Tower Gold Project
NI 43-101 Report & Mineral Resource Estimate

Northeastern Ontario, Canada

Effective Date: May 11, 2022

Prepared for:
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CERTIFICATE OF QUALIFIED PERSON
Tommaso Roberto Raponi

I, Tommaso Roberto Raponi, P. Eng., certify that I am employed as a Principal Metallurgist with Ausenco Engineering Canada Inc. (Canada), ("Ausenco"), with an office address of Suite 1550 - 11 King St West, Toronto, ON M5H 4C7. This certificate applies to the technical report titled "Tower Gold Project NI 43-101 Report & Mineral Resource Estimate" with an effective date of May 11, 2022 ("Technical Report").

I graduated from the University of Toronto with a Bachelor of Applied Science degree in Geological Engineering, with specialization in Mineral Processing in 1984. I am a Professional Engineer registered with the Professional Engineers Ontario (No. 90225970), Engineers and Geoscientists British Columbia (No. 23536) and NWT and Nunavut Association of Professional Engineers and Geoscientists (No. L4508) and with OIQ (Temporary Permit No. 6043399). I have practiced my profession continuously for over 38 years with experience in the development, design, operation and commissioning of mineral processing plants, focusing on gold projects, both domestic and internationally.

I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.

I have not visited the Tower Gold Project property. I am responsible for Sections 1.11, 1.14.2, 13, 15 to 22, 24, 25.5, and 26.2 of the Technical Report.

I am independent of Moneta Gold Inc. as independence is defined in Section 1.5 of NI 43-101. I acted as a qualified person for the N.I. 43-101 Technical Report & Preliminary Economic Assessment of the Garrison Project", January 27, 2021. The Garrison Project is now included in the Tower Gold Project.

I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: June 24, 2022

"Original signed and sealed"

Tommaso Roberto Raponi, P. Eng

CERTIFICATE OF QUALIFIED PERSON
Michael B. Dufresne

I, Michael B. Dufresne, M.Sc., P.Geol., P.Geo., certify that I am employed as a President and Principal Consultant with APEX Geoscience Ltd. ("APEX"), with an office address of 100, 11450 – 160th Street NW, Edmonton, Alberta T5M 3Y7.

1. This certificate applies to the Technical Report titled "Tower Gold Project NI 43-101 Technical Report & Mineral Resource Estimate" that has an effective date of May 11th, 2022 (the "Technical Report").
2. I graduated with a B.Sc. in Geology from the University of North Carolina at Wilmington in 1983 and with a M.Sc. in Economic Geology from the University of Alberta in 1987.
3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists ("APEGA") of Alberta since 1989. I have been registered as a Professional Geologist with the association of Professional Engineers and Geoscientists of BC since 2012.
4. I have worked as a geologist for more than 35 years since my graduation from University and have extensive experience with exploration for, and the evaluation of, gold deposits of various types, including structurally-controlled, greenstone and sediment-hosted, quartz vein related gold mineralization including mineral resource estimation.
5. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.
6. I visited the Tower Gold Project, including Golden Highway and Garrison properties and their associated core facilities, on June 21st, 2022.
7. I am responsible for Sections 1.1 to 1.10, 1.12 to 1.14.1, 2 to 12, 14, 23, 25.1 to 25.4, 25.6 to 25.8, 26.1, 26.3, and 27 of the Technical Report.
8. I am independent of Moneta Gold Inc. and the Tower Gold properties as independence is defined in Section 1.5 of NI 43-101.
9. I have had no previous involvement with Tower Gold Project.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: June 24, 2022

"Original signed and sealed"

Michael B. Dufresne, M.Sc., P.Geol., P.Geo.

Important Notice

This report was prepared as National Instrument 43-101 Technical Report for Moneta Gold Inc. (Moneta) by Ausenco Engineering Canada Inc. (Ausenco) and APEX Geoscience Ltd. (APEX), collectively the Report Authors. The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in the Report Authors' services, based on (i) information available at the time of preparation, (ii) data supplied by outside sources, and (iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Moneta subject to terms and conditions of its contracts with each of the Report Authors. Except for the purposes legislated under Canadian provincial and territorial securities law, any other use of this report by any third party is at that party's sole risk.

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1 SUMMARY

1.1 Introduction

Ausenco Engineering Canada Inc. (Ausenco) has prepared an updated mineral resource estimate (MRE) and associated technical report for Moneta Gold Inc. (Moneta), a mineral resource company focused on the exploration and development of gold projects in the prolific Timmins Camp of Ontario, Canada.

The focus of this technical report is on the Tower Gold Project (Tower Gold or the Property), collectively covering the Golden Highway and Garrison properties, located 100 km east of Timmins in northeastern Ontario, Canada.

This report was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and in accordance with the requirements of Form 43-101 F1.

The NI 43-101 responsibilities of the consultants are as follows: Ausenco was commissioned by Moneta to manage and coordinate the work related to the NI 43-101; APEX Geoscience Ltd. (APEX) was commissioned to conduct data verification of historical and recent drilling data and to produce an updated MRE for the Tower Gold Project.

1.2 Terms of Reference

This technical report supports disclosures by Moneta in a news release dated May 11, 2022, entitled "Moneta increases resources to 4,265,000 oz gold indicated and 7,496,000 oz gold inferred at Tower Gold Project".

All measurement units used in this report are SI units unless otherwise noted. Currency is expressed in Canadian dollars (C$ or CAD) unless otherwise noted.

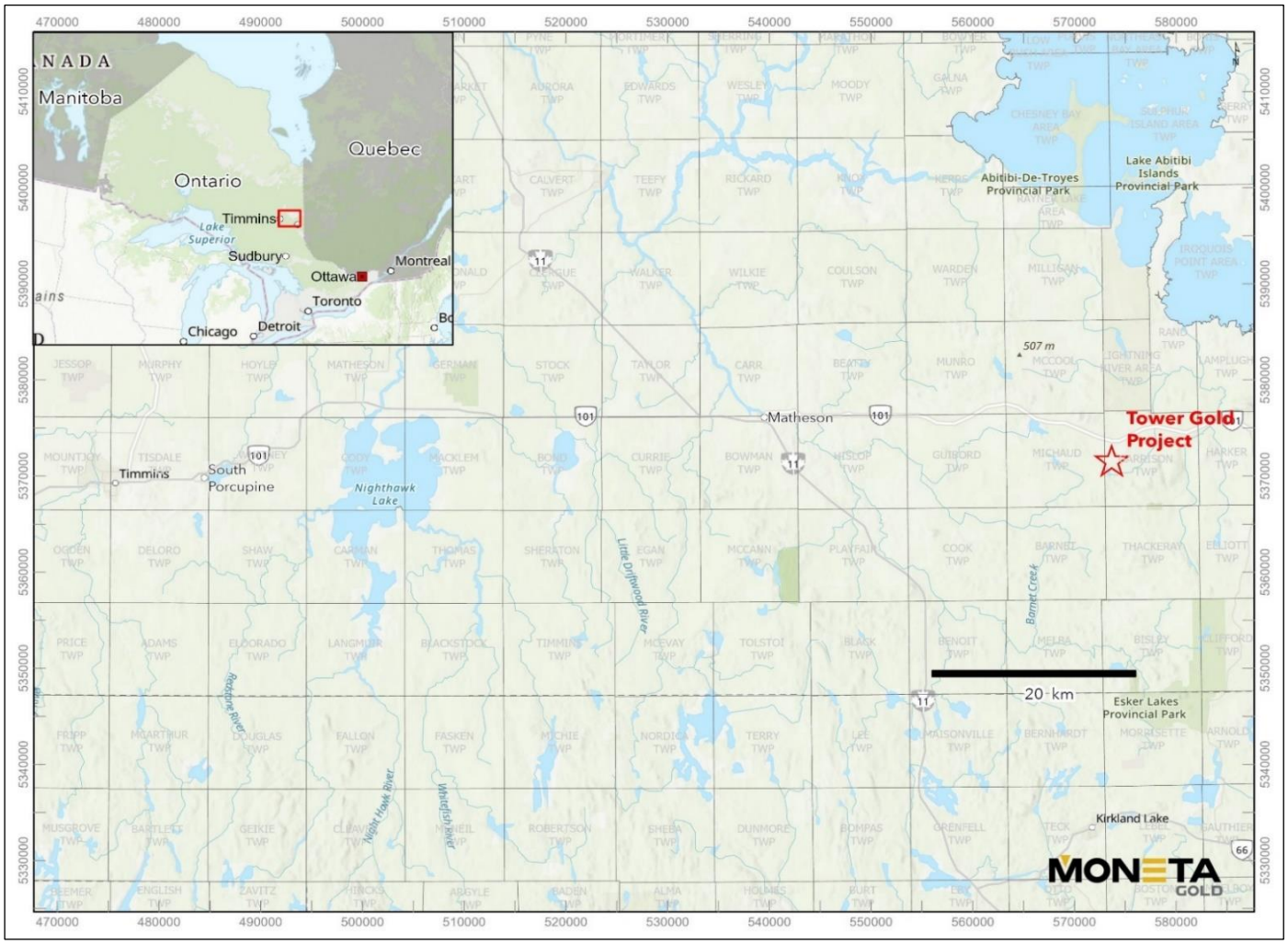
Mineral resources and mineral reserves are reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2014) and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (CIM, 2019).

1.3 Property Description and Location

The Tower Gold Project is located in Guibord, McCool, Michaud, Barnet, and Garrison townships, Larder Lake Mining Division in northeastern Ontario, Canada, approximately 540 km north of Toronto, 90 km east of Timmins and 40 km north of the municipality of Kirkland Lake (Figure 1-1). It is centred approximately 5371620N and 573677E in Zone 17N of the NAD 83 UTM coordinate system (48° 29' 36.20" N latitude and 080° 00' 09.92" W longitude).

The property comprises 85 patented mineral claims, 4 leased mineral claims, and 318 unpatented mineral claims (consisting of 221 single cell mining claims and 97 boundary cell claims). These contiguous claims total 7,705.54 ha in area and are owned 100% by Moneta.

Figure 1-1: Property Location Map



Source: Moneta, 2022.

1.4 Project Setting

The property is accessed by logging and drilling roads that extend south from Highway 101, east of Matheson, Ontario. The intersection for the main logging access road (Tower Road) is 32 km east of Matheson. The mineral deposits are located approximately 4 km south of Highway 101 and accessed locally by a network of forestry logging and drilling roads of varying quality.

Regional-scale, poorly drained swamp dominates much of the property area. The topography is relatively flat with an elevation of approximately 330 m above sea level. Relief is generally only a few metres, with drier sandy esker ridges and dunes rising up to 25 m above open and forested swampy areas in western parts. The property has very limited outcrop. All streams and rivers in the project area are part of the Arctic watershed.

Mineral exploration can be conducted year-round. However, because of the swampy ground conditions on much of the project area, exploration activities such as geophysical surveys and diamond drilling are more easily conducted in the winter due to better accessibility after freeze-up. Drilling at other times is possible on a large portion of the property.

Mining equipment and personnel are readily available from the towns of Matheson, Kirkland Lake and Timmins. Timmins and Kirkland Lake are major supply and service centres for the mining industry. They are serviced by modern telecommunications, commercial airlines or rail service and truck transportation.

Communications and power are available along Highway 101 and Highway 672. Water resources are locally available. Cell phone coverage extends to the property. Electrical power is supplied to various mining and mineral exploration projects along Highway 101 from west of Matheson to the Quebec border.

1.5 History

Exploration in the Golden Highway property area dates back to the beginning of the 20th century. Production from the mines in the area began in 1911. Staking of the Golden Highway property commenced in 1939 and known exploration work commenced in 1945. Historical exploration completed by companies other than Moneta at Golden Highway from 1986 to 2000 including geochemical soil surveys, geophysical surveys and drilling.

Exploration conducted on the Garrison property dates back to 1935. The mining claims that make up the property are patented and as a result very little of the exploration work carried out on the property has been filed with the government and the data are not in the government assessment work files. Historically, extensive diamond drilling has been completed and minor underground development has occurred at the Garrison and Jonpol deposits.

Various historical resource estimates on gold mineralization in the Jonpol and Garrcon deposits have been provided by various authors since the mid 1980s. These resource estimates are historical in nature. A qualified person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves. They are not being treated as current mineral resources or mineral reserves by Moneta. Therefore, they will not be disclosed here.

1.6 Geology and Mineralization

The property is situated in the Abitibi Greenstone Belt (AGB). The AGB consists of Neoarchean supracrustal rocks divided into tectonic-stratigraphic assemblages that include metavolcanic rocks, synvolcanic intrusions, metasedimentary rocks, calc-alkaline and alkaline intrusive rocks, and late Proterozoic dykes. The dominant regional structures of interest are the Destor Porcupine Fault Zone (DPFZ) and Pipestone Fault Zone with their associated gold deposits and mineralization.

The central portion of the Golden Highway property has been the focus of exploration work and is divided into a North Corridor and South Corridor that together define the DPFZ, as it crosses Michaud and western Garrison townships. These distinct geological corridors contain the bulk of the known gold mineralization discovered at the property to date. The North Corridor contains the historical DPFZ (north branch) trace in a sequence of Tisdale mafic and ultramafic metavolcanics. The Timiskaming metasedimentary rocks, iron formation and associated rocks are contained in the South Corridor.

The Garrison property geology is underlain by rocks of the Kidd-Munro and Timiskaming Assemblages and about 4 km of the regionally significant DPFZ and a major splay, the Munro Fault Zone. Both fault zones comprise a variably altered and deformed sequence of metavolcanic rocks that include komatiites and tholeiitic basalts. The Kidd-Munro Assemblage is composed of massive to pillowed, mafic (high magnesium and iron tholeiites) and ultramafic (komatiite) metavolcanic rocks. The metavolcanic flows strike in a general east-west direction and dip steeply to the south. The Timiskaming

Assemblage is composed of clastic metasedimentary rocks, consisting of conglomerate, wacke-sandstone, siltstone, argillite and schist, and is closely associated with the DPFZ.

The Tower Gold Project to date is host to nine gold deposits, six from the Golden Highway property and three from the Garrison property. Most of the gold occurrences are found within a corridor parallel to the DPFZ. The nine gold deposits include South West, Westaway, Windjammer South, Windjammer Central, Discovery, 55 Zone, Garrcon, 903 and Jonpol. These deposits have been classified as structurally controlled gold orogenic gold deposits in an Archaean greenstone belt setting.

1.7 Deposit Types

The deposits located on the Garrison and Golden Highway Properties are interpreted to be structurally-controlled orogenic gold deposits in an Archean greenstone belt setting. This deposit type is a significant source of gold mined in the Superior and Slave provinces of the Canadian Shield. These deposits are typically quartz-carbonate vein hosted and are distributed along crustal-scale fault zones that mark convergent margins between major lithological boundaries such as those between volcano-plutonic and sedimentary domains. The greenstone-hosted quartz-carbonate vein deposits are structurally controlled, epigenetic deposits characterized by simple to complex networks of gold-bearing, laminated quartz-carbonate structure-fill veins. These veins are hosted by moderately to steeply dipping, compressional, brittle-ductile shear zones and faults with locally associated extensional veins and hydrothermal breccias.

1.8 Exploration

Minor underground development has occurred at the Garrison and Jonpol deposits. The most important historical data relating to the Garrison Property are from the exploration work completed since 1985 by Jonpol Explorations Ltd. (and its partners, Cominco, Lac Minerals, and Hillsborough Resources), ValGold, Northern Gold, Osisko, O3 and Moneta. This is described in Sections 6 and 9 of the report.

The Golden Highway property has been explored since the 1940s. Historical exploration included geological mapping, geophysical surveying and drilling including diamond drilling and a small amount of RC drilling. Moneta has conducted exploration on the Golden Highway property since 1986. Since the end of 2012, exploration has included primarily diamond drilling has focused on the expansion and better definition of known gold mineralization areas. Historical mineral resources have been estimated using multiple series of narrow vein interpretations grouped in seven mineralization areas, Windjammer North Zone (WJN), Windjammer South Zone (WJS), Discovery (DIS), South West Zone (SW), West Block (WB), Westaway (WA) and 55 Zone (55). The mineral resource estimate (MRE) published in this technical report supersedes all historical resources. This is described in more detail in Section 14. Historical activities are described in Section 6.

1.9 Drilling and Sampling

All current and most historical drill hole data have been compiled into Moneta's drill hole database.

For the Garrison property Moneta's current drill hole database includes holes completed between 1983 and the present and includes 1,096 drill holes totalling 350,822 m. The majority of work has concentrated on the Jonpol deposit, Garrcon deposit and the 903 Zone areas within the Garrison Property. The true thickness of the mineralized zones identified from previous drilling are 60% to 95% of the sample lengths. Mineralization at the Garrcon deposit was previously interpreted to be striking approximately 075° and dipping 50° to the south; mineralization for Jonpol was previously interpreted to be striking approximately 070° and dipping 75°-85° to the south. The Garrison drill hole database used in the MRE consists of 992 drill holes that intersect the interpreted mineralization.

For the Golden Highway property, Moneta's current drill hole database includes holes completed between 1946 and the present and includes 1,169 drill holes totalling 438,235 m across all seven mineralization areas: Windjammer North Zone (WJN), Windjammer South Zone (WJS), Discovery (DIS), South West Zone (SW), West Block (WB), Westaway (WA) and 55 Zone (55). The Golden Highway drill hole database used in the MRE consists of 748 drill holes that intersected the interpreted mineralization.

The QP has examined the logging and sampling procedures both historical and utilized by Moneta. In the opinion of the QP, Moneta personnel have used industry standard best practices in the collection, handling and management of drill core and assay samples.

The QP is not aware of any drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results presented in this report.

1.10 Data Verification

The QPs have reviewed the adequacy of the exploration information and the property's physical, visual, and geological characteristics. No significant issues or inconsistencies were discovered that would call into question the validity of the data. In the QPs' opinion, the Tower Gold data is adequate and suitable for use in this technical report.

1.11 Metallurgical Testwork

Several historical and one current metallurgical testing campaigns have been conducted on the Garrison and Golden Highway properties to quantify metallurgical performance. With the exception of a portion of the Jonpol property, all deposits exhibited free milling gold recoveries amenable to gravity concentration and cyanide leaching. Testing has largely focused on cyanide leach testing with some comminution testing in the historical testing.

In recent metallurgical testing using standard gravity concentration and cyanide gold processing there is no evidence from the metallurgical test results of any deleterious elements that would impair recovery or result in low quality doré. Gold recoveries are expected to be in the range of 89% to 96% for all deposits with the exception of the refractory portions of the Jonpol deposit. The refractory portions of the Jonpol deposit have an estimated gold recovery of 56%.

1.12 Mineral Resource Estimate

The Tower Gold Project MRE is reported in accordance with the CSA NI 43-101 rules for disclosure and has been estimated using the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 29, 2019 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated May 10, 2014.

Modelling was conducted in the UTM coordinate space relative to the NAD 1983, and UTM Zone 17N (EPSG:26917). The mineral resource block model utilized a block size of 2.5 m (X) by 2.5 m (Y) by 2.5 m (Z) to honor the mineralization wireframes. The percentage of the volume of each block below the bare earth surface, below the modeled waste overburden surface and within each mineralization domain was calculated using the 3D geological models and a 3D surface model. For the open pit resources, the block model was block-averaged up to a 5 m (X) by 5 m (Y) by 5 m (Z) SMU block size for pit optimization with the outer blocks on the boundaries of the domains diluted. The gold grade was estimated for each block using ordinary kriging with locally varying anisotropy (LVA) to ensure grade continuity in various directions is reproduced in the block model. The MRE is reported as undiluted within a series of optimized pit shells. The mineral resources defined in this section are not mineral reserves.

The calculated open pit cut-off of 0.30 g/t Au was selected in reporting the open pit mineral resources in the 2022 resource estimates using the 5 m x 5 m x 5 m SMU block size model (Table 1-1).

The calculated cut-off of 2.60 g/t Au was selected in reporting the underground mineral resources in the 2022 resource estimates (Table 1-1). Underground mineral resources below the resource open pit are constrained by wireframe solids that encapsulate contiguous 2.5 m x 2.5 m x 2.5 m underground blocks that are above the 2.60 g/t Au cut-off with a volume greater than 1,400 m^3. The effective data of the MRE is May 11, 2022. The MRE outlined below is a combination of indicated and inferred mineral resources. The quantity and grade of the reported inferred resources are uncertain in nature and there has not been sufficient work to define these inferred resources as indicated or measured resources.

Table 1-1: NI 43-101 Mineral Resource Estimate by Deposit – Tower Gold Project (Effective date: May 11, 2022)

May 2022 Resource	Category	Indicated			Inferred		
		Tonnes (t)	Grade (g/t Au)	Ounces (oz)	Tonnes (t)	Grade (g/t Au)	Ounces (oz)
Total	Open Pit	146,294,000	0.88	4,153,000	207,878,000	0.87	5,801,000
	Underground	701,000	4.95	112,000	12,269,000	4.30	1,695,000
Total Open Pit + Underground		**146,995,000**	**0.90**	**4,265,000**	**220,147,000**	**1.06**	**7,496,000**
Breakdown by Deposit							
South West	Open Pit	11,176,000	0.88	316,000	41,178,000	0.90	1,195,000
	Underground	168,000	4.54	25,000	6,761,000	4.36	948,000
Windjammer South	Open Pit	45,146,000	0.78	1,135,000	26,631,000	0.72	613,000
	Underground	-	-	-	918,000	4.57	135,000
Westaway	Open Pit	312,000	2.22	22,000	15,530,000	2.14	1,067,000
	Underground	-	-	-	3,214,000	3.94	407,000
Windjammer Central	Open Pit	31,986,000	0.62	632,000	85,086,000	0.65	1,780,000
	Underground	-	-	-	-	-	
55 Zone	Open Pit	4,379,000	1.25	176,000	4,621,000	1.02	151,000
	Underground	-	-	-	186,000	4.20	25,000
Discovery	Open Pit	2,251,000	1.72	125,000	5,511,000	1.50	266,000
	Underground	-	-	-	440,000	4.19	59,000
Garrcon	Open Pit	25,614,000	1.02	841,000	707,000	0.67	15,000
	Underground	533,000	5.08	87,000	750,000	4.98	120,000
903	Open Pit	18,843,000	1.01	610,000	25,040,000	0.74	600,000
	Underground	-	-	-	-	-	-
Jonpol	Open Pit	6,587,000	1.40	297,000	3,574,000	0.99	114,000
	Underground	-	-	-	-	-	-

Notes: **1.** Mineral resource estimates are reported at two different cut-off grades; 0.3 g/t Au for the surface mining scenario and 2.6 g/t Au for the underground mining scenario. **2.** The cut-off grade was determined at a gold price of US$1,750 per ounce and a USD/CAD exchange rate of 0.78. **3.** The resource estimate is supported by statistical analysis with different high-grade capping applied to each of the deposits ranging from 1.6 g/t Au to 80.0 g/t Au applied on assays composited into 1 m composites. **4.** The mineral resources presented here were estimated with a block size of 2.5 m x 2.5 m x 2.5 m utilizing percent blocks and constrained within geological wireframes with a minimum width of 1.50 m. Gold was estimated by ordinary kriging using locally varying anisotropy variogram models. Block grade estimation employed locally varying anisotropy, which uses different rotation angles to define the principal directions of the variogram model and search ellipsoid on a per-block basis. The maximum range of the variogram models generally are between 65 m x 25 m x 2.5 m and 80 m x 45 m x 5 m. The search ellipse was constrained to selecting composites flagged within each domain. **5.** The mineral resources presented here were estimated by APEX Geoscience Ltd. Using the CIM Standards on Mineral Resources and Reserves definitions and guidelines. **6.** The historical underground or open pit voids from mining in any of the deposit areas have been removed. **7.** Tonnage estimates are based on bulk densities individually measured and calculated for each of the deposit areas. Resources are presented as undiluted and in situ. **8.** This mineral resource estimate is dated May 11, 2022. The effective date for the drill-hole database used to produce this updated mineral resource estimate is March 15, 2022. Tonnages and ounces in the tables are rounded to the nearest thousand and hundred, respectively. Numbers may not total due to rounding. **9.** Discovery includes the Windjammer North resource. **11.** Mr. Mike Dufresne, P.Geol., P.Geo. of APEX Geoscience Ltd., who is deemed a qualified persons as defined by NI 43-101 is responsible for the completion of the updated mineral resource estimation. Source: APEX, 2022.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, market or other relevant issues.

1.13 Conclusions

In conclusion, based on the currently available information for project scope and methods outlined in this technical report, in the authors' opinion, the Tower Gold Project is worthy of moving forward to the next phase of information development upon which economic evaluations would be based.

The following additional geological and metallurgical work are required:

- update and improve the lithology, alteration and mineralization models with improved characterization and quantification of all mineralized material types
- additional specific gravity/bulk density work coincident with characterization of all mineralized material types
- additional drilling in areas of wide spaced drilling where there is not enough information to accurately interpret depth and extent of mineralization
- geotechnical and metallurgical drilling, to accurately characterize the waste rock in the potential pit walls and characterize all potential mineralized material types and their respective recovery potential
- continued environmental baseline work
- exploration drilling to find additional mineralized material and expand the mineral resource with potential to join up certain pit areas with more drilling and the addition or improved modelling of the mineralized zones
- infill drilling in areas of wide spaced drilling to convert exploration targets and inferred resources to higher category resources
- confirmation drilling (perhaps as part of the metallurgical drilling), particularly in areas where the MRE is based on large portions of pre 2000 drill hole data
- metallurgical testwork suitable for PEA and leading to pre-feasibility level work
- additional mineral resource studies and additional drilling is completed.

1.14 Recommendations

Apex and Ausenco have reviewed a recommended program of continued exploration which has been proposed by Moneta staff. It is recommended that the activities and programs outlined in the subsections below be carried out to continue to advance the development of the project. The estimated cost to the complete the work described below is C$34,625,000.

1.14.1 Recommended Future Work for Geology

The following work is recommended:

- Exploration drilling program to test mineralized targets already identified
- Exploration drilling to expand the current mineral resources
- Exploration drilling to test new exploration drill targets
- Infill drilling within the current resource where drilling gaps occur or to upgrade resource confidence categories
- Further geological interpretation and modelling
- Updating mineral resource estimates upon completion of drill campaigns
- Updated resource and preliminary economic assessment (PEA) of the project to include new and expanded resource areas, to determine the focus, direction and plans for further resource development.

An infill drilling program of 40,000 m is recommended to infill portions of the resource where drill spacing is not sufficient within the interpreted wireframes to fully interpolate grade between more widely spaced drill holes and to connect shallower structures with extensions at depth.

A 60,000 m exploration drilling program is recommended to expand the currently modelled or pending resources. A new maiden resource estimate is currently planned for Westaway. Drilling should be allocated to the following target areas: down dip and strike extensions of the 55, Westaway at depth, South West underground and northern areas, Garrcon underground, 903 extensions and Windjammer Central (to the east and West) deposits, as well as the Discovery and Windjammer North deposits and associated zones along the northern splay of the DPFZ.

A number of new targets not included in the current resource have been identified and found to host gold mineralization, notably along the southern contact of the regional banded iron formation (BIF) and the southern margins of the sedimentary basin where a repeat of the BIF unit has been discovered associated with mineralization. A program of 35,000 m is recommended to test the Halfway, South Basin, Garrcon East, 903 extensions, Dyment 3, 55 extensions and Western Zones.

A number of zones including LC, Landing Zone and Twin Creeks occur along the northern splay of the DPFZ within the Tisdale and Kidd-Munro Formations which warrant additional drill testing. A large portion of this structure east of Windjammer North has not been tested. Along the regional BIF, approximately 8 km of strike length is untested. Drill testing is required east of the Windjammer South and west of the 55 deposit area. Historical holes have also been identified with gold mineralization along the Arrow Fault to the north. It is recommended to conduct 65,000 m of exploration drilling.

Upon completion of the proposed additional drilling, updated mineral resource estimates and an updated PEA should be completed to first determine the overall size of the project, then determine the potential economics and outline the best program to advance the project prior to commencing a full pre-feasibility study covering all resource areas.

1.14.2 Recommended Future Work for Metallurgy & Engineering

The following work is recommended:

- Metallurgical testwork including the following:
  - samples reflecting the different styles and geological settings of mineralization to test recoveries near cut-off grade, the new higher average grade, as well as higher-grade areas of the resources; samples need to also reflect spatial distribution of each deposit and potential underground mineable mineralization
  - bulk mineralogy studies and gold deportment studies of major lithological units in the larger deposits
  - comminution testing including Bond rod and ball mill work indices, SMC testing and abrasion index tests
  - extended gravity recovery gold tests of the major deposits to determine amenability of deposits to gravity concentration
  - leach tests including grind size optimization
  - cyanide detoxification testing
  - acid/base accounting and kinetic testing of detoxified tailings including trace element background data collection for environmental base line studies
  - solids liquid separation testing
- Metallurgical testwork in two phases, with the initial phase supporting the PEA studies and the second phase supporting future pre-feasibility studies
- Geotechnical data collection and testwork to establish geotechnical aspects of mining the deposits
- Environmental study programs including aquatic, terrestrial, hydrology, and groundwater to provide data for planning and permitting
- First Nation and other stakeholder consultation
- Subject to positive results from the updated PEA, pre-feasibility studies, geotechnical studies, hydrological studies and additional engineering and mine plan studies.

It is recommended that Moneta characterize the acid generation/acid consuming and metal leaching potential of the different mineralized zones and rock types potentially to be mined/exposed.

Commencing geotechnical data collection is recommended in line with the current status of the project in order to establish suitable base line data as required for further development.

A program of environmental and social baseline data collection and studies is recommended to reflect the current status of the project and situate the project favourably for further advancement. The commencement of suitable hydrology, groundwater and weather data gathering is also recommended.

Moneta is still in the exploration stage of the project. Some environmental baseline data have been collected. It is recommended that Moneta continue all environmental baseline studies, including continued First Nations engagement and future consultation. It is then recommended that a Terms of Reference be prepared and submitted to the government for approval.

Once the approval has been received, Moneta will need to prepare an Environmental Assessment (EA) report that identifies all positive and negative environmental impacts and how it intends to mitigate all negative impacts.

The Closure Plan document should be prepared at the same time as the EA report to streamline the permitting process as much as possible. The EA report will need to be submitted to the government for review, comments and approval. It is recommended that Moneta secure all necessary permits as soon as practical.

The QPs have reviewed the proposed program of work and associated budget and find them to be reasonable and justified in light of the observations made in this report. The QPs recommend that Moneta conduct the planned activities subject to availability of funding and any other matters which may cause the objectives to be altered in the normal course of business activities.

2 INTRODUCTION

2.1 Issuer and Purpose

This technical report was prepared on behalf of Moneta Gold Inc. (Moneta) by Ausenco Engineering Canada Inc. (Ausenco). Moneta is a mineral resource company focused on the exploration and development of gold projects in the Timmins Camp of Ontario, Canada. This technical report summarises the results of an updated mineral resource estimate (MRE) for the Tower Gold Project. The updated MRE will form the basis of an updated preliminary economic assessment (PEA) to be completed in 2022.

As a result of the completion of this technical report, the previous PEA studies on the Golden Highway and Garrison projects areas completed separately no longer reflect the current economic potential of the combined Tower Gold Project. Previous PEA studies should be seen as historical in nature and should not be relied upon. As these PEA studies are no longer current, information related to an "advanced property", as defined in NI 43-101, is no longer relevant to this technical report such that information in Sections 15 to 22 is not applicable.

The MRE was prepared in accordance with NI 43-101 Standards of Disclosure for Mineral Projects and is reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2014) and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (CIM, 2019).

APEX Geoscience Ltd. (APEX) was commissioned to conduct data verification of historical and recent drilling data and to produce an updated MRE for the Tower Gold Project.

2.2 Terms of Reference

This technical report supports disclosures by Moneta in a news release dated May 11, 2022, entitled "Moneta increases resources to 4,265,000 oz gold indicated and 7,496,000 oz gold inferred at Tower Gold Project".

All measurement units used in this report are SI units unless otherwise noted. Currency is expressed in Canadian dollars (C$ or CAD) unless otherwise noted.

Mineral resources and mineral reserves are reported in accordance with the CIM's Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2014) and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (CIM, 2019).

2.3 Qualified Persons

The individuals presented in Table 2-1, by virtue of their education, experience, and professional association, are considered qualified persons (QPs) as defined by NI 43-101 (CIM, 2014). The QPs meet the requirement of independence defined in NI 43-101.

Table 2-1: Report Contributors

Qualified Person	Professional Designation	Position	Employer	Independent of Tower Gold?	Report Section
Tommaso Roberto Raponi	P. Eng	Principal Metallurgist	Ausenco Engineering Canada Inc.	Yes	1.11, 1.14.2, 13, 15 to 22, 24, 25.5, 26.2
Michael Dufresne	P.Geo.	President	APEX Geoscience Ltd.	Yes	1.1 to 1.10, 1.12 to 1.14.1, 2 to 12, 14, 23, 25.1 to 25.4, 25.6 to 25.8, 26.1, 26.3, 27

2.4 Site Visits & Scope of Professional Inspection

The co-author of this technical report, Mr. Michael Dufresne, M.Sc., P.Geol., P.Geo., a QP and principal of APEX, conducted a site inspection of the property on June 21, 2022. The objectives of the site visit included the following:

- verification of the geology of the property
- verification of selected Moneta drill hole collar locations
- observation and sampling of potential mineralization in outcrop
- examination of drill core and observation of mineralized intercepts
- collection of three verification rock grab samples from outcrop that have been submitted for geochemistry.

During the site visit, Mr. Dufresne reviewed Moneta drill core and drill logs from recent drill programs completed at the Golden Highway and Garrison properties. The lithology, mineralization and structural orientations observed in the drill core were consistent with the original drill logs. Figure 12-1 in Section 12 shows drill core from drill hole MGH17-051 completed in 2017 at the Southwest property.

2.5 Effective Dates

The effective date of this report is the effective date of the mineral resource estimate, which is May 11, 2022.

2.6 Information Sources and References

This report is based on internal company reports, maps, published government reports, and public information, as listed in Section 27 of this report.

2.7 Unit and Name Abbreviations

A list of acronyms and abbreviations used in this report is provided in Table 2-2. Units of measurement are listed in Table 2-3.

Table 2-2: Acronyms and Abbreviations

Acronym	Definition
BIF	Banded Iron Formation
DGPS	differential global positioning system
DPFZ	Destor Porcupine Fault Zone
IP	Induced Polarization
JV	joint venture
MLAS	Mining Lands Administration System
MRE	mineral resource estimate
NAD	North American Datum
NPI	net profits interest
NSR	net smelter royalty
PEA	Preliminary Economic Assessment
QA/QC	Quality Assurance/Quality Control
QFP	quartz-feldspar-syenite porphyry
QP	Qualified Person
UTM	Universal Transverse Mercator
VMS	volcanogenic massive sulphide

Table 2-3: Units of Measurement

Abbreviation	Definition
C$ or CAD	Canadian dollar
°	degrees
°C	degrees Celsius
oz/ton Au	ounces per ton of gold
g/t Au	grams per tonne of gold
cm	centimetre
ft	feet
g	gram
g/t	grams per tonne
ha	hectare
km	kilometre
km^2	square kilometres
M	metre
m^2	square metres
mm	millimetre
Moz	million ounces
Mt	million tonnes
PGA	peak ground acceleration
%	percent
Sa	Spectral acceleration

3 RELIANCE ON OTHER EXPERTS

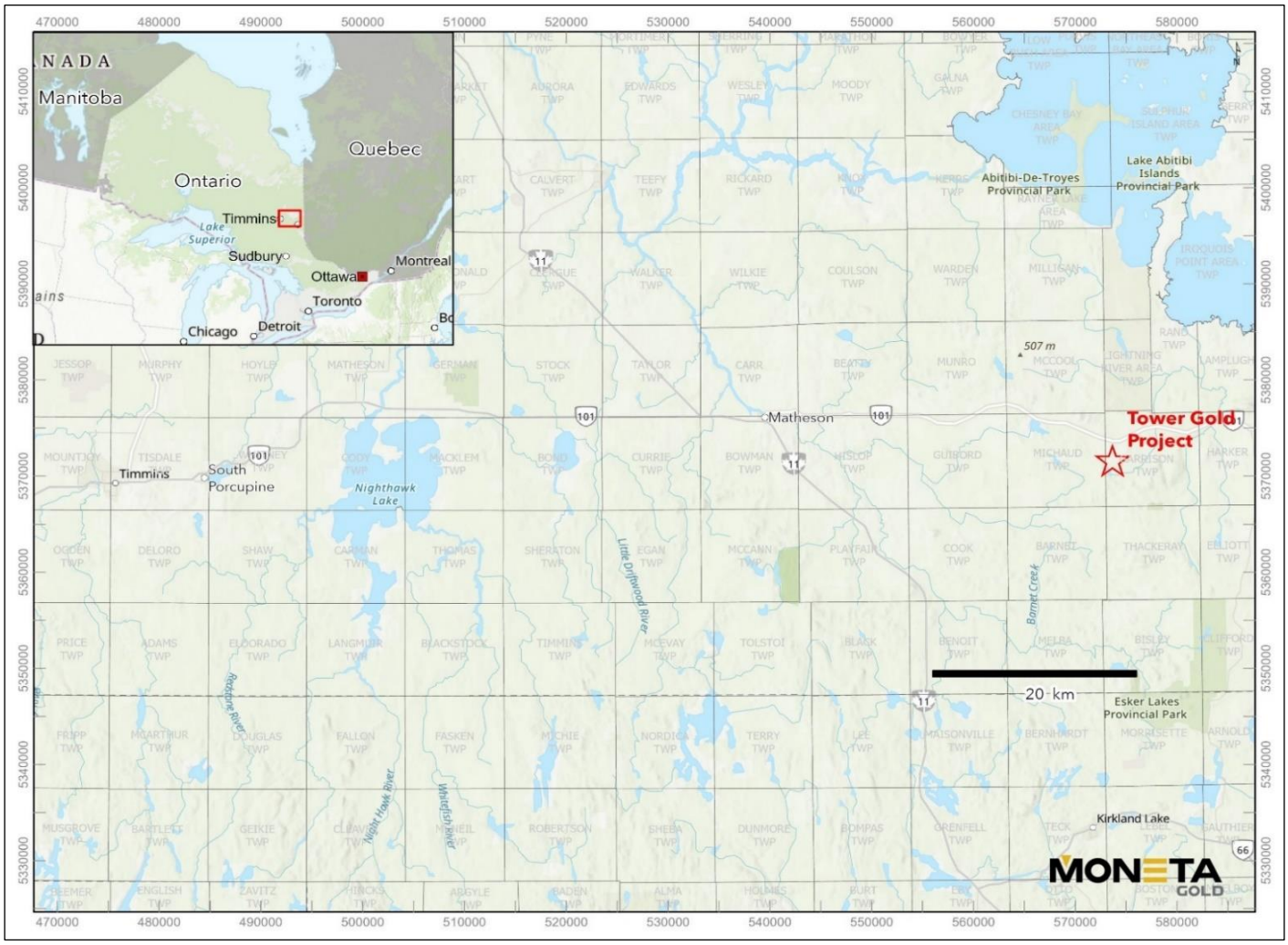
The authors have carefully reviewed, within the scope of their technical expertise, all the available information presented to them; however, they cannot guarantee its accuracy and completeness. The authors reserve the right, but will not be obligated, to revise the technical report and its conclusions if additional information becomes known to them subsequent to the effective date of this report.

The authors are not experts with respect to legal, socio-economic, land title, or political issues, and are therefore not qualified to comment on issues related to the status of permitting, legal agreements, and royalties.

4 PROPERTY DESCRIPTION AND LOCATION

The Tower Gold Project is located in Guibord, McCool, Michaud, Barnet, and Garrison townships, Larder Lake Mining Division in northeastern Ontario, Canada. It is centred approximately 5371620N and 573677E in Zone 17N of the NAD 83 UTM coordinate system (48° 29' 36.20" N latitude and 080° 00' 09.92" W longitude). The property is located approximately 540 km north of Toronto, 90 km east of Timmins and 40 km north of the municipality of Kirkland Lake (Figure 4-1). For the purposes of this report, the project is composed primarily of two major properties, Golden Highway and Garrison.

