	Group Ten (USA) Inc.	2018
596	MMC236713	MT101786952	XL 64	Group Ten (USA) Inc.	2018
597	MMC236714	MT101786953	XL 65	Group Ten (USA) Inc.	2018
598	MMC236715	MT101786954	XL 66	Group Ten (USA) Inc.	2018
599	MMC236716	MT101786955	XL 67	Group Ten (USA) Inc.	2018
600	MMC236717	MT101786956	XL 68	Group Ten (USA) Inc.	2018
601	MMC236718	MT101786957	XL 69	Group Ten (USA) Inc.	2018
602	MMC236719	MT101788138	XL 70	Group Ten (USA) Inc.	2018

Number	Legacy Serial Number	MLRS Serial Number	Claim Name	Claimant	Location Year
603	MMC236720	MT101788139	XL 71	Group Ten (USA) Inc.	2018
604	MMC236721	MT101788140	XL 72	Group Ten (USA) Inc.	2018
605	MMC236722	MT101788141	XL 73	Group Ten (USA) Inc.	2018
606	MMC236623	MT101645393	AX 1	Group Ten (USA) Inc.	2018
607	MMC236624	MT101645394	AX 2	Group Ten (USA) Inc.	2018
608	MMC236625	MT101645395	AX 3	Group Ten (USA) Inc.	2018
609	MMC236626	MT101645396	AX 4	Group Ten (USA) Inc.	2018
610	MMC236627	MT101645397	AX 5	Group Ten (USA) Inc.	2018
611	MMC236628	MT101645398	AX 6	Group Ten (USA) Inc.	2018
612	MMC236629	MT101645399	AX 7	Group Ten (USA) Inc.	2018
613	MMC236630	MT101645400	AX 8	Group Ten (USA) Inc.	2018
614	MMC236631	MT101782138	AX 9	Group Ten (USA) Inc.	2018
615	MMC236632	MT101782139	AX 10	Group Ten (USA) Inc.	2018
616	MMC236633	MT101782140	AX 11	Group Ten (USA) Inc.	2018
617	MMC236634	MT101782141	AX 12	Group Ten (USA) Inc.	2018
618	MMC236635	MT101782142	WIL 1	Group Ten (USA) Inc.	2018
619	MMC236636	MT101782143	WIL 2	Group Ten (USA) Inc.	2018
620	MMC236637	MT101782144	WIL 3	Group Ten (USA) Inc.	2018
621	MMC236638	MT101782145	WIL 4	Group Ten (USA) Inc.	2018
622	MMC236639	MT101782146	WIL 5	Group Ten (USA) Inc.	2018
623	MMC236640	MT101782147	WIL 6	Group Ten (USA) Inc.	2018
624	MMC236641	MT101782148	WIL 7	Group Ten (USA) Inc.	2018
625	MMC236642	MT101782149	WIL 8	Group Ten (USA) Inc.	2018
626	MMC236643	MT101782150	WIL 9	Group Ten (USA) Inc.	2018
627	MMC236644	MT101782151	WIL 10	Group Ten (USA) Inc.	2018
628	MMC236645	MT101782152	WIL 11	Group Ten (USA) Inc.	2018
629	MMC236646	MT101782153	WIL 12	Group Ten (USA) Inc.	2018
630	MMC236647	MT101782154	WIL 13	Group Ten (USA) Inc.	2018
631	MMC236648	MT101782155	WIL 14	Group Ten (USA) Inc.	2018
632	MMC236649	MT101782156	WIL 15	Group Ten (USA) Inc.	2018
633	MMC236596	MT101782122	WCC 1	Group Ten (USA) Inc.	2018
634	MMC236597	MT101782123	WCC 2	Group Ten (USA) Inc.	2018
635	MMC236598	MT101782124	WCC 3	Group Ten (USA) Inc.	2018
636	MMC236599	MT101782125	WCC 4	Group Ten (USA) Inc.	2018