Figure 4-1: Property Location Map

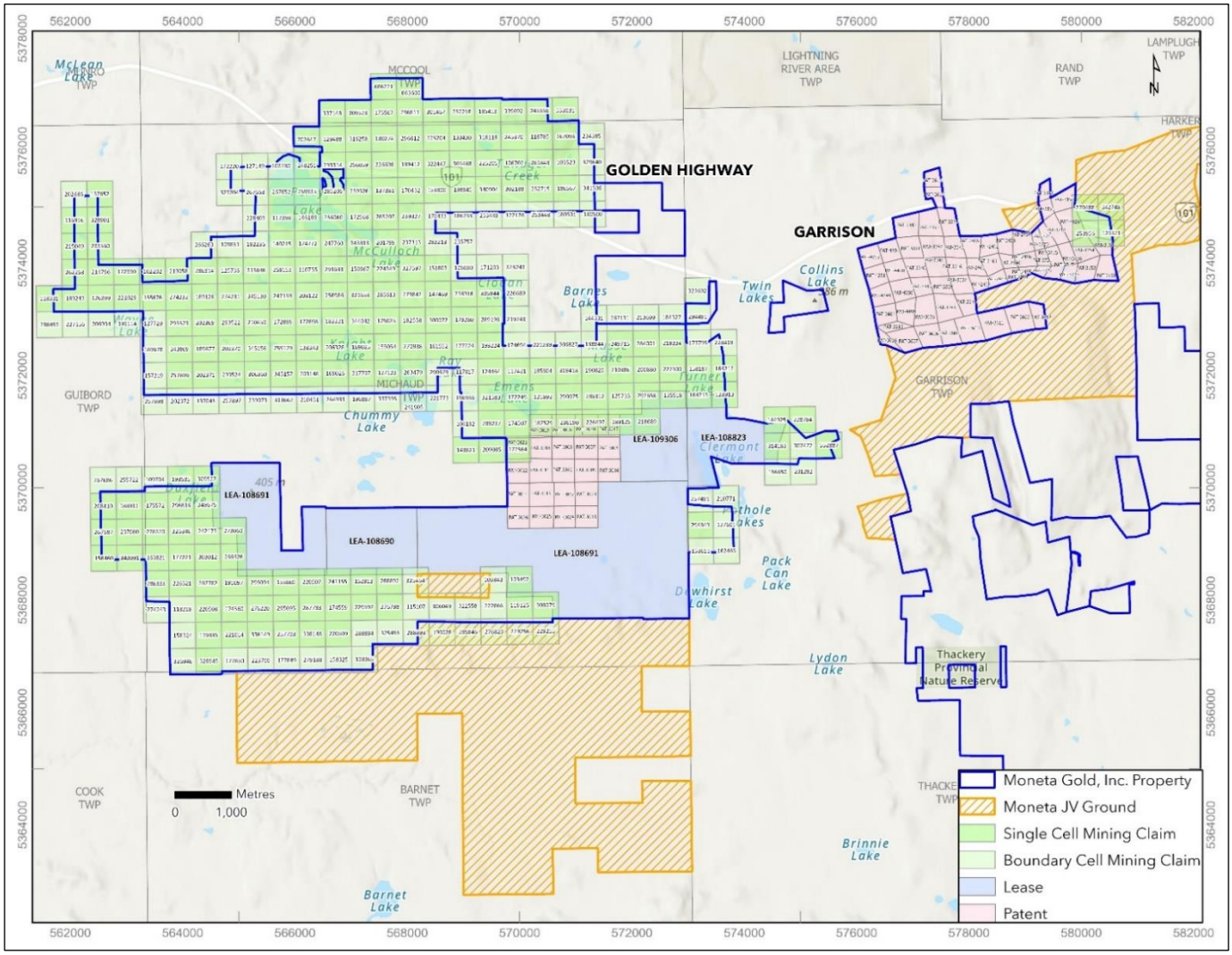


Source: Moneta, 2022.

4.1 Property Description and Ownership

The Golden Highway and Garrison properties, together with the contiguous joint venture (JV) grounds are a large package of mining claims totalling 11,517.6 ha. For the purposes of this report, only the main Golden Highway and Garrison properties are detailed and are referred to as the "Tower Gold Project". The claims and patents under JV with Agnico Eagle Mines Limited located east of Matheson in a number of claim blocks, some adjacent to the Golden Highway and Garrison properties, including the Dyment 3 cell claims, are not included in the scope of this report. The Tower Gold Project comprises 85 patented mineral claims, 4 leased mineral claims, and 318 unpatented mineral claims (consisting of 221 single cell mining claims and 97 boundary cell claims) located in Guibord, McCool, Michaud, Barnet, and Garrison Townships (Figure 4-2). These contiguous claims total 7,705.54 ha in area and are owned 100% by Moneta Gold Inc. (Moneta). The surface rights of the patented mining claims and leases are owned 100% by Moneta. The surface rights of the staked mining claims are owned by the crown.

Figure 4-2: Property Claim Map



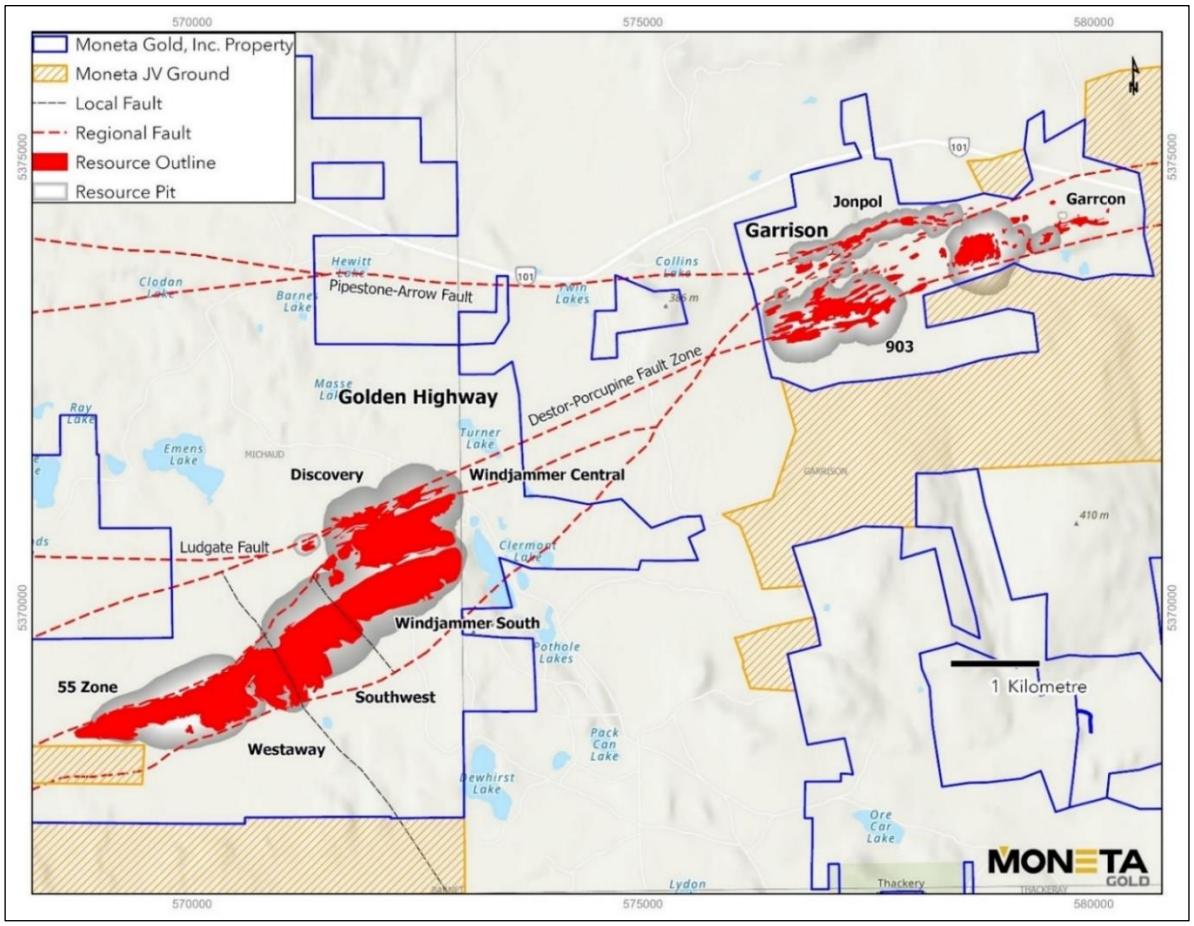
Source: Moneta, 2022.

On April 10, 2018, Ontario launched a new electronic Mining Lands Administration System (MLAS) replacing the province's century-old traditional ground staking methods. It marked the completion of the modernization of the *Mining Act*. For purposes of this report, the new MLAS system of claims and leases references and numbering system is used. The mineral resource estimate is located entirely on the patented claims and leased mineral claims for which Moneta owns the surface and underlying mineral rights.

The patented mineral claims in Golden Highway are a contiguous block of 22 with a total area of 355.97 ha while the patented mineral claims in Garrison are a contiguous block of 63 with a total area of 764.83 ha. Each patent covers approximately 13 ha, as listed in Appendix A and shown on Figure 4-2. They are subject to annual mining taxes and are owned 100% by Moneta with no underlying royalty agreements. The surface rights are subject to annual land taxes.

The four leased mineral claims on the property consist of three in Michaud Township (LEA-109306, 108690, and 108691) and one in Garrison Township (LEA-108823) covering a total of 1,653.20 ha. Mining leases LEA-108690 and 108691 include surface rights and all are subject to mining taxes. These leases are also listed in Appendix A and shown in Figure 4-2. All leases are 100% owned by Moneta and have no underlying royalty agreements. The location of the principal mineralized zones within property boundary is shown in Figure 4-3.

Figure 4-3: Location of Mineral Zones Relative to Property Boundaries



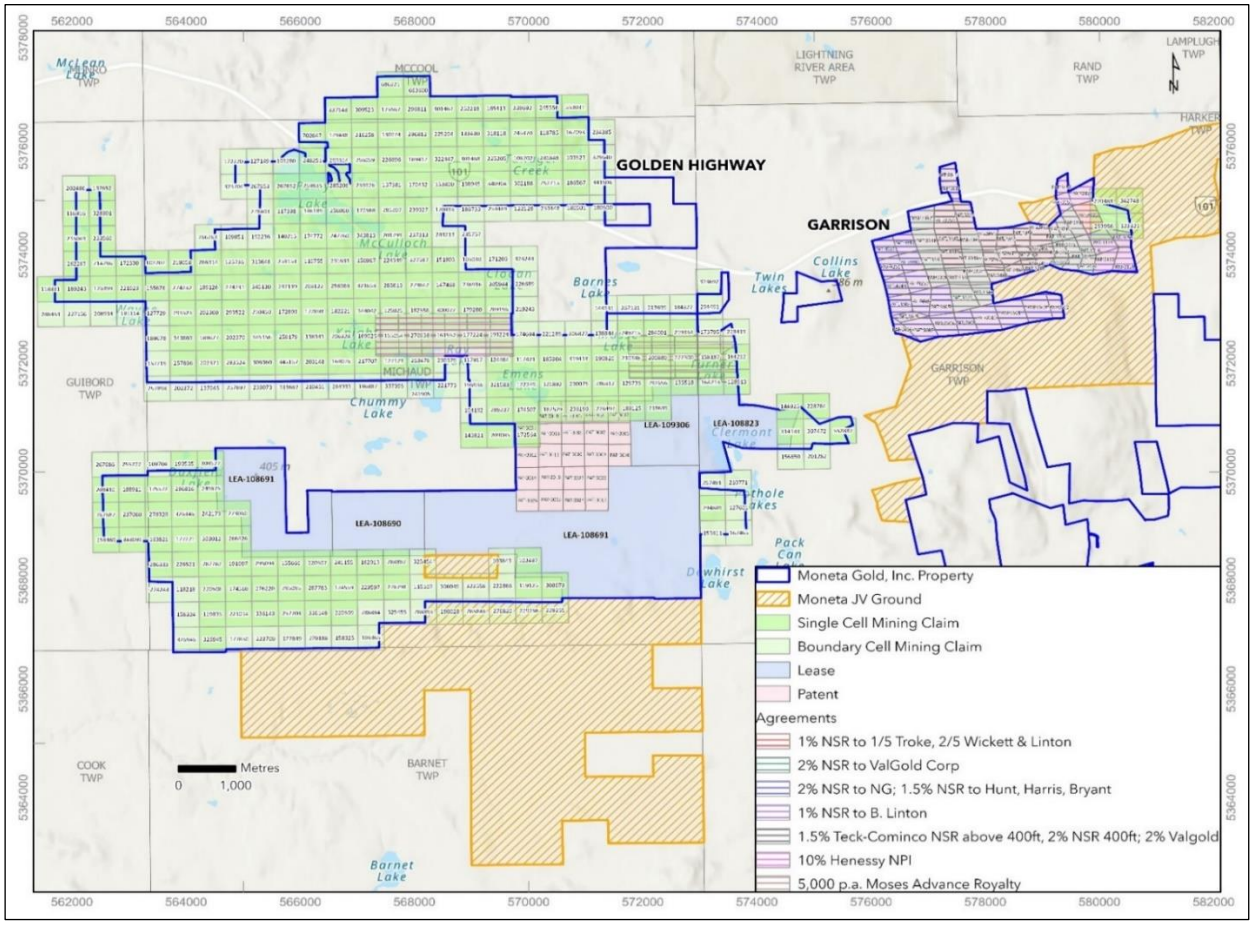
Source: Moneta, 2022.

4.2 Property Claim Status & Other Obligations

4.2.1 Golden Highway

None of the 22 patented or 4 leased mineral claims containing the mineral resource estimate are subject to any underlying royalty agreements and are owned 100% by Moneta. Within the 314 unpatented mineral claims making up Golden Highway, a total of 10 legacy claim units referred to as the "Moses block" are subject to a $5,000 per annum advance royalty. The Moses block is located to the north and east of the mineral resource estimate within Michaud and Garrison townships. In addition, 12 legacy mineral claim units referred to as the "Hennesy block" are subject to a 10% net profits interest (NPI). The block is located to the north and west of the mineral resource estimate within Michaud Township. The mining leases are subject to renewal every 21 years and require the reporting of ongoing exploration activities to extend the lease periods. There is no minimum work expenditure requirement, and the reporting of ongoing exploration activities. The staked mining claims require an annual expenditure of $400 per claim, which has been met. Moneta submits regular assessment work activity reports to maintain the claims in good standing and maintains a work assessment credit on all of the claims on the Golden Highway property covering a number of years. The locations of the unpatented claims subject to underlying royalty agreements are shown in Figure 4-4.

Figure 4-4: Claims Subject to Underlying Royalty Agreements



Source: Moneta, 2022.

4.2.2 Garrison

The Garrison property comprises 63 patented mining claims and four cell claims covering an area of approximately 785 ha. Moneta holds a 100% interest in 56 of the patents and a 95% interest in the remaining 7 patents. Moneta holds a 100% interest in all four of the cell claims. On September 9, 2009, Northern Gold entered into an option agreement with ValGold Resources Ltd. (ValGold) covering 35 claims of its 100% owned Garrison Project (Newfield, Garrcon and Brydges Groups). Under the terms of the agreement, Northern Gold could earn up to an undivided 80% interest in the property in two phases. Subsequently, under the terms of a sales agreement executed on April 7, 2011, Northern Gold purchased ValGold's 100% interest in the Garrison Project with TSX Venture approval of the transaction granted on April 14, 2011. Moneta owns 100% of the surface rights of all of the patented mining claims on the Garrison property, which are subject to annual land taxes and annual mining fees.

In consideration for this sale, ValGold received:

- A cash payment of C$325,000 and a promissory note for an additional C$325,000 to be paid on or before August 13, 2011.
- 16 million common shares in Northern Gold (Northern Gold Shares), giving ValGold an aggregate holding of 17,437,500 common shares of Northern Gold, representing ownership of approximately 14.8% of the issued and outstanding shares on a non- diluted basis.
- A 2.0% net smelter return royalty (NSR royalty) of which (i) half (i.e., 1.0%) can be acquired by Northern Gold for C$5 million paid to ValGold at any time upon the earlier of 36 months following the date of closing and the commencement of commercial production, and (ii) the remaining 1.0% can be acquired for a further payment of C$10 million at any time upon the earlier of 72 months following the date of closing and the commencement of commercial production.

On May 10, 2018, Metalla Royalty & Streaming announced the friendly acquisition of ValGold and, as a result, acquired the 2.0% NSR royalty on the 35 claims as described above.

In addition, 12 of the 35 acquired patented claims (the Garrcon Group) are subject to a prior NSR royalty held by Osisko Gold Royalties, which acquired the royalty as part of its royalty portfolio acquisition from Teck Resources (formally Cominco) announced on October 19, 2015 (Figure 4-4). The royalty is comprised of a 1.5% NSR above the 400 ft level and 2.0% NSR below the 400 ft level) on the Garrcon claim group (claims L26120 to -22, L26341 to -46, and L38949 to - 51), which cover both the Jonpol East Zone and the Garrcon Zone. The NSR royalty agreement was originally made between previous property holder Jonpol Explorations Ltd. and Cominco.

On April 12, 2011, Northern Gold announced that it reached a definitive agreement with June Linton, Lynn Troke and Karen Wickett to acquire a 96.4% interest in the Linton Claim Group consisting of eight patented mining claims contiguous to the eastern boundary of the historic Brydges Group. The acquisition of this strategic group of patented claims increased the size of the Garrison property to 476.1 ha.

The patented claims were purchased in two transactions. The first transaction consisted of the purchase of a 100% interest in seven of the claims (26075 to 26076, 26116, 26384 to 26386 and 30576). They were purchased for a cash payment of C$91,000 plus 107,692 common shares of Northern Gold, and a 1.0% NSR royalty, with TSX Venture approval of the first transaction granted on April 25, 2011 (Figure 4-4). The second transaction was the March 23 and May 2, 2012 purchase of five-sevenths (71.4%) interest in the eighth patent (26074) for a cash consideration of C$20,000 and a 1.0% NSR royalty, to be apportioned to the vendors on a pro rata basis (Figure 4-4).

In a third transaction on April 30, 2012, Northern Gold purchased the remaining two-sevenths (28.6%) interest in patent 26074 for a cash payment of C$8,000 from Carol Linton Whelpdale, with no stock or royalty payments.

On April 11, 2013, Northern Gold acquired two unpatented claims (4259530 and 4259531) from Mhakari Gold Corporation on the eastern edge of the Linton Group in consideration for C$25,000 cash payment to Mhakari, 25,000 common shares of Northern Gold Mines Inc., and 1.0% NSR royalty, of which the entire 1.0% can be bought back by Osisko for C$250,000 (Figure 4-4).

On November 27, 2012, Northern Gold acquired one unpatented claim (4264611) from Jacques Robert and Randall Salo on the eastern edge of the Linto Group in consideration for C$15,000 cash payment (equally split among Robert and Salo), 20,000 common shares of Northern Gold Mines Inc. (equally split among Robert and Salo), and a 1.0% NSR royalty, of which 0.5% can be bought back by O3 Mining for C$250,000 (Figure 4-4).

On February 24, 2021, Moneta Porcupine Mines Inc. acquired O3 Mining's Great Bear properties, including the Garrison properties, hence transferring ownership of all these unpatented and patented cell claims to Moneta Porcupine Mines. Moneta Porcupine Mines Inc. has officially changed its name to Moneta Gold Inc. on June 24, 2021.

4.3 Exploration Plans & Permits

Moneta has advised the QP that it is not aware of any environmental liabilities within the Golden Highway area or of any restrictions beyond those covered by existing legislation and regulation with respect to potential mine sites and tailings and disposal sites should future development take place. During the site visit, the QP did not notice any significant environmental liabilities on the property. Some of the property has been logged for timber.

The *Ontario Mining Act* requires companies to apply for a three-year exploration permit prior to undertaking any exploration activities involving heavy equipment. The process includes First Nations consultation. Moneta submitted and obtained exploration permits for Golden Highway for its 2013 to 2019 drilling programs. Moneta's current exploration permit PR19-000171 is valid until September 05, 2022, and its renewal process is currently underway.

4.4 First Nations Agreements

The Tower Gold Project is currently at an early development stage. No people reside full-time within the project area; however, the project falls within the traditional territory, but not the actual Indian Reserve, of the Wahgoshig First Nation (Wahgoshig). The Wahgoshig were formally known as Abitibi Band of Abitibi Indians or Abitibi #70. Its people are of Algonquin or Cree descent and the main community is approximately 10 km northeast of the project area. The community is a political member of the Algonquin Anishinabeg Nation Treaty Council. An Exploration Agreement, sometimes referred to as a Memorandum of Understand (MOU), was signed between Moneta and Wahgoshig in 2019. Moneta has hired members of the Wahgoshig (Wahgoshig Resources LP) to assist Moneta's drilling program, with contracts to deliver core from the drill sites to Moneta's core logging and storage area in Timmins and Garrison, as well as to clear snow during the winter months. Moneta has continued consultation with the Wahgoshig and has documented the correspondence with the First Nation from 2018 to 2022. It is anticipated that Moneta will continue community and government meetings into the future, as a requirement of Ontario's *Environment Assessment Act*. On August 15, 2013, Moneta announced that it had entered into an exploration agreement with the Wahgoshig First Nation community (Wahgoshig) near Garrison Township, Ontario. The agreement establishes a commitment by Moneta to develop an ongoing relationship with Wahgoshig in the areas of the Tower Gold Project and provides Wahgoshig with an opportunity to participate in the benefits of Moneta's projects through training, ongoing communication and business development.

The company has also agreed to negotiate an Impact and Benefits Agreement (IBA) with Wahgoshig should construction or mining operations commence on any of Moneta's properties located on Wahgoshig traditional territory. In addition to Moneta's commitments to training, communication, community funding and business development, Moneta issued Wahgoshig common shares of Moneta and share purchase warrants. Further, 2% of all monies spent in undertaking exploration activities on the project (other than shaft dewatering and rehabilitation, construction of new exploration infrastructure and upgrades to existing exploration infrastructure) is paid annually to Wahgoshig.

4.5 Risks and Opportunities

There are no significant risk factors regarding the ability of Moneta to perform work on the 100%-owned patented mining claims and mining leases of the Tower Gold Project, where Moneta owns 100% of both the mining claims and the surface rights. Moneta has current work permits to perform work on the 100%-owned staked mining claims on the Tower Gold Project and sees no risk in performing work in these areas, where the surface rights are owned 100% by the Crown.

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

5.1 Accessibility

The Tower Gold Project is accessed by logging and drilling roads that extend south from Highway 101, east of Matheson, Ontario. The intersection for the main logging access road (Tower Road) is 32 km east of Matheson at 570730E and 5374755N UTM NAD 83. The mineral deposits are located approximately 4 km south of Highway 101 and accessed locally by a network of forestry logging and drilling roads of varying quality (Figure 4-1).

5.2 Climate and Physiography

The climate is typical of northern boreal forest areas with the project area experiencing four distinct seasons. There are extended periods of sub-zero temperatures during the months of November through March. The daily average winter temperature in January is -6.2°C with daily average maximum and minimum of -10°C and -22.8°C, respectively, and an extreme daily minimum of -45°C. The daily average summer temperature in July is 18.3°C with daily average maximum and minimum of 24.8°C and 11.8°C, respectively, and an extreme daily maximum of 38.3°C. The region has average annual precipitation of approximately 78.6 cm including approximately 57 cm of rain, largely during the months of April to October and up to 22 cm of winter snow accumulation, occurring largely between the months of November and April (Environment Canada website, 1981 to 2010 data).

Mineral exploration can be conducted year-round. However, because of the swampy ground conditions on much of the project area, exploration activities such as geophysical surveys and diamond drilling are more easily conducted in the winter due to better accessibility after freeze-up. Drilling at other times is possible on a large portion of the property.

Regional-scale, poorly drained swamp dominates much of the project area. The project topography is relatively flat with an elevation of approximately 330 m above sea level. Relief is generally only a few metres, with drier sandy esker ridges and dunes rising up to 25 m above open and forested swampy areas in western parts. The project area has very limited outcrop. There are areas of swamp in the southern and western parts.

All streams and rivers in the project area are part of the Arctic watershed. The Pike River meanders through the centre of the Golden Highway property. It is a potential source of water for mining operations but provides little drainage for the low-lying terrain. Drainage patterns are poorly developed due to the low topographic relief and the extensive clay cover immediately below the vegetation layer. Several small lakes occur on the Golden Highway property. Perry Lake, the largest, is situated in the northwest corner of the property. Some of the diamond drill holes form natural wells.

Overburden depths on the property are variable and generally deep, with depths up to 80 m. There are isolated areas of bedrock exposure located in the centre of the Michaud Parcel and to the southeast marking the southern limit of the Pike River valley.

Vegetation consists of low stands of black spruce and alder in the wetter areas, with stands of birch, poplar and jack pine in the higher drier sandy areas.

5.3 Seismicity

Spectral acceleration (Sa) and peak ground acceleration (PGA) for various return periods were obtained for the project site using the Natural Resources Canada Seismic Hazard Calculator (NRCAN, 2015). The calculator provides these parameters for events up to a 1:2475 year seismic event. Based on NRCAN 2015 calculator the site has very low seismic events for various return periods (NRCAN, 2016).

The PGA for various return periods is summarized in Table 5-1.

Table 5-1: Peak Ground Acceleration

Return Period (Years)	Probability of Annual Exceedance Per Year	PGA (g)
100	0.01	0.009
475	0.0021	0.031
1000	0.001	0.050
2,475	0.000404	0.088

5.4 Local Resources and Infrastructure

There are excellent local resources and infrastructure to support exploration and mining activities in the region, which has a long history of both activities. Mining equipment and personnel are readily available from the towns of Matheson, Kirkland Lake and Timmins. Timmins and Kirkland Lake are major supply and service centres for the mining industry. They are serviced by modern telecommunications, commercial airlines or rail service and truck transportation.

Communications and power are available along Highway 101 and Highway 672. Water resources are locally available. Cell phone coverage extends to the property. Electrical power is supplied to various mining and mineral exploration projects along Highway 101 from west of Matheson to the Quebec border.

Moneta maintains secure and well-equipped core logging and storage facilities in north Timmins at 2679 Highway 655 and at Garrison Township, as well as an office in downtown Timmins at 65 Third Avenue.

Moneta holds sufficient surface rights for potential future mining operations (e.g., tailings storage areas, waste disposal areas and a processing plant).

There are numerous operating gold and base metal mines in the region, and the necessary infrastructure for mining and mineral exploration, including skilled labour, is available locally. The project is located about 100 km east of the City of Timmins, Ontario (2016 population: 41,788), a major mining centre with a skilled and educated work force. Timmins also has a commercial airport and rail service. Other population centres in the area include Matheson (2011 population: 2,410) and Kirkland Lake (2016 population: 7,981); the latter is an active mineral exploration and mining town with rail service.

Existing surface site infrastructure at the Garrison property consists of the following:

- gravelled site access road from Highway 101 allowing two-wheel drive vehicle access
- core shack and office facility (completed in early 2013 and located near the Jonpol deposit project site, it hosts separate core logging, cutting and sampling rooms, several offices and a meeting room)
- secured maintenance shed/garage for storing tools and outdoor equipment

- a 200 kW, diesel-powered electric generator for the office and core shack facility (in 2014, Northern Gold completed a 3 km long, single-phase electrical transmission line to connect the facility with the grid at Wahgoshig First Nation)
- decommissioned railway boxcars for storage of sample rejects and pulps
- historic and Moneta drill core (this has been palletized or placed on core racks at the core storage facility)
- weather-recording station.

A 115 kV power transmission line of unknown capacity is located approximately 10 km southeast of the property along Highway 672 and water is readily available in the vicinity of the property.

The Garrison property and adjacent Moneta claim holdings may provide sufficient area to establish mine infrastructure such as tailings and waste storage areas, heap leach pads, and a processing plant site. More detailed site engineering is required to confirm the suitability and sufficiency of the current property area for final mine and processing facilities, should they be constructed.

Many of the Garrison property mining claims are patented, with Moneta owning the surface rights.

6 HISTORY

The area between Matheson and the Quebec border has a long history of prospecting, mineral exploration, and gold mining that dates back to the beginning of the 20th Century. Production from mines in the area began in 1911. No mineral production has occurred from the Golden Highway Property. Limited trial production from the Garrcon deposit was completed between 2014 and 2015.

6.1 Golden Highway Property

6.1.1 Historical Mining

No historical mining has occurred on the Golden Highway property.

6.1.2 Recent History of Mineral Tenure

Claim staking in the area increased in 1944 as a consequence of an Ontario Department of Mines report which suggested that the Destor Porcupine Fault Zone (DPFZ) passed through the original Moneta patented claims in Michaud Township. These patents had been staked as claims in 1939 and optioned to Moneta Porcupine Mines Ltd. (a predecessor company) in 1945. Since that time various portions of the property have been held and explored by a succession of companies. Moneta's current land position was primarily acquired through staking and by a series of joint venture agreements dating from the late 1980's onward.

In 1986, Moneta activated exploration on its patents in Michaud Township and optioned the immediately adjacent Nahanni Mines claim group. This claim group was taken to lease and later became known as the Nufort leases (LEA-108690 and LEA-108691). From 1988 to 1989, Unocal Canada Ltd. optioned the property and completed the Nahanni (Nufort) 50% earn-in on behalf of Moneta for total expenditures of $1 million and payments of $100,000. Unocal dropped its option in 1989 due to a corporate decision to terminate exploration in Canada and the property was returned to Moneta.

Independence Mining Company Inc. optioned the property in 1991 and completed its minimum expenditure commitment of $400,000 before returning it. The agreement called for exploration expenditures of $4 million and payments of $290,000 for a 50% property interest.

Lac North America Ltd. (acquired by Barrick Gold Inc. in August, 1994) optioned the property from Moneta in 1994 including Moneta's interest in the Nufort Leases. The agreement called for total expenditures of $3.5 million including payments of $225,000 for a 60% interest on the 100% Moneta ground. Lac North America also optioned the Nufort lease interests in 1995 under a separate agreement that required total expenditures of $3.0 million and payments of $200,000 for an overall 70% interest. The combined property was returned to Moneta in 1998 following the downsizing of Barrick's exploration activities.

In 1998, Moneta acquired the remaining 50% interest in the Nufort leases for a 100% interest, extinguishing all underlying encumbrances.

In 2001, an option agreement was entered into with Acrex Ventures Ltd. covering a significant portion of the southern staked claims and larger Nufort lease, as well as several patents. Acrex vested in a portion of the option in 2004 by meeting earn-

in requirements and both companies formed the Michaud Joint Venture. In 2009, Moneta acquired the 50% Acrex ownership interest in the Michaud Joint Venture ground for $1 million, terminating the joint venture.

St Andrew Goldfields Ltd., optioned the southern portion of the property in Barnet and southeastern Michaud Township in 2001 with a 50% earn-in expenditure level of $200,000 and staged option payments, satisfied in 2009 as part of a property exchange agreement. In this property exchange Moneta was granted a 100% interest in 29 claim units in Cody Township, a 100% interest in three claim units in Guibord Township, and a $50,000 cash payment from St Andrew Goldfields Ltd. In return, and, in order to address expenditure commitments, the Agreement granted St Andrew Goldfields Ltd. a 75% vested interest in the Guibord property and 50% vested interest and operatorship in the Barnet Joint Venture.

In 2004, the Perry Lake property was staked (68 claim units) and the Turner Lake (ten claim units) and Dyment 3 (three claim units) properties were optioned. In 2006, an additional ten claim units were staked adjoining the Perry Lake block to the north.

In November, 2007, Moneta entered into an agreement with a subsidiary of Newmont Mining Corporation to acquire Newmont's 50% interest and operatorship in a joint venture known as the Windjammer property comprised of two mining leases (22 claim units) in Garrison and Michaud Townships. Moneta issued 4,380,000 common shares to Newmont as consideration for the acquisition. A subsequent February, 2009 vesting order from the Mining Commissioner increased Moneta's interest to 100% in the Windjammer property.

Moneta also staked three claim units in 2008. A total of eight claim units were acquired in Michaud Township by purchase (four claims) and staking (four claims) in 2010. In 2011 Moneta staked an additional two claim units in Michaud Township and successfully renewed three mining leases within the Golden Highway project for a further 21 years. A fourth mining lease was renewed in 2012, also for 21 years.

In August, 2019, Moneta acquired three single (64.2 ha) and three boundary cell mining claims (64.2 ha) contiguous with the eastern edge of the Golden Highway project, within Garrison Township, covering a total of 128.4 ha. Moneta also staked one single cell claim in the northeast area of the project in 2019 for 21.4 ha.

6.1.3 Property Results – Previous Owners

This section summarizes the historic exploration in the immediate area of the 55, South West, Windjammer and Discovery deposits, for which the resource estimation has been undertaken.

In 1947 to 1948, Wright-Hargreaves Mines Ltd. drilled four holes totalling 1,346 m on the Windjammer property (WH series). This program completed a section across the main iron formation east of the current Windjammer South deposit with a best value of 6.9 g/t Au over 0.32 m reported.

In 1966, also on Windjammer, Dalhousie Oil and Gas completed two drill holes in the northern part of the property with no assays reported.

In 1980 Windjammer Power and Gas completed two diamond drill holes in iron formation on the Windjammer property (WJMPH series), with a best result of 36.6 g/t Au over 0.32 m.

From 1983 to 1989, after optioning the Windjammer portion of the property, Noranda Exploration Co. Ltd. carried out considerable work. One diamond drill hole was completed in 1983 in the southeast section, with a best assay of 1.38 g/t Au over 1.23 m. In 1985 two holes were drilled through the DPFZ intersecting green carbonate, felsic tuff and basalt with a best result of 4.3 g/t Au over 0.60 m. The 1987 program included a 41 km grid with magnetometer and IP surveys, followed

by a Phase 1 drill hole program with 30 holes totalling 9,626.70 m. Phase 2 was completed in 1988 with five holes (2,404.50 m) in the South Zone and 11 holes (4,287.30 m) in the North Zone. Later that year two additional holes were drilled in South Zone (823.20 m) and one hole in the North Zone (395.67 m). This program was continued into 1989 with two holes each in the South Zone (958.90 m) and North Zone (1,019 m). These drill holes comprise the WJ series in the database.

6.1.4 Previous Exploration History

Table 6-1 summarizes the known exploration history of the project prior to Moneta's exploration in the area. It provides a general listing of exploration records available for the Golden Highway property, primarily sourced from government assessment files and reports (Puritch et al., 2012).

Table 6-1: Golden Highway - Summary of Historical Exploration and Development Activities

Year	Company	Exploration	Township
1945	Koulomzine	Mag survey, hole 6, 8, 9, 12	Michaud
1946	Clodan	Mag survey	Michaud
1946	Moneta	Holes 1 to 18, geological report	Michaud
1966	Dalhousie Oil and Gas	DM66-1 and 2	Michaud
1967	Amax	MR/H/W-1 to 40, overburden drilling	Michaud
1968	Amax	KX25-67 and KX26-68	Michaud
1970	Renzy Mines	Holes 1 to 12	Michaud
1972	Hollinger Mines	Mag survey	Guibord, Michaud
1979	Amax	Geological survey	Michaud
1980	Redstone	Mag survey, horizontal loop	Michaud
1980	Windjammer Power	Summary report, Holes 1 & 2	Michaud, Garrison
1981	Lacana	Geophysical surveys	Michaud
1981	Nahanni	Mag and VLF survey	Michaud
1981	Redstone	Mag survey	Michaud
1981	Tesluk	Drill hole 81-1	Michaud
1982	Gold Fields	Mag and VLF survey	Michaud, Guibord
1982	Nahanni	Drill holes M-82-1 to 4 & Geological mapping	Michaud
1982	Selco	Geophysical surveys (IP and Mag)	Michaud
1983	Moses	Drill holes JM-3 and 4	Michaud, Garrison
1983	Nahanni	Mag and VLF survey	Michaud
1983	Nahanni	Drill holes M-83-5 to 7, Mag and VLF survey, Geological mapping, R83-1 series, Overburden drilling, exploration report	Michaud
1983	OGS - Abitibi Project	Airborne Mag Survey	Michaud, Barnet
1984	Asarco	Geological mapping, Drill hole DPL-1	Michaud
1985	Falconbridge	Drill holes 659-04 to 6 , IP survey	Michaud
1985	Meunier	Geological report	Michaud
1985	Noranda	Mag and VLF survey, drill holes WJ-85-1 and 2	Barnet, Michaud
1985	St Joe	Drill holes PR85-05 to 11	Guibord, Michaud
1986	Hennessey	Mag survey	Michaud
1986	Kidd Creek	Mag and VLF survey	Michaud
1987	Goldfields/Lacana	MPH Ground Mag Survey, IP	Michaud
1986	Lacana	Drill holes MD-1-86 and 2	Michaud
1986	Nahanni	Drill holes NM-86-8 to 13	Michaud
1986	Noranda	Geological mapping, drill holes GR-86-01 and 2	Michaud

Source: Puritch et al., 2012.

6.1.5 Production History

No mineral production has occurred on the Golden Highway property.

6.1.6 Historical Resource Estimates

Initial preliminary internal historical resource estimates were prepared by Barrick Gold Inc. (Barrick) in 1996 and 1997.

Seven mineral resources have been completed on the Golden Highway property. Four of the mineral resource estimates have been completed since the implementation of the current standards set forth in NI 43-101 and current CIM standards for mineral resource estimation (as defined by CIM Definition Standard on Mineral Resources and Mineral Reserves dated May 10, 2014). The authors of this technical report have reviewed the MRE's and determined that the MRE's were prepared by QPs in accordance with the standards set forth in NI 43-101 and Canadian Institute of Mining ("CIM") current at the time of publication of each resource and are considered reliable. The authors of this technical report have not done sufficient work to classify these historical estimates as a current mineral reserves or mineral resources and consider these estimates as "historical resources" and the issuer is not treating the historical estimate as current mineral resources. The mineral resource estimate reported herein supersedes all previously published MREs for the Golden Highway property and therefore all the MREs for the Golden Highway property discussed in this section (Section 6.1.6) are considered historical in nature.

In 2008, updated in 2009, a near-surface resource estimate was completed on the Windjammer South Zone by D. George Cargill, Ph.D., P.Eng., of Cargill Consulting Geologists Limited. This resource included an estimate of indicated and inferred resources. This resource was based on 26 drill holes (8,875 m) completed by Noranda (1983 to 1989) and 21 drill holes (7,097 m) drilled by Moneta from 2007 to 2008 (Cargill, 2008, 2009).

An NI 43-101 mineral resource estimate was prepared by P&E Mining Consultants Inc. for the Golden Highway property (December 01, 2011) which comprised both underground and surface resources totalling 33,533,000 tonnes at 0.99 g/t Au in indicated resources for 1,071,000 contained ounces and 47,837,000 tonnes at 1.35 g/t Au in inferred resources for 2,069,000 contained ounces (Puritch et al., 2012a).

An updated NI 43-101 mineral resource estimate and preliminary economic assessment (PEA) was conducted by P&E Mining Consultants Inc. (P&E) on the Golden Highway property in late 2012. The updated mineral resource was reported by way of a press release on October 25, 2012. It was based on 349 surface diamond drill holes completed on the Windjammer (South/Central/North), Gap, South West, and 55 Zones. P&E's updated NI 43-101 mineral resource estimate included indicated and inferred resources with an open pit cut-off grade of 0.37 g/t Au, and an underground cut-off grade of 2.00 g/t gold.

The PEA considered the development of the Windjammer (South/Central/North), Gap, South West, and 55 Zone pits, and the underground resources on the South West Zone. The PEA results released on November 1, 2012 estimate potentially economic portions of the mineral resources before dilution and mine extraction that include combined open-pit and underground indicated resources at cut-off grades of 0.40 g/t Au and 2.0 g/t Au for open-pit and underground resources, respectively (Putrich et al., 2012b).

An updated NI 43-101 mineral resource estimate was conducted by Micon International Limited (Micon) and reported in a technical report dated February 28, 2019 on the underground resources of the Golden Highway property. The resource estimate was conducted on the South West, 55, West Block, Windjammer South, Discovery and Windjammer North areas and was reported at a 3.0 g/t Au cut-off grade. An open pit resource was unable to be developed on the Windjammer Central area (at various cut-off grades) (Hennessey and Gowans, 2019).

An updated NI 43-101 mineral resource estimate was conducted by Micon and reported by way of a press release on November 26, 2019 on the underground resources of the South West Zone of the Golden Highway property. The resource estimate reported at a 3.0 g/t Au cut-off grade. An updated NI 43-101 mineral resource estimate and PEA was conducted by Micon on the Golden Highway property and reported on October 21, 2020. The resource estimate was conducted on the South West, 55, West Block, Windjammer South, Discovery and Windjammer North areas and was reported at a 3.0 g/t Au cut-off grade, except for the South West Zone which used a 2.6 g/t Au cut-off grade (Hennessey et al., 2020).

An updated NI 43-101 mineral resource estimate and PEA was conducted by Micon on the Golden Highway property and reported on January 22, 2021. The resource estimate was conducted on the South West, 55, Westaway, West Block, Windjammer South, Discovery and Windjammer North areas and was reported at a 0.30 g/t Au and 3.0 g/t Au for open-pit and underground resources, respectively. Open pit indicated resources of 50,478,000 tonnes containing 1,511,900 gold ounces at a grade of 0.93 g/t Au and open pit inferred resources of 34,035,000 tonnes containing 1,207,200 gold ounces at grade of 1.10 g/t Au were reported. Underground indicated resources of 4,859,000 tonnes containing 632,300 gold ounces at a grade of 4.05 g/t Au and an inferred underground resource of 15,711,000 tonnes containing 2,128,100 gold ounces at a grade of 4.21 g/t Au were reported. A total Golden Highway underground and open pit combined indicated resource of 55,337,000 tonnes containing 2,144,200 gold ounces at an average grade of 1.21 g/t Au was reported and a total Golden Highway underground and open pit combined inferred resource of 49,746,000 tonnes containing 3,335,300 gold ounces at an average grade of 2.09 g/t Au was reported (Hennessey et al., 2021). The 2021 mineral resource is superseded by this report.

6.2 Garrison Property

The information in this section has been derived from a 2019 N.I. 43-101 report for the Garrison property by Micon International Ltd. A full reference is provided in Section 27 (Hennessey, 2019).

Exploration on the property began in 1935 (Satterly, 1949). The mining claims that make up the property are patented and as a result, very little of the exploration work carried out on the property has been filed, so the data are not in the government assessment work files.

Initial drilling on the property was carried out from 1935 to 1946 on the historic Newfield, Garrcon, Brydges, Linton, Hastings and Wright-Hargreaves claim groups. Additional drilling was completed in 1983 by Long Lac Mineral Exploration Ltd. on the former Wright- Hargreaves claim L43903 (the 903 Zone) and by Kerr Addison Mines on the former Garrcon claim group claims L26344 and L26343. This drilling is not in the drill hole database nor presented in this report.

All current and most historic drill hole data have been compiled into Moneta's drill hole database. The most important historic data relating to the property are from the exploration work completed since 1985 by Jonpol Explorations Ltd. (and its partners, Cominco, Lac Minerals, and Hillsborough Resources), ValGold, Northern Gold, Osisko, O3 and Moneta. Moneta's current drill hole database includes holes completed between 1985 and the present. The majority of work has concentrated on the Jonpol deposit, Garrcon deposit and the 903 Zone areas within the property. The true thickness of the mineralized zones identified from previous drilling are 60% to 95% of the sample lengths. Mineralization at the Garrcon deposit was previously interpreted to be striking approximately 075° and dipping 50° to the south; mineralization for Jonpol was previously interpreted to be striking approximately 070° and dipping 75°-85° to the south. Both mineralization models were used as a base for current interpretation.

Bath (1990) summarized the exploration and development from 1935 to 1989 for the area within and surrounding the present property. Squair (2000) further summarized exploration conducted up to 1997. General and deposit specific exploration history is presented in the following subsections.

6.2.1 General Property Exploration History Since 1985

1985 to 1992: In 1985, the current property was acquired by Jonpol Explorations Ltd. (Jonpol). From 1985 to 1992, Jonpol and its partners completed 80,604 m of surface BQ diamond drilling in 300 holes, of which:

- 237 holes (65,637.5 m) were focused on the Jonpol deposit and its strike extents. The drilling defined five zones, JD, JP, RP, Garrcon West and Garrcon East. The latter two zones are now collectively referred to as the East Zone to avoid confusion with the Garrcon deposit.
- 48 holes (10,628.0 m) were focused on the Garrcon deposit and its strike extents.
- 15 holes (4,338.6 m) were focused on the eastern extension of the 903 Zone on claim L29734.

1990: Jonpol and T&H Resources Limited (T&H) concluded an option agreement with Lac Minerals Ltd. (Lac Minerals) which expanded the existing property and allowed Jonpol and T&H the opportunity to conduct underground exploration on the Jonpol Zone, investigate the westward extension of the JD Zone onto the Hastings ground (specifically claims L39876 and 43863), and to investigate the 903 Zone (specifically claims L43903 of the Wright-Hargreaves Group and L43862 of the Hastings Group) which extends eastward onto the southeast corner of the Garrison property (claim L29734) (Squair, 2000).

1991: The Lac Minerals agreement was terminated and the Hastings and Wright-Hargreaves properties along with five peripheral claims south of the Garrcon were returned to Lac Minerals (Squair, 2000).

1995 to 1996: In October 1995, Jonpol and T&H optioned the Linton and Brydges claim groups to Moneta Porcupine Mines Inc. (Moneta). Under the agreement Moneta could earn an undivided 50% interest in the 16 claims by tendering 80,000 Moneta shares, a $7,000 payment and expending $500,000 in surface exploration on the property before October 26, 1998. A further 25 % interest in the claims could be earned by Moneta by expending an additional $1.0 million on surface exploration before October 26, 2000. The exploration program was joint ventured with Alto Minerals Inc., which conducted lithogeochemical sampling, mapping and real section IP geophysics to assess gold-bearing sulphide zones in this sector of the property. The joint venture completed 10.7 line-km of real section IP on lines 100 m apart over the claims, and tested selected anomalous sections with four BQ diamond drill holes (MG-96-1 to 4) totalling 1,080 m (3,544 ft.). The option agreement had lapsed by the time of Squair's (2000) report.

1996 to 1997: On July 26, 1996, Jonpol and T&H signed an agreement with Hillsborough Resources Limited (Hillsborough) whereby Hillsborough was granted an option to carry out an advanced exploration program at the JP Zone. Work completed is summarized in Section 6.3. The option agreement was terminated in 1997.

2005: ValGold Resources Inc. (ValGold) secured 100% ownership of the property's Newfield, Garrcon and Brydges claim groups in June 2005 (subject to the Cominco NSR royalty on the Garrcon claim blocks). Initial work consisted of data review and preliminary data compilation as part of the planning process for a diamond drilling program.

2009: In September 2009, Northern Gold entered into an Option Agreement with ValGold covering the Garrison Gold property (historic Newfield, Garrcon and Brydges claim blocks).

2011: Under the terms of an agreement announced on April 7, 2011, Northern Gold purchased ValGold's 100% interest in the Garrison Gold property (historic Newfield, Garrcon and Brydges claim blocks) with TSX Venture approval of the transaction granted on April 14, 2011. On April 12, 2011 Northern Gold announced that it reached a definitive agreement with June Linton, Lynn Troke and Karen Wickett to acquire a 96.4% interest in the Linton Claim Group which has now been incorporated into the Garrison property.

2012: On April 30, 2012, Northern Gold purchased the remaining 3.6% interest in the Linton Claim Group (two sevenths (or 28.6%) interest in claim 26074) from Carol Linton Whelpdale.

2013: An additional 20 patented claims, including the historic Hastings and Wright- Hargreaves claim blocks, were acquired by the company from a subsidiary of Barrick Gold Inc. on September 10, 2013. These are referred to as the "Lac Group".

2015: On November 6, 2015, Oban Mining announced the acquisition of Northern Gold including the Garrison property and the entirety of the Golden Bear Property Group. Northern Gold became a 100% owned subsidiary of Oban. On June 14, 2016 Oban changed its name to Osisko Mining Inc. and later transferred Northern Gold properties into a wholly owned subsidiary O3 Mining Inc.

2021: Moneta announced on February 24, 2021 the purchase of O3 Mining's Great Bear properties and drilled 10 holes for a total of 6,630 metres therein validating some prior results reported for the Garrcon deposit.

6.2.2 Garrcon Deposit Exploration History

The exploration and development history from 1935 to 1988 has been extracted from Bath (1990) with metric equivalents inserted by Howe (2014):

1935: The Consolidated Mining and Smelting Company of Canada Ltd. optioned 9 claims from a Mr. McKenzie, sank a 256 foot (78 metre) deep inclined (to the south at 62 degrees) shaft, performed about 1,033 feet (315 metres) of lateral exploration work on the 120 and 240 foot (36.5 and 73 metre) levels, and hoisted about 7,612 tons (6,920 tonnes) of waste material. By year end, about 10,550 feet (3,216 metres) of underground and surface diamond drilling had been completed (Young 1937, Sinclair et al. 1937, Sinclair et al. 1938).

1936: Garrcon Mines Ltd. was incorporated in May with Consolidated Mining and Smelting controlling the company and acting as operator on the Garrcon Mines property. 1,745 feet (532 metres) of lateral underground exploration work and additional underground diamond drilling were completed (Sinclair et al. 1938).

1937: 4 feet (1.2 metres) of shaft sinking, 1,542 feet (470 metres) of lateral underground exploration work, 21 surface holes totalling 5,070 feet (1,545 metres), and 33 underground holes totalling about 5, 905 feet (1,800 metres) were diamond drilled. Before operations were suspended at year end, aggregate lateral underground exploration work amounted to 636 feet (194 metres) on the 120 foot (36.5 metre) and 3,655 feet (1,114 metres) on the 240 foot (73 metre) levels (Sinclair et al. 1939), aggregate diamond drilling totalled 16,099 feet (4,907 metres) (of which 11,029 feet (3,362 metres) were drilled underground) and about 520 feet (158 metres) of trenching had been completed (Satterly 1949).

1941: Consolidated Mining and Smelting diamond drilled one 293 foot (89 metre) hole near the northeast corner of claim 38950.

1946: Consolidated Mining and Smelting completed a magnetic survey.

1949: By this time, Consolidated Mining and Smelting controlled in addition to the Garrcon property, 3 contiguous patented claims to the west (claim Nos. 39949-51). Before 1949, trenching and 4 holes totalling 2,110 feet (643 metres) were diamond drilled on these claims (Satterly 1949).

1983: Kerr Addison Mines Ltd. diamond drilled 10 holes on the 12 Consolidated Mining and Smelting/Garrcon Mines (by this time, optioned by Cominco Ltd.) claims (Jonpol Explorations Ltd. 1987 Annual Report).

1985: Jonpol Explorations Ltd. acquired the right to earn a 49% interest in the 12 Cominco/Garrcon Mines claims.

1986: Diamond drilling by Cominco was financed by Jonpol Explorations and delineated 2 additional auriferous zones (the North and South Zones). These were described (The Northern Miner, February 10, 1986) to be stratabound and not vein type. By July, Jonpol had earned a 49% interest in the property (The Northern Miner, July 21, 1986). By September, the South Zone was reported (The Northern Miner, September 29, 1986) to be hosted by altered sediment, to average 6 feet (1.8 metres) in width, and to have been traced by diamond drilling to the (vertical) 500 foot (152 metre) level along about l,300 feet (396 metres) of strike. The North Zone had by this time been traced along strike for about 200 feet (61 metres), to the (vertical) 500 foot (152 metre) level, averaged 10.7 feet (3.3 metres) in width, and was reported to be hosted by a wide shear.

1987: By midyear, drilling funded by Jonpol Explorations and supervised by Cominco had established reserves of 1.5 million tons (1.36 million tonnes) of material averaging 0.04 ounce of gold per ton (1.37 grams gold per tonne) above the 200 foot (61 metre) level near the shaft. The South Zone was indicated to average 0.15 ounce of gold per ton (5.14 grams gold per tonne) across 3.8 feet (1.2 metres) along l,400 feet (427 metres) of strike. The North Zone was reported to have been drill defined along 300 feet (91 metres) of strike. A new auriferous zone within the "Munro Shear" was reported to average 10 feet (3 metres) in width, to be drill defined along 250 feet (76 metres) of strike, with a mineralized drill core length of 36.9 feet (11.3 metres) averaging 0.30 (cut) ounce of gold per ton (10.28 grams gold per tonne - cut) intersected within it (Jonpol Explorations Ltd. 1987 Annual Report). By July, Jonpol Explorations/Cominco were reported (The Northern Miner, July 27, 1987) to have spent $500,000 and that an additional $2 million was budgeted for additional exploration during the next 2 years.

1988: Jonpol Explorations announced in a news release dated February 2, 1988 that aggregate drill defined reserves were estimated to be 350,900 tons (319,000 tonnes) of material averaging 0.191 ounce of gold per ton (6.55 grams gold per tonne) above the (vertical) 500 foot (152 metre) level in three distinct zones. Later, Jonpol Explorations acquired a 100% interest in the property following Cominco's having diamond drilled 79 holes totalling about 70,168 feet (21,387 metres) since 1983 (A. D. Drummond, project engineer, Jonpol Explorations, pers. comm. 1988). In July, Lac Minerals obtained the right to acquire a 50% interest in the (Jonpol Explorations) properties (The Kirkland Lake Northern Daily News, July 7, 1988; The Northern Miner, July 11, 1988), and in November, Lac Minerals optioned the property (The Northern Miner, November 21, 1988).

1991: The Lac Minerals agreement was terminated.

2006 to 2009: ValGold completed three BQ-sized and 11 NQ-sized diamond drill holes on the Garrcon Zone, totalling 5,709 m.

2009 to 2015: Starting in 2009, Northern Gold completed a variety of exploration work on the property, focused on Garrcon. The work included diamond drilling, geophysical surveys, metallurgical work, surface sampling, hyperspectral core mapping, and a bulk sample.

2009: Satellite imagery covering 25 km^2 over the entire Garrison property was created; a due diligence review was conducted of the ValGold data to identify errors and omissions; and 11 NQ diamond drill holes were drilled on the Garrcon deposit totalling 2,330 m.

2010 & 2013: Garrison surface grid and magnetics/VLF EM geophysics were carried out.

2010: Garrcon drill hole collar survey – Between January 26 and May 30, 2010, Northern Gold utilized a differential global positioning system (DGPS) to identify multiple drill holes and historical grid lines on the "Cominco Grid" and reposition these

holes and grid lines to fit the ground-truthed model. The overall repositioning resulted in a roughly 10 m shift to the west for all "Cominco Grid" drill holes.

Garrison rehabilitation – Construction of new core storage pads, purchase of new storage racks as well as expansion of core shack building.

Garrcon surface stripping/sampling – Four areas were stripped of overburden with an excavator and washed using a Wajax fire pump. The total surface area exposed in all four areas is roughly 5,000 m^2. The stripped areas focused on multiple high-grade veins found east of the core shack along the Garrcon Shaft Zone. Channel samples (150 m) were cut on the newly exposed outcrops.

Garrcon metallurgical testing – Northern Gold submitted two composite samples of Garrcon mineralization to SGS Mineral Services of Lakefield, Ontario for preliminary metallurgical testwork.

Garrcon petrographic study – Northern Gold submitted fourteen drill core samples for petrographic study in 2010, in order to classify the rock types on the property based on petrographic textures.

2010 to 2014: Garrison Environmental Baseline Study/Permitting

2011 to 2014: Environmental baseline study/permitting: Activities included water quality sampling of the creeks, profile water sampling of the Jonpol vertical shaft and rock dump sampling at Jonpol for acid rock drainage (ARD) and metal leaching analyses. In 2013 Northern Gold began working on an advanced exploration closure plan for a bulk sample on the Garrcon deposit.

2011: A Garrison IP geophysical survey was carried out. Northern Gold continued a surface stripping program in the Garrcon deposit area in 2011. Five areas were stripped of overburden with an excavator and washed using a Wajax fire pump. In 2011, A.C.A. Howe reviewed the Garrcon deposit at the level of a Preliminary Economic Assessment (PEA) (Hannon et al., 2011). As this PEA is not current for the Issuer (Osisko), disclosure of the results herein is not allowed under N.I. 43-101.

2011 to 2012: Hyperspectral core mapping: In 2011, 4,900 m of Garrcon core was mapped using a Core Mapper™ hyperspectral imaging system and a project specific spectral library was generated.

2012: Garrison structural mapping: Terrane Geoscience Inc. was contracted to conduct mapping and an initial structural analysis on the Garrison property from October 10 to 21, 2012. The JP Zone was interpreted to occur in a possible trans-tensional zone (southward jog) related to D3 left lateral movement along the Munro Fault Zone potentially representing a dilational zone that acted as a control on gold mineralization. In the Garrcon area, the majority of the visible gold observed occurs in the (VJ2) flat lying extensional vein set. Pyrite enrichment in the axial planes of F3 folds was observed.

2010, 2011 & 2012: Garrcon diamond drill programs: Northern Gold's 2010, 2011 and 2012 Garrcon diamond drill programs focused on in-fill drilling and expanding the Garrcon deposit. A total of 91,493.1 m was drilled in 269 drill holes.

2013: Infrastructure changes: Construction of a new core shack and office facility located near the Jonpol deposit project site. The facility contains core cutting room, core logging and sample preparation areas, several offices and a meeting room.

2013: Northern Gold focused on surface mapping, grab sampling, surface stripping and channel sampling on the Hastings property. Three outcrops totalling 2,802 m^2 in area were stripped and channel sampled.

2013 to 2014: In late 2013, Northern Gold submitted a composite drill core sample from the Garrcon deposit to Kappes, Cassiday & Associates of Reno, Nevada for preliminary column leach testing of 100% minus 9.5 mm crushed material.

2014 to 2015: In 2014 and 2015, Northern Gold obtained a trial production mining permit through the MNDM, allowing for the extraction of up to 150,000 tonnes. Commencing in 2014, Northern Gold ultimately mined 73,534 dry tonnes which was processed at the nearby Holt Mill facility, recovering 3,516.3 ounces at a calculated average head grade of 1.55 g/t Au and recovery of 95.69%.

6.2.3 Jonpol Deposit Exploration History

The exploration and development history from 1935 to 1989 has been extracted from Bath (1990) with metric equivalents inserted by Howe:

> *Pre-1946: The claim group was staked by G. Adams and was later optioned to Wright- Hargreaves Mines Ltd. Wright-Hargreaves Mines diamond drilled 4 holes totalling 2,742 feet (Satterly 1949).*
>
> *1946-1947: Dome Exploration (Canada) Ltd. acquired the property and formed Newfield Mines Ltd. to explore it. Newfield Mines diamond drilled 20 holes totalling 16,164 feet (Satterly 1949), most of which were drilled in the south part of the property in an attempt to locate an eastern extension of an auriferous zone which had been intersected via diamond drilling by Wright-Hargreaves Mines on patented claim no. 43903. Results of the Newfield Mines drilling included auriferous intersections of 0.22, 0.17, 0.27, and 0.45 oz/ton Au across core lengths of 1.4, 4.8, 2.8, and 2.0 m, respectively, and additional "commercial" values in pyritic syenitic or feldspar porphyry.*
>
> *1987: T&H Resources Ltd. (a member of the Jonpol group of companies) optioned the northernmost block of 9 claims (nos. 26435-37, 39428-29, 43702-03, and 44331-32) from Newfield Mines (The Northern Miner, July 6, 1987). Newfield Mines retained a 30% net profit interest. Jonpol Explorations Ltd. (a member of the Jonpol group) later earned a 50% interest in the T&H Resources property interest. T&H Resources and Jonpol Explorations completed magnetic and VLF electromagnetic surveys (T&H Resources Ltd. 1987 Annual Report) and diamond drilled 38 holes totalling 29,289 feet.*
>
> *1988: Findore Resources Inc. optioned from Newfield Mines the southernmost block of 5 patented claims. Coastoro Resources Ltd. (a member of the Jonpol group) acquired a 20% interest of the T&H Resources X Jonpol Explorations interest in the northern 9 claims, and the Jonpol group raised $3 million to be spent in the area during 1988 (The Northern Miner, January 18, 1988). In February, Findore Resources optioned its Newfield Mines claims to Morgain Minerals Inc. and Orcana Resources Inc. (The Northern Miner, February 15, 1988). By March, gold mineralization on the Jonpol group controlled ground was reported (T&H Resources 1987 Annual Report) to consist of three mineralized Zones (the JP, the RP, and the JD) extending with breaks along about 2,200 feet of strike. By May, T&H Resources agreed to "... arrange a pooled interest merger with Coastoro..." (The Northern Miner, May 9, 1988). […] By June 30, aggregate drilling on the property totalled about 105,000 feet in 103 holes (A. D. Drummond, project engineer, Jonpol group of companies, pers. comm., July 15, 1988). In July, Lac Minerals obtained a right to acquire a 50% interest in the Jonpol group controlled part of the property (The Kirkland Lake Northern Daily News, July 7, 1988; The Northern Miner July 11, 1988). As of August 25, 1988, aggregate drilling by the Jonpol group totalled 132,697 feet in 136 holes (A. D. Drummond, pers. comm. August 1988). […] The Garrison Township assets of T&H Resources and Coastoro Resources were consolidated under the name T&H Resources (The Northern Miner, October 10, 1988). Lac Minerals optioned the property in November (The Northern Miner, November 21, 1988).*

1989: T&H Resources and Jonpol Explorations began underground exploration, including the sinking of a 500 foot deep 3 compartment vertical exploration shaft (Jonpol Explorations Ltd. 1989 Annual Report; The Northern Miner, June 19, 1989). By September, the shaft had reached the 485 foot level and stations had been established on the 250 and 475 foot levels (Jonpol Explorations Ltd. / T&H Resources Ltd. Interim Report dated September 30, 1989).

1990: T&H Resources and Jonpol Explorations underground program was completed in March, 1990. Work included the following:

- 184 m (605 ft) vertical 6.7 x 2.7 m compartment shaft
- 185 m of 1.5 x 2.1 m cross-cut and drill stations
- 4,747.2 m (15,575 ft) of AXT drilling in 42 holes
- 182.2 m of Bazooka (AXT) drilling in 22 holes into walls of the 476 ft (150 m) level drift
- 147.8 m of drifting in the JP Main Zone on the 476 ft (150 m) below surface level
- bulk sampling, 79 rounds.

Metallurgical testing at Lakefield Research in November 1990 indicated that the material from the JP Main Zone in the Munro Fault Zone gives 50% recovery with direct cyanidation. Flotation concentrates contained 95% of the gold in the rougher concentrate which, when cleaned, could produce cleaner concentrates in the 4 to 8 oz/ton Au range. Pressure oxidation cyanide leach tests of the concentrate recovered 99% of the contained gold suggesting a potential gold recovery of 95% using that system. The underground bulk sample rounds contained 0.3 to 1.4 oz/ton As (Squair, 2000).

Jonpol and T&H concluded an option agreement with Lac Minerals which expanded the existing property and allowed Jonpol and T&H the opportunity to conduct underground exploration on the JP Zone, investigate the westward extension of the JD Zone onto the Hastings ground (specifically claims L39876 and 43863) (Squair, 2000).

1991: The Lac Minerals agreement was terminated and the Hastings and Wright-Hargreaves properties along with five peripheral claims south of the Garrcon were returned to Lac Minerals (Squair, 2000).

1992: Jonpol completed seven drill holes totalling 796 m.

1994: Jonpol drilled three diamond drill holes (N-94-1, 2 and 3), with a northwest azimuth, on claims P-26435 and P-26434 to test for the western down-plunge extension of the JP Zone (Squair, 2000). Total footage drilled was 5,128 ft between September 24 and October 22, 1994.

A four-line (3800W to 4400W) Mise-a-la-Masse geophysical survey was then completed to determine the near surface conductivity of the auriferous sulphide in drill hole N-94-1.

1995: Jonpol completed a follow-up diamond drilling program (Phase 2) to test strata and shear zones down dip and on strike from drill hole N-94-1 on claims 43703, 26433, 26434 and 26435. During the period from January 26 to February 16, 1995, six BQ-sized diamond drill holes totalling 3,550 ft were completed (N-95-1 to N-95-6).

A four-hole, 9,200 ft, Phase 3 drill program was planned to test the potential for possible gold concentrations at the basal basalt/ultramafic contact and within felsic volcanic and intrusive rocks above the upper thrust of the Munro Fault to the east of the JP deposit and down plunge from the Garrcon West (now Jonpol East) Zone. Two drill holes of the four-hole

program, N-95-7 and N-95-8, were laid out on claims 38950 and 39429. Drill hole N-95-7 was completed September 16, 1995. Hole N-95-8 was lost at 1,270 ft in sheared ultramafic near the top of the Munro Fault. Repeated efforts to cement and drill through the zone were unsuccessful, and the hole plus the remainder of the program was abandoned on October 22, 1995. The two holes totalled 3,767 ft. Gold and silver assays for 269 samples from 30 sulphide intersections within the two holes were of geochemical interest only, but the program demonstrated that anomalous gold values occur within non-refractory sulphides (pyrite) south of the Munro Fault.

A six-line Mise-a-la-Masse survey was conducted to determine near surface conductivity around hole N-95-7.

1996 to 1997: On May 29, 1995, Jonpol Explorations Ltd. and T&H signed a letter of intent with Hillsborough Resources Limited (Hillsborough) to complete a Joint Venture agreement whereby Hillsborough would be granted an option to carry out an advanced exploration program at the JP Zone.

Under the agreement Hillsborough would undertake to develop and mine the known gold- bearing albite-sericite-pyrite zones and ship ore to a custom mill and smelter at Noranda, Quebec.

After recovery of Hillsborough's initial costs, the parties would share net smelter proceeds, if any, from the advanced mine program. The Hillsborough option encompassed all known gold- bearing zones on the Newfield and Garrcon Group of claims, to a vertical depth of 305 m (1,000 ft) from the shaft collar on patented claim 43703. Work was carried out on claims 43702 and 43703. Canadian Mine Development, a wholly owned subsidiary of Hillsborough Resources conducted the permitting and development work.

Permitting for the advanced exploration program began June 12, 1995. The mine closure plan was accepted by the Ontario Ministry of Natural Resources (MNR) on August 24, 1995, and site operations began in mid-October 1995, with the excavation of the decline portal and the establishment of ore and waste pads. At the beginning of the test program, Hillsborough established an on-site fire assay laboratory to ensure that sample and assay results kept pace with mine development.

The mineralized zone was developed from a 12 ft x 14 ft (3.7 m x 4.3 m), 18°-20° decline excavated to the 476 Level. A ventilation raise connected the 350 Level to surface. Mineralized material was removed by drifting and benching on 6 levels between 80 and 150 m below surface.

The first gold-albite-sericite-pyrite-arsenopyrite test samples were shipped to the Noranda custom mill and smelter complex in September 1996. Between September 1996 and April 1997, 55,751 short wet tons or 54,109 short dry tons of mineralized rock were shipped to the Noranda custom mill and smelter complex.

Choi (1997) reports that the total recovered gold was 9,476 ounces and total gold lost to tailings was 1,100 ounces for total available gold of 10,576 ounces, a recovery of 89.60% and a calculated feed grade of 0.1955 oz/ton Au. The calculated feed grade of 6.70 g/t (0.1955 oz/ton) Au was much lower than the estimated grade of 8.33 g/t (0.243 oz/ton) Au (Squair, 2000). The advanced underground exploration program was terminated on March 29, 1997. Mine closure and environmental clean-up procedures were completed and the Hillsborough option was terminated in 1997. A minimum of 458,000 tons at 0.28 oz/ton Au were reported to remain in place at the JP Zone (Squair, 2000).

2005 to 2008: ValGold completed 63 NQ-sized diamond drill holes on the Jonpol deposit totalling 26,646.3 m.

2009 to 2015: Northern Gold completed three years of drilling: 2011, 2012 and 2013. In the Jonpol deposit, diamond drill programs focused on infill drilling and expanding the mineral resource. A total of 20,827.4 m was drilled in 75 drill holes. Northern Gold also completed re-logging of approximately 44,000 m of historic core with some sampling of previously unassayed portions.

In 2013, Northern Gold announced preliminary metallurgical testwork results on samples taken from the Jonpol deposit. Three composite drill core samples were selected by Northern Gold from the Company's drilling on the JD, RP and East Zones of the Jonpol deposit. The 2011 IP geophysical survey also covered the Jonpol area, as did the 2010 and 2013 magnetic and VLF/EM survey.

6.2.4 903 Zone Exploration History

1945 to 1947: Wright-Hargreaves diamond drilled eight holes totalling 1,944 ft on claim no. 43903 (now patented), part of a contiguous 10 claim group in north central Garrison Township (Satterly 1949).

1988: By this date, Lac Minerals had acquired the (now patented) claims formerly held by Wright-Hargreaves Mines and adjacent Hastings claims. Lac Minerals completed 17 drill holes totalling 4,823 m on the 903 Zone.

1990: Jonpol and T&H concluded an option agreement with Lac Minerals which expanded the existing property and allowed Jonpol and T&H the opportunity to investigate the 903 and Hastings gold zones (specifically claims L43903 of the Wright-Hargreaves Group and L43862 of the Hastings Group) which extend eastward onto the southeast corner of the Garrison property (claim L29734) (Squair, 2000).

1991: The Lac Minerals agreement was terminated and the Hastings and Wright-Hargreaves properties along with five peripheral claims south of the Garrcon were returned to Lac Minerals (Squair, 2000).

2004 to 2008: ValGold completed no work on the 903 Zone.

2009 to 2015: Northern Gold completed six drill holes totalling 1,914 m during its 2013 903 Zone diamond drill program. The 2011 IP geophysical survey also covered the 903 area, as did the 2010 and 2013 magnetic and VLF/EM survey.

6.2.5 Garrison Historic Drilling Summary

6.2.5.1 Garrcon Deposit

Initial drilling on the Garrcon deposit occurred in the period 1935 to 1946 with additional drilling completed during 1983. Data from this drilling are not available in sufficient detail to be included in Moneta's current drill hole database. The most important historic data relating to the Garrcon deposit came from the exploration work completed since 1985 by Cominco/Jonpol and ValGold.

Historic drilling at Garrcon from 1985 to 2012 is summarized in Table 6-2.

Prior to initiating the bulk sample in 2014, a definition drilling program was undertaken by Northern Gold utilizing a blast hole drill to better define the mineralized zones previously encountered in diamond drilling. The company reports that the nominal spacing of diamond drill holes in the area of the bulk sample was 25 m and this was deemed insufficient for pit design in order to optimize recovery of mineralized material.

Table 6-2: Historic Drilling on the Garrcon Deposit

Company	Year	No. of Drill Holes	No. of Drill Hole Extensions	Length (m)
Cominco/Jonpol	1985	5		612.2
Cominco/Jonpol	1986	14		2,696.5
Cominco/Jonpol	1986 to 1987	6		1,417.3
Cominco/Jonpol	1987	11		3,481.4
Cominco/Jonpol	1988	3		592.3
ValGold	2006	10		3,393.0
ValGold	2007	5		2,361.0
	Total	54		14,560.7
Northern Gold	2009	10		2,336.0
Northern Gold	2010	48	1	11,480
Northern Gold	2011	118	7	39,849.8
Northern Gold	2012	84	12	40,514.3
	Total	260	20	94,180.1
Garrcon Historic Drilling Total		314	20	108,740.8

Source: Hennessey, 2019.

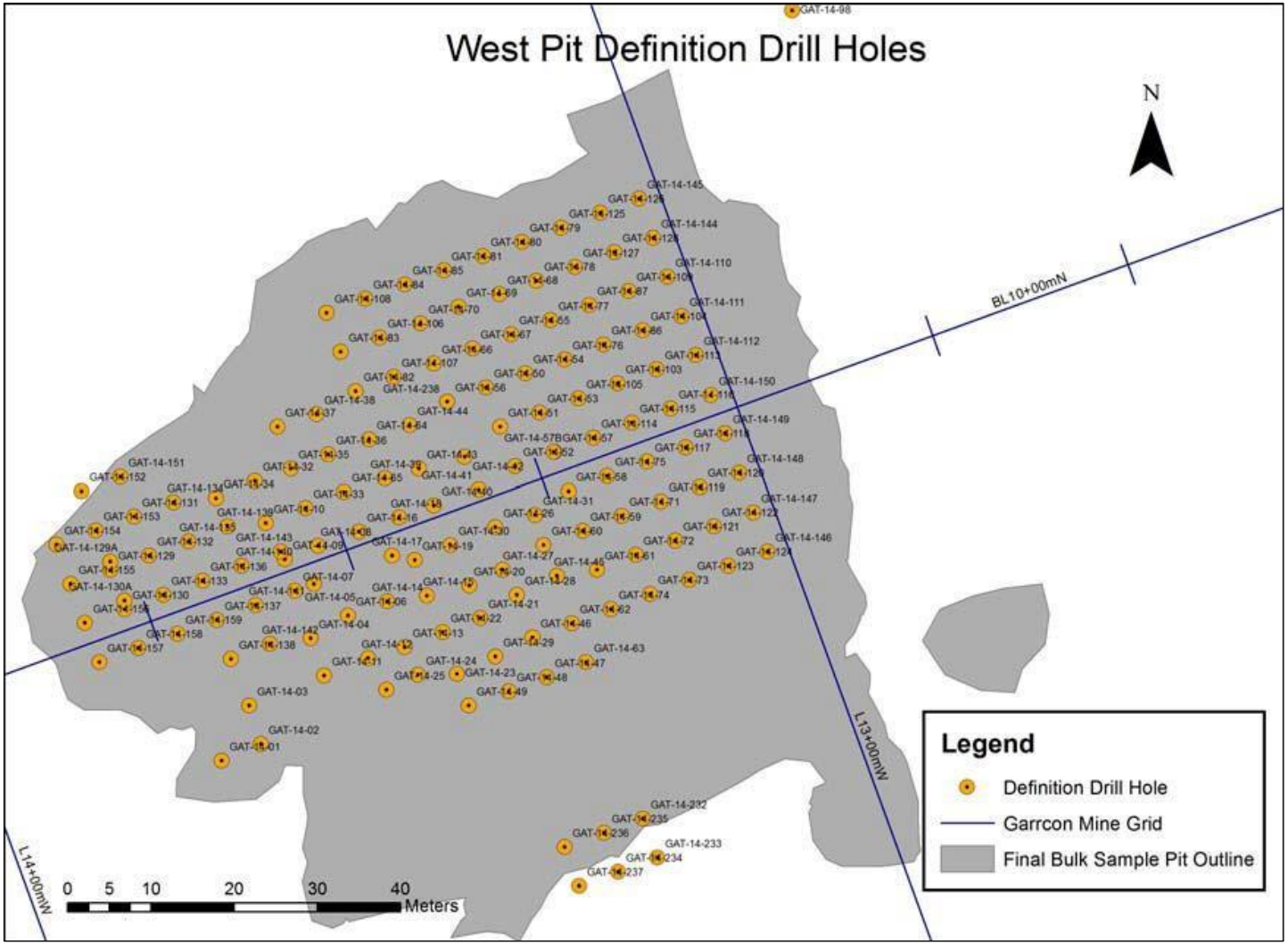
The definition drilling program utilized the same percussion blast hole drill that was later utilized in the open pit production drilling. At times two drill rigs were operating to complete the work. The drilling program was conducted on a nominal 5 x 5 m grid utilizing a 3.5-inch percussion blast hole (Figures 6-1 and 6-2). Holes were drilled to a nominal 20 m depth, the rod capacity of the drilling rig.

Northern Gold reports that each drill rig was equipped with a cutting recovery vacuum and dust collector system. Each drill hole was paused at 1.0 m intervals to allow for discreet sample collection over that distance. Workers used five-gallon pails to collect as much of the sample as possible from both the coarse cutting collector and dust collector. The coarse and fine material was then moved to a sample processing shack and weighed to estimate a percentage recovery for each sample based on its sample length and estimated total mass. Then, utilizing a three-tier jones-type splitter workers would reduce the overall mass of the sample to approximately 2 to 3 kg to be prepared for assaying.

At roughly every 40 samples, two splits would be taken as a coarse field duplicate to be referenced for quality assurance/quality control (QA/QC) purposes. For each sample a small (~50 g) sample of rock chips was retained for geologic reference purposes. The average sample recovery was calculated to be 93% for definition drill samples.

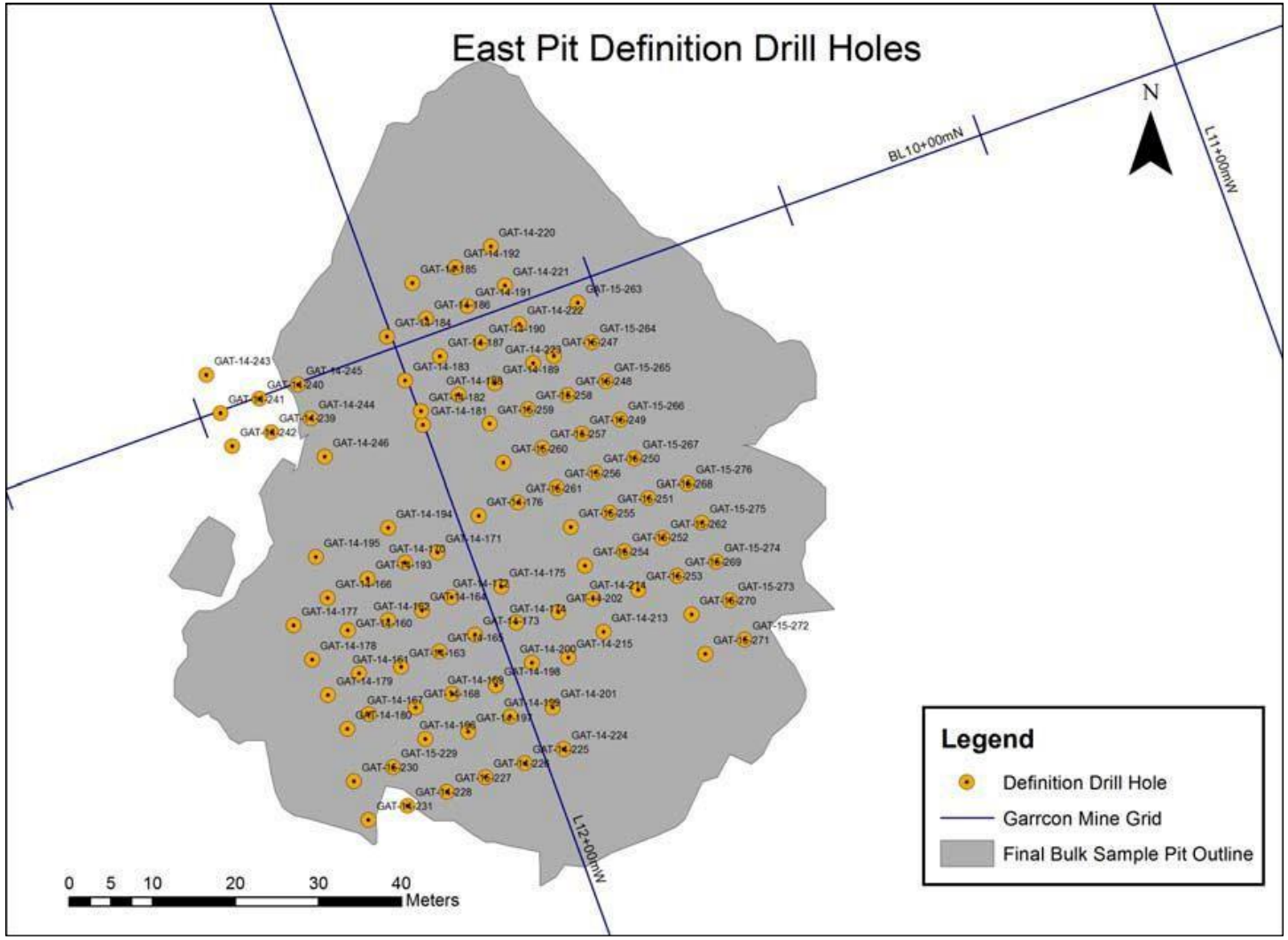
After comparison with results from the neighbouring diamond drill holes, it was decided to use these samples in the mineral resource estimate presented herein. The production blast holes were not used as they were sampled over much wider intervals and resulted in poorer recoveries.

Figure 6-1: West Pit Definition Drill Holes



Source: Matheson, 2016.

Figure 6-2: East Pit Definition Drill Hole



Source: Matheson, 2016.

6.2.5.2 Jonpol Deposit

In 2010 to 2013, Northern Gold's diamond drill program focused on infill and step-out drilling on the Jonpol deposit. In 2011, six Garrcon drill holes were extended into the Jonpol deposit area totalling 2,262 m. In 2012 (March to May and September to December), 39 drill holes were drilled in the Jonpol deposit area, totalling 8,765.1 m. Of these 39 2012 drill holes, six holes were geotechnical holes totalling 1,042.5 m. Three drill hole extensions were also completed in 2012, totalling 1,064 m. An additional 26 holes were completed in 2013 (January to May), totalling 7,982.3 m. One drill hole wedge (JP13-16A) totalling 771 m was also completed in 2013. Two 2012 holes required restarts.

6.2.5.3 903 Zone

Exploration in the 903 Zone dates back to the 1940s, and to date, over 331 (50 historic plus 118 Osisko) drill holes have traced the zone along 800 m of strike length. In 2013, Northern Gold completed six drill holes (903-13-01 to 06) totalling 1,986 m on the 903 Zone, including 72 m in the failed hole 903-12-02 (Table 6-1).

6.2.6 Garrison Historic Reserves & Resources

Various historical resource estimates on gold mineralization in the Jonpol and Garrcon deposits have been provided by various authors since the mid-1980s. These historical resources are summarized and reported by Bath (1990), and by Squair (2000) who referred to historical reports by DDH Geomanagement Ltd. (1989) and R. J. Bradshaw (1989). A.C.A. Howe prepared mineral resource estimates in 2010, 2011, 2012, and 2014 (Roy and Trinder, 2010; Hannon et al., 2011; Hannon et al., 2012, McGarry et al., 2014). These historical mineral resource estimates ("MRE's") were calculated prior to the implementation of the standards set forth in NI 43-101 and Canadian Institute of Mining ("CIM") Definition Standards for Mineral Resources and Mineral Reserves (May, 2014) and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (November, 2019). The authors of this technical report have not done sufficient work to classify these historical estimates as a current mineral reserves or mineral resources and consider these estimates as "historical resources" and the issuer is not treating the historical estimate as current mineral resources.

Two of the mineral resource estimates for the Garrison property have been completed since the implementation of the current standards set forth in NI 43-101 and current CIM standards for mineral resource estimation (as defined by CIM Definition Standard on Mineral Resources and Mineral Reserves dated May 10, 2014). The authors of this technical report have reviewed the 2019 and 2021 MRE's and determined that the MRE's were prepared by QPs in accordance with the standards set forth in NI 43-101 and Canadian Institute of Mining ("CIM") Definition Standards for Mineral Resources and Mineral Reserves (May, 2014) and are considered reliable. The mineral resource estimate reported herein supersedes all previously published MREs for the Garrison property and therefore the MREs for the Garrison property discussed in this section (Section 6.2.6) are considered historical in nature.

B. Hennessey prepared an NI 43-101 mineral resource estimate for the Garrcon, Jonpol and 903 Zones in 2019 (Hennessey, 2019).