637	MMC236600	MT101782126	WCC 5	Group Ten (USA) Inc.	2018
638	MMC236601	MT101782127	WCC 6	Group Ten (USA) Inc.	2018
639	MMC236602	MT101782128	WCC 7	Group Ten (USA) Inc.	2018
640	MMC236603	MT101782129	WCC 8	Group Ten (USA) Inc.	2018
641	MMC236604	MT101782130	WCC 9	Group Ten (USA) Inc.	2018
642	MMC236605	MT101782131	WCC 10	Group Ten (USA) Inc.	2018
643	MMC236606	MT101782132	WCC 11	Group Ten (USA) Inc.	2018
644	MMC236607	MT101782133	WCC 12	Group Ten (USA) Inc.	2018
645	MMC236608	MT101782134	WCC 13	Group Ten (USA) Inc.	2018

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646	MMC236609	MT101782135	WCC 14	Group Ten (USA) Inc.	2018
647	MMC236610	MT101782136	WCC 15	Group Ten (USA) Inc.	2018
648	MMC236611	MT101782137	WCC 16	Group Ten (USA) Inc.	2018
649	MMC236612	MT101645382	WCC 17	Group Ten (USA) Inc.	2018
650	MMC236613	MT101645383	WCC 18	Group Ten (USA) Inc.	2018
651	MMC236614	MT101645384	WCC 19	Group Ten (USA) Inc.	2018
652	MMC236615	MT101645385	WCC 20	Group Ten (USA) Inc.	2018
653	MMC236616	MT101645386	WCC 21	Group Ten (USA) Inc.	2018
654	MMC236617	MT101645387	WCC 22	Group Ten (USA) Inc.	2018
655	MMC236618	MT101645388	WCC 23	Group Ten (USA) Inc.	2018
656	MMC236619	MT101645389	WCC 24	Group Ten (USA) Inc.	2018
657	MMC236620	MT101645390	WCC 25	Group Ten (USA) Inc.	2018
658	MMC236621	MT101645391	WCC 26	Group Ten (USA) Inc.	2018
659	MMC236622	MT101645392	WCC 27	Group Ten (USA) Inc.	2018
660	MMC236979	MT101712571	MS1	Group Ten (USA) Inc.	2018
661	MMC238745	MT102007088	IC-1	Group Ten (USA) Inc.	2019
662	MMC238746	MT102007089	IC-2	Group Ten (USA) Inc.	2019
663	MMC238747	MT102007090	IC-3	Group Ten (USA) Inc.	2019
664	MMC238748	MT102007091	IC-4	Group Ten (USA) Inc.	2019
665	MMC238749	MT102007092	IC-5	Group Ten (USA) Inc.	2019
666	MMC238750	MT102008422	IC-6	Group Ten (USA) Inc.	2019
667	MMC238751	MT102008423	IC-7	Group Ten (USA) Inc.	2019
668	MMC238752	MT102008601	IC-8	Group Ten (USA) Inc.	2019
669	MMC238753	MT102008602	IC-9	Group Ten (USA) Inc.	2019
670	MMC238754	MT102008603	IC-10	Group Ten (USA) Inc.	2019
671	MMC239702	MT101718143	FT-1	Group Ten (USA) Inc.	2020
672	MMC239703	MT101718144	FT-2	Group Ten (USA) Inc.	2020
673	MMC239704	MT101718145	FT-3	Group Ten (USA) Inc.	2020
674	MMC239705	MT101718146	FT-4	Group Ten (USA) Inc.	2020
675	MMC239706	MT101718147	FT-5	Group Ten (USA) Inc.	2020
676	MMC239707	MT101718148	FT-6	Group Ten (USA) Inc.	2020
677	MMC239708	MT101718149	FT-7	Group Ten (USA) Inc.	2020
678	MMC239709	MT101718150	FT-8	Group Ten (USA) Inc.	2020
679	MMC239710	MT101718151	FT-9	Group Ten (USA) Inc.	2020