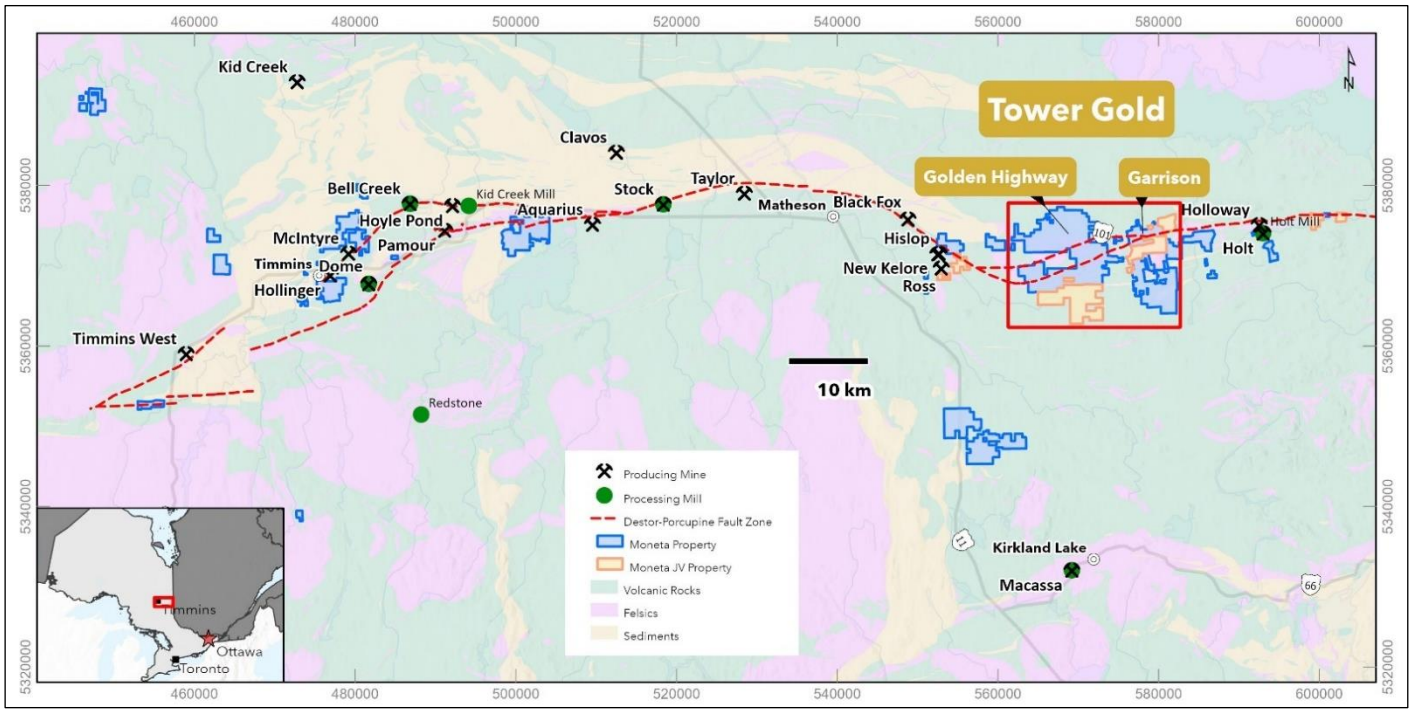
An NI 43-101 mineral resource estimate and PEA was conducted by Ausenco on the Garrison property and reported in January 2021. The open pit resource estimate was conducted on the 903, Jonpol and Garrcon areas and was reported at a 0.30 g/t Au cut-off grade. A total Garrison open pit combined indicated resource of 66,268,000 tonnes containing 1,822,000 gold ounces at an average grade of 0.855 g/t Au and a total Garrison open pit combined inferred resource of 45,537,000 tonnes containing 1,062,000 gold ounces at an average grade of 0.729 g/t Au was reported (Raponi et al., 2021). The 2021 mineral resource estimate for the Garrison Property is superseded by the MRE disclosed in this report and is therefore considered historical.

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Tower Gold Project is the amalgamation of Moneta's former Golden Highway Project, and O3 Mining's Garrison Project. Moneta's Tower Gold Project (Figure 7-1) is located within the southern part of the Archean (ca. 2.7 Ga) Abitibi greenstone belt of the Superior Province of the Canadian Shield in northeastern Ontario. The Abitibi greenstone belt consists of Neoarchean supracrustal rocks divided into tectonic-stratigraphic assemblages that include metavolcanic rocks, synvolcanic intrusions, metasedimentary rocks, calc-alkaline and alkaline intrusive rocks, and late Proterozoic dykes. The dominant regional structures of interest are the Destor Porcupine Fault Zone (DPFZ) and Pipestone Fault Zone with their associated gold deposits and mineralization. More thorough discussions of the Superior Province Archean geology are provided by Jackson and Fyon (1991), as well as Ayer et al. (2001/2005).

Figure 7-1: Regional Geology, Tower Gold Project

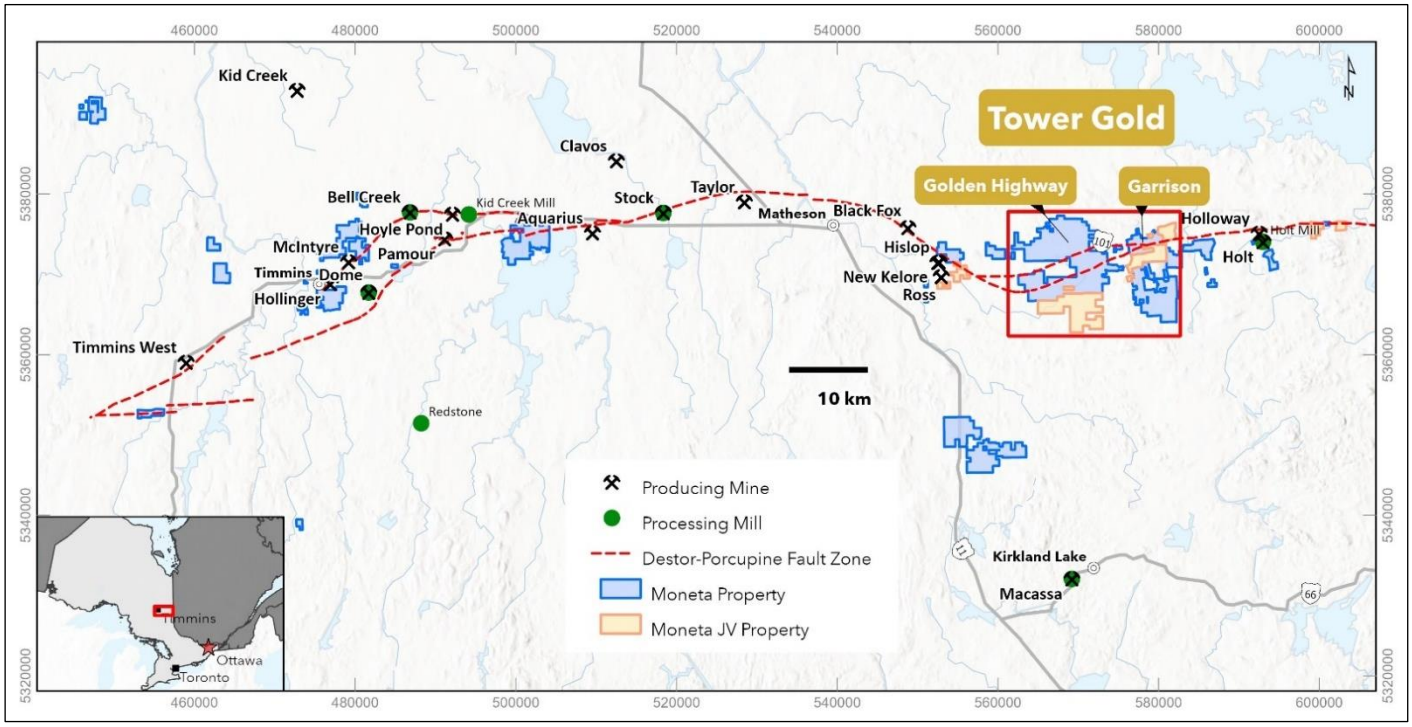


Source: Moneta, 2022.

The Tower Gold Project is located on the DPFZ, a major gold-mineralized regional fault structure. Several other gold deposits are located on or adjacent to the DPFZ and within a ~25 km radius of the Tower Gold Project. These deposits include the Black Fox Mine, Ross Mine, Holloway Mine and Holt-McDermott Mine.

More specific to the local geology of the Tower Gold Project is Berger's (2002) geological synthesis of the Highway 101 corridor from Matheson east to the Province of Quebec's provincial boundary. He subdivides the geology into five litho-tectonic assemblages (Ayers and Trowell, 2001) as follows: Kidd-Munro (2,719 to 2,711 Ma), Tisdale (2,710 to 2,703 Ma), Blake River (2,697 to 2,701 Ma), Porcupine (2,696 to 2,690 Ma) and Timiskaming (2,687 to 2,675 Ma). The distribution of gold deposits in relation to major faults and the Timiskaming assemblage is shown in (Figure 7-2).

Figure 7-2: Gold Deposits in the Matheson Area along the Destor-Porcupine Fault Zone



Source: Moneta, 2022.

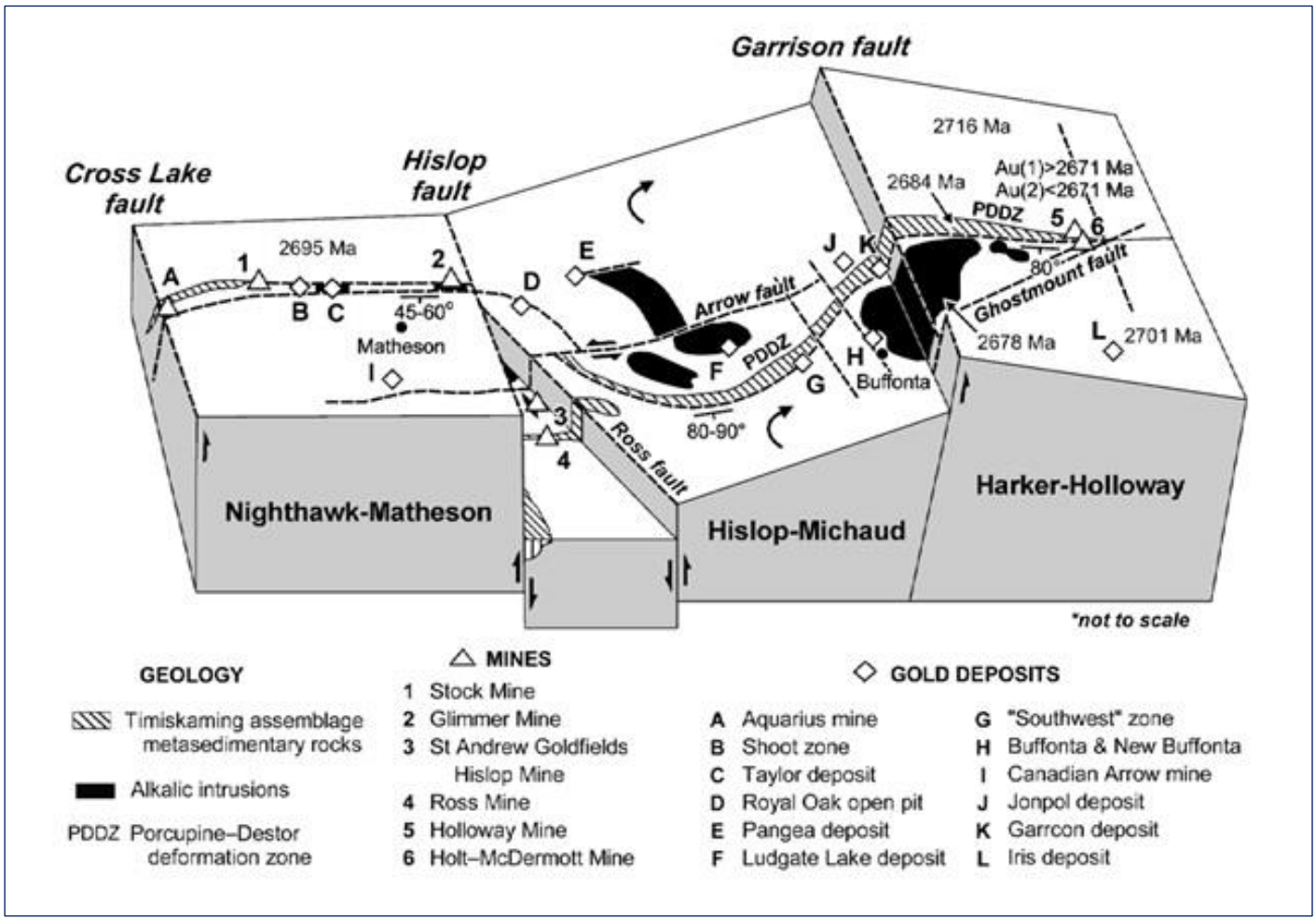
Berger's (2002) description of the geology of the Golden Highway property area is as follows:

> *The Kidd-Munro assemblage underlies the north part of the study area and is composed of a tholeiitic metavolcanic member and a calc-alkalic metavolcanic member. Ultramafic to mafic layered sills intrude the metavolcanic rocks. The Tisdale assemblage is composed of tholeiitic metavolcanic rocks and subordinate amounts of calc-alkalic metavolcanic rocks. The distribution of the assemblage is poorly constrained because of the Porcupine-Destor deformation zone and related splay faults transect the assemblage in several places. The Blake River assemblage underlies the south part of the study area and is composed of predominantly mafic tholeiitic metavolcanic rocks that are intercalated with thin units of tholeiitic rhyolite and calc-alkalic metavolcanic rocks. The Porcupine assemblage underlies the northwest part of the study area and is composed of greywacke, argillite, and rare conglomerate that are intruded by small alkalic intrusions. The Timiskaming assemblage is composed of clastic and chemical metasedimentary rocks and rare alkalic metavolcanic rocks that are distributed within and near to the Porcupine-Destor deformation zone. Ultramafic to felsic alkalic intrusive rocks are also correlated with the Timiskaming assemblage and occur as dikes, small single-phase intrusions and large multi-phase intrusions throughout the area. Paleoproterozoic quartz-diabase dikes, Keweenawan-age olivine diabase dikes and Jurassic kimberlite dikes and diatremes intrude the Neoarchean rocks.*

The Porcupine-Destor deformation zone is a crustal-scale structure that transects the study area and is characterized by south-side-up vertical movement. The fault zone and related northeast striking splay faults such as the Ghostmount fault and McKenna fault, are the loci for gold mineralization. Northeast-striking faults with dominant vertical displacement transect the Porcupine-Destor deformation zone. Two of these faults, the Hislop fault and Garrison fault, are major structural features that act as the boundaries to different metallogenic segments. Gold mineralization occurs in different structural settings, different styles, and different types of alteration patterns in each segment.

The DPFZ remains a most prolific gold-bearing structure with several gold deposits discovered along its strike length and within splays and extensive alteration zones. Producing mines, gold prospects, former producers, and more significant gold occurrences in various stages of exploration are also present including, from west to east, the Ross Mine, and Fenn-Gib, Ludgate, 55/Westaway/South West/Windjammer South/Discovery/Windjammer North, Jonpol, 903 and Garrcon deposits (Figure 7-3).

Figure 7-3: Regional Schematic Model Showing Distribution of Gold Deposits in Relation to Major Structures and the Distribution of Timiskaming Assemblage Rocks



Source: Moneta, 2022.

7.2 Property Geology

Holocene organic deposits of peat and black muck cover much of the map area. Underlying the organic deposits are extensive Quaternary glacio-lacustrine deep water varved silts and clays of the Barlow-Ojibway Formation and/or sands associated with the Munro Esker complex. They are up to several metres thick, overlying the Matheson Till.

The geology was mapped by Satterly (1949) with a more recent refinement by Berger (2002). The Tower Project's bedrock geology of the property is mainly determined from drill core observations, geophysical interpretations, and local rock outcrop areas. The area is largely covered with overburden consisting mainly of sands associated with the Munro Esker complex. A few outcrops are in the centre of the property south of Emens Lake and more extensively south of the Pike River valley.

7.2.1 Golden Highway Geology

The central portion of the property is the main area of exploration work and can be divided into a North Corridor and South Corridor that together define the DPFZ, as it crosses Michaud and western Garrison townships. These distinct geological corridors contain the bulk of the known gold mineralization discovered to date. The North Corridor contains the historical DPFZ (north branch) trace in a sequence of Tisdale mafic and ultramafic metavolcanics. The Timiskaming metasedimentary rocks, iron formation and associated rocks are contained in the South Corridor (Figure 7-3).

The North Corridor on the eastern portion of the property consists of a 4.5 km long, variably altered and deformed/sheared sequence of Tisdale intercalated komatiitic ultramafic rocks and tholeiitic basalts, generally bounded by talc-chlorite schists. The basalts are traceable along most of the north branch of the DPFZ across the property, and, generally, when altered and quartz carbonate veined, host numerous gold zones such as Twin Creek, Landing, and the Discovery and Windjammer North deposits as well as scattered higher-grade gold intercepts. These North Corridor volcanics continue in the western portion of the property, widening substantially and include gold zones associated with pyritic syenites such as the Last Chance Zone.

In the northern portion of the property, the Kidd-Munro metavolcanic rocks are associated with the Arrow, Pipestone and Munro Faults. Limited drilling has established a sequence of tholeiitic mafic volcanics in contact to the south by phases of the Emens Lake (Central Michaud) syenite complex. The Arrow, and a portion of the Pipestone Faults, a regional east-west structure, follow this contact. Only minor and scattered gold mineralization has been discovered to date.

The South Corridor is well defined by the belt of Timiskaming sediments that parallels the DPFZ and includes the main gold deposits/zones discovered to date on the property. This corridor has a strike length of approximately 12 km crossing Michaud Township and continuing north-easterly into Garrison Township. This corridor hosts the Western Zone, Dyment 3 Zone, 55 deposit, Westaway/West Block deposit, South West deposit (including the former Gap Zone), Windjammer (including former Windjammer Central Zone and Windjammer South deposit) (Figure 7-3).

The Timiskaming metasediments consist of a series of alternating fine to coarse greywacke units with subordinate argillite, and conglomerate and possible rare sandstone. Greywacke is generally fine to medium grained with minor sections of very fine and coarser grained conglomeratic material. The greywacke is typically green-grey, massive to well-bedded, chloritized and can be locally pyritic.

Conglomerate typically consists of a grey to pink-grey and medium to coarse grained sandstone matrix containing pebble to cobble sized angular to sub-rounded clasts ranging in size from several millimetres to rarely greater than 10 cm long. Clasts include greenish black to grey mafic volcanics, less common iron formation and rare massive sulphide fragments. Conglomerate is typically found along the south contact of iron formation where it may represent a disconformity.

The oxide facies iron formation (bedded jasper, magnetite, or hematite) ranges in thickness from 10 to 100 m, generally strikes 070° with a steep 80° southeast dip. It is much more magnetite-rich and massive to the east, while to the west it thins quickly and is dominated by hematite. The iron formation is well bedded, shows locally changing dips and soft sediment deformation and displacement features. Fracturing and deformation are usually parallel to the bedding. Pyrite is present from trace to 0.5 % both along bedding and in fractures. Fractures contain calcite and locally traces of specular hematite. Local variations in thickness are attributed to overall thickening and thinning, facies changes, and poorly defined isoclinal folding.

The metasediments are bounded to the north by the dominantly ultramafic volcanic sequence of the Tisdale assemblage (Northern Corridor) and to the south by the Blake River metavolcanics. The sedimentary sequence is from 500 to 900 m thick. It is crosscut by a major vertical gabbro dyke, the Golden Highway Gabbro trending 050°. The dyke is 10 to 40 m wide and has been traced for 2.3 km from west of the South West deposit to the Windjammer North deposit.

In addition to the importance of the DPFZ and its associated splays and similar oriented structures, interpretive work has identified northwest- to north-striking southwest- to west-dipping cross structures believed to play a significant role in localizing gold mineralizing systems. Many of the recently drilled significant quartz carbonate veins and vein zones reflect similar orientations to these higher angle cross structures/faults.

7.2.2 Garrison Geology

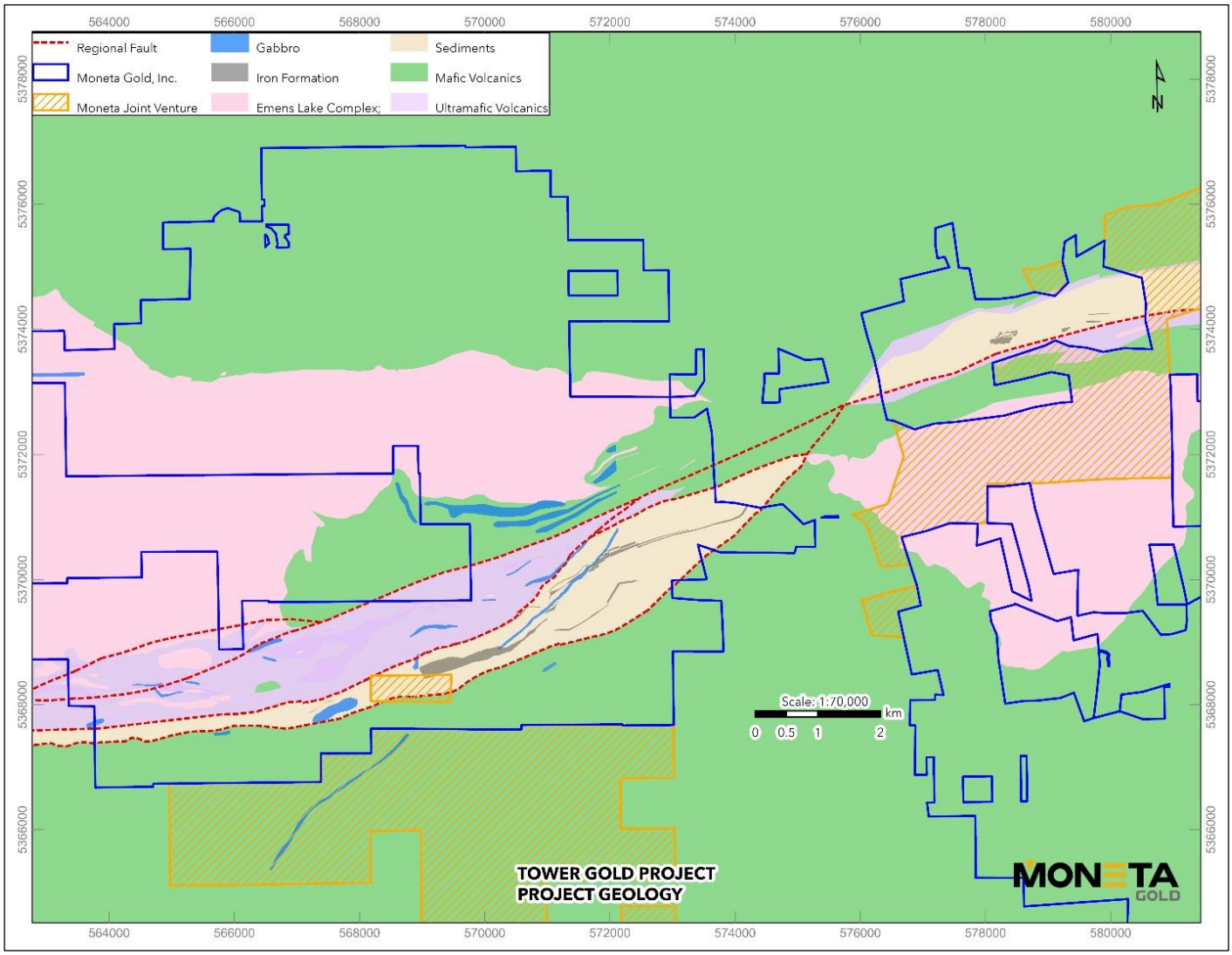
The Garrison geology is underlain by rocks of the Kidd-Munro and Timiskaming Assemblages and about 4 km of the regionally significant DPFZ and a major splay, the Munro Fault Zone. Both fault zones comprise a variably altered and deformed sequence of metavolcanic rocks that include komatiites and tholeiitic basalts (Figure 7-4).

The Kidd-Munro Assemblage is composed of massive to pillowed, mafic (high magnesium and iron tholeiites) and ultramafic (komatiite) metavolcanic rocks. The metavolcanic flows strike in a general east-west direction and dip steeply to the south. However, outcrop is limited and there is probably significant local folding, particularly in the vicinity of the major fault zones that cross the property. No surface exposures of ultramafic (komatiitic) metavolcanics have been identified; however, in drill core there are abundant occurrences of talc schists, talc- carbonate schists, and carbonate-mariposite schists that are indicative of the presence of ultramafic or high magnesium tholeiites in the metavolcanic sequence. It is a clear possibility that the Munro fault and DPFZ are focused within the ultramafic rock units because of their high ductility compared to the more brittle mafic metavolcanic, felsic metavolcanic and metasedimentary assemblages. The Munro fault hosts the Jonpol deposit.

The Timiskaming Assemblage is composed of clastic metasedimentary rocks, consisting of conglomerate, wacke-sandstone, siltstone, argillite and schist, and is closely associated with the Porcupine-Destor deformation zone from the Quebec border to Hislop Township, a distance of approximately 65 km (Berger, 2002). Banded magnetite-hematite iron formation is complexly interbedded and structurally interleaved with clastic metasedimentary rocks.

The Timiskaming Assemblage is younger than the Kidd-Munro Assemblage and, in the absence of faults, the contact between the assemblages is an angular unconformity. On the property, the Timiskaming Assemblage is fault bounded, on the north side by the Munro fault and on the south side by the Porcupine-Destor fault. The metasedimentary beds strike in a general east-west direction and dip steeply to the south. In general, along the Munro fault zone the bedding tops are facing to the north, whereas to the south, along the DPFZ, the bedding tops are facing to the south. The Timiskaming metasediments host the Garrcon deposit immediately north of the DPFZ, and to the east of the Garrison fault.

Figure 7-4: Tower Project Geology Map



Source: Moneta, 2022.

The Timiskaming Assemblage to the west of the Garrison fault hosts three magmatic groups: syenites, lamprophyres, and diabase dykes in albite-sericite-chlorite altered ultramafic to mafic volcanics. The syenites are likely associated with the Timiskaming magmatic event, recognized along the Abitibi as having occurred approximately between 2680 and 2672 Ma (Corfu et al, 2001) and alteration is primarily albite-hematite-specularite.

Immediately to the south of the property is a large, metamorphosed, alkalic intrusive stock with a plan view diameter of 4 to 4.5 km. The intrusive varies in composition from granite to monzonite.

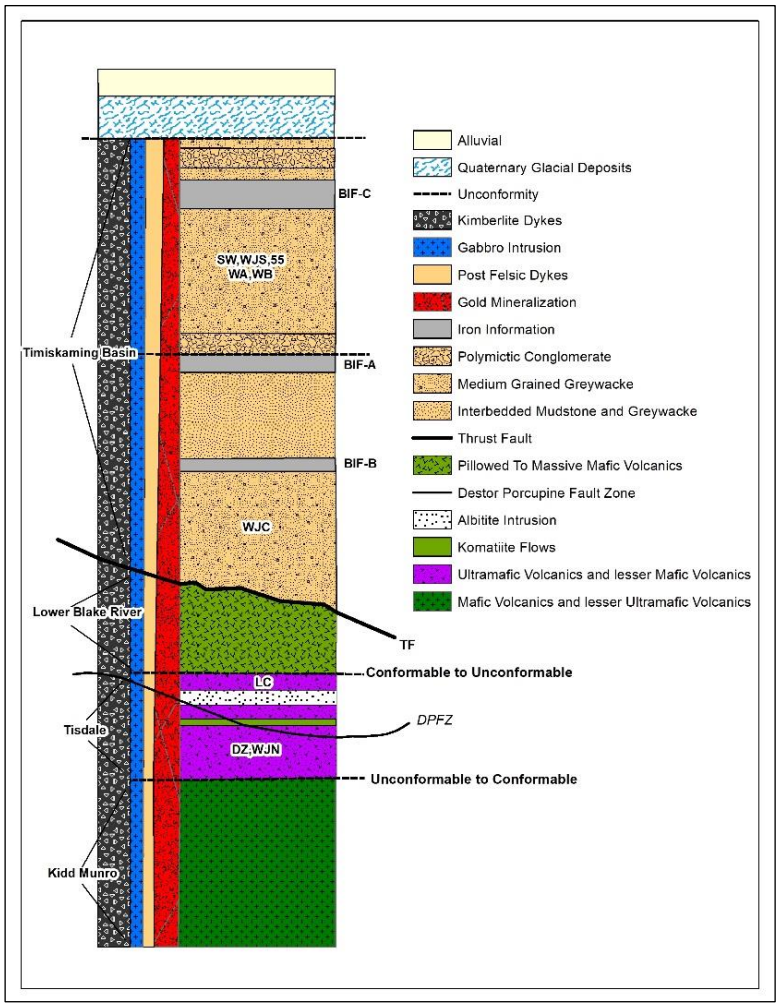
7.3 Deposit Geology and Mineralization

7.3.1 General

The Tower Gold Project to date is host to nine gold deposits, six from the former Golden Highway property, and three from the Garrison property. Most of the gold occurrences are found within a corridor parallel to the DPFZ. This corridor contains two highly prospective geological settings: a North Corridor with sheared mafic and ultramafic volcanic units and syenitic intrusive complexes, and a South Corridor defined by Timiskaming sediments containing banded iron formation (BIF).

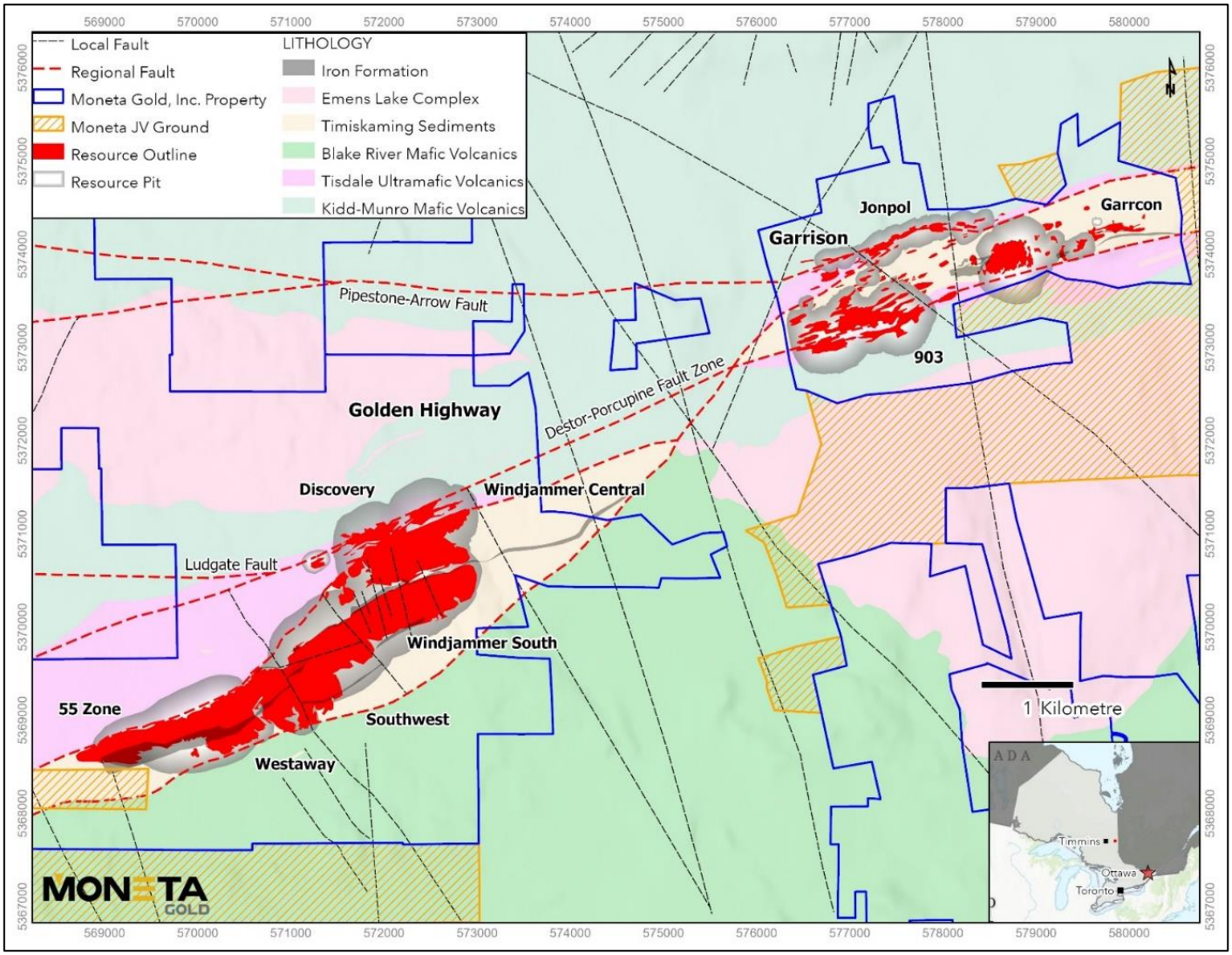
This section describes the geology and gold mineralization of the following deposits: South West, 55, Westaway/West Block, Windjammer, Windjammer North, Discovery (Figure 7-5), Garrcon, Jonpol, and 903 (Figure 7-6) which were examined in the current mineral resource estimation. Five additional gold zones on the property—namely, Western, Dyment 3, LC, Twin Creeks, and Landing—are also briefly discussed, although no resources have been estimated for them.

Figure 7-5: Tower Project Stratigraphic Column



Source: Moneta, 2022.

Figure 7-6: Tower Project Geology and Deposit Locations



Source: Moneta, 2022.

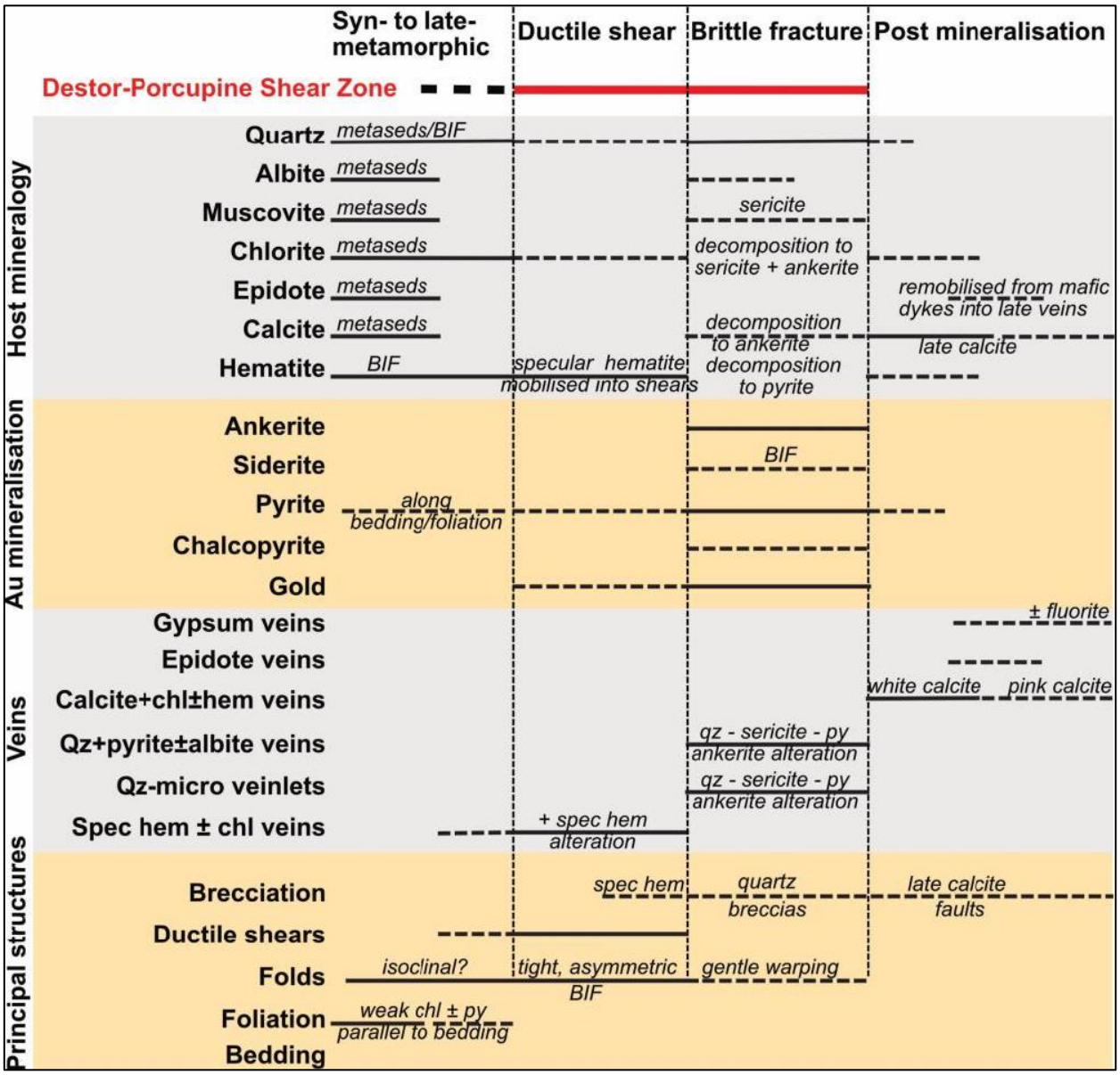
Gold mineralization at the at the Tower Gold Project is hosted in a variety of metasedimentary zones (with minor metavolcanic sequences) with the predominant host rock being Timiskaming-age metasedimentary rock sequences that include greywacke, arkose and iron formation cut by narrow lamprophyre and syenite dikes, occurring adjacent to the DPFZ. These metasedimentary and minor metavolcanic sequences have been hydrothermally altered and mineralized in distinct zones persisting to depths greater than 700 m vertically.

Gold occurs in a complex system of lode veins, stockwork veins, microfractures and breccias hosted in a zone of brecciated and silicified metasediments, metavolcanics and in some cases syenitic intrusions. The main sedimentary host package shows little variation, mainly including fine to coarse-grained sandstones, siltstones as well as minor mudstone layers. The veins are composed predominately of quartz-carbonate (calcite, dolomite and ankerite) with and without albite. The stockwork veins are normally less than one centimetre in width with many being only a half centimetre wide or less.

Alteration typically is a mixture of silicification with fine to coarse grained pyrite, sericite-ankerite and in some cases chlorite. Paragenesis of host rocks, alteration, mineralization and principal structures are presented in Figure 7-7.

Gold occurs primarily as native gold within the stockwork veins with minor dissemination into the vein walls. The principal minerals are native gold, pyrite, magnetite, specularite and pyrrhotite with subordinate chalcopyrite, sphalerite, galena and arsenopyrite. Pervasive wall rock alteration is common adjacent to the veins, usually consisting of carbonatization (ankerite or ferroan dolomite), sericite and minor sulphides (pyrite and pyrrhotite).

Figure 7-7: Tower Gold Project Mineralization Paragenesis



Source: Moneta, 2022.

7.3.2 South West Deposit

The South West deposit (including the former Gap area) comprises a series of mineralized extensional veins and stockwork veins. The vein arrays and associated stockwork veining occur as stacked vein structures within Timiskaming sediments, south of the southern contact of a regional BIF.

The regional BIF at the South West deposit is a banded jasperoid-hematite-magnetite formation varying in thickness from 1 m up to 25 m. It has been traced for approximately 5 km, from the 55 deposit to the eastern boundary of the property.

In the South West deposit area, the regional BIF consists of two iron formations, where the southern, termed BIF-A is in contact with a conglomerate unit and the northern BIF-B lacks a conglomerate unit. The Timiskaming sediments consist of a polymictic conglomerate unit, coarse lithic greywackes with occasional sericitic argillite fragments, weakly bedded, medium to fine greywackes, bedded greywackes and argillites (from the south contact of the BIF towards the Blake River mafic volcanics to the south). The sediments overall fine towards the south. In the centre of the Timiskaming sediments, a narrow horizon of weakly magnetic hematitic greywacke units interbedded with fine greywackes (termed IF-C) is present.

The sedimentary bedding generally strikes northeast or southwest and dips steeply to the northwest or southeast. The Timiskaming sediments are pervasively chloritized and in the vicinity of the BIF, hematization overprints the chloritization. Local sericitization occurs within the coarse greywackes as bands and the argillite units are often strongly sericitized.

The South West deposit stratigraphy is cut by two major cross faults. The Main (West) Fault is a dip slip fault that displaces the BIF, and the north the Timiskaming sediment-Tisdale ultramafic volcanics contact. The Main Fault strikes 155° and dips 60° to the southwest. The second in the east portion of the South West deposit, the Gap Fault strikes 135° and dips 65° to the southwest. Both faults are crosscut by the Golden Highway gabbro that trends 050°.

Drilling to date has outlined southeast-trending extensional veins and associated stockwork vein zones. These tension vein arrays are continuous from the Gap area to the Main Fault over a distance of 1.2 km along a northeast strike.

The vein arrays and stockwork dip shallow to moderately to the southwest at 30° to 40°. The veins and associated stockwork zones generally have an average width of approximately 2.8 m and up to 25 m in proximity to the regional BIF. These mineralized structures generally occur 25 m to 30 m apart. The vein arrays and stockwork zones can be traced for 300 to 400 m southeast from the southern regional BIF contact.

The vein structures have been intersected at depths up to 1,200 m below surface and remain open down dip. The vein arrays are extensional quartz-carbonate-pyrite veins and/or quartz-carbonate stockwork style veining with distinct narrow (millimetres to centimetres in size) ankerite-silica alteration halos. Gold mineralization occurs associated with 1% to 3% pyrite in the veins and vein alteration halos, as well as visible gold. In some cases, a zone of quartz-pyrite veinlets occurs adjacent to the veins and hosts mineralization. The veins can be brecciated and occur as quartz matrix-supported breccia zones.

In proximity to the southern contact of the BIF, the vein arrays expand into stockwork zones and are up to 25 m wide in the porous coarse greywackes. The stockwork of quartz-carbonate-pyrite veins (3% to 20% veining) occurs within a distinct ankerite-silica alteration halo occasionally with sericite. Gold mineralization occurs associated with pyrite in the veins and vein alteration halos, as well as visible gold.

7.3.3 Westaway Deposit

The Westaway deposit formerly (Westaway/West Block deposit) is located between the South West deposit and the 55 deposit, south of the south branch of the DPFZ. It is essentially a continuation of the South West deposit west of the Main Fault.

In the deposit area, the regional BIF units (BIF-A and BIF-B) form discontinuous lenses along the northern contact between the ultramafic volcanic and the sedimentary sequence. They also pinch and swell vertically. The ultramafic contact at Westaway/West Block is generally striking at 050° to 060° and is dipping steeply to the south. The Timiskaming sediments consist of a polymictic conglomerate unit, coarse lithic greywackes with occasional sericitic argillite fragments, weakly bedded, medium to fine greywackes, bedded greywackes and argillites (from the south contact of the BIF towards the Blake River mafic volcanics to the south). In the centre of the Timiskaming sediments, a horizon of weakly magnetic hematitic greywacke units interbedded with fine greywackes (termed IF-C) is present. This horizon is narrow near the Main Fault and widens in the deposit area west towards the 55 deposit.

Gold mineralization is associated with quartz carbonate veining and breccias within Timiskaming sediments. They form vein corridors with associated ankerite alteration, silicification and pyritization of the wall rock sediments. Drilling to date has outlined over 29 southeast striking (135° to 145°) extensional vein corridors at Westaway. These tension vein arrays are continuous from the Main Fault over a distance of 1.4 km along a southwest strike.

In the West Block area, a set of twelve vein corridors (WB1-WB12) have been outlined, dipping at 60° to 70° southwest. The easternmost corridors have been terminated by the slightly steeper southwest dipping (50° to 60°) Main Fault. The West Block vein corridors are generally open below a vertical depth of 600 m. They currently strike a distance of 200 m southeast from the regional BIF units to the Golden Highway gabbro and are open south of the gabbro.

Contiguous to the west of the West Block area, 18 vein corridors have been defined to date at Westaway (WA-1 to WA-18). They dip 60° to 70° to the southwest and strike southeast over a distance of 350 m, from the regional BIF units to the Golden Highway gabbro. They are open along strike southeast of the Golden Highway gabbro and at depth below 600 m vertically.

7.3.4 55 Deposit

The 55 deposit is located 2 km along strike, west-southwest of the South West deposit. It hosts gold mineralization in a similar geological setting to South West, within Timiskaming clastic sediments between two iron formation horizons, the northern one being the regional BIF-B along the ultramafic to mafic volcanic contact and the southern being the haematitic IF-C horizon. The central portion of the 55 deposit consists of a thick sequence (150 to 180 m) of fine- to medium-grained greywacke hosting gold mineralization. South of the greywacke is a package of iron formations. This southern IF complex consists of several grey hematitic magnetite iron formations (same as the IF-C type at South West, and Westaway) interbedded with greywackes. The sedimentary stratigraphy is cut by at least four northwest-trending cross-faults. A major north-south trending diabase dyke occurs in the western portion of the 55 deposit area.

Gold mineralization is associated with quartz-carbonate veining within structural corridors associated with ankerite-sericite-silica-pyrite alteration. Sulphides are dominantly finely disseminated pyrite and scattered coarser-grained subhedral aggregates in veins. Visible gold and rare accessory molybdenite and chalcopyrite have been observed. Additional high-grade gold mineralization occurs when these veins intersect the northern iron formation and cause extensive sulphidization.

The 55 deposit is host to two main sets of quartz-carbonate veins resulting in a set of steep zone wireframes and shallower (flat) zone wireframes. The steep zone wireframes trend 255° and dip 60° to 70° to the north. The shallow (flat) zone

wireframes trend 255° and dip 20° to 30° to the north. These shallow zone wireframes outlined at the 55 deposit are amendable to open pit mining.

The zones have been traced for up to 1 km in strike length and drilled to depths of up to 450 m. The 55 mineralized system is currently known to extend for 1 km along the northeast strike, with possibly significant untested potential west of the diabase dyke and to depth.

7.3.5 Windjammer Deposit

The Windjammer deposit (comprising the Windjammer South, Windjammer Central deposits, and the Halfway Zone.) is located within Timiskaming sediments centered on the regional oxide facies BIF. The mineralized stockwork zones and vein structures at Windjammer occur in the fine to coarse grained greywackes both north and south of the central BIF units

The regional BIF units (BIF-A and BIF-B) extend from the South West deposit and are separated by a greywacke unit <12 m in thickness. As at South West, the southern BIF A unit is in unconformable contact to the south with a polymictic conglomeratic unit 1 to 10 m in true thickness. Medium to coarse grained greywacke units conformably overlie the conglomerate and they are commonly 100 to 150 m thick. These grade southward into medium-fine to fine grained greywackes towards the centre of the Timiskaming basin. To the north of the regional BIF greywackes are more commonly fine to medium grained.

Gold mineralization at the Windjammer deposit is also spatially associated with the southern contact of BIF-A and is dominantly hosted within medium- to coarse-grained greywackes. Mineralization within this corridor is associated with extensional quartz-carbonate veining with accompanying widespread silica-ankerite-sericite-pyrite and lesser hematite-chlorite related alteration products. Gold mineralization has been intersected up to 300 m south of the BIF-A unconformity but tends to be narrower and lower grade within the finer grained greywackes.

Interpreted gold mineralized zones to date occur as two main orientations: southeast striking shallow southwest dipping thick stacked extensional quartz-carbonate vein and vein breccia zones, and regularly spaced narrow north-south trending steeply west dipping, extensional quartz-carbonate vein and vein breccia zones. Mineralized zones contain 1% to 3% secondary pyrite. The shallow (flat) zone wireframes strike 310° and dip 20° to the southwest; they are wide with widths up to 64 m. The steep zone wireframes strike 174° to 187° and dip 77° to 86° to the west and have true thicknesses averaging

7.3.6 Discovery Deposit

The Discovery deposit includes a mineralized DZ Main Zone (formerly Upper Zone) and a DZ5 Zone (formerly Contact Zone). It is located on a southern splay of the DPFZ and hosted within altered komatiitic ultramafic rocks of the Kidd-Munro assemblage to the north and the sheared fault contact with conglomerate and greywacke units of the Timiskaming sedimentary rocks to the south.

The Main Zone ultramafic host rocks have been intruded by a series of roughly east-northeast-trending (070°) steeply south-dipping quartz-feldspar-syenite porphyry (QFP) to lamprophyre porphyry dykes spatially associated with quartz carbonate vein-hosted gold mineralization. The Main Zone is comprised of four parallel stacked mineralized lenses that have been traced for over 500 m in strike length and to a vertical depth of 400 m. The south-dipping lenses of mineralization occur over an aggregate width of 175 m. Each lens is 5 to 15 m wide. The individual mineral lenses trend 070° and dip very steeply (80° to 85°) to the south, like the orientation of the DPFZ. They are noted by chlorite-pyrite alteration.

The deeper zone to the south dips steeply to the north (approximately 80°). It occurs with, and parallel to, the sediment-ultramafic contact trending ~070° (east-northeast) north of the Golden Highway gabbro. The DZ5 Zone is comprised of

three mineralized lenses. The gold mineralization in the three lenses is characterized by quartz carbonate veining, stockwork and breccias often with altered QFP clasts. The mineralization is associated with pyrite-chlorite and ankerite alteration within the sediments. These lenses are narrower (5 m to 10 m) and potentially higher grade. The deeper lenses have been intersected for 200 m along strike and remain open to depth and on strike.

7.3.7 Windjammer North Deposit

The Windjammer North deposit is located within the North Corridor volcanics of the northern branch of the DPFZ. The deposit consists of three subparallel zones trending 065° and plunging 80° to 85° to the west. The zones vary in width from 5 to 15 m and are up to 25 m thick. They have been traced down plunge for over 600 m and tested to depths up to 450 m below surface. Gold mineralization is hosted by massive to brecciated ultramafic metavolcanics that have been altered to a green fuchsite-carbonate assemblage in the western and central portion of the zone with more mafic metavolcanics to the east displaying albite bleaching and sericite alteration. Fracture filling chlorite and specular hematite are common. The mineralization is associated with pyrite-rich white to light grey quartz carbonate veining. The structural corridor has been intruded by variably altered felsic intrusive dykes.

7.3.8 Garrcon Deposit

The Garrcon deposit, located in Garrison Township, comprises a broad zone of low-grade gold mineralization that includes local higher-grade areas. It occurs within the Timiskaming Assemblage adjacent and to and north of the DPFZ and to the east of the north-south trending Garrison fault. It is a zone of brecciated, silicified metasediments with stockwork type quartz-carbonate veins and veinlets and minor disseminated sulphides cut by narrow variably altered lamprophyre and syenite dikes.

Gold mineralization in the Garrcon metasedimentary zones is hosted by Timiskaming-age metasedimentary rock sequences that include greywacke, arkose and iron formation cut by narrow lamprophyre and syenite dikes, occurring adjacent to the DPFZ (Figure 7-8). These metasedimentary sequences have been hydrothermally altered and mineralized in distinct zones persisting to depths greater than 650 m vertically. The intrusive dikes are variably altered. Gold occurs in a complex system of stockwork veins hosted in a zone of brecciated and silicified metasediments.

The sedimentary package shows little variation, mainly including fine to coarse-grained sandstones as well as minor mudstone layers. The veins are composed predominately of quartz-carbonate (calcite, dolomite and ankerite) with and without albite. The stockwork veins are normally less than 1 cm in width with many being only 0.5 cm wide or less.

Gold occurs primarily as native gold within the stockwork veins with minor dissemination into the vein walls. Higher grade intersections (above 10 g/t) are frequently intersected in intervals where pyrite makes up much less than 1% of the total rock. The principal minerals are native gold, pyrite, magnetite, specularite and pyrrhotite with subordinate chalcopyrite, sphalerite, galena and arsenopyrite. Pervasive wall rock alteration is common adjacent to the veins, usually consisting of carbonatization (ankerite or ferroan dolomite) and minor sulphides (pyrite and pyrrhotite).

The lithology used for the deposit model is similar to that developed by Rockridge for the 2019 resource estimate and was developed around a pervasive metasedimentary unit located between the Munro and Porcupine-Destor fault zones and to the east of the Garrison fault. Mineralized domains bounded by faults lie within a broad zone of high and lower grade mineralization that extends over an east-west distance of 2,400 m.

Combined, the mineralization within the metasedimentary units averages approximately 400 m in width, with the narrowest widths located on the more sparsely drilled eastern end of the zone. A maximum width of main mineralization of about 450 m occurs in the more densely drilled western portion. Two distinct shear zones split the metasedimentary rocks into

North, Main and South units, while a north-south fault, parallel to the Garrison Fault, further splits the Main Zone into the Main West and Main East zones.

Figure 7-8: Garrcon Open Pit – Garrison Area

Source: Moneta, 2022.

Mineralization included in the resource extends discontinuously from surface across the entire zone to a depth of roughly 700 m throughout the strike length. Some mineralization is present in the ultramafic units, but continuity is poor.

7.3.9 Jonpol Deposit

The Jonpol deposit is located in the Garrison township (Figure 7-6), the Jonpol Deposit was the primary exploration target on the property in the 1980s and 1990s.

The Jonpol deposit is a zone of gold mineralization hosted in structurally controlled alteration zones within mafic to ultramafic (tholeiitic to komatiitic) rocks along the north contact of the Munro Fault, which crosses the north-central part of the property. Jonpol gold mineralization is generally associated with pervasive carbonate alteration with late stage silicification, sulphidization (pyrite and arsenopyrite) and sericitization, giving the altered rock a pale beige to pale purple-grey hue.

Previously, the Jonpol deposit was modelled as four contiguous mineralized zones (JD, JP, RP and East Zone), along the Munro Fault, which is a splay from the regional Porcupine-Destor Fault. The mineralized structures strike approximately 070° (true north) and dip steeply to the south. The Jonpol deposit has a combined strike length of 2,000 m. The mineralized

structures have been intersected from surface to a maximum vertical depth of approximately 750 m below surface. True widths of mineralized structures vary from 1.5 m to greater than 10 m. The zones remain open at depth.

7.3.10 903 Deposit

The 903 deposit is located in Garrison township, 903 was drill tested by previous operators in the mid-1940s and late 1980s.

Extensive drilling by Osisko in 2016 to 2018 has helped classify the mineralization style at the 903 deposit as primarily a traditional "syenite associated deposit". Although no geochronology has been conducted, the syenites are likely associated with the Timiskaming magmatic event, recognized along the Abitibi, with alkaline characteristics, which occurred approximately between 2,680 and 2,672 Ma (Corfu et al, 2001).

Three different magmatic groups are identified at the 903 deposit. The syenites are typically hosted by deformed ultramafic rocks, although they less commonly occur within the mafic volcanics. Although most of the primary textures in the syenites have been totally or partially destroyed by alteration, three families of syenite dykes were identified at the 903 deposit (Hennessey, 2019), as follows:

- Fine-grained "crowded" porphyritic syenite: These syenite intrusions occur most abundantly in the eastern part of the 903 Zone. The syenites are generally fine- grained, with less than 25% of matrix visible and with phenocrysts less than 4 mm. Despite increased intensity of alteration, feldspar phenocrysts are still visible. This helps with identification during logging.

- Fine- to medium-grained porphyritic syenite: Generally, with a greater percentage of matrix (>25%), with more separation of phenocrysts. This phase appears to be least preserved in terms of texture.

- Coarse-grained porphyritic syenite: These syenites are coarse-grained with euhedral feldspar phenocrysts up to 3 to 4 cm long. This family of syenites is more dominant in the western part of the 903 Zone.

Accessory sulphide minerals associated with anomalous gold grades are reported to include pyrite, hematite, chalcopyrite, molybdenite and galena. The presence in hornblende altered mafic volcanic rocks and quartz-biotite-cordierite schists and/or gneisses may be a contact metamorphic aureole around the Garrison Stock, located several hundred metres south of the 903 Zone.

Fractured and/or pyritic and/or quartz vein bearing syenite dikes within the 903 deposit are anomalously auriferous along significant core lengths (ranging from about 30 cm to about 10 m). Historic and current drilling has traced the zone along 1,840 m of strike length. The zone remains open at depth and along strike.

7.3.11 Other Gold Zones

In addition to the above six gold deposits, the Tower Gold property currently hosts multiple distinct gold-bearing zones (including Landing, Twin Creeks, LC, Dyment 3, and Western from east to west) in the Michaud Township. At the present time, there is insufficient drilling in the zone areas to complete an interpretation and resource estimate on them.

The Landing and Twin Creeks zones host gold mineralization in quartz-carbonate veins, breccia zones and stockworks often with 2% to 5% fine disseminated pyrite and occasional visible gold. Mineralization is often associated with deformed syenite dykes within a wide deformation zone of highly altered, ultramafic and mafic volcanics. Mafic volcanics show pervasive carbonate (ankerite) and sericite alteration with varying silicification.

The LC Zone is approximately 2.5 km west of the Landing Zone along the DPFZ. This gold mineralization occurs within the lower of two southwest-dipping porphyritic syenitic intrusions in the immediate hanging wall of the DPFZ. The syenitic intrusives cover approximately 1,000 m along strike and up to 200 m in width with limited drill testing to a vertical depth of 500 m.

Gold occurs in quartz-carbonate-chlorite stringers within highly fractured silicified and hematitic alteration zones containing pyrite. The gold mineralization is associated with the upper intrusive contact and volcanics of the DPFZ as well as the centre of the lower syenitic porphyry.

The Dyment 3 Zone is located 1 km southwest of the 55 deposit in a similar sedimentary geological setting. Mineralization is hosted in discrete quartz-carbonate veins and stringers of varying widths and orientations, accompanied by sericite/ankerite alteration. Several syenitic and quartz feldspar porphyry dykes have been intersected. Pervasively hematized, moderately sericitized and blocky intervals (fault zones) were also intersected close to the Tisdale ultramafic volcanic/Timiskaming sediment contact. Drill hole intercepts from ten historical holes (2,568 m) include 3.07 g/t Au over 1.50 m and 5.49 g/t Au over 0.40 m.

The Western Zone was discovered 1.5 km west-southwest of the Dyment 3 Zone along the volcanic-sedimentary contact and has only been tested with 14 drill holes (4,760 m). The drilling on the Western Zone has indicated gold mineralization that currently extends over 650 m of strike along the volcanic contact and to a depth of less than 200 m. Untested potential remains both east towards the Dyment 3 Zone and west for 3 km to the western limits of the Golden Highway property.

8 DEPOSIT TYPES

8.1 Golden Highway Property

The South West, Westaway, Windjammer, Discovery, and 55 deposits of the Golden Highway property can be classified as structurally-controlled orogenic gold deposits in an Archean greenstone belt setting. The Abitibi greenstone belt of Ontario and Quebec is located in the southeastern portion of the Superior Province (Nassif et al., 2018) of the Canadian Shield. This deposit type is a significant source of gold mined in the Superior and Slave provinces. Dubè and Gosselin (2007) published an overview of greenstone-hosted gold deposits in Canada. These deposits are typically quartz vein hosted and are distributed along crustal-scale fault zones that mark convergent margins between major lithological boundaries such as those between volcano-plutonic and sedimentary domains. The Golden Highway property is located on the DPFZ, a major regional structure.

The DPFZ in northeastern Ontario, hosts the largest Archean orogenic gold camp in the world and has produced over 75 Moz of gold from the Timmins Camp alone. When combined with the adjacent Larder Lake-Cadillac Fault Zone and associated splays, this region has hosted over 200 Moz of gold (Dubé, B et al. 2017).

The greenstone-hosted quartz vein deposits are structurally controlled, epigenetic deposits characterized by simple to complex networks of gold-bearing, laminated quartz structure-fill veins. These veins are associated with moderately to steeply dipping, compressional, brittle-ductile shear zones and faults with locally associated extensional veins and hydrothermal breccias. The later structures are the main host for mineralization on the Golden Highway property.

Along the DPFZ the main host rocks are greenschist facies metamorphic rocks of dominantly mafic to ultramafic metavolcanic rocks intruded by intermediate to felsic porphyry. In the Timmins area, larger deposits are spatially associated with fluvio-alluvial conglomerate (Timiskaming conglomerate) distributed along major and deep-seated crustal fault zones such as the DPFZ. On the Golden Highway property, a banded iron formation transects the Timiskaming sedimentary basin and is spatially associated with gold mineralization.

The deposits are typically associated with iron-carbonate (ankerite) and sericite alteration with gold usually occurring in the quartz -pyrite vein network. Significant gold can also occur associated with the iron-rich, sulphidized, wall rock selvages or within silicified and pyrite-rich replacement zones.

In the Superior Province, orogenic gold deposits are spatially associated with large-scale regional deformation zones such as the DPFZ, primarily hosted in second order associated structures. These large-scale structures and the associated Timiskaming-type sediments are interpreted as zones of transgressive terrain accretion (Kerrich and Wyman 1990), (Nassif et al. 2018). Colvine et al.'s (1988) study of gold deposits in Ontario concluded that Archean lode gold deposits are formed at deeper crustal levels (2 to 10 km) than younger epithermal deposits.

There is a general consensus that greenstone-hosted quartz vein deposits are related to metamorphic fluids and generated by prograde metamorphism with fluid channelling along major crustal deformation zones and thermal re-equilibration of subducted volcano-sedimentary terranes.

Auriferous quartz veins cut many different rock types in the Timmins-Kirkland Lake area, including late intrusive rocks and late deformation zones such as the DPFZ. Therefore, it is likely that gold mineralization formed late in the Archean geological history of the Timmins area (Fyon and Green, 1991). In the Timmins area, Corfu et al. (1989) have documented auriferous quartz veins cutting 2,691 to 2,688 Ma quartz-feldspar porphyry intrusions and a 2,673 +6/-2 Ma albitite dikes. At the

adjacent Garrison property, Nassif et al. (2018) have concluded that north-northwest-trending extensional gold-bearing quartz veins post-dated earlier sinistral trans-tensional northeast-trending shear zones hosting hydrothermal mineralization dated 2,657 ±15 Ma.

8.2 Garrison Property

The information in this section is paraphrased from a 2020 NI 43-101 report for the Garrison property prepared by Ausenco. A full reference is provided in Section 27.

The Garrison property deposits are structurally-controlled orogenic gold deposits in an Archean greenstone belt. Robert (1998) provided an updated statement of the geological characteristics of Archean gold deposits. Robert has concluded that a close examination of the geological characteristics of Archean world-class gold deposits reveals significant diversity in the nature and chemistry of the mineralization, hydrothermal alteration, and lithological or structural associations. Several geological styles of deposits can be distinguished:

- quartz-carbonate veins in shear zones, faults and folds, and related extensional structures
- zones of stockwork veinlets and disseminated sulphides associated with small porphyry intrusions
- sulphide-rich veins and vein arrays
- gold-rich volcanogenic massive sulphide (VMS) lenses in felsic volcanic rocks
- rare carbonate-rich veins and siliceous replacements.

Geological relationships suggest that the porphyry-style, gold-rich volcanogenic massive sulphide (VMS) and possibly epithermal-style deposits have formed during the stages of construction (volcanic-plutonic activity) of the greenstone belts at depths of less than 5 km, whereas orogenic deposits have formed during deformation at depths in excess of 5 km.

These different styles of gold deposits commonly occur within the same districts or along the same fault zones, indicating that gold deposits within a given district formed at different crustal levels, at different times, and by different processes, and have been juxtaposed by successive episodes of burial, uplift and deformation that have been focused in certain areas.

With specific reference to the southern Abitibi Greenstone Belt, where the Garrison property is located, Robert notes that development begins with the accumulation of volcanic rocks in one or more cycles and the emplacement of coeval igneous intrusions. This represents the main phase of construction of volcanic-plutonic edifices, which is partly accompanied by, but mostly followed by, turbidite (greywacke, shale and siltstone) sedimentation. This main phase of construction was followed by a first episode of deformation (D1) tilting, folding and over- thrusting of supracrustal units, accompanied by diorite-tonalite intrusions. Subsequent uplift and erosion led to the deposition of alluvial-fluvial Timiskaming-type sedimentary rocks above an angular unconformity. This Timiskaming stage can be regarded as a renewed stage of volcano-plutonic construction as it was accompanied by the emplacement of high-level intrusives and volcanic rocks of alkalic composition. The Timiskaming stage was followed by the main period of deformation of the volcanic-plutonic edifices, beginning with regional D2 deformation shortening across the belt and evolving into D3 transcurrent deformation.

Quartz vein deposits consist of networks of quartz veins in moderately to steeply dipping brittle-ductile shear zones and related extensional veins and vein arrays and breccia veins in relatively competent lithologic units. The deposits are spatially associated with major shear zones but have a tendency to be hosted by second and third order structures and splays.

Robert further noted that there is a strong association of world-class deposits with districts that contain a large proportion of mafic and ultramafic volcanic rocks.

In the Timmins gold camp, all of the above-mentioned styles of mineralization can be found, and multiple styles can be found within a single mine, for example the Dome and Hollinger- McIntyre mines.

In quartz vein deposits gold mineralization occurs in both the veins and in adjacent altered wall rocks, with the bulk of the gold found in the veins. The mineralized veins consist of quartz with subordinate amounts of pyrite, arsenopyrite, pyrrhotite, native gold, base metal sulphides, tourmaline, scheelite, talc, sericite, chlorite, and carbonate. Alteration envelopes that are a few metres to tens of metres thick surround the veins, and may consist of reduced carbon, carbonatization, potassium metasomatism, sodium metasomatism, sulphidization and silicification (Card et al, 1988).

Carbonatization is the most common and most extensive type of alteration in quartz vein deposits. This type of alteration involves the progressive replacement of Ca, Fe and Mg silicate minerals by carbonate species through the addition of carbon dioxide and is inwardly zoned from calcite to ankerite and dolomite. Potassium metasomatism is found in close proximity to the veins as sericitization of chlorite and plagioclase, the development of K-feldspar and biotite and the presence of fuchsite in ultramafic rocks. Sulphidation is restricted to the immediate wall rocks of the veins. Pyrite is the dominant sulphide with lesser amounts of pyrrhotite and arsenopyrite, but the volume of total sulphide minerals is generally less than 10%. Sodium metasomatism results in the formation of albite and paragonite. Silicification results in quartz flooding of the host rocks and an abundance of quartz veinlets and stockworks.

At the district and property scale, exploration for quartz vein gold deposits focuses on broad transpressional shear zones located along lithologic boundaries. The underlying low-grade gold mineralization tends to occur within structures measuring hundreds to thousands of metres long that are subsidiary to major fault zones. At a more local, scale mapping of alteration mineral assemblages can delineate favourable portions of shear zones. Even though the sulphide content of the quartz veins and the associated wall rock alteration is low, induced polarization and resistivity geophysical methods result in a recognizable chargeability response, while the increased quartz content is recognized as an increase in resistivity. Carbonatization causes destruction of magnetic minerals in mafic rocks, creating a negative magnetic feature coincident with alteration surrounding the lode deposits. In glaciated areas, geochemical surveys using heavy mineral concentrates derived from sampling till can be used to define areas of potential lode gold mineralization. In addition, Mobile Metal Ion-type soil geochemical surveys have proven to be applicable in overburden covered areas.

9 EXPLORATION

9.1 Golden Highway Property

Table 9-1 summarizes the exploration history of the project after Moneta activated exploration in 1986.

Table 9-1: Summary of Moneta Exploration and Development Activities at Golden Highway

Year	Company	Exploration	Township
1986	Moneta	MPH Ground Mag survey, IP various interpretations over time, drill hole M-86-01	Michaud
1986	St Joe	Mag survey	Guibord, Michaud
1987	Asarco	Drill holes PL87-01 to PL87-11	Michaud
1987	Falconbridge	Mag and VLF survey	Michaud
1987	Moneta	Mag and VLF survey, drill holes M-87-02 to 8,15, M-87-17 to 26, M-87-50 and MJB87-01 to 27, overburden drilling	Michaud
1987	Nahanni	IP survey	Michaud
1987	Noranda	NBR87-01 to 29, drill holes BT-87-01 and 2	Barnet, Michaud
1988	Asarco	Drill holes PL87-12 to PL88-16	Michaud
1988	Falconbridge	Drill hole MI54-01	Michaud
1988	Golden Range	Drill holes GRM-88-1 to 4B	Michaud
1988	Lacana	Drill holes MD-88-3 to 7	Michaud
1988	Mid-North	Drill holes PT88-1 to 3	Michaud
1988	Noranda	Drill hole WJ-88-44	Michaud, Garrison
1988	Stellar	Mag and VLF survey	Michaud
1989	Corona	Mag survey	Michaud
1989	Falconbridge	Drill holes MI55-01 and 2	Michaud
1989	Golden Range	Mag survey	Michaud
1989	Moneta/Unocal	MU89 drill holes series	Michaud
1989	Moneta	Drill hole MPM-89-01	Michaud
1990	Corona	Drill hole PL-90-1B	Michaud
1990	Lacana	Drill holes MD-90-08 to 11	Michaud
1990	Moneta	Mag survey, geological mapping	Michaud
1991	Independence	Ground Mag Survey, IP, drill holes MI-91-139 to 150	Michaud, Guibord
1993	Moses	Drill hole JM-5	Michaud
1994	Hawley	Mag and VLF survey	Michaud
1994	Lac Minerals	IP survey	Michaud, Barnet, Guibord
1994	Noranda	Geophysical survey	Guibord
1994	Tandem	TM series, Overburden drilling	Michaud, Guibord
1995	Battle Mountain	Ground Mag / IP Survey,	Michaud, Guibord
1995	Lac Minerals	Drill holes PR-95-01 to 04	Michaud, Barnet
1995	St Andrew Goldfields Ltd.	Airborne Mag Survey	Michaud, McCool
1996	Barrick	MN96 series drill holes, Geophysical interp, Mag survey	Michaud

Year	Company	Exploration	Township
1996	Battle Mountain	Geophysical surveys (IP and Mag), geological report, prelim, drill holes PL96-1 and 2	Michaud
1996	Lac Exploration	Drill hole MM94 and MM95 series	Michaud
1996	Moneta	IP survey	Michaud
1996	Tandem	Drill holes 96-01 to 96-04	Michaud
1997	Battle Mountain	Drill holes PL96-1-2, PL97-3 to 5	Michaud
1997	Beagan	Mag and VLF survey	Michaud
1997	Lac Exploration	Drilling report, MN97 series	Michaud
1997-1998	Moneta	IP surveys	Michaud
1998	Totem	Exploration summary	Michaud, Garrison
1999	Hagen	IP survey	Michaud
1999	Kidston	Mag survey	Michaud
2000	Moneta	IP survey	Michaud
2000	Moses	OPAP, Soil geochemistry survey	Michaud
2002	Moneta	Ground mag (26.3 line-km) and IP survey (6.1 line km)	Michaud
2001	Moneta	Drill holes M-01-225 and 226	Michaud
2002	Moneta/Acrex	Drill holes MA02-01 to 09	Michaud
2003	Moneta/Acrex	Drill holes MA03-10X to 14	Michaud
2003	Moneta	Drill holes M-03-236 to 239	Michaud
2004	Moneta/Acrex	Drill holes MA04-15 to 26	Michaud
2004	Moneta	Drill holes M-04-257 and 258	Michaud
2005	Moneta/Acrex	Drill holes MA05-27 to 32	Michaud
2006	Moneta/Acrex	Drill holes MA06-33 to 37A	Michaud
2007	Moneta/Acrex	Drill holes MA07-38 to 42	Michaud
2007	Moneta	Drill holes MWJ07-01 to 03	Garrison
2008	Moneta	Drill holes MWJ08-05 to 22	Michaud
2008	Moneta/Acrex	Drill holes MA08-43 to 50	Michaud
2008	Moneta	Drill holes M-08-259	Michaud
2009	Moneta	Tuned gradient IP survey	Michaud
2009	Moneta	Drill holes MWJ09-23 to 31	Michaud
2010	Moneta	Borehole 3D Resistivity/IP and Infinity TEM	Michaud
2010	Moneta	Drill holes MSW10-162 A, B, D, G, MM97-203X and MSW10-260 to 276	Michaud
2010	Moneta	Drill holes M55-10-01 to 36 and MWJ10-32 to 33	Michaud
2011	Moneta	Drill holes MPL11-01 to 09, MWJ11-34 to 59 and MSW11-277 to 294	Michaud
2012	Moneta	Drill holes MSW295, 296, 299 to 309, M55-12-37 to 39, MWJ12-60 to 79	Michaud

The diamond drilling listed in the above table is discussed in Section 10.

9.2 Garrison Property

The primary focus of exploration work and expenditures from 2016 have been on the 903 and Garrcon deposits of the Garrison property. Work programs completed from 2016 to 2018 included diamond drilling, relogging, metallurgical testing and structural mapping. The company allocated a small portion of its exploration program from 2016 to 2018 to developing and expanding the Jonpol deposit.

As of the effective date of this report, the vast majority of the exploration work completed at the Garrison property was in-fill and exploration drilling of the three zones, which is discussed in Section 10.

In September 2017, Osisko obtained a permit to take water (PTTW) from the Ministry of the Environment and Climate Change (MOECC) in order to de-water the bulk sample pits at Garrcon for a structural mapping project conducted by Orix Geosciences. This mapping program was designed to better understand the structural controls on mineralization and alteration within the bulk sample pits and assist with generating future exploration targets.

The Orix mapping program consisted of approximately thirty 5 to 50 m traverses through the de-watered pits. Structural measurements of veins, shears, faults, tension gashes, bedding, and dikes were recorded and plotted on stereo-nets and maps. No sampling was done. The program confirmed much of the interpreted geology at the time and informed the current geological model.

Between August and November 2017, Osisko geologists participated in re-logging the 2016 to 2017 drill holes intersecting the 903 Zone to better understand the mineralization and alteration styles of the gold-bearing syenite dikes within the 903 deposit, and plan future exploration targets. This worked contributed to the refinement of the geological model used for both the 2019 and current mineral resource estimate. There was no significant change to the geological model because of this work.

The company has not conducted any significant exploration on the other properties of the Golden Bear Group.

10 DRILLING

10.1 Golden Highway Drilling

After the 1986 initiation of exploration by Moneta and the completion of the magnetometer, induced polarization and VLF-EM surveys, diamond drilling and reverse-circulation (RC) drilling commenced. By 1988, 93 diamond drill holes (M-87 series) and 132 RC holes had been completed. All drilling since 1988 has been diamond drill holes.

In 1989, Unocal Canada Ltd. (Unocal) optioned the property and completed two phases of core drilling comprising 9,246 m in 44 holes primarily along the DPFZ (MU series). Five drill holes (1,178.20 m) were completed on the South West Zone as part of this drill program. Unocal dropped its option in the same year.

From December 1994 to April 1995, Lac North America Ltd. (a subsidiary of Barrick Gold Inc.) drilled 4,583 m in 11 holes (MM series holes). Three were drilled on mineralized zones (North Zone) associated with the DPFZ, and eight were drilled on the South West Zone. In 1995 to 1996, additional drilling took place for a total of 11,534 m in 23 drill holes. Ten holes were drilled on the South West Zone, nine holes on the Last Chance Zone, and four holes were exploration holes on what is now the Far West Block (former the 04 Extension Zone). In 1997, Lac North America drilled an additional 44 holes (22,270 m) on the greater South West Zone (MN series holes). The property was returned to Moneta in 1998.

In 2002, the Moneta/Acrex drill program consisted of nine drill holes for a total of 3,038.5 m. Holes were drilled into several zones: four into three blocks of the South West Zone, one into the Far West block area, two into the 55 Zone, and two north of the South West Zone Central Block.

In late 2003 and continuing into 2004, three new drill holes were completed by Moneta/Acrex in the 55 Zone and one was deepened. An additional 13 holes were drilled approximately 2 km to the west. In total, 4,940 m were drilled; 793 m were drilled in the 55 Zone, and the remaining 4,147 m were drilled on the newly discovered Western Zone.

From 2005 to 2006, the Moneta/Acrex JV completed six infill drill holes totalling 2,142 m on the 55 Zone, including an 800 m westerly step-out.

In 2007, Moneta acquired Newmont's operating interest the Windjammer property and completed three drill holes totalling 988 m on Windjammer South.

In 2008, a drill program totalling 6,914 m in 21 holes was completed by Moneta on the Windjammer South Zone. Also in 2008, the Moneta/Acrex Joint Venture completed an eight-hole 2,449 m drill program on the 55 Zone, increasing drill data density for potential resource modelling.

In 2009, Moneta completed a nine-hole drill program totalling 4,753 m and two drill hole extensions (281 m) in the Windjammer South, Central, and North zone areas.

There was a significant increase in the drilling program in 2010, with drilling taking place in all three known zones. In the 55 Zone drill holes M55-01 to -36 were completed. In Windjammer South holes MWJ10-25 and -29 to -32 were completed for a total of 1,475 m. Drill holes MWJ10-29 and -30, as well as the extension of MWJ10-25, profiled the area that is now part of Windjammer Central. Holes MWJ10-26 to -28 were drilled in the Windjammer North area. South West Zone drilling included holes MSW10-260 to -273 for a total of 7,375 m and included numerous wedges from several deeper mother holes.

Drilling in 2011 focused on Windjammer South and the eastern and deeper portions of the South West Zone. Windjammer South drilling consisted of holes MWJ11-35 to -50 for 6,400 m. South West Zone drilling completed the deeper phase of drilling with holes MSW11-278 to -282, -284 and -285 for a total of 4,375 m (Puritch et al., 2012).

The 2013 drilling program included advancing the 2012 NI 43-101 mineral resource areas to higher confidence categories, drilling Windjammer Central to the west and establishing a better linkage to Windjammer South, advancing the Gap area, and better defining its linkage to both the South West and Windjammer South (Puritch et al., 2012).

The 2014 exploration activities were successful in identifying and expanding the Discovery Zone immediately adjacent to the modelled Windjammer North 2012 NI 43-101 open pit.

The 2017 to 2018 winter drill program was conducted from September 2017 through to the end of April 2018. It focused on the South West deposit, where 45 drill holes for 29,803.90 m were completed. The remainder of the program tested the Discovery, Gap, 55, Windjammer North and LC areas. The drill program was designed to verify and extend newly interpreted zones of higher-grade gold mineralization which had been identified after a technical review of all property drill targets was completed over the summer of 2017. The 2019 drill program primarily tested the extensions of the South West deposit.

An additional eight drill holes for 3,551 m were drilled on the South West and Windjammer South deposit areas during the summer of 2018. This included seven holes for 2,903 m at South West and one hole of 648 m at Windjammer South. The drilling was conducted as infill drilling on newly discovered vein and stockwork zones to enable the zones to be included in the new resource estimate. The holes were drilled from July 31, 2018 to September 04, 2018.

During 2019, 9,455 m of drilling was completed in 15 holes on the Golden Highway property. This consisted of 14 holes for 8,990 m of drilling at South West and one hole for 465 m of drilling on the 55 deposit. The South West drilling was conducted to test the down dip and strike extensions of new veins identified in the Gap area on the eastern part of South West. The drilling also infilled and confirmed some of the main South West mineralized structures.

During the winter of 2019 and 2020, 37 holes were drilled for 18,524 m of drilling on the Golden Highway property. This consisted of 12 holes and 6,264 m at Windjammer South, 17 holes for 8,885 m at Westaway/West Block, 6 holes for 2,265 m at the 55 deposit and one hole for 609 m on the South Basin target and one hole for 501 m on the new Halfway target (MGH19-123). The drilling was conducted at Windjammer South and 55 to confirm the new geological interpretation and test the extensions of near surface gold mineralization for resource definition. At Westaway, drilling was conducted to drill define a new underground resource and was conducted at Halfway and Westaway to test for new zones of gold mineralization.

Drilling at Golden Highway is summarized in Table 10-1. Additionally, a table of all drill holes included in the database is provided in Appendix B. Not all of the holes in the database were used in the resource estimate. As discussed above, only the drill holes after 1987, for which Moneta has the remaining core, were used in grade estimation for the mineral resource reported herein.

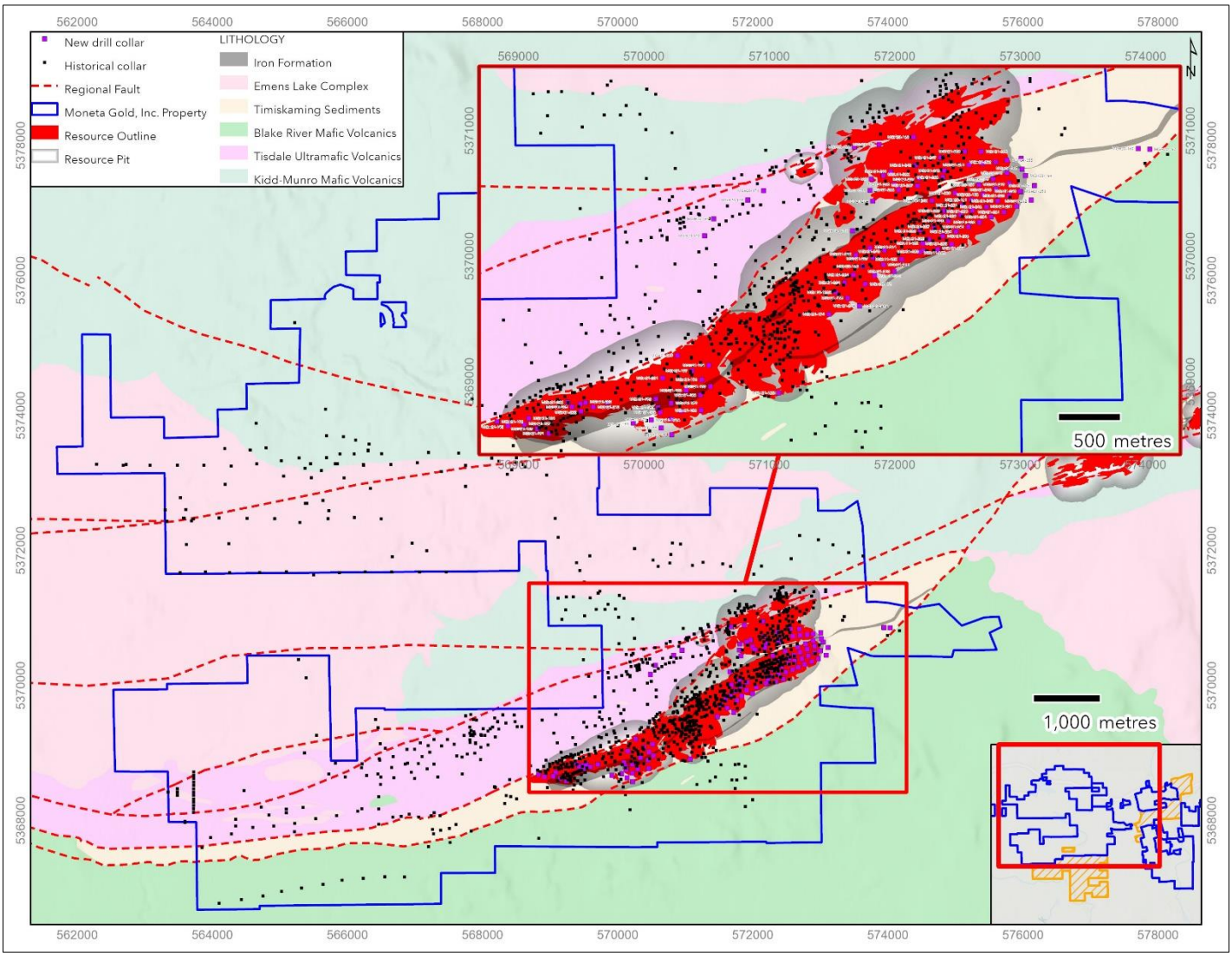
Drill hole collar locations are shown in Figure 10-1. Cross-sections of the Golden Highway resources are found in Section 14.