680	MMC239711	MT101718152	FT-10	Group Ten (USA) Inc.	2020
681	MMC239712	MT101718153	FT-11	Group Ten (USA) Inc.	2020
682	MMC239713	MT101718154	FT-12	Group Ten (USA) Inc.	2020
683	MMC239714	MT101718155	FT-13	Group Ten (USA) Inc.	2020
684	MMC239715	MT101718156	FT-14	Group Ten (USA) Inc.	2020
685	MMC239716	MT101718157	FT-15	Group Ten (USA) Inc.	2020
686	MMC239717	MT101718158	FT-16	Group Ten (USA) Inc.	2020
687	MMC239718	MT101718872	FT-17	Group Ten (USA) Inc.	2020
688	MMC239719	MT101718873	FT-18	Group Ten (USA) Inc.	2020

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689	MMC239720	MT101718874	FT-19	Group Ten (USA) Inc.	2020
690	MMC239721	MT101718875	FT-20	Group Ten (USA) Inc.	2020
691	MMC239722	MT101718876	FT-21	Group Ten (USA) Inc.	2020
692	MMC239723	MT101718877	FT-22	Group Ten (USA) Inc.	2020
693	MMC239724	MT101718878	FT-23	Group Ten (USA) Inc.	2020
694	MMC239725	MT101718879	FT-24	Group Ten (USA) Inc.	2020
695	MMC239726	MT101718880	FT-25	Group Ten (USA) Inc.	2020
696	MMC239727	MT101718881	FT-26	Group Ten (USA) Inc.	2020
697	MMC239728	MT101718882	FT-27	Group Ten (USA) Inc.	2020
698	MMC239729	MT101718883	FT-28	Group Ten (USA) Inc.	2020
699	MMC239730	MT101718884	FT-29	Group Ten (USA) Inc.	2020
700	MMC239731	MT101718885	FT-30	Group Ten (USA) Inc.	2020
701	MMC239732	MT101718886	FT-31	Group Ten (USA) Inc.	2020
702	MMC239733	MT101718887	FT-32	Group Ten (USA) Inc.	2020
703	MMC239734	MT101718888	FT-33	Group Ten (USA) Inc.	2020
704	MMC239735	MT101718889	FT-34	Group Ten (USA) Inc.	2020
705	MMC239736	MT101718890	FT-35	Group Ten (USA) Inc.	2020
706	MMC239737	MT101718891	FT-36	Group Ten (USA) Inc.	2020
707	MMC239738	MT101718892	FT-37	Group Ten (USA) Inc.	2020
708	MMC239739	MT101718893	FT-38	Group Ten (USA) Inc.	2020
709	MMC239740	MT101719643	FT-39	Group Ten (USA) Inc.	2020
710	MMC239741	MT101719644	FT-40	Group Ten (USA) Inc.	2020
711	MMC239742	MT101719645	FT-41	Group Ten (USA) Inc.	2020
712	MMC239743	MT101719646	FT-42	Group Ten (USA) Inc.	2020
713	MMC239744	MT101719647	FT-43	Group Ten (USA) Inc.	2020
714	MMC239745	MT101719648	FT-44	Group Ten (USA) Inc.	2020
715	MMC239746	MT101719649	FT-45	Group Ten (USA) Inc.	2020
716	MMC239747	MT101719650	FT-46	Group Ten (USA) Inc.	2020
717	MMC239748	MT101719651	FT-47	Group Ten (USA) Inc.	2020
718	MMC239749	MT101719652	FT-48	Group Ten (USA) Inc.	2020
719	MMC239750	MT101719653	FT-49	Group Ten (USA) Inc.	2020
720	MMC239751	MT101719654	FT-50	Group Ten (USA) Inc.	2020
721	MMC239752	MT101719967	FT-51	Group Ten (USA) Inc.	2020