Table 10-1: Diamond Core Drilling Golden Highway Property

Year	Total No of Drill Holes*	Total Metres	Total Assayed Samples	Assay Certificates	Bulk Density Measurements
Pre-1986**	162	49,621.41	26,691	829	26,523
1986**	33	16,173.80	10,232	462	10,225
1987**	208	46,345.54	19,934	1,859	19,156
1988	69	17,393.75	8,051	213	7,833
1989	52	12,520.23	2,816	0	1,665
1990	5	1,121.47	232	0	221
1991	12	1,604.56	123	0	121
1993	1	9.45	0	0	0
1994	1	24.39	0	0	0
1995	11	155.35	0	0	0
1996	32	4,165.57	569	123	562
1997	59	5,470.04	1,576	6	1,312
1998	7	1,172.87	502	2	502
2001	2	239.87	78	0	78
2002	9	1,987.27	634	2	634
2003	10	2,928.98	1,072	0	1,069
2004	14	2,171.63	825	0	825
2005	8	266.39	8	0	8
2006	5	200.25	4	0	4
2007	8	686.87	159	0	159
2008	28	9,558.07	3,633	13	3,605
2009	9	3,258.00	931	1	930
2010	72	41,838.78	12,588	62	12,512
2011	56	34,560.75	12,090	766	12,049
2012	39	22,001.84	10,111	1,859	10,093
2013	78	20,988.15	8,598	657	8,570
2014	34	16,518.40	8,149	1,003	8,138
2016	12	6,751.85	3,585	327	3,584
2017	65	26,368.70	18,033	399	17,503
2018	49	22,765.79	15,785	873	15,632
2019	28	10,974.57	6,368	33	1,363
2020	40	13,610.97	9,307	456	4,747
2021	97	41,025.22	27,433	97	26,611
TOTAL	1,315	434,480.78	210,117	10,042	196,234

Notes: *Includes abandoned and extended drill holes. **Includes reverse-circulation (RC) drilling.

Figure 10-1: Drill Collar locations at Golden Highway



Source: Moneta, 2022.

10.2 Garrison Property

In 2016, Osisko's diamond drill program focused on step-out drilling in the 903 Zone, aiming to expand the deposit along strike and at depth. Seven drill holes were completed, totalling 2,445 m. In 2017, Osisko proceeded with infill and more step-out drilling along strike of the deposit. A total of 108 drill holes was completed, and one extension hole, totalling 40,629.25 m, including two drill holes that were cancelled in overburden (OSK-G17-384A and -371A). In 2018, the company focused on expanding the northwestern portion of the 903 Zone, while targeting the Jonpol Zone at depth. Two drill holes were completed, totalling 1,180 m.

Drilling at Garrison property is summarized in Table 10-2 by deposit and year. The deposit boundaries are based on the collar location for this study and may therefore be considered in a different deposit area than in previous reports.

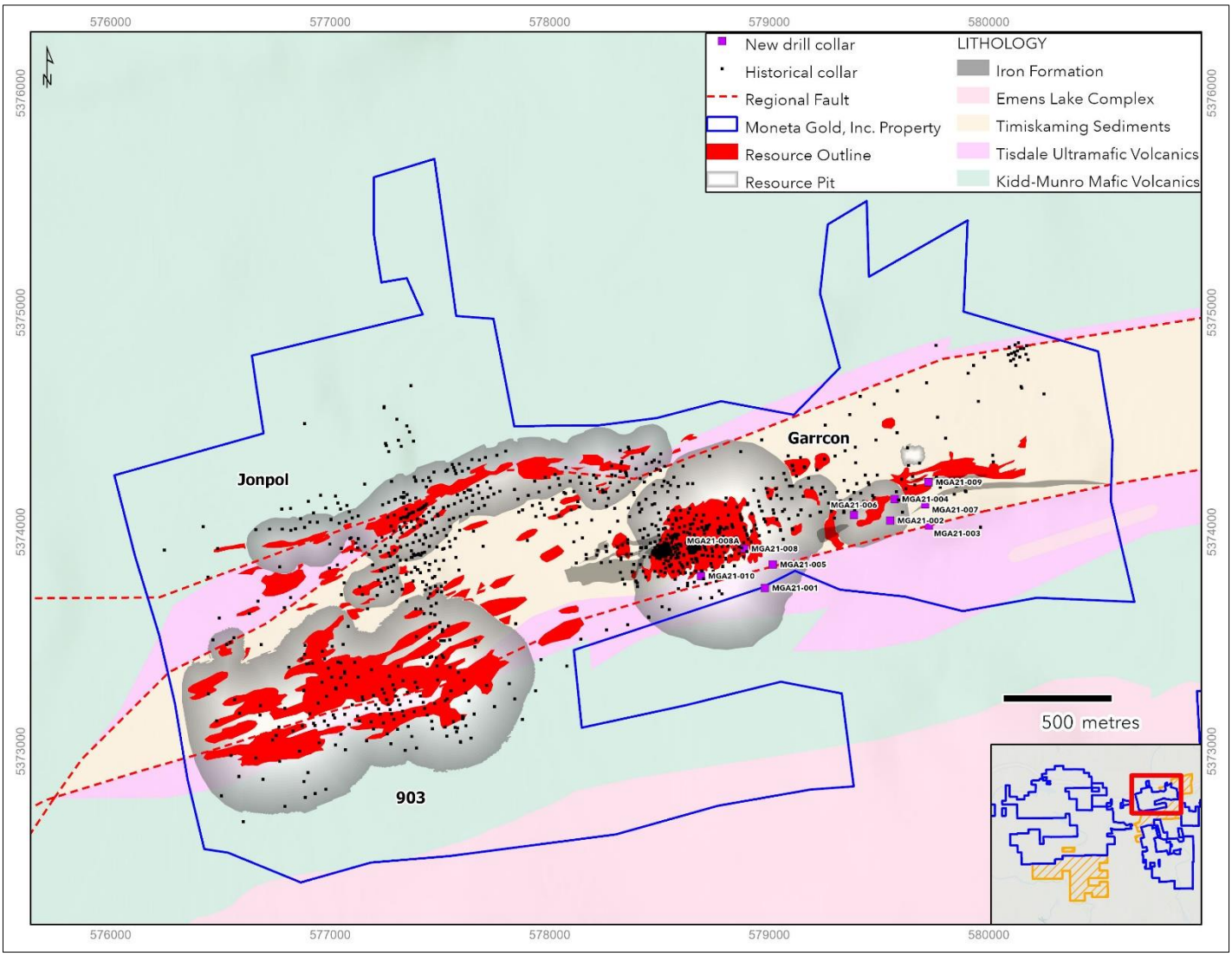
Table 10-2: Summary of Garrison Diamond Core Drilling by Deposit & Year

Year	Total No of Drill Holes*	Total Metres	Total Assayed Samples	Assay Certificates	Bulk Density Measurements
pre-1986	52	10,318.17	2,815	2,815	0
1986	30	5,151.62	4,401	4,400	0
1987	125	30,647.14	13,149	12,914	40
1988	133	41,290.21	13,091	12,988	0
1989	56	3,426.85	1,063	1,063	0
1990	59	5,139.76	1,151	1,151	0
1991	10	6,459.22	770	770	0
1992	9	1,031.32	57	57	0
1994	3	1,563.02	107	107	0
1995	6	1,082.04	67	67	0
1996	4	882.00	196	196	0
2005	7	1,585.60	1,467	1,467	0
2006	58	24,121.05	18,305	18,297	14
2007	14	7,355.00	5,017	4,973	0
2009	11	2,336.00	2,570	2,568	0
2010	50	12,338.86	10,554	10,492	12
2011	130	44,699.51	40,488	40,041	1,778
2012	130	51,297.33	48,108	47,422	1,358
2013	36	10,732.10	9,098	8,282	0
2014	226	4,135.80	4,123	4,123	0
2015	32	641.00	641	641	0
2016	32	20,971.85	21,076	21,073	0
2017	154	60,844.91	56,974	56,974	55
2018	10	5,074.00	5,195	5,195	0
2021	11	6,802.68	4,717	4,717	966
TOTAL	1,388	359,927.04	265,200	262,793	4,223

Note: *Includes abandoned and extended drill holes.

Figure 10-2 is a plan map of all drilling used in the resource estimate, with Moneta drilling shown in purple. Cross-sections of the Garrison resource can be found in Section 14.

Figure 10-2: Drill Collar Locations at Garrison Property



Source: Moneta, 2022.

10.3 Drill Hole Planning, Set-up, and Core Handling

10.3.1 Drill Hole Planning

The Moneta drilling program begins with the creation of proposed holes by a Moneta geologist that is familiar with the area. Proposed holes planned by the geologist are assigned an alpha-numeric code (e.g., for proposed hole ID WJS19-P4, "WJS" refers to the Windjammer South deposit area, "19" refers to 2019 (year of proposal) and "P4" means it is the fourth hole proposed in the WJS area for that given year). The following area coding system is used by Moneta.

SW = South West deposit

WJS = Windjammer South deposit

WJN = Windjammer North deposit

WJC = Windjammer Central deposit

WB = West Block area

WA = Westaway area

55 = 55 deposit

HLW = Halfway Lake area

DS = Discovery Zone area

LC = Last Chance area

GAR = Garrcon deposit

903 = 903 deposit

JP = Jonpol deposit

Once the Moneta geologist has completed the hole planning, it is reviewed by the chief geologist, senior geologist and/or other Moneta geologists. Once consensus has been established, the proposed hole's UTM coordinates (NAD83, Zone 17N), elevation, azimuth, inclination, and length are sent to the senior geologist managing the drill program who compiles them into a drill hole exploration Microsoft Excel™ file sheet. The proposed holes are listed in priority sequence in the sheet. The list is then circulated to all Moneta geologists, including the GIS geologist. The GIS geologist or project geologist prepares a field terrain map (often a Google Earth™ base map) with the location of the proposed holes to be spotted in the field.

10.3.2 Drill Hole Set-up

A list of the proposed holes (with UTM coordinates, azimuth and inclination) and the drill hole location map are provided to the Moneta field foreman. Proposed drill hole collars are positioned by the field foreman or Moneta personnel with a hand-held GPS unit. A wooden cut picket inscribed with proposed hole ID, inclination, azimuth and length is placed at the proposed drill hole location. Should the site not be suitable, the field foreman informs the Moneta geologist that adjustments are required and a second attempt to spot the hole may be required. Any adjustment changes made by the Moneta geologist are required to be noted on the drill hole exploration Microsoft Excel™ sheet.

Once the site is suitable for drilling, the Moneta representative informs the contract drill foreman that the site is ready to be cleared. The proposed drill hole collar coordinates, inclination, azimuth, and hole length are given to the drill contractor foreman, along with the drill hole location map. The site is then cleared of trees/brush to allow for a diamond drill rig to travel to the site. Once the drill rig has arrived and is ready for alignment, the foreman/driller will contact the Moneta geologist and a hole ID will be assigned by the geologist. It is important for the geologist to reference the drill hole exploration Microsoft Excel™ file sheet to ensure the hole ID has not been already assigned to a neighbouring drill rig. As an example, for the Moneta drill hole ID MGH21-136, "MGH" denotes the Moneta Golden Highway property (or "MGA" denotes the Moneta Garrison property), "21" indicates 2021 (year of drilling), and "136" is the hole number.

All diamond drill holes are aligned by drilling crews employing either an azimuth pointing system (APS) rented from Reflex Instruments of Timmins, Ontario or a DeviSight pointing system instrument rented from SurveyTECH Instruments & Surveys of Timmins, Ontario. Both drill rig aligning instruments employ a GPS-based compass that provides a true north azimuth measurement and position. Since the instrument is not using the earth's magnetic field to determine the azimuth, it is not affected by ferrous anomalies from the ground or surrounding structures. The instrument surveys the drill hole collar coordinates and elevation in UTM coordinates (NAD83 Zone 17N) utilizing total station GPS instrumentation. These data are instantaneously sent to the Moneta geologist who is assigned to liaise with the drilling crews. The hole is then approved, and the drill crew commences the sinking of the drill hole. The received data is sent to the Moneta database personnel, where it is recorded and subsequently entered into the Moneta server, DeviCloud and MX deposit.

10.3.3 Drill Hole Operation

Once the drill rig has reached bedrock and begins producing NQ core, the drilling contractor places the drill core into wooden tray boxes along with marker blocks to indicate measured distances down the drill hole from the collar. Drill core is also oriented by the drilling contractor personnel. The orientation involves using a Reflex Act III instrument or Devico DeviHead instrument, with the orientation mark indicated at the end of a core run (3 or 6 m interval), on the end and bottom of the core.

If a drill hole is abandoned due to excessive deviation or due to drilling problems, the drill will have to back up two meters and collar again. The failed drill hole is renamed to the original hole number followed by an "a". (After two failed attempts, the hole is renamed with a "b" attached to the end of the original hole number.) The successful drill hole will take the official drill hole ID bearing the original hole number without letter suffixes.

During drilling, the contractor conducts down hole surveying. Prior to hole MGH19-123, the Moneta drill contractor utilized a Reflex EZ-Shot®, an electronic single-shot instrument rented from Reflex Instruments of Timmins, Ontario. It accurately measures six parameters in one single shot, azimuth, inclination, magnetic tool face angle, gravity roll angle, magnetic field strength and temperature. Single-shot tests were taken 15 m or so below the casing and every 60 m down the drill hole. Upon completion of a drill hole, a gyroscopic survey of the hole was completed by the drill crew. The gyroscopic survey utilized a Reflex IQ Logger structural EZ-Gyro instrument and azimuth/inclination readings were taken every 10 m downhole. The gyroscopic survey results superseded the Reflex single-shot results for drill hole orientation and the Talbot surveyed collar azimuth/inclination in the computer database.

Since hole MGH19-123, the downhole survey instrument utilized by the drill contractor is a Champion gyroscope (Champ Gyro™). The Champ Gyro™ is an innovative north-seeking solid-state gyroscopic system that allows users to take high accuracy single-shot, multi-shot or orientation measurements at the push of a button. It requires no starting azimuth and is ready to survey within minutes. It is run with the Champ OSA™ (overshot assembly) in wireline coring applications to take a gyroscopic survey simultaneously with retrieval of inner tube and core. This capability removes the need for a separate magnetic single-shot survey run and reduces survey time at any depth. At surface the user initialises the Champ Gyro via a computer tablet. Downhole, single-shot or multi-shot measurements are taken at desired depths. Upon return to surface, data are downloaded via highspeed wireless communication and are immediately accessible without any need for processing or interpretation. The downhole survey data are then uploaded to a designated web portal, DeviCloud (https://devi.cloud), from the tablet. The survey data are available for review by the Moneta GIS geologist. Moneta instructed the drill contractor to take gyroscopic survey readings every 24 metres down the hole. Readings in the upper casing are taken after bedrock has been reached and the casing is firmly sunk.

During drilling operations, the progress of the drill rigs is monitored by a designated Moneta geologist through constant cellular communications with individual drill rig crews and the drill foreman. The drill foreman provides Moneta with daily rig timesheets via email. These daily timesheets are compiled by a Moneta GIS geologist into a tracking Microsoft Excel™ file. Each drilling day, drill core is collected by Moneta technicians at the drill sites or the drill and transported to Moneta's core logging and storage facilities.

10.3.4 Drill Hole Completion

When the drill hole has reached its planned depth and is shut down by the Moneta geologist, a continuous gyroscopic measurement is taken by the drill personnel and uploaded to a designated web portal, DeviCloud (https://devi.cloud). The geologist communicating with the drill rigs will then confirm that the data have been received by the GIS geologist. Once the continuous gyroscopic survey is completed, the drill rods are pulled out by the drill rig crew. The NQ and/or HQ casing in the overburden is left in each hole completed (unless the hole has no drill core, in which case the casing may be pulled). The top of the casing at surface is capped by the drill contractor (Figure 10-8). Once the drill rig is moved to the next

proposed hole, the old drill hole site is cleaned and inspected by the drill contractor foreman. An environmental form is completed, and a drill site photograph (see Figure 10-3) is taken at each site. The completed form and photograph are provided by the drill contractor to Moneta. Upon completion of the drilling program, every drill site is re-inspected by Moneta personnel to ensure all is environmentally clean for natural revegetation.

Figure 10-3: Drill Site MGH19-127

Source: Moneta, 2022.

As a verification of the initial GPS collar coordinates after demobilization of the drill rig off the hole, a survey contractor (e.g., Surveyors Onsite, www.surveyorsonsite.com) surveys the top of the drill hole casing with a Leica global navigation satellite system (GNSS) base (Leica GS15) and rover (Leica GS14) setup that has a relative horizontal accuracy of 0.015 m and a relative vertical accuracy of 0.030 m. The GNSS base logs precise point positioning (PPP) data are then checked against provincial control along Highway 101. The UTM NAD83 Zone 17N northing, easting, and elevation coordinates recorded by the survey instrument are the final location coordinates of the hole.

10.4 Conclusions

The QP has examined the procedures described above. In the opinion of the QP, Moneta personnel have used industry standard best practices in the collection, handling and management of drill core and assay samples.

The QP is not aware of any drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results presented in this report.

11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

A master assay database compiled by Moneta incorporating all available records has been used to develop the resource estimate presented in this report. The data used for resource estimation do not include any assays from before 1986. Moneta has the entire core, pulp rejects, and coarse rejects dating from 1986 catalogued and stored in the company's secure core logging and sampling facilities located in Timmins and Garrison. Data entries have been verified and scans of paper drill logs and most assay certificates are available.

11.1 Summary of Drilling and Sampling

11.1.1 Golden Highway Property Area

The information in this sub-section has been sourced from a previous technical report on the Golden Highway property by Hennessey et al. (2021). The QP has reviewed and taken responsibility for the information herein.

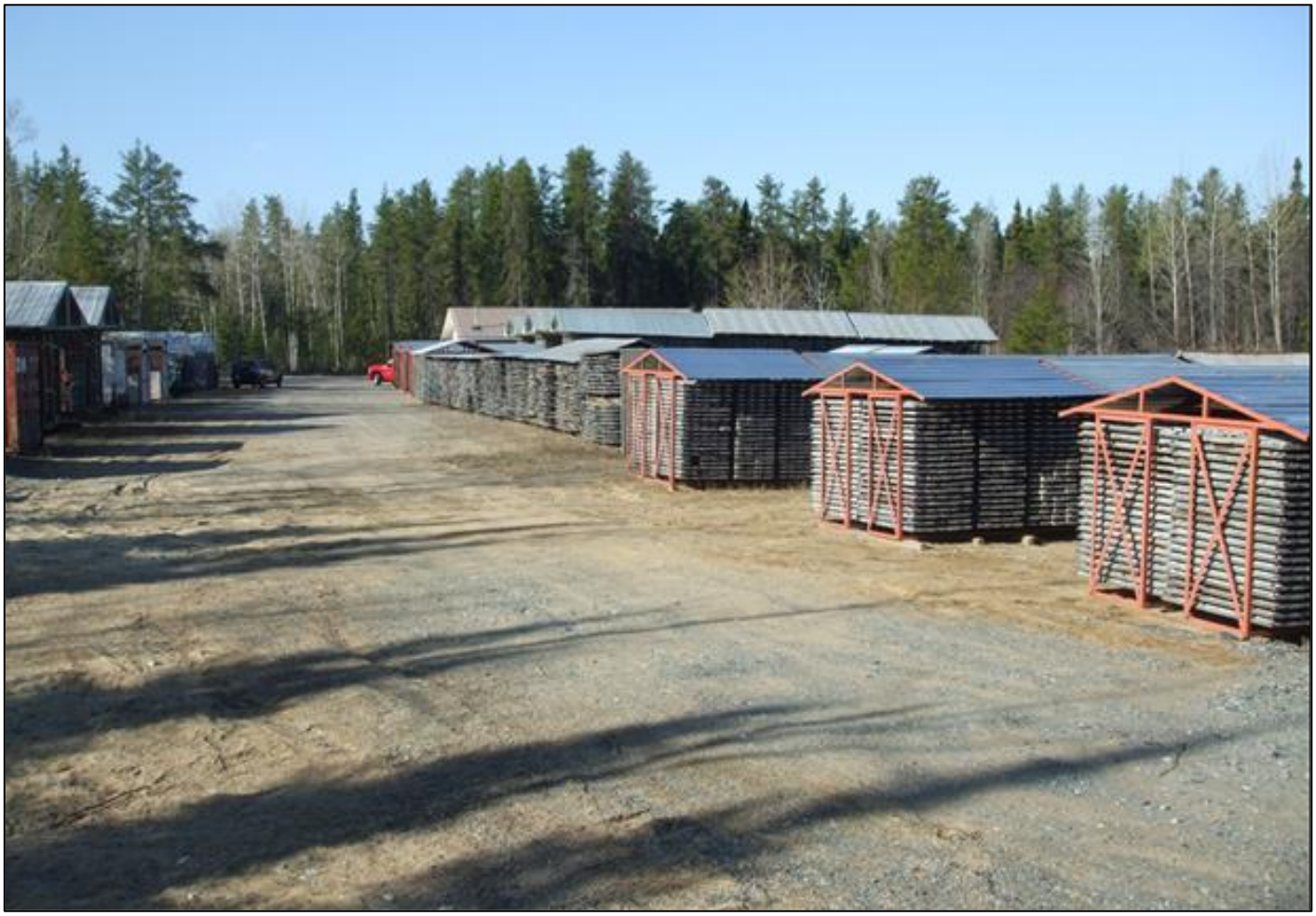
Historical drilling and geological data were sourced from government assessment and company files and were considered indicative of geology and mineralization. Older (pre-1980) assay results may not be reliable and core sizes ranged from AQ to NQ. The pre-1986 assay data were not used for resource estimation, but the logging may be used for drill hole planning.

More recent drill programs since 1986 have primarily used BQ- and NQ-sized core with some HQ, as determined by drilling situations and program design at the time. Results from these programs are believed to be reliable, with the inclusion of extensive duplicates and screen metallic analyses when warranted. Moneta drill results from 1986 to 1987 have been tested and confirmed by Lac Minerals (Barrick from 1994 to 1995) resampling. Noranda drill results to 1989 have also been verified by resampling and twinning of two drill holes as detailed by Cargill (2008). Significant drilling within the historical drill patterns in the zones has generated similar results. Recent sampling conducted in 2017 and 2018 of 1980's core has continued to validate the original data.

A variety of analytical laboratories (labs) have been used over the course of the various drill programs. The following laboratories are independent of the issuer and the authors of this technical report. Moneta drill programs from 1986 to 1987 used Bell-White Analytical Laboratories Ltd. (Haileybury) and later, Swastika Laboratories Ltd. (Swastika) in Kirkland Lake and Bondar Clegg (Ottawa), now ALS-Global. Lac Minerals also used Swastika Laboratories in Kirkland Lake. The Swastika Laboratory is still in operation. Moneta used Laboratoire Expert (Rouyn-Noranda, Quebec) and Activation Laboratories (Timmins) from 2011 to 2012. Both laboratories are still operating.

Past programs, in particular the Lac Minerals and Unocal drill programs, used off-site facilities to log and process core. In the case of Lac Minerals, it was the Holt-McDermott mine site approximately 20 km to the east along Highway 101, while Unocal used the Perry Lake Lodge on Highway 101 adjacent to the current property. Moneta's drill core samples have routinely been collected at the company's core logging and storage facility, a gated area in Timmins where all core, pulps and rejects from post-1986 drilling are stored (see Figures 11-1). A permanent insulated building, suitable for winter operations, is available for core logging and sampling, including diamond saws, office area and core logging and display areas. Drill core samples were typically picked up by laboratory personnel or delivered directly to the laboratory for preparation and analysis, or to a secure lockup to be shipped by bus, as required.

Figure 11-1: Moneta Core Logging and Storage Facility in Timmins



Source: Moneta, 2019.

11.1.1.1 2002 to 2004 Sample Preparation and Analysis

From 2002 to 2004, Moneta core samples were assayed at Swastika Laboratories using a 30 g aliquot for NQ core and 2 x 30 g aliquots for HQ core, giving a representative 1 assay ton sample portion. Swastika is an ISO/IEC 17025 accredited laboratory and is independent of Moneta and the authors of this technical report.

Samples were analyzed by fire assay with an atomic absorption finish with a 2 ppb detection limit. Gold values greater than 1.0 g/t Au were re-assayed by standard gravimetric fire assay with a detection limit of 0.03 g/t Au from the same prepared pulp.

Screen metallics assays were completed on any samples with visible gold observed in core. A random 41 samples were sent to Bondar Clegg as third-party checks using the same primary pulp. Also, in 2004, additional duplicate assays from coarse reject material were completed on all assays over 5 g/t Au at the primary laboratory. Later, screen metallic fire assays were performed on samples defining zones from both geological and gold content considerations. Adjacent flanking

or low gold grade samples were also included. An internal pulp repeat analysis on the same original pulp was completed by Swastika on a regular basis and up to 15% of the pulps representing a range of results were submitted to ALS Chemex (now ALS Global) as checks for third-party quality control. Bondar Clegg and ALS are independent of the Issuer and the authors of this technical report.

A quality assurance/quality control (QA/QC) program was conducted, with certified standards (CRMs) and blanks inserted into the sample stream at a rate of 1 in every 20 samples. Samples containing visible gold may have been subjected to a metallic sieve assay and a check assay if repeated check samples show significant variability.

11.1.1.2 2007 to 2013 Sample Preparation and Analysis

The methods described in this section were utilized by Moneta from 2007 until 2013.

In the course of the drill program regular core pick-up runs were made to the drill site by pickup truck on an as-needed basis, but generally daily or after two productive drill shifts.

All mineralized sections of drill core considered significant were marked and tagged to be split using a diamond saw with continuous fresh water flushing. One core half was retained as a reference sample while the other was bagged and shipped for assay as directed by the project geologist and qualified person. Sample intervals and corresponding sample numbers were entered into the standardized core log sheets by computer. Sample lengths were determined by the geologist logging the core with samples ranging from 0.20 to 1.50 m in length. Typical sample lengths were 0.50 to 1.00 m. The samples selected for assay were batched, with standards and blanks included, to be shipped to appropriate laboratories by bonded commercial carrier from secure lockups.QA/QC samples included one CRM and one blank inserted in the sample stream at a rate of 1 in every 24 samples.

Swastika, Laboratoire Expert, and Activation Laboratories were selected to perform the analyses. These laboratories are independent of the Issuer and the authors of this Technical Report. They participated regularly in the Proficiency Testing Program for Mineral Analysis Laboratories (PTP-MAL) administered by the Standards Council of Canada and maintain Certificates of Successful Participation in Proficiency Testing for gold and other elements. Results were first reported electronically for direct database entry, followed by certified assay certificates.

At Swastika, the samples were dried and crushed to approximately six mesh. A Jones riffle splitter was used to take a 400 g sub-sample for pulverizing with the reject portion bagged and stored. After reducing the 400 g sub-sample to 80% passing -100 mesh, the sample was thoroughly blended and a 29.166 g portion (one assay ton) was used for fire assaying. Assayed samples were finished by atomic absorption. Those which returned a value of greater than 2 g/t Au were re-assayed and finished gravimetrically. Repeat or check assays were run by the laboratory on at least one in every 10 samples on the original pulp or on a second pulp prepared from the reject. Additional checks were provided in a number of instances when an assay was greater than 2 g/t.

Laboratoire Expert (Rouyn-Noranda, Quebec) undertook the primary analytical work since 2009, with third-party check analyses conducted by Activation Laboratories (Timmins/Ancaster). Prior to 2009, Swastika undertook the primary analytical work with third-party check analyses conducted by Laboratoire Expert. Blank material utilized was commercial landscaping marble.

One standard and blank were included within every batch of 24 samples sent to Laboratoire Expert, the primary laboratory.

Typically core samples were dried, crushed by jaw crusher and further reduced to approximately 6 to 10 mesh using a roll crusher. The jaws and rolls were cleaned with a wire brush and air jet and the processing of barren material. A Jones riffle

was used to take a 300 to 400 g sub-sample for pulverizing. The remaining reject portion was bagged and stored. After reducing to a nominal -100 or -200 mesh with a pulverizer, the sample was thoroughly blended and sent to the fire assay department. A 1 assay ton portion (29.166 g) was used for fire assaying. This process results in a particle of gold that (in the normal assay method) is weighed gravimetrically.

For screen metallics gold assays, the total sample is dried (as necessary), crushed and pulverized, then screened using a 100-mesh screen. The minus 100-mesh portion is mixed and assayed in duplicate by fire assay with a gravimetric finish, as well as a complete digestion of the +100-mesh portion. All individual assays are reported including the final calculated value. For geochemical analysis or where lower detection limits are required, the gold is dissolved and determined by atomic absorption spectrophotometry. This was done after collecting the precious metals with a fire assay fusion.

Third-party checks and pulp repeat analyses were conducted regularly on the same original pulp, and duplicate sampling was occasionally conducted on a second pulp prepared from the stored coarse reject. Analytical standards (also known as certified reference materials or "CRMs") and blanks were also used for control samples. Selected samples, determined based on showing significant variability, defining zones, or having noted visible gold during logging, were reprocessed using screen metallics assay methodologies. Up to 15% of all pulps collected using a range of values were re-assayed by the second third-party check laboratory (Activation Laboratories or Swastika) using internal standards. Results were monitored and repeat analysis was completed when required. Coarse rejects and all prepared pulps were stored for any additional analytical work.

Results greater than 1.0 g/t Au were automatically repeated using gravimetric fire assay methods; results greater than 10 g/t Au were re-assayed as second cuts from the reject; and those greater than 20 g/t Au were subject to metallic gold assays. Assay results were then reported over the drilled widths using either the first primary analysis or what was considered to be the most complete and accurate method (the gravimetric fire assay or the screen metallic assay if conducted).

11.1.1.3 2016 to 2017 Sample Preparation and Analysis

For the 2016 to August 2017 program, Moneta used the same core logging, data entry and sampling procedures; three standards and two blanks were included within every batch of 74 samples sent to the primary laboratory of SGS Laboratories in Cochrane and collected from the secured Moneta core logging and storage facility in Timmins (Figures 11-2 and 11-3). The batches were collected by SGS personnel from the core facility and driven directly to the laboratory. SGS is independent of Moneta and the authors of this technical report. The laboratory is accredited (number 841) by the Standards Council of Canada to both ISO 17025 and ISO 9001 standards.

Typically, core samples were dried, crushed by jaw crusher and further reduced to approximately 75% passing 10 mesh (2 mm) using a roll crusher. The jaw crusher and roll crusher were cleaned with a wire brush and air jet as well as barren material flush. A Jones riffle was used to collect a 250 g sub-sample for pulverizing. The remaining reject portion was bagged and stored. After reducing to a nominal 85% passing -200 mesh (-75 µm) with a disc pulverizer, the sample was thoroughly blended and sent to the fire assay department.

A 1 assay ton portion was used for fire assaying with an inductively coupled plasma atomic emission spectroscopy (ICP-AES) finish. The ICP-AES is an analytical technique based on the principles of atomic spectroscopy for the determination of more than 70 elements with detection limits in the parts per billion to parts per million range. In theory, the technique allows us to analyze all elements except argon. The detection limit of this was 0.001 g/t Au and the upper limit was 10 g/t Au. Samples above 3 g/t Au were reanalyzed by fire assay with a gravimetric finish. This final assay was determined by weighing the final prill (gravimetric).

Figure 11-2: Moneta Core Storage Facility at Garrison

Source: Moneta, 2021.

Figure 11-3: Moneta Core Logging Facility and Office at Garrison

Source: Moneta, 2021.

Samples above 20 g/t Au from gravimetric assaying were subjected to a metallic screen fire assay of the total sample. The total sample was dried crushed and pulverized, then screened using a 100-mesh screen. The -100-mesh portion was mixed and assayed in duplicate using two 30 g fire assay charges with a gravimetric finish. The entire +100 mesh portion was analyzed by fire assay with a gravimetric finish. All individual assays were reported, as well as the final calculated (weight averaged) value. Independent certified standards were sourced from OREAS through Analytical Solutions Ltd.

Assay results were then reported using drilled widths and gold values, the reported value is the first ICP-AES result, replaced by the first gravimetric result if that was run, or replaced by the metallic screen result if that was undertaken.

Repeat or check assays were conducted regularly (every 90 days when pulps were returned from the laboratory) on the same original pulps, at a third-party check (umpire) laboratory, Activation Laboratory in Timmins. Standards and blanks were also inserted in the third-party repeat batches as control samples.

A list of samples was prepared taking 3/24 or 9 samples per batch of 74 (~12%) based on three value points, ~100 ppb, ~1 g/t and ~3 g/t, or 3 ppb, 100 ppb and 500 ppb for low result batches. For a batch of 35 samples sent for third-party checks, four samples were inserted consisting of standards/blanks, one from each original certificate. The list was printed and provided to the technician with certificate and sample numbers. The pulps were retrieved from each box to make new batches. The batches were delivered directly to the Activation laboratory in Timmins by Moneta personnel in sealed bags, including a digital chain of custody and sample list. Activation laboratory is independent of the issuer and the authors of this technical report.

Assaying at Activation Laboratories was performed by 30 g fire assay with an AAS finish for samples less than 3 g/t and a 30 g charge with a gravimetric finish for samples above 3 g/t Au.

All coarse rejects and pulps are stored at the Timmins core logging and sampling facility of Moneta for any additional analytical work.

11.1.1.4 September 2017 to 2019 Sampling Preparation and Analysis

For the September 2017 to 2019 drilling programs, the same core processing and sampling protocols were followed with a minimum sampling interval of 0.30 m and a maximum interval of 1.50 m, collected from the same right-hand side of the oriented and marked-up core. In most cases, a 1.00 m sample was used unless geological contacts meant that a shorter sample length was required. The primary laboratory was changed to ALS-Chemex (now ALS Global) located in Timmins and the secondary umpire laboratory used was Activation Laboratories in Timmins. Both ALS-Chemex and Activation Laboratories are independent of the Issuer and the authors of this technical report. The following QA/QC sampling procedures were followed:

- Delivery: Samples were collected directly from the secured Moneta core facility in Timmins by ALS-Chemex staff upon notification that a batch was ready for pick-up and were delivered directly in sealed rice sacks to the sample preparation facility. Activation Laboratory staff collected the third-party check assay samples directly from the Moneta core facility also upon notification.

- Preparation: Drill core and rock samples were dried and crushed to 85% passing ~2 mm (~10#), a 1 kg split using a Jones riffle splitter was then pulverized to 85% passing 75 µm (~200#) at the ALS-Chemex sample preparation facility in Timmins. A 250 g split of this pulp was sent directly to the ALS-Chemex assay facility in Vancouver, Canada by ALS-Chemex staff.

- Fire Assay Method: The sample was homogenized and a 50 g charge assayed by fire assay with an atomic absorption spectrometry (AAS) finish analytical procedure. The detection limit of this procedure is 0.001 g/t Au and the upper limit is 10 g/t Au.

- Standards (Certified Reference Material): CRMs within drill sample batches were inserted at a frequency of ~1 in 20 (5%) by the logging geologists (3 standards per batch of 70 samples). The standards used covered three grade ranges: near cut-off (~0.3 g/t Au), average grade of mineralization in the area (~1.0 g/t Au), and higher grade (3 to 6 g/t Au). Independent certified CRMs were sourced from OREAS through Analytical Solutions Ltd.

- Blanks: Blanks within drill sample batches were inserted at a frequency of 2 per batch of 70. Where possible blanks were inserted immediately after high-grade samples. Blank material was sourced from clean commercially available landscaping marble.

- Pulp Repeat Sample (Pulp duplicate): The laboratory was requested to produce a second sample repeat from the same prepared pulp twice per batch of 70 samples. This pulp was submitted using a unique sample number and assayed using the same method as the primary sample.

- Third-party Check Assays: Repeat samples were selected from 5% of prepared sample pulps and sent to an independent third-party laboratory upon receipt of the returned pulps from the primary laboratory and sent to Activation Laboratory in Timmins. Samples were randomly selected to cover the grade range of interest. These sample batches contained new standards at a frequency of ~1 in 20 and blanks at a frequency of ~1 in 20 (5%).

- Gravimetric Fire Assay: A fire assay with a gravimetric finish (50 g charge) was conducted for all samples over 10 g/t Au at the ALS-Chemex Laboratory in Vancouver.

- Metallic Screen Fire Assays: These were performed on samples that had been identified by the logging geologist as containing coarse gold or considered to be potentially high grade. The geologist requested this on submission. The metallic screen fire assays were performed on the same initial 1 kg prepared pulp with total analysis of the +100-mesh fraction and duplicate (2x) 50 g fire assays with an AAS finish on the -100-mesh fraction. All fire assays were completed with an AAS finish.

- Clean Pulverizers: Samples with identified coarse visible gold or high grade were flagged for the laboratory with "VG" written on the sample tag and a clean quartz flush was requested of the crushing and grinding equipment after preparation of this sample, so as not to contaminate the following sample. Blanks were submitted after potentially high-grade samples as a test for contamination.

- Field Duplicate Samples (Coarse Duplicates): Upon return of the coarse rejects from the primary laboratory, field duplicates samples were collected from the samples which returned a range of assays (low, medium and high) within all drill sample batches at a frequency of ~1 in 20 (5%) of samples. The field duplicate sample was submitted to the same primary laboratory (ALS-Chemex Laboratories, Timmins) that had performed the initial assay and a second pulp was prepared and assayed by fire assay in the same manner as the primary sample.

- Multi-Element ICP Analysis: Multi-element ICP analysis was conducted across mineralized zones and alteration haloes and into wall rock on a regular basis. This involved an ICP-AES analysis of the same prepared pulp at the primary laboratory using a four-acid digestion and an analysis for 61 elements. The results were monitored to determine if pathfinder or deleterious elements exist.

11.1.2 Garrison Property Area

The information in this sub-section has been sourced previous technical reports on the Garrison property by George (2008), McGarry (2014), Matheson (2016) and Hennessey (2019). The QP has reviewed and taken responsibility for the information herein.

11.1.2.1 2006-2007 ValGold Drilling

Sampling and assaying methods conducted by ValGold during its 2005 to 2007 drill programs have been described by A.C.A. Howe in a 2008 technical report and are summarized in the following text.

The diamond core was logged by an experienced contract geologist prior to selecting samples for analyses. Selected portions of the core were marked and measured for sampling and identified with one part of a three-part assay tag, placed at the end of the sample interval. To obtain a sample, the core was sawed perpendicular to the foliation, with one half of the core returned to the core box and the other half placed in a clean plastic bag along with part two of the three-part assay tag. Information on the third part of the assay tag is entered into the database and the drill log, at which time accuracy and consistency were reviewed by ValGold personnel. ValGold personnel transported the sealed sample bags to Swastika for preparation and analyses. Swastika is an ISO/IEC 17025 accredited laboratory and is independent of Moneta and the authors of this Technical Report.

Samples without visible native gold were subjected to normal analytical procedures. Sample preparation procedures involved jaw crushing to -1/2 inch, with further size reduction to -10 mesh by a roller mill. A 350 g sample was then riffled from the -10-mesh sample and pulverised to >90% -200 mesh. The gold concentration was determined in a homogenized 30 g sample using a fire assay collector and atomic absorption techniques. Every 10th pulp was re-assayed to check laboratory precision.

Samples with visible native gold were subjected to metallic sieve analysis. The submitted sample was screened through a -100-mesh sieve and the +100-mesh portion was analysed via fire assay to determine the coarse gold content. A weighted average was calculated to determine the overall gold content of the submitted sample.

ValGold submitted blanks and CRMs representing approximately 1 blank or CRM per 10 core samples during its 2005 to 2007 drill program (George, 2009).

11.1.2.2 2009-2013 Northern Gold Drilling

Sampling and assaying methods conducted by Northern Gold in the 2009-2013 drill programs included insertion of CRMs, blank samples, and pulp and coarse reject duplicates and are described in a 2014 technical report by McGarry et al. (2014) and are summarized in the following text.

The diamond core was logged and photographed by a Northern Gold geologist prior to selecting samples for analyses. Following photography, the geologist selected the sample intervals and selected portions of the core were marked and measured for sampling and were identified with one part of a three-part assay tag, placed at the downhole end of the sample interval. The core was cut using a water-cooled core saw with a 14-inch diamond blade and a mounted jig to ensure an equal split. The core was cut longitudinally, perpendicular to the foliation with one half placed into plastic sample bags along with part two of the three-part assay tag and sealed. The other half core is returned to the core box. Each sample bag was labelled with the sample number. Information on the third part of the assay tag was entered into the database and the drill log. The core logging and sampling was completed by, or under the supervision of, a Northern Gold geologist. CRMs, blanks

and duplicates were inserted into each sample batch. The sealed sample bags were placed into rice bags and transported to the analytical laboratory by Northern Gold personnel.

The core samples for Northern Gold's 2009 drill program and holes GAR-10-11 and part of GAR-10-12 for the 2012 drill program were delivered to Swastika for preparation and analyses. Sample preparation at Swastika included drying, crushing, splitting and pulverizing. The sample was passed through a crusher producing material of approximately -½ inch, with further size reduction to -10 mesh by a roller mill. A 300 g sample was riffle split from the -10-mesh sample and pulverised to >90% -200 mesh using a ring and puck pulveriser. Gold was analysed via fire assay with an atomic absorption spectroscopy (AAS) finish. All samples returning over 1 g/t Au were re-assayed using fire assay with a gravimetric finish. Swastika completed re-assays on every 10th pulp to check laboratory precision.

Samples from part of hole GAR-10-12 and drill hole GAR-10-14 of the 2010 drill program were sent to independent and ISO 9001:2008 certified Polymet Resources Inc. (Polymet) of Cobalt, ON. Upon comparison of check samples between Swastika and Polymet it was determined that the Polymet was under-reporting gold at lower grades. All pulps from Polymet were submitted to Laboratoire Expert of Rouyn-Noranda, QC, and SGS Canada Inc. Mineral Services (SGS) in Toronto and Lakefield, ON, for re-analysis. Following the reanalysis of the Polymet samples, Northern Gold deleted all the Polymet assays from its database.

Northern Gold submitted core samples to Laboratoire Expert from 2010 to 2012. Laboratoire Expert is an accredited laboratory (PTP-MAL – Accredited by Standards Council of Canada – in accordance with ISO/IEC43-1) and is independent of the issuer and the authors of this technical report. At Laboratoire Expert the samples were dried and crushed to 90% -10 mesh. A 300 g sample was split using a Jones riffle splitter. The sample was then pulverized and analysed using fire assay with an atomic absorption finish. All samples returning greater than 1 g/t Au were re-assayed using fire assay with a gravimetric finish. In July 2010, Northern Gold implemented the metallic screen lead fire assay analysis for sample intervals with visible gold. For this procedure, the entire sample was dried, crushed and pulverized, and screened by hand on a 100-mesh screen. The screen undersize was homogenized and lead fire assayed in triplicate using a gravimetric finish. The total screen oversize was lead fire assayed using a gravimetric finish. The assay results were combined using a weighted average calculation to determine an assay value for the entire sample. Check assays were completed on approximately 5% of the samples submitted to Laboratoire Expert. The samples were sent to SGS and were analysed using fire assay procedures.

Northern Gold submitted core samples to SGS from 2010 to 2013. SGS Toronto was and SGS Lakefield is ISO/IEC 17025 accredited and are independent of the issuer and the authors of this technical report. At SGS, the samples were dried, crushed, split and pulverized. The sample was then passed through a primary oscillating jaw crusher producing material of 75% passing a 2 mm screen. A 250 g sub-sample was split from the crushed material using a stainless-steel riffle splitter. The split was ground to 85% passing 75 µm or better using a ring pulveriser. The samples were analysed using fire assay with an inductively coupled plasma (ICP) geochemical finish. All samples assaying greater than 3.0 g/t Au were re-assayed using a gravimetric finish. The metallic screen lead fire assay analysis was implemented for all sample intervals with visible gold. In 2010 and 2011, all Garrcon sample pulps were analysed using SGS BLE653 cyanide leach procedure with a geochemical finish using a 30 g sample. In 2012, SGSBLE653 analysis was completed on a selective basis, on samples assaying greater than 100 ppb Au, up to the final hole GAR-12-270.

Northern Gold utilized Accurassay Laboratories (Accurassay) of Thunder Bay, ON, as its primary laboratory in 2013. Accurassay is an accredited (CAN P-4E – ISO/IEC 17025 and CAN-P-1579) laboratory and is independent of the issuer and the authors of this technical report. At Accurassay, the core samples were dried, crushed, split and pulverized. After drying, the <5 kg sample was passed through a primary oscillating jaw crusher producing material of 90% passing a 2 mm screen. A 1,000 g subsample was split from the crushed material and then ground to 90% passing 106 µm or better using a ring pulveriser. The samples were analysed using fire assay with an AAS finish. All samples returning greater than 3.0 g/t Au were re-assayed using a gravimetric finish. The metallic screen lead fire assay analysis was implemented for all sample

intervals with visible gold. Multi-element analysis for 33 elements was completed on selected sample pulps using aqua regia digestion followed by ICP – atomic emission spectroscopy (McGarry et al., 2014).

11.1.2.3 2014 Northern Gold Garrcon Bulk Sampling

In 2014, 280 blastholes were drilled on a 5x5 m grid the Garrcon Zone. Assaying was performed at Swastika. The assay method used was a standard 30 g fire assay with laser ablation finish. High-grade results were not re-assayed using gravimetric or screen metallic methods. Swastika was responsible for assaying all sample types generated during the bulk sample project including definition drill samples, blast hole samples, crusher samples and mill head comparison samples.

The sampling procedure included the insertion of blank and standard samples by Swastika, as well as the use of check assaying and field duplicate sampling. Sample collection, assaying and QA/QC sample insertion in the blast hole definition project are described in the report by Matheson (2016).

11.1.3 2015-2018 Osisko Drilling

Drilling and sampling by Osisko from 2015 through 2018 are described in a technical report by Hennessey (2019) and summarized in the following text.

The diamond core was logged by an experienced contract geologist prior to selecting samples for analyses. The sample intervals ranged in size from 50 cm to 1 m in length, measured to the nearest 10 cm increment. Three of four sample tags were placed at the end of the sample interval. One tag was maintained in the sample tag book. The core was cut using a water-cooled core saw with a 14-inch diamond blade with a mounted jig to ensure equal splits. The core was sawed in half longitudinally, perpendicular to the foliation, with one half placed into the plastic sample bags along with part two of the four-part assay tag and sealed. The other half of the core was returned to the core box and the two remaining sample tags were stapled to the box at the end of the sample interval. The samples were placed into a clearly labelled rice bag and picked up each week by SGS.

Osisko used SGS of Cochrane and Lakefield, ON, as its primary sample preparation and analytical laboratory. SGS is independent of Osisko, the issuer and the authors of this technical report. The laboratory is accredited (number 841) by the Standards Council of Canada to both ISO 17025 and ISO 9001 standards.

Primary core samples received at SGS were prepared using its sample preparation package PRP89, which consists of conventional drying, if required, in 105°C ovens, followed by crushing, splitting, and pulverizing. After drying, the sample was passed through a primary oscillating jaw crusher producing material of 75% passing a 2 mm screen. A 250 g sub-sample was split from the crushed material using a stainless-steel riffle splitter. This split was then ground to 85% passing 75 µm or better using a ring pulverizer.

Primary core samples and preparation samples were prepared and assayed using lead fire assay with ICP-AES finish on a 30 g nominal sample (SGS Code GE FAI323) with a detection limit of 0.005 g/t. The metallic screen lead fire assay analysis procedure (SGS Code FAS35V) was implemented for all primary core sample intervals where visible gold or metallic minerals identified as visible gold were observed. Samples displaying gold initial fire assay values greater than 3 g/t were also analyzed using the metallic screen lead fire assay method. SGS's metallic screen procedure is as follows:

- The entire sample is dried, if necessary, then crushed and pulverized.
- The pulverized material is screened by hand on a 150-mesh screen.

- The screen undersize is homogenized and lead fire assayed in triplicate (three individual 30 g charges) using a gravimetric finish.
- The total screen oversize is lead fire assayed using a gravimetric finish.
- All assay results are combined using a weighted average calculation to determine an assay value for the entire sample.

All sample pulps were assayed for multi-elements using the SGS ICP40B analysis procedure. The ICP40B procedure uses four-acid digestion followed by inductively coupled plasma optical emission spectroscopy (ICP-OES) and reports results for 32 elements at a variety of concentration limits.

SGS has its own internal QA/QC protocols including standards, blanks, and duplicates. Following verification from Osisko that the SGS results are acceptable, SGS packaged all remaining unused pulps and shipped them back to Osisko at the Garrison property to be catalogued and placed in long-term dry and secure storage.

As a secondary laboratory, Osisko used Bureau Veritas Commodities Canada Ltd. (BV) in Timmins, Ontario, Canada. BV is independent of Osisko, the issuer and the authors of this technical report. The laboratory is registered under the corporate ISO 9001 registration. The Timmins laboratory is in the process of seeking ISO 17025 accreditation for fire assay procedures and is listed on the Vancouver laboratory's ISO 17025 scope of accreditation (number 720) as a qualified sample preparation facility.

Off-site sample preparation and analytical procedures at Timmins follow those of Vancouver and are monitored regularly for QA/QC practices. The management systems of all BV sites are registered with the ISO 9001 Model for Quality Assurance and compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories.

Core samples received at BV were prepared using its sample preparation package PRP70. Each sample was crushed to 75% passing 2 mm and a 250 g split was pulverized to better than 85% passing 75 µm mesh.

Core samples were assayed using lead fire assay with an AAS finish on a 30 g nominal sample (BV Code FA430) with a detection limit of 0.005 g/t. The metallic screen lead fire assay analysis procedure (BV Code FS633) was implemented for all primary core sample intervals where visible gold or metallic minerals identified as visible gold were observed. Samples displaying initial gold fire assay values greater than 3 g/t were also analyzed using the metallic screen lead fire assay method.

Osisko's QA/QC program included the insertion of one CRM and one blank at a rate of 1 in every 18 drill core samples. Additionally, Osisko designates one in 20 samples as a duplicate where the laboratory creates a second 250 g split of the reject (-2 mm materials) and that is assigned the next consecutive sample number. Gold check assays on pulps are completed at BV.

11.2 2020 to 2021 Drill Program Sample Preparation & Analyses

For Moneta's 2020 to 2021 drilling programs, all mineralized sections of drill core considered significant were marked and tagged to be split using a diamond saw with continuous fresh water flushing. One half of the core was retained as a reference sample while the other was bagged and shipped for assay as directed by the project geologist and qualified person. Sample intervals and corresponding sample numbers were entered into the standardized core log sheets by computer. Sample lengths were determined by the geologist logging the core with samples ranging from 0.30 to 1.50 m in

length. Typical sample lengths were 0.50 to 1.00 m. The samples selected for assay were batched, with standards and blanks included, to be shipped to appropriate laboratories by bonded commercial carrier from secure lockups.

The same core processing and sampling protocols were followed with a minimum sampling interval of 0.30 m and a maximum interval of 1.50 m, collected from the same right-hand side of the oriented and marked-up core. In most cases, a 1.00 m sample was used unless geological contacts meant that a shorter sample length was required.

Sequential submission of standards (CRMs) and blanks within drill sample batches were inserted at a frequency of ~1 in 25 (4%) by the logging geologists (3 standards per batch of 72 samples for Golden Highway holes and 2 standards per sub-batch of 36 samples for Garrcon holes). The standards cover three grade ranges: near cut-off (~0.3 g/t Au), average grade of "mineralization" in the area (~0.9 g/t Au) and higher grade (3 to 5 g/t Au). Standard aliquot sizes of 50 g were ordered for one fire assay charge.

Sequential submission of blanks within drill sample batches were inserted at a frequency of 2 per batch of 72 samples for Golden Highway holes and 1 per sub-batch of 36 samples for Garrcon holes. Where possible, blanks were inserted immediately after high-grade samples.

The laboratory requested to produce a second sample repeat from the sample prepared pulp twice per batch of 72 samples for Golden Highway holes and 1 per sub-batch of 36 samples for Garrcon holes. This pulp was assayed in the normal manner. An empty sample bag with sample tag was inserted into the sample stream; recorded as a repeat analysis of the same pulp of the preceding sample (AGAT Laboratory Code: 200121).

A selection of 5% of prepared sample pulps were sent to an independent third-party laboratory (Activation Laboratories) upon receipt of the returned pulps from the primary laboratory. Activation Laboratories is independent of the issuer and the authors of this technical report. Samples were selected over the grade range of interest. These sample batches contained standards and previously prepared pulps of blanks at the same frequency as the initial analysis. The third-party laboratory collected batches of 72 (including 3 standards and 2 blanks per batch) with no pulp repeats.

An AGAT Laboratories (AGAT Labs) staff member was assigned to transport Golden Highway samples from Moneta's Timmins core shed to AGAT Labs in Timmins, ON, using an AGAT Labs chain-of-custody form. AGAT Labs generates a sample preparation report assigning work order for the database manager. The database manager conducted QA/QC of the sample preparation report. Once passed, the database manager notified AGAT Labs using AGAT Labs chain-of-custody form to transport 250 g pulp samples to the Mississauga facility. Pulp samples of 750 g were held at AGAT Labs in Timmins for 90 days. Analytic procedures for the 2020 to 2021 Moneta drill core samples at AGAT Labs are as follows:

- Preparation: Drill core samples were weighed, dried, and crushed to 85% passing ~2 mm (~10#), a 1 kg split then pulverised to 90% passing 75 µm (~200#) (AGAT Lab code weighing: 200026; sample preparation: 200111).
- Sample Splitting: For pulp shipping, a 250 g split of homogenized pulp from the 1 kg prepared pulp was prepared (AGAT Labs code splitting: 200121).
- Fire Assay: The sample was homogenized and a 50 g charge was assayed by fire assay with an atomic absorption spectrometry (AAS) finish (AGAT Lab code: 202551).
- Gravimetric Fire Assay: A fire assay with a gravimetric finish (50 g charge) was carried out for all samples over 10 g/t Au; this was the final assay result for the overlimit samples (AGAT Lab code: 202564).

- Metallic screen fire assays were performed on samples that were identified by the logging geologist as containing abundant coarse gold or being potentially high grade. The metallic screen fire assay was performed on the 1 kg prepared pulp with total analysis of the +100-mesh fraction and duplicate (2x) 50 g fire assays with an AAS finish on the -100-mesh fraction (AGAT Lab code: 202124).

- Clean Pulveriser: Samples with identified coarse visible or high grade were flagged for the laboratory with "VG" written on the sample tag and a clean quartz flush was carried out after preparation of this sample so as not to contaminate the following sample.

- Field Duplicate Samples: Upon return of the coarse rejects from the primary laboratory, field duplicates samples were collected from samples that returned a range of assays (low, medium, and high) within all drill and rock channel sample batches at the same frequency as above. This field duplicate sample (or riffle split) was sent to the same primary laboratory who performed the initial assay and prepared and assayed in the same manner (same code as above for the primary laboratory).

- Multi-Element ICP Analysis: Multi-element ICP analysis was conducted across mineralized vein zones and alteration haloes and into wall rock on a regular basis. This involved an ICP-OES analysis of the same prepared pulp at the primary laboratory using a four-acid digestion (not aqua regia). This was monitored to determine if pathfinder or deleterious elements exist (AGAT Lab code: 201070).

AGAT is independent of the issuer and the authors of this technical report and is certified to the standards of ISO 9001:2015 and ISO/IEC 17025 accredited.

11.3 Quality Assurance/ Quality Control Data Monitoring

The information in this section details the QA/QC monitoring program for Moneta's 2020 to 2021 drill programs. Refer to George (2008), McGarry (2014), Matheson (2016) and Hennessey et al. (2019; 2021) for a summary of the QA/QC data analyses and results of previous Moneta drill programs. The QP has reviewed and taken responsibility for the information herein.

The assay results for certified standards are plotted upon receipt of the initial assays. Any CRM that falls above or below the mean certified 2xSD is recorded as a failure (note: 3xSD is not a valid criteria). Discretion is used to determine if a failed CRM within waste requires a re-assay request. However, a re-assay is requested if the failure occurs within mineralization. Re-assay requests submitted to the Lab require the samples halfway between the CRMs before and after the failure. Moreover, a different CRM type is provided to the Lab in place of the failed CRM. This methodology is repeated until the CRM within the re-assay batch passes. Secondarily, if more than four consecutive assays of the same CRM fall above or below the mean but within 2xSD, this is also considered a failure.

Blanks: Any reported assay (>0.005g/t Au) is a failure. Failures are noted and significant failures or continued failures result in batch re-assaying.

If there are no CRM or blank failures, the assays and QA/QC samples are imported into the MX deposit database. If a failure has occurred, the QP may request a re-assay or override the failure.

Routine visits are made to the sample preparation facility to check that samples are being crushed and pulverized to the required size in the correct percentage. The general cleanliness of the facility and the handing of samples is also reviewed.

Bulk density method used is the water immersion method which records the dry weight immediately followed by the weight in water which are used to calculate the bulk density. The results are entered into the database to be able to use the drill hole number, depth, grade and rock and alteration types etc.

$$G_B = \frac{W}{W - S_W}$$

GB= Bulk Density of the Sample in g/cm^3
W= Dry Weight of the Sample in g
Sw= Suspended Weight of the sample, g

The quality control regime outlined above provides effective monitoring of the sampling error, the milling and splitting error and the analytical error. In addition, the laboratory's own internal quality control data (generally repeat pulp assays and standard reference assays) is requested, compiled, and entered into the quality control database. Assay precision and accuracy (bias) can then be quantified regularly, and the laboratory notified immediately of any concerns or fails.

11.4 2020 to 2021 Drill Program

From October 2020 to February 2022, a total of 51,671 samples were sent to AGAT for analysis, along with 5,859 inserted QAQC samples. In addition, 2,368 pulp rejects from AGAT were sent to ACT for 3rd party duplicate checks (Table 11-1).

Table 11-1: Summary of QA/QC Samples Analysed

QAQC Sample Type	Certified Au Value (ppm)	No. QAQC Samples Analysed
OREAS 216B	6.66	260
OREAS 231	0.542	556
OREAS 237	2.21	657
OREAS 240	5.51	286
OREAS 251	0.504	169
OREAS 279	6.55	170
OREAS 296	2.19	73
OREAS 217	0.338	15
Blank	< 0.025	1,525
Coarse Reject Duplicate	-	1,176
Pulp Reject Duplicate	-	972
Third-Party Pulp Duplicate	-	2,368

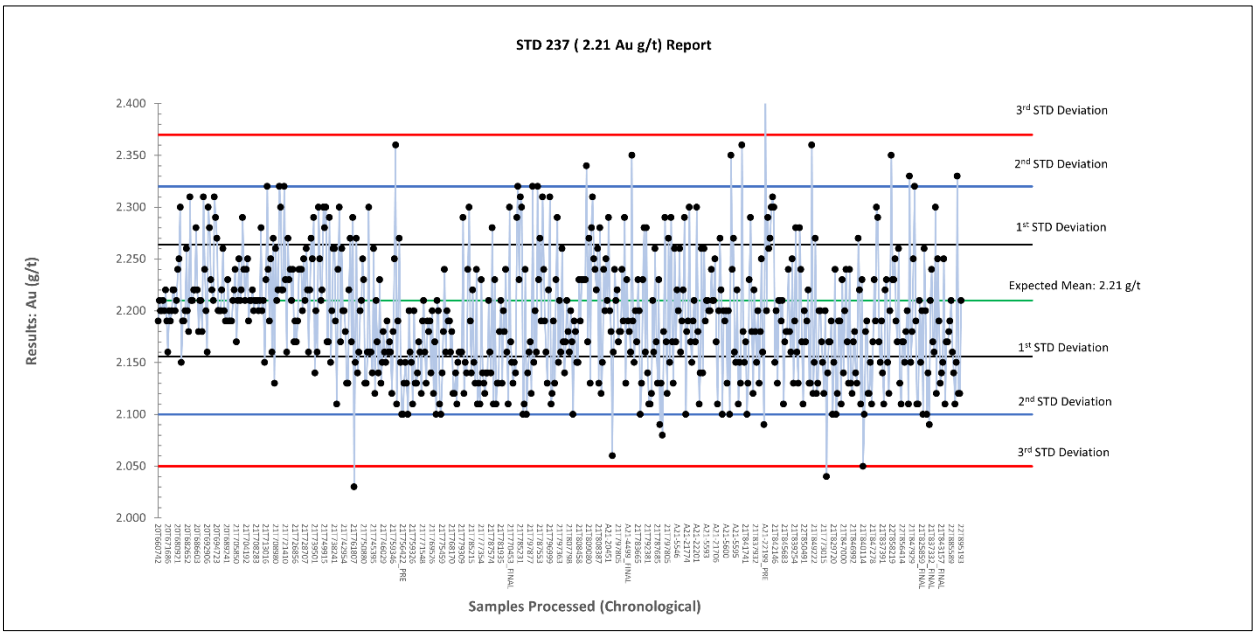
Source: Moneta, 2022.

11.4.1 Standards (Certified Reference Material)

A total of 2,186 (4.23% of total samples) standards were inserted and received by AGAT, where they were analyzed using fire assay. Standards used include seven different certified reference materials from OREAS (Table 11-1).

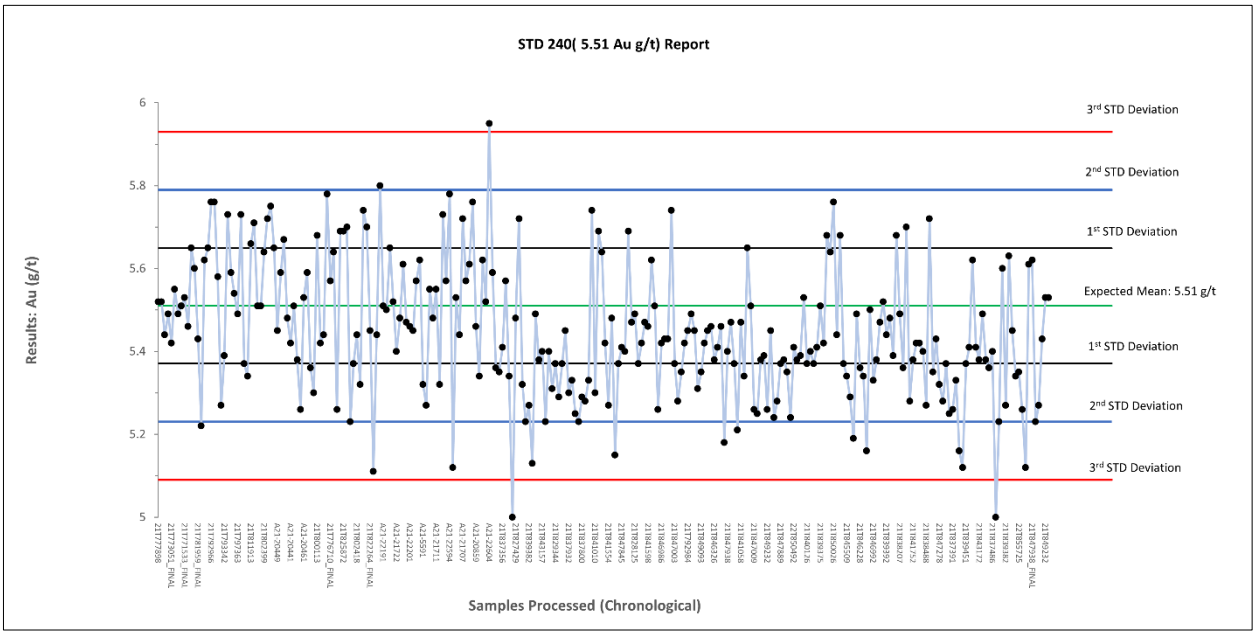
The results of the fire assay analyses for all standards are illustrated in Figures 11-4 to 11-11. Any failures within mineralization triggered a re-assay request to verify the results. After re-assay, 14 standards did not pass (0.64%); however, they are outside of mineralization and not material to resource assessment. In the opinion of the QP, Mr. Dufresne, these results are considered acceptable and there are no significant issues to report regarding the 2021 Moneta standard reference material analyses.

Figure 11-4: CRM Control Chart – OREAS 237



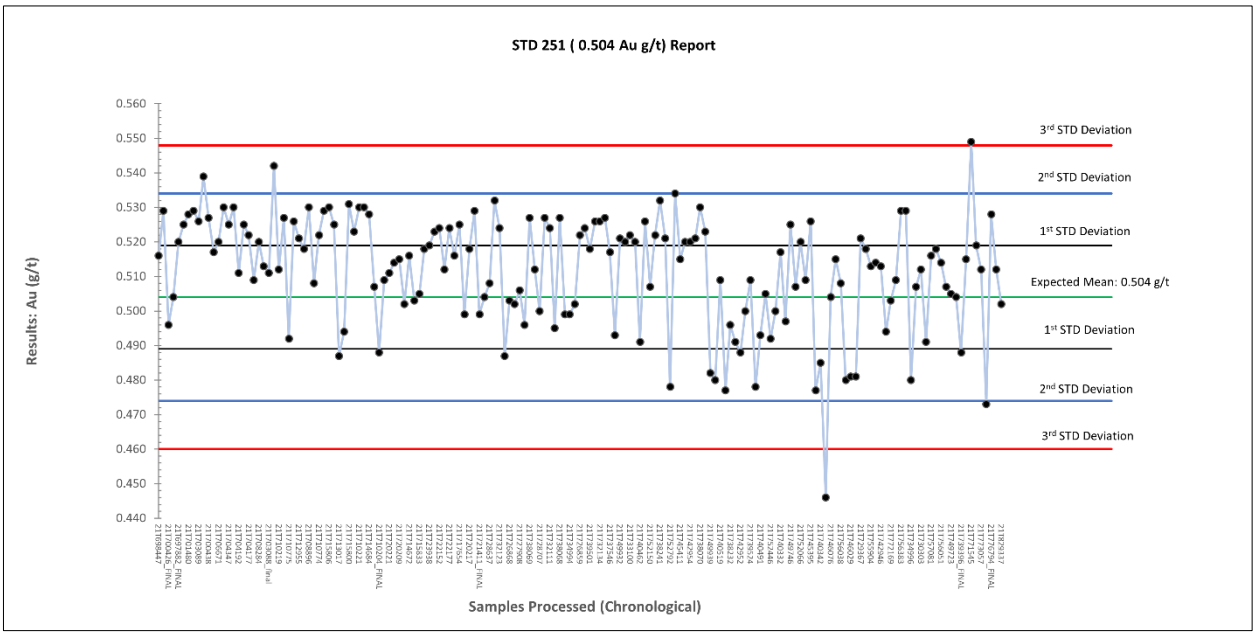
Source: Moneta, 2022.

Figure 11-5: CRM Control Chart – OREAS 240



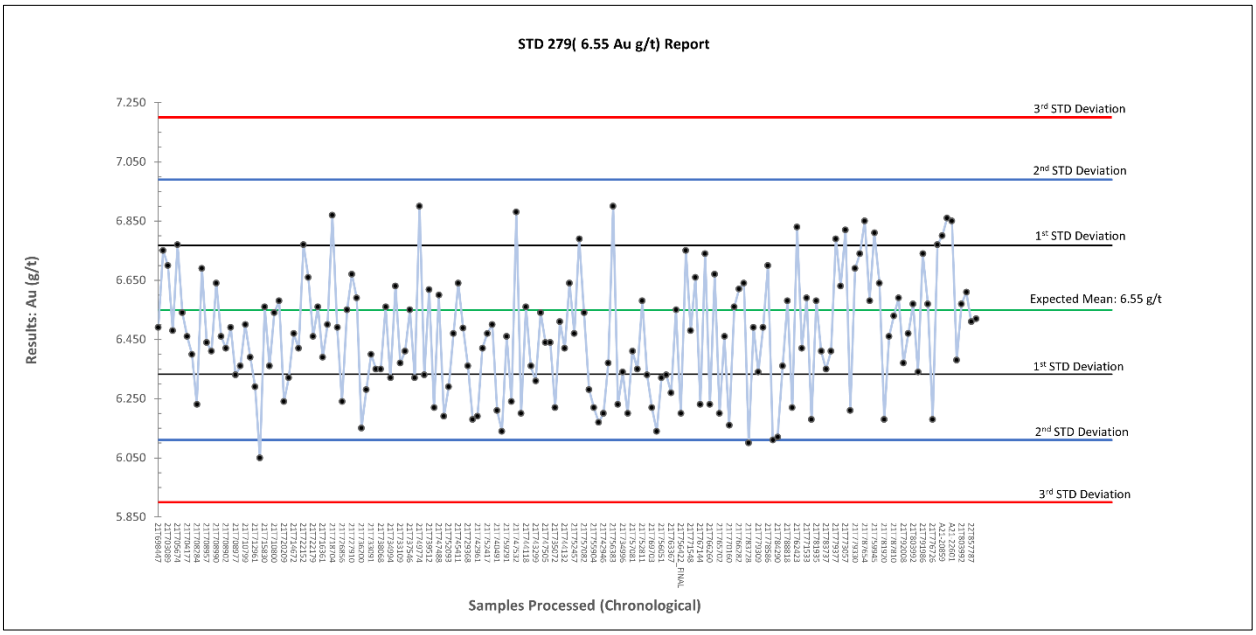
Source: Moneta, 2022.

Figure 11-6: CRM Control Chart – OREAS 251



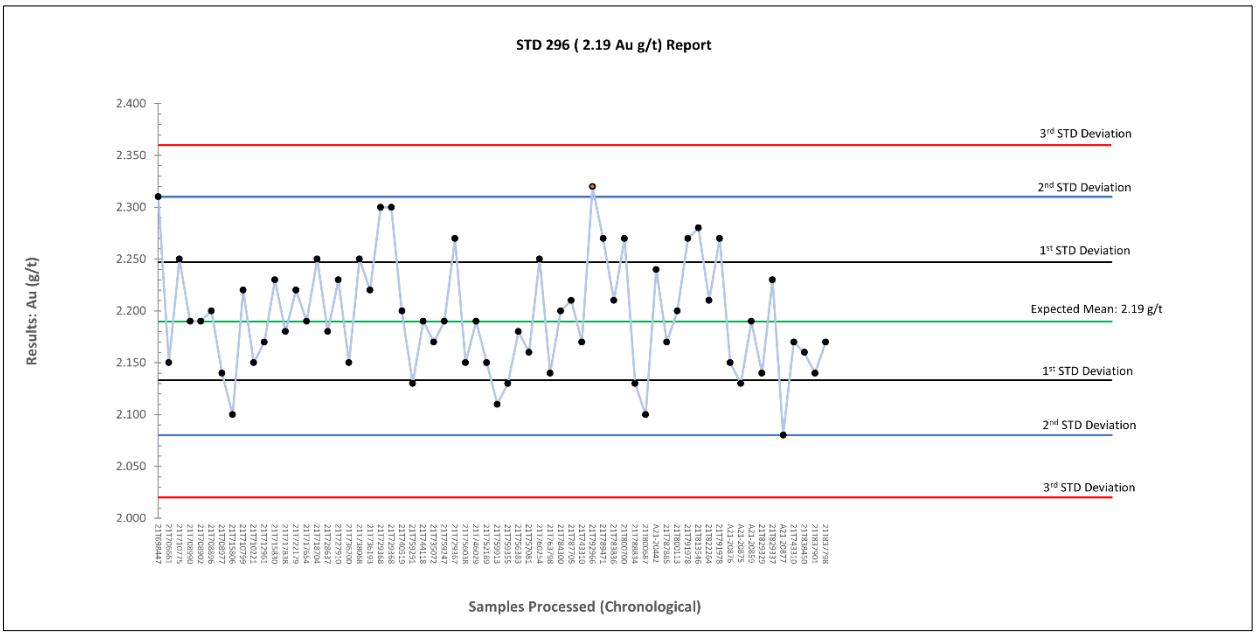
Source: Moneta, 2022.

Figure 11-7: CRM Control Chart – OREAS 279



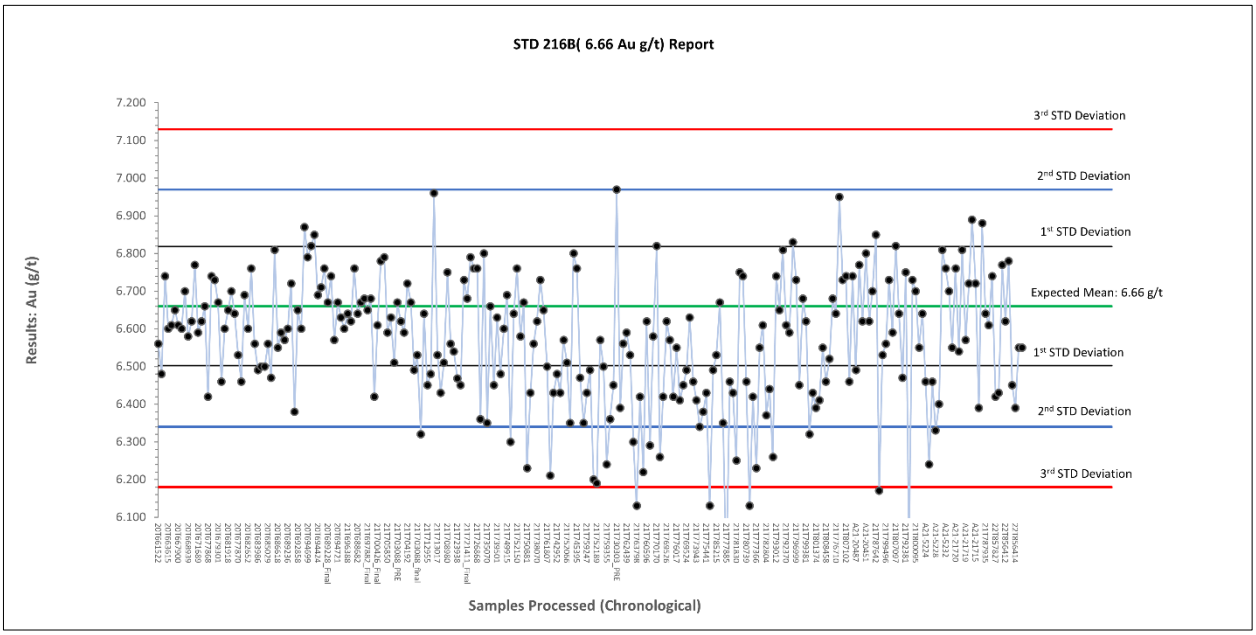
Source: Moneta, 2022.

Figure 11-8: CRM Control Chart – OREAS 296



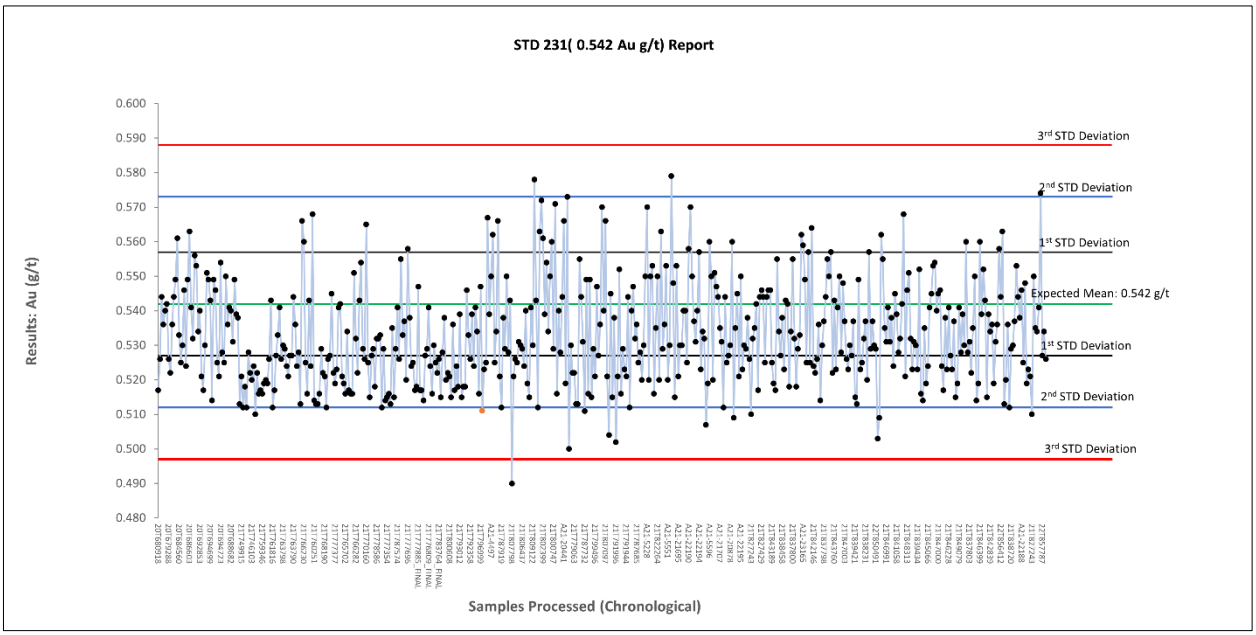
Source: Moneta, 2022.

Figure 11-9: CRM Control Chart – OREAS 216B



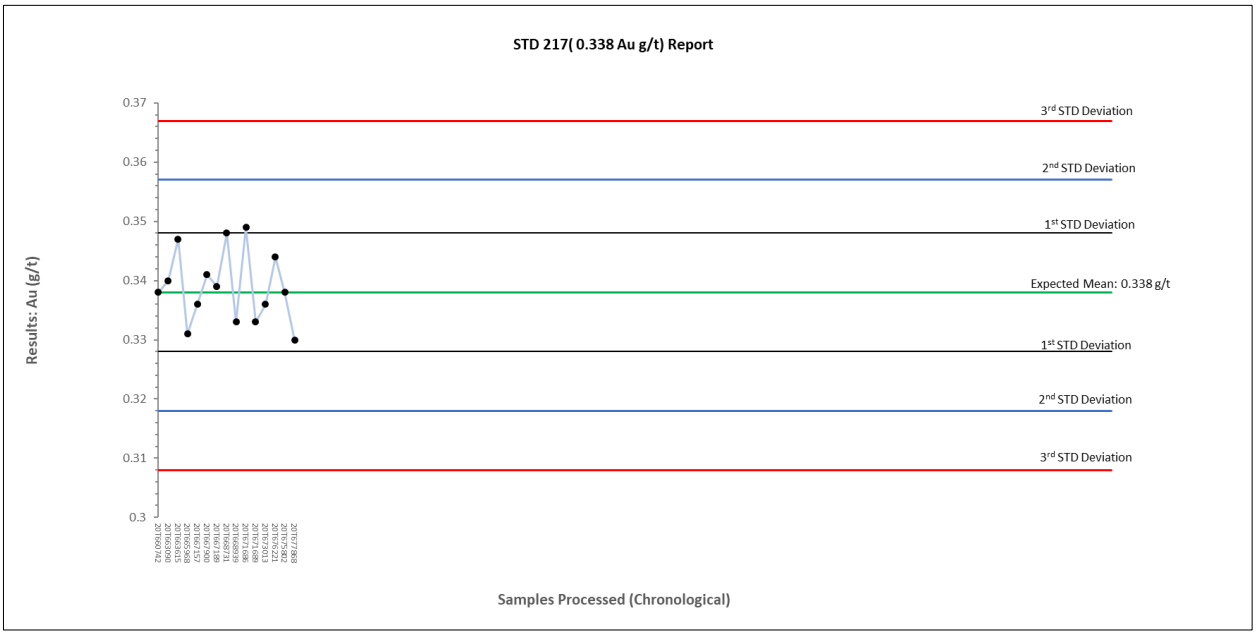
Source: Moneta, 2022.

Figure 11-10: CRM Control Chart – OREAS 231



Source: Moneta, 2022.