722	MMC239753	MT101719968	FT-52	Group Ten (USA) Inc.	2020
723	MMC239754	MT101719969	FT-53	Group Ten (USA) Inc.	2020
724	MMC239755	MT101719970	FT-54	Group Ten (USA) Inc.	2020
725	MMC239756	MT101719971	FT-55	Group Ten (USA) Inc.	2020
726	MMC239757	MT101719972	FT-56	Group Ten (USA) Inc.	2020
727	MMC239758	MT101719973	FT-57	Group Ten (USA) Inc.	2020
728	MMC239759	MT101719974	FT-58	Group Ten (USA) Inc.	2020
729	MMC239760	MT101719975	FT-59	Group Ten (USA) Inc.	2020
730	MMC239761	MT101719976	FT-60	Group Ten (USA) Inc.	2020
731	MMC239762	MT101870743	FT-61	Group Ten (USA) Inc.	2020

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732	MMC239763	MT101870744	FT-62	Group Ten (USA) Inc.	2020
733	MMC239764	MT101870745	FT-63	Group Ten (USA) Inc.	2020
734	MMC239765	MT101870746	FT-64	Group Ten (USA) Inc.	2020
735	MMC239766	MT101870747	FT-65	Group Ten (USA) Inc.	2020
736	MMC239767	MT101870748	FT-66	Group Ten (USA) Inc.	2020
737	MMC239768	MT101870749	FT-67	Group Ten (USA) Inc.	2020
738	MMC239769	MT101870750	FT-68	Group Ten (USA) Inc.	2020
739	MMC239770	MT101870751	FT-69	Group Ten (USA) Inc.	2020
740	MMC239771	MT101870752	FT-70	Group Ten (USA) Inc.	2020
741	MMC239772	MT101870753	FT-71	Group Ten (USA) Inc.	2020
742	MMC239773	MT101870754	FT-72	Group Ten (USA) Inc.	2020
743	MMC238570	MT101769901	Ram #1	Group Ten (USA) Inc.	2019
744	MMC238571	MT101769902	Ram #2	Group Ten (USA) Inc.	2019
745	MMC238572	MT101769903	Ram #3	Group Ten (USA) Inc.	2019
746	MMC238573	MT101769904	Ram #4	Group Ten (USA) Inc.	2019
747	MMC238574	MT101769905	Ram #5	Group Ten (USA) Inc.	2019
748	MMC238575	MT101769906	Ram #6	Group Ten (USA) Inc.	2019
749	MMC238576	MT101769907	Ram #7	Group Ten (USA) Inc.	2019
750	MMC238577	MT101769908	Ram #8	Group Ten (USA) Inc.	2019
751	MMC238578	MT101769909	Ram #9	Group Ten (USA) Inc.	2019
752	MMC238579	MT101769910	Ram #10	Group Ten (USA) Inc.	2019
753	MMC238580	MT101769911	Ram #11	Group Ten (USA) Inc.	2019
754	MMC238581	MT101769912	Ram #12	Group Ten (USA) Inc.	2019
755	MMC238582	MT101769913	Ram #13	Group Ten (USA) Inc.	2019
756	MMC238583	MT101769914	Ram #14	Group Ten (USA) Inc.	2019
757	MMC238584	MT101769915	Ram #15	Group Ten (USA) Inc.	2019
758	MMC238585	MT101769916	Ram #16	Group Ten (USA) Inc.	2019
759	MMC238586	MT101770222	Ram #17	Group Ten (USA) Inc.	2019
760	MMC238587	MT101770223	Ram #18	Group Ten (USA) Inc.	2019
761	MMC238588	MT101770224	Ram #19	Group Ten (USA) Inc.	2019
762	MMC238589	MT101770225	Ram #20	Group Ten (USA) Inc.	2019
763	MMC238590	MT101770226	Ram #21	Group Ten (USA) Inc.	2019