Figure 11-11: CRM Control Chart – OREAS 217



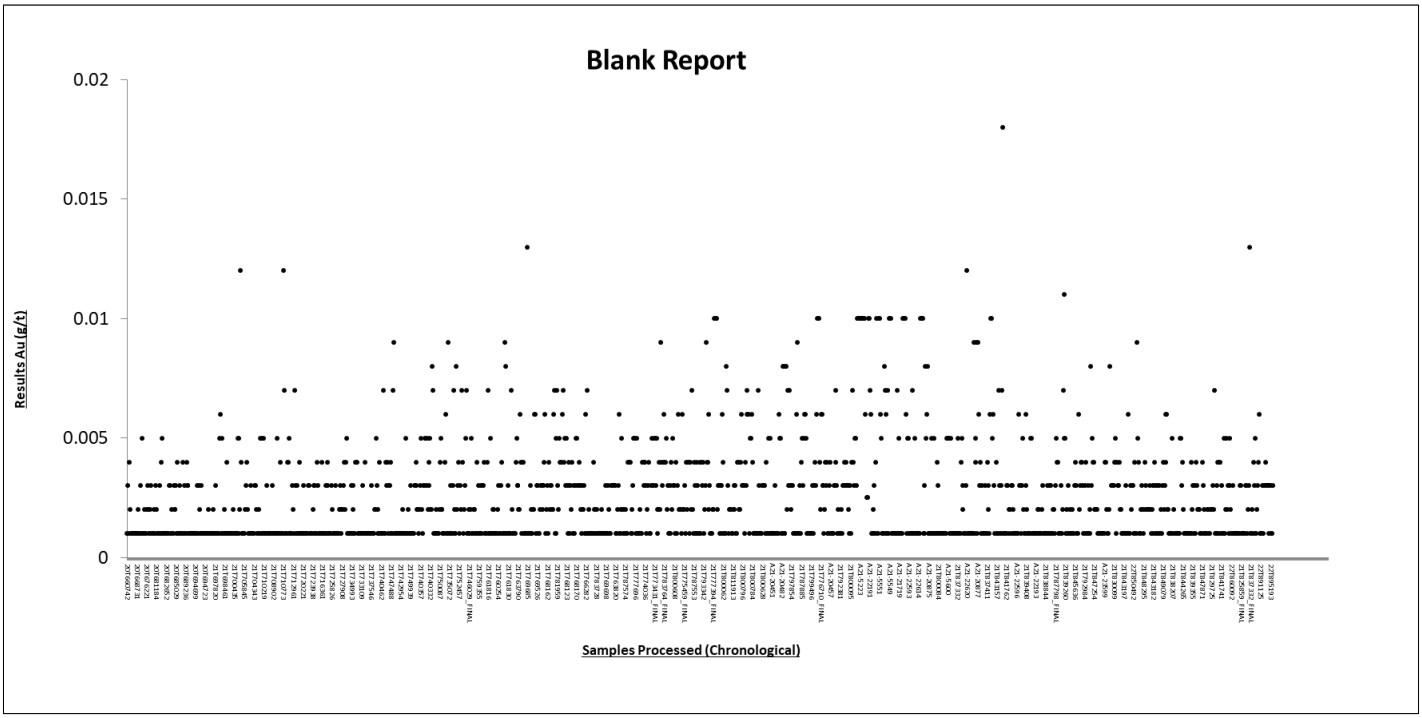
Source: Moneta, 2022.

11.4.2 Blank Material

A total of 1,525 (2.95% of total samples) standard pulp blanks were inserted and received by AGAT, where they were analyzed using fire assay.

The results of the fire assay analyses for all blank material are illustrated in Figure 11-12. Any failures within mineralization triggered a re-assay request to verify the results. After re-assay, 8 blanks did not pass (0.52%); however, they are outside of mineralization and not material to resource assessment. In the opinion of the QP, Mr. Dufresne, these results are considered acceptable and there are no significant issues to report regarding the 2021 Moneta standard reference blank material analyses.

Figure 11-12: Blank Material Control Chart



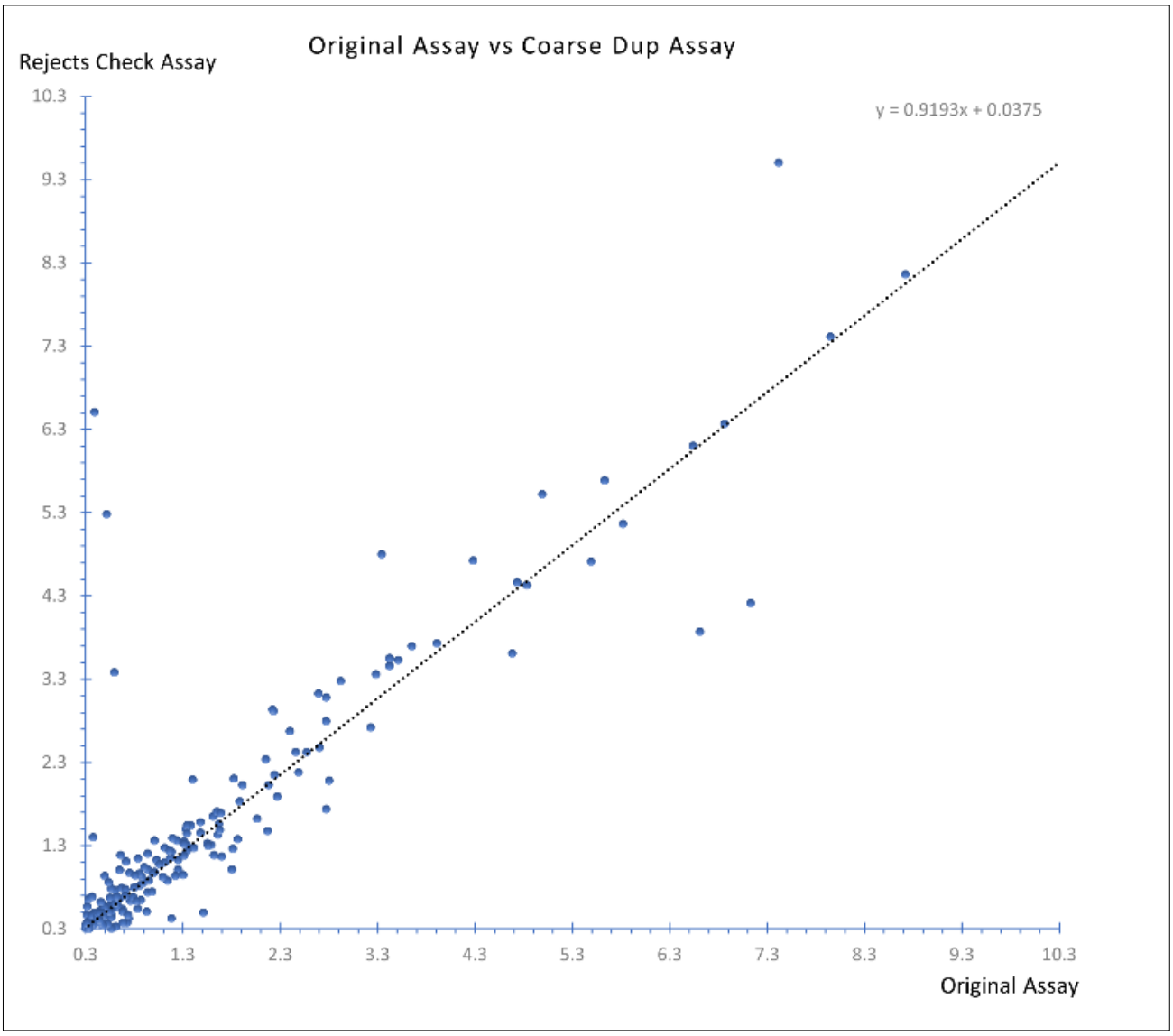
Source: Moneta, 2022.

11.4.3 Coarse Reject Duplicates

A total of 1,176 (2.28% of total samples) coarse reject duplicate samples were inserted and received by AGAT, where they were analyzed using fire assay.

The results of the fire assay analyses for the reject duplicates are illustrated in Figure 11-13. In the opinion of the QP Mr. Dufresne these results are considered acceptable and there are no significant issues to report regarding the 2021 Moneta reject duplicate analyses.

Figure 11-13: Cross-Plot of Coarse Reject Duplicates



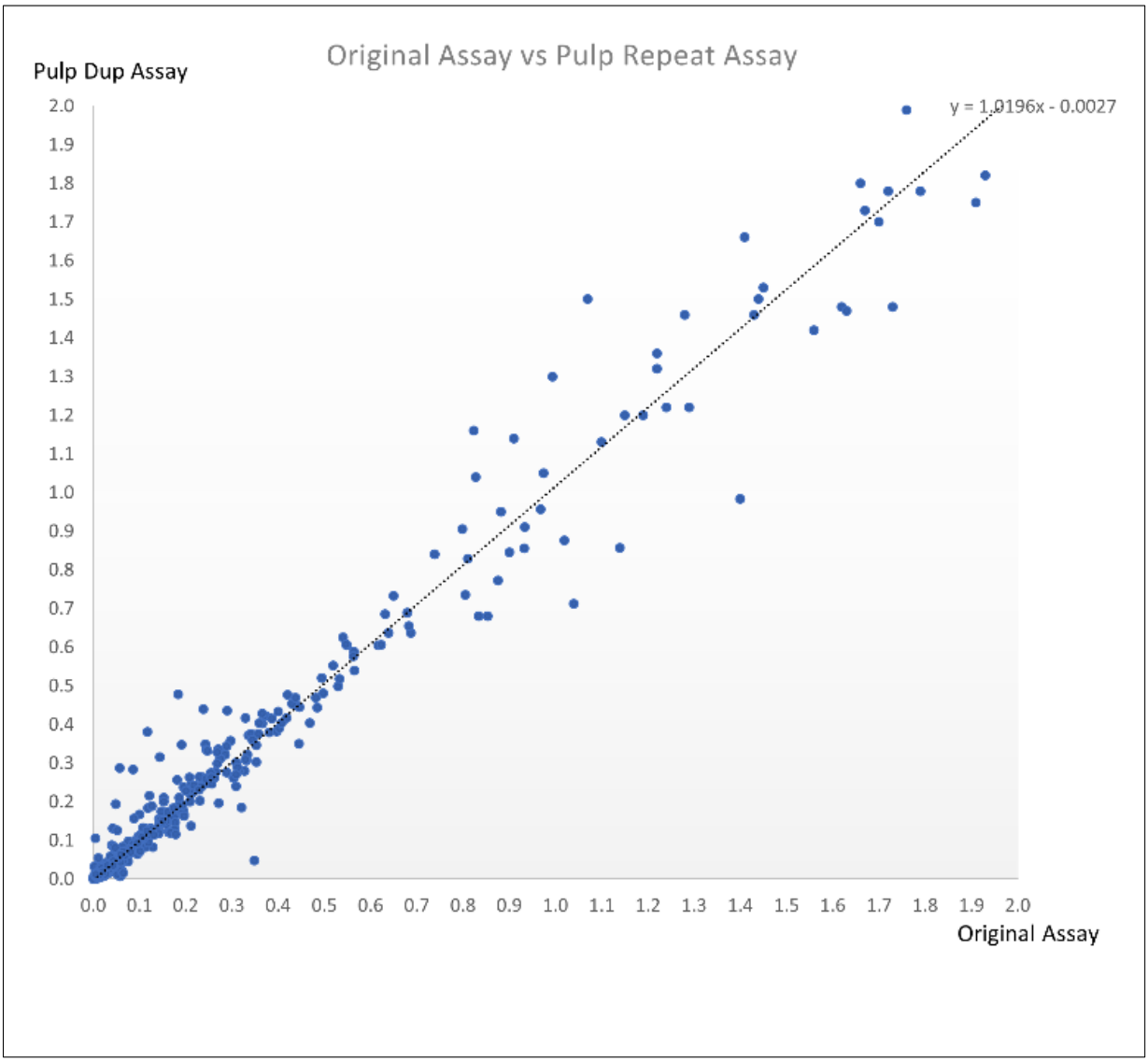
Source: Moneta, 2022.

11.4.4 Pulp Reject Duplicates

A total of 972 (1.88% of total samples) pulp reject duplicates were inserted and received by AGAT, where they were analyzed using fire assay.

The results of the fire assay analyses for all pulp reject duplicates are illustrated in Figure 11-14. In the opinion of the QP, Mr. Dufresne, these results are considered acceptable and there are no significant issues to report regarding the 2021 Moneta pulp reject duplicate analyses.

Figure 11-14: Cross-Plot of Pulp Reject Duplicates



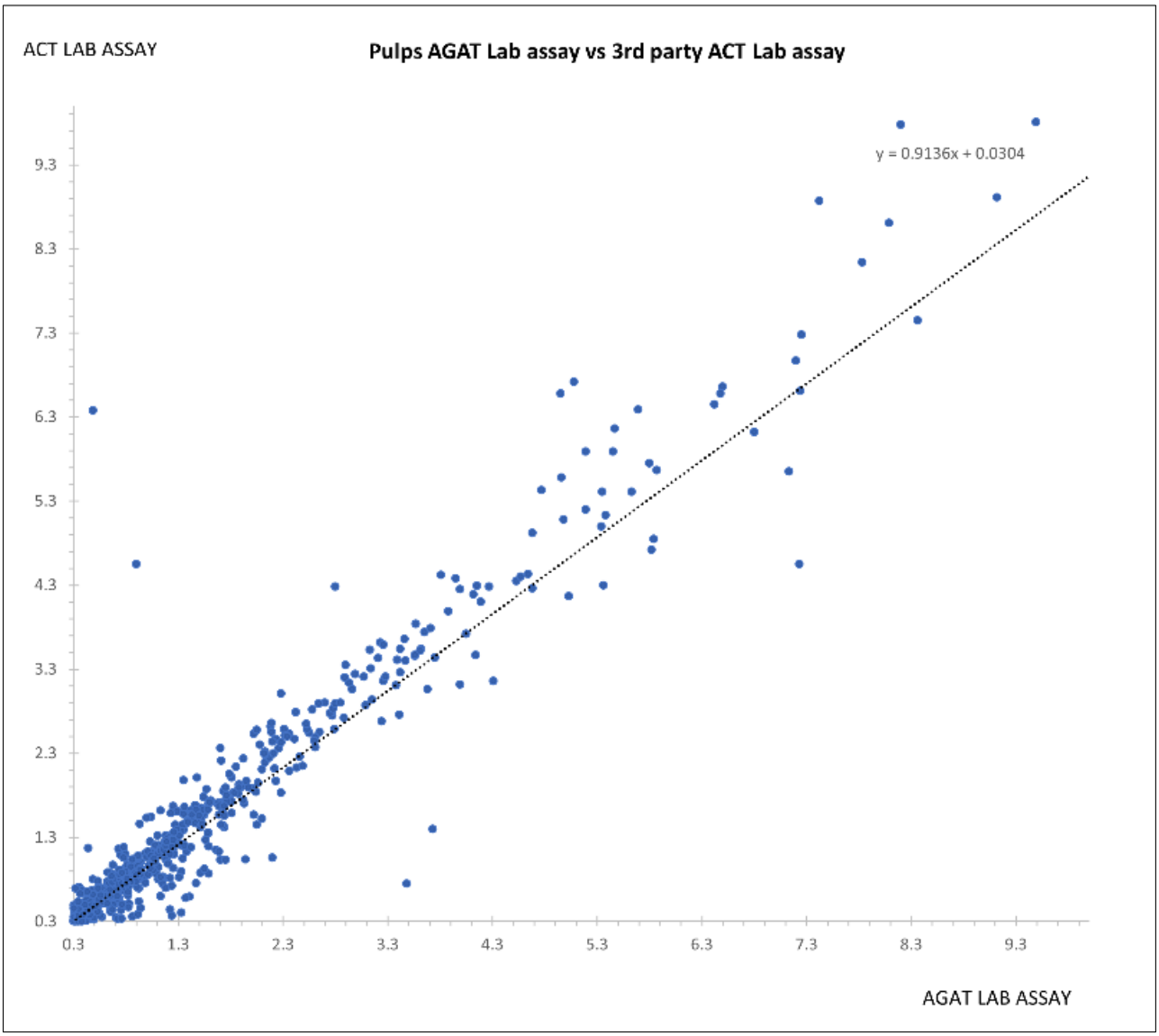
Source: Moneta, 2022.

11.4.5 Third Party Pulp Duplicates (Umpire Checks)

A total of 2,368 (4.58% of total samples) pulp duplicates were collected, and sent to a 3rd Party laboratory (Activation) where they were analyzed using fire assay.

The results of the fire assay analyses for all third-party pulp duplicates (umpire checks) are illustrated in Figure 11-15. In the opinion of the QP, Mr. Dufresne, these results are considered acceptable and there are no significant issues to report regarding the 2021 Moneta pulp duplicate (umpire check) analyses.

Figure 11-15: Cross-Plot of Third-Party Pulp Duplicates



Source: Moneta, 2022.

Based upon a review of Moneta and other company's 1986 to 2021 sample collection, sample preparation, security, analytical procedures, and QA/QC procedures used at the Tower Gold Project, it is the opinion of the author and QP that they are appropriate for the type of mineralization that is being evaluated and the stage of the project. The QA/QC measures, including the insertion rates and performance of blanks, standards, and duplicates, particularly since 2000, which represents the vast majority of the drilling, indicate the observed failure rates are within expected ranges and no significant assay biases were apparent. Based upon the evaluation of the drilling, sampling and QA/QC programs completed by Moneta and reviewed by APEX personnel, it is Mr. Dufresne's opinion that the Tower Gold Project's drill and assay data are appropriate for use in the resource modelling and estimation work discussed in Section 14.

12 DATA VERIFICATION

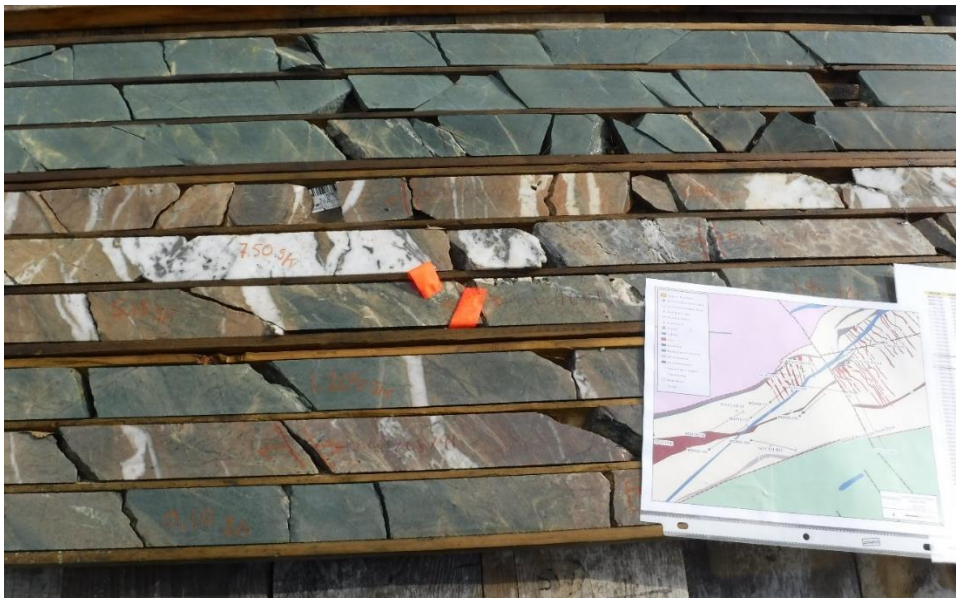
12.1 Qualified Person Site Inspection

The co-author of this technical report, Mr. Michael Dufresne, M.Sc., P.Geol., P.Geo., a QP and principal of APEX, conducted a site inspection of the property on June 21, 2022. The objectives of the site visit included the following:

- verification of the geology of the property
- verification of selected Moneta drill hole collar locations
- observation and sampling of potential mineralization in outcrop
- examination of drill core and observation of mineralized intercepts
- collection of three verification rock grab samples from outcrop that have been submitted for geochemistry.

During the site visit, Mr. Dufresne reviewed Moneta drill core and drill logs from recent drill programs completed at the Golden Highway and Garrison properties. The lithology, mineralization and structural orientations observed in the drill core were consistent with the original drill logs. Figure 12-1 shows drill core from drill hole MGH17-051 completed in 2017 at the Southwest property.

Figure 12-1: Core from Drill Hole MGH17-051 Drilled in 2017 at the Southwest Property showing Quartz-Carbonate Veining and Sericite-Chlorite-Ankerite Alteration



Source: Apex, 2022.

Mr. Dufresne reviewed drill core from across the project area from a variety of drilling campaigns and from each zone of gold mineralization including drillholes MA08-49, MSW10-162G, WJ12-70, MGH13-077, MGH13-089, MGH17-051, MGH18-108, MGH19-116, MGH19-126, MGH20-150 and MGH21-242 from the Golden Highway property area and OSK-G16-300, OSK-G16-306, OSK-G17-326, OSK-G17-380, OSK-G17-381 and OSK-G17-390 from the Garrison property area.

During his visit to the Tower Gold property, Mr. Dufresne recorded a total of 12 drill collar coordinates using a handheld GPS in the field. These coordinates were compared against the original collar coordinates in Moneta's database to validate the drilling data from the property. In general, and appreciating the limited precision of a handheld GPS, the comparison of selected field-verified drill collars with database values did not yield any significant discrepancies with a maximum variance of 5 m. Table 12-1 shows a comparison of drill collar coordinates.

Table 12-1: Drill Collar Coordinate Comparison

Waypoint	East_GPS	North_GPS	Elev_m	ID	Zone	DB East	DB North	DB Elev	X_diff_m	Y_diff_m	Z_diff_m
478	572182	5370740	331	MGH13-045	WJ Central	572182.6	5370739	330.7	-0.6	1.0	0.3
479	572164	5370651	331	MGH13-052	WJ Central	572167.3	5370648	330.0	-3.3	2.9	1.0
480	572244	5370647	339	MGH22-314	WJ Central						
481	572189	5370627	335	MGH21-237	WJ Central	572193.8	5370622	330.0	-4.8	5.5	5.0
482	572237	5370606	336	MGH13-050	WJ Central	572241.1	5370610	330.9	-4.1	-4.2	5.1
483	572352	5370144	333	MGH13-060	WJ South	572354.9	5370142	331.7	-2.9	2.2	1.3
484	572385	5370165	340	MGH21-236	WJ South	572388.6	5370165	332.9	-3.6	0.4	7.1
485	572379	5370213	335	MGH13-055	WJ South	572380.2	5370212	332.5	-1.2	1.1	2.5
486	572365	5370245	338	MGH18-108	WJ South	572368.1	5370243	331.3	-3.1	2.3	6.7
487	572343	5370265	339	MWJ08-16	WJ South	572347.6	5370262	331.9	-4.6	3.0	7.1
488	572316	5370243	338	MGH21-227	WJ South	572318.4	5370241	331.2	-2.4	2.2	6.8
489	572199	5370363	332	WJ88-21	WJ South	572201.8	5370361	330.8	-2.8	2.5	1.2

Source: Apex, 2022.

The rock grab samples were shipped by Mr. Dufresne to ALS in North Vancouver, BC, for preparation and analysis. ALS is an International Standard ISO/IEC 17025:2005 certified laboratory and is independent of the Moneta and the authors of this technical report. At ALS in North Vancouver, the rock grab and core samples will be crushed and pulverized, and 30 g aliquots will be analysed for gold using fire assay with AAS finish (ALS code Au-AA25). Multi-element geochemical analysis will be completed using four-acid digestion with an ICP-MS finish (ALS code ME-MS61). If necessary, overlimit analysis for gold will be completed via fire assay with a gravimetric finish.

Although results for the verification samples collected by Mr. Dufresne are not yet available, based on an independent review of outcrop exposure and drill core, Mr. Dufresne can verify the geological observations, mineralization, results and conclusions of the most recent exploration work completed at the property by Moneta.

12.2 Data Verification Procedures

The Tower Gold property has been the site of several exploration and drilling programs dating back to the late 1980s. Therefore, a large volume of geological data has been developed and some of the data and information relating to the geology and mineralization of the property is historical in nature and was collected prior to the adoption of NI 43-101.

Data verification was conducted on historical and Moneta drill hole data, assay analytical results, density data and laboratory certificates. The data verification was completed by APEX personnel under the supervision of Mr. Dufresne.

The original data, including collar coordinates, downhole survey information, geological interval data and assay information, were provided as Microsoft Excel™ files. Laboratory analytical certificates were provided in portable document format (PDF). Data verification procedures included compiling all digital drilling data and importing the data into Micromine to create a drill hole database. Once compiled, a brief and concise check program was completed comparing the original drill logs, assay certificates and collar coordinates to the compiled database. The Micromine database comes with verification tools, and these were also employed to assist in the data verification. Original assay certificates and geological logs were utilized to check the Micromine database for various generations of drilling. Checks were conducted to ensure that the original data were adequately digitized and properly imported into the Micromine database. Approximately 10% of drill hole data, including collars, downhole surveys, and assays, were checked against certificates to verify the data in the Micromine database.

Following initial review of the database, some uncertainties emerged with collar information, analytical results and missing laboratory certificates. As a result, Moneta provided additional information and documentation as requested by APEX to resolve selected issues within the database. The Golden Highway and Garrison data review and verification are discussed in the following sub-sections.

12.2.1 Golden Highway Database

Following the initial review of the Golden Highway database, several errors were flagged, including missing data or errors in the collar information, missing surveys, mismatched sample intervals, errors in the analytical data, and missing laboratory certificates (n=864). Through correspondence with Moneta, a large majority of the errors were resolved and most of the missing certificates for diamond drilling completed in the resource area were located.

Excluding QA/QC and lost core samples, the Golden Highway database contains 212,985 samples. Of these samples, the analytical data of 3,659 samples were reviewed and cross-checked against the original laboratory certificates. During the review, 104 of the certificates could not be located. Of the 3,155 samples with available certificates, 3,143 (or 99.6%) of the gold values were consistent with the laboratory certificates. The official Golden Highway database contains 16,269 samples with no certificate number (7.6% of the total database; 19 missing laboratory certificates). The missing certificates are from historical drilling completed prior to 1997, as either RC drill holes or drill holes completed outside of the resource area.

12.2.2 Garrison Database

Following the initial review of the Garrison database, several errors were flagged, including missing data or errors in the collar information, missing surveys, mismatched sample intervals or errors in the analytical data, errors in the density data, and missing laboratory certificates (n=710). Through correspondence with Moneta, all the errors related to collar, survey and sample interval information were resolved. In addition, a number of laboratory assay certificates were found.

The Garrison database contains 265,223 samples. Of these samples, the analytical data of 15,065 samples were reviewed and cross-checked against the original laboratory certificates with 14,136 (or 93.8%) consistent with the gold values reported in the laboratory certificates. A total of 432 discrepancies between gold values in the database and the laboratory certificates for drilling completed in 2013 were observed during the data verification process. The gold discrepancies in the database were noted by Moose Mountain Technical Services (MMST) following data verification completed in 2020 (Raponi et al., 2021) and have yet to be corrected. Some of the errors are due to a conversion issue of the double conversion of grams per tonne to ounces per tonne and then back to grams per tonne, for which most of these result in two decimal differences and are not material, or the preferential inclusion of bulk leach extractable gold results.

> *"The analysis results on the original certificates are reported in parts per million or parts per billion. In many cases, Accurassay Laboratories has provided another certificate with results converted from parts per million to ounces*

per ton and reported to the thousandths place. The ounces per ton results appear to have been preferentially imported over the parts per million results into the DATAMINE database and converted again for export into grams per tonne. An assay value below detection limit, such as <0.005 ppm is imported as <0.001 oz/ton and after conversion again, a value below detection limit that would normally be reported as 0.0025 g/t becomes 0.0171 g/ton. Similarly, a value of 0.561 becomes 0.549 (Raponi et al., 2021)."

The inclusion and use of the bulk leach extractable results should be replaced with the certified fire assay values wherever they are available. However, the bulk leach extractable gold values are a very minor component of the database and should report slightly lower values then fire assays and therefore, should not materially affect or bias the MRE studies.

In addition, verification data of the specific gravity data for Garrison was completed with a total of 1,552 certificates located and cross-checked against the database. A total of 1,258 (81%) values were found to be consistent with the laboratory certificates.

In the opinion of Mr. Dufresne, these errors are not material to the resource presented in Section 14; however, to avoid future confusion, the database should be updated to include the certified analytical assay value presented in the original laboratory certificates.

12.2.3 Validation Limitations

Mr. Dufresne notes the missing laboratory certificates for both Golden Highway and Garrison. In addition, minor gold discrepancies due to a conversion issue were observed during the validation process. This error is not material to the resource presented in Section 14; however, to avoid future confusion, the database should be updated to include the certified value of the original analytical results.

Based on the property inspection, verification sampling, and data review, the QP has no reason to doubt the reported geology, exploration results and MRE reported herein.

12.2.4 Adequacy of Data

Although some of the data pertaining to the property was collected prior to the adoption of NI 43-101, this information appears to meet the technical standards that were employed by the Canadian exploration industry at the time it was collected.

The QP has reviewed the adequacy of the exploration information and the property's physical, visual, and geological characteristics. No significant issues or inconsistencies were discovered that would call into question the validity of the data. In the QP's opinion, the Tower Gold data is adequate and suitable for use in this technical report.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Introduction

The Tower Gold Project combines the properties in the projects previously known as Garrison and Golden Highway, for which separate historical and current metallurgical campaigns have been conducted to quantify metallurgical performance. With the exception of a portion of the Jonpol property, all deposits exhibited free milling gold recoveries amenable to gravity concentration and cyanide leaching. Testing has largely focused on cyanide leach testing with some comminution testing in the historical testing.

13.2 Historical Metallurgical Testing

Historical metallurgical test reports previously completed for other studies on the Tower Gold Project are shown in Table 13-1. Historical testwork can be found in the technical reports below and results are summarised in Table 13-1.

- Technical Report and Resource Estimates on the Windjammer South, Southwest Zone and 55 Zone Golden Highway Project Michaud and Garrison Townships North-Eastern Ontario, Canada, January 13, 2012.
- Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of The Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud and Garrison Townships North-Eastern Ontario, Canada, December 11, 2012.
- Mineral Resource Estimate for the Golden Highway Project, Michaud and Garrison Townships, Black River - Matheson Area, Northeastern Ontario, February 28, 2019.
- Updated Mineral Resource Estimate and Preliminary Economic Assessment for the South West Deposit at the Golden Highway Project Michaud and Garrison Townships, Black River – Matheson Area Northeastern Ontario, October 21, 2020.
- Updated Mineral Resource Estimate and Preliminary Economic Assessment for the South West Deposit at the Golden Highway Project, Michaud and Garrison Townships, Black River - Matheson Area, Northeastern Ontario, January 22, 2021.
- N.I. 43-101 Technical Report and Preliminary Economic Assessment of The Garrison Project, Ontario Canada, January 27, 2021.

Table 13-1: Tower Gold Metallurgical Testing Programs

No.	Document Title	Deposits	Technical Content	Date
1	Barrick Gold Corp.	South West	Leach tests	1996
2	Newmont Gold Corp.	Windjammer	Leach tests	2001
3	An Investigation into The Recovery of Gold from the Garrcon Gold Deposit Located on the Garrison Gold Property – SGS Canada Inc.	Garrcon	Comminution, rougher flotation, gravity separation, and cyanidation	31-Jan-11
4	Scoping Level Study on Samples from The Golden Highway Project. Project 50286-001 – Final Report– SGS Canada Inc.	South West, Gap, 55, Windjammer (North, Central and South)	Comminution, leach tests	15-Jun-18
5	Preliminary Metallurgical Scoping – Northern Gold – XPS Process Support	Jonpol	Comminution, flotation, gravity separation, cyanidation	5-Sep-13
6	Garrcon Project: Report of Metallurgical Testwork – Kappes, Cassiday & Associates	Garrcon	Column leach tests	22-Aug-14
7	Bulk Sample Report – Garrcon Zone Bulk Sample – G. Matheson, P.Geo	Garrcon	Bulk sample	1-Apr-16
8	Report on Cyanidation Testing – Garrison Drill Core Composites – McClelland Laboratories, Inc.	Garrcon, 903, Jonpol	Cyanidation	06-Nov-18
9	An Investigation into Scoping Level Study on Samples from the Golden Highway Project; Project 50286-001 – Final Report – SGS Canada Inc.	South West, Gap, 55, Windjammer (North, Central and South)	Comminution, cyanidation	15-Jun -18
10	An Investigation into Metallurgical Testwork on Master Composite from the Golden Highway Project; Project 16874-01 – Final Report – SGS Canada Inc.	Gap	Comminution, gravity separation, cyanidation	26-Aug-20

Source: Ausenco, 2022.

13.3 Historical Metallurgical Programs

In summary, the historical metallurgical testing programs showed that:

- The 1996 Barrick program included very high-grade samples and not relevant to the current project.
- The 2001 Newmont program focused amenability to heap leach processing and not relevant to the current project.
- The 2011 program included two Garrcon composite samples. Gold recoveries ranged from 92.7% to 97.9% using gravity concentration followed by leaching of gravity tailings. Samples were ground from 80% passing (k_{80}) 43 µm to 112 µm. The samples assayed 1.06 g/t Au and 1.73 g/t Au. The results were used for Garrcon recovery estimates.

- The 2018 SGS program on samples from six deposits in the Golden Highway property. Sample grades ranged from 0.83 g/t Au to 1.21 g/t Au, typical of open pit mining. Samples were very finely ground with k_{80} ranging from 18 µm to 42 µm. Recoveries with leaching ranged from 86.8% Au to 96.4% Au. The results were included in recovery estimates but with reduced weighting due to the fine grinds.

- The 2013 program included three samples from the Jonpol deposit. The samples were high-grade ranging from 4.77 g/t Au to 8.49 g/t Au, typical from potential underground mining. Leach recoveries ranged from 56.2% Au (RP Zone) to 94.2% Au. These results were included in recovery estimates.

- The 2014 Garrcon column leach test program evaluated potential heap leach processing and the results were not used in recovery estimates.

- In 2015, a bulk sample of Garrcon production was processed through the Holt Mill (fine grinding followed by carbon-in-leach processing) with the results reported in 2016. A total of 75,534 t was processed. Gold recovery ranged from 94.2% to 97.0%, with an average of 95.7% and an average head grade of 1.55 g/t Au. These results were used in recovery estimates.

- The 2018 Garrcon, 903 and Jonpol column leach test program evaluated potential heap leach processing and the results were not used in recovery estimates.

- The 2020 SGS program included one composite sample from the Gap deposit in the Golden Highway property. Gold recoveries ranged from 91.9% to 95.5% using gravity concentration followed by leaching of gravity tailings. Samples were ground to k_{80} 59 µm to 79 µm. The average head assay was 2.27 g/t Au. The results were used for recovery estimates.

Comminution test results (Bond ball mill work index tests) are not presented in this technical report as they are not relevant to the mineral resource estimate.

13.4 2021 SGS Metallurgical Program

In 2021, a metallurgical testing program was completed at SGS Lakefield on samples from the Westaway (WA) and Discovery (DI) deposits.

The program included Bond ball mill work index tests, gravity concentration and leach tests. Gravity and leach results are summarized in Section 13.3.2.

13.4.1 2021 Samples

Westaway (WA)samples were selected from intervals taken from five drill holes and are representative of underground mineralization and grades. Discovery (DIS) samples were selected from intervals taken from six drill holes and are representative of underground mineralization and grades. The samples were composited into two master composite samples (WA and DIS). Analysis for the DIS and WA composites are shown in Tables 13-2 and 13-3. No deleterious elements are evident from the assays, as shown in Tables 13-2 and 13-3.

Table 13-2: Metallurgical Samples (2021) WA Master Composite Multi-Element Analyses

Element/Units	Value	Element/Units	Value	Element/Units	Value
Au g/t	5.00	Cr g/t	87	Sb g/t	< 20
S %	0.88	Cu g/t	28	Se g/t	< 30
C(t) %	0.95	Fe g/t	29,700	Sn g/t	< 20
Ag g/t	< 2	K g/t	8,340	Sr g/t	132
Al g/t	58,600	Li g/t	< 10	Ti g/t	2,920
As g/t	< 30	Mg g/t	11,300	Tl g/t	< 30
Ba g/t	675	Mn g/t	401	U g/t	< 20
Be g/t	0.71	Mo g/t	73	V g/t	80
Bi g/t	< 20	Na g/t	32,900	Y g/t	8.2
Ca g/t	25,000	Ni g/t	51	Zn g/t	56
Cd g/t	< 2	P g/t	412		
Co g/t	19	Pb g/t	< 20		

Source: SGS, 2022.

Table 13-3: Metallurgical Samples (2021) DIS Master Composite Multi-Element Analyses

Element/Units	Value	Element/Units	Value	Element/Units	Value
Au g/t	4.38	Cr g/t	130	Sb g/t	< 20
S %	1.55	Cu g/t	40	Se g/t	< 30
C(t) %	2.55	Fe g/t	54,400	Sn g/t	< 20
Ag g/t	< 2	K g/t	18,100	Sr g/t	162
Al g/t	68,200	Li g/t	33	Ti g/t	2,600
As g/t	< 30	Mg g/t	40,800	Tl g/t	< 30
Ba g/t	111	Mn g/t	791	U g/t	< 20
Be g/t	2.24	Mo g/t	31	V g/t	147
Bi g/t	< 20	Na g/t	25,500	Y g/t	7.1
Ca g/t	38,600	Ni g/t	148	Zn g/t	44
Cd g/t	< 2	P g/t	499		
Co g/t	38	Pb g/t	< 20		

Source: SGS, 2022.

13.4.2 2021 Gravity Concentration and Leach Tests Results

A series of standard cyanide leach bottle roll tests with and without gravity concentration were completed by SGS Lakefield in 2021 on Golden Highway DIS and WA samples. One test per sample was conducted using whole ore leach while leach tests on gravity tailings were conducted at different grind sizes, cyanide concentrations with/without pre-aeration and oxygen in place of air.

All leach tests were 72 hours in leaching duration with solution samples taken periodically as leaching progressed. The results are summarized in Table 13-4. The overall recoveries shown are based on the calculated gravity head grade. The results from this program align with historical results from tests on samples from these deposits.

Table 13-4: Summary of 2021 SGS Bottle Roll Leach Test Results

Comp.	Grind (k_{80}, µm)	Gravity Rec. (Au %)	Reagent Consumptions (kg/t)		Overall Recovery (Au %)	Calc. Head Grade (g/t Au)
			NaCN	CaO		
DIS	101	7.4	0.39	1.48	86.8	3.93
	78	7.0	0.35	1.31	88.6	3.82
	58	11.3	0.26	1.45	91.0	3.76
	62	-	0.49	1.34	90.5	3.83
WA	140	28.3	0.38	1.40	87.2	4.83
	74	35.4	0.46	1.17	93.6	4.96
	63	45.7	0.38	1.39	94.1	5.12
	70	-	0.52	1.19	92.4	4.79

Source: SGS/Ausenco, 2022.

Key points to consider from this program are as follows:

- The results for the DIS 78 µm grind and the WA 74 µm grind are averages from several tests.
- All leach tests were 72 hours in length. Kinetic samples were taken during the leach tests to estimate intermediate recoveries. For most samples, gold extraction reached its maximum between 24 and 48 hours.
- Pre-aeration did not improve recoveries or reduce cyanide consumption for both samples.
- Use of oxygen in place of air reduced cyanide consumption for both samples but did not improve recoveries.
- Whole ore leach provides comparable recoveries to gravity/leach.
- No deleterious elements to bullion quality are present in the composite head assays.

13.5 Recovery Estimates

The proposed flowsheet selected from the testwork includes standard gravity concentration and cyanide gold processing plant to produce doré. There is no evidence from the metallurgical test results of any deleterious elements that would impair recovery or result in low quality doré. Recoveries were estimated from all available metallurgical testing, focusing on the available resource grades. The estimated recoveries are shown in Table 13-5.

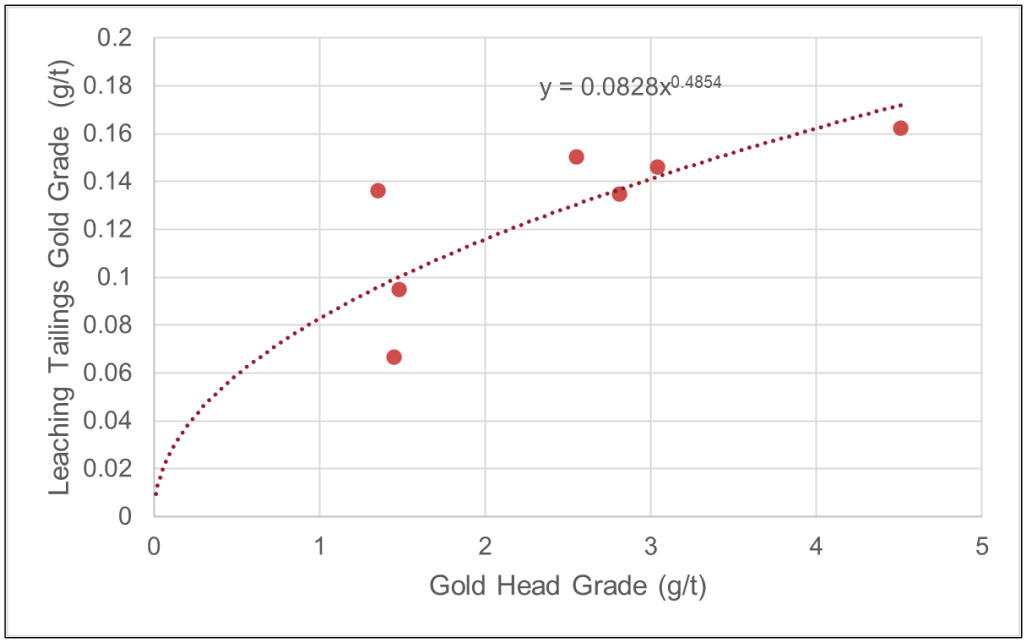
Table 13-5: Tower Gold Project Estimated Recoveries

Property	Estimated Recovery for MRE (% Au)
903	100% - 0.0828* Au Head g/t)^0.4854/Au Head (g/t)
Garrcon	96.1
Jonpol Non-Refractory	92.5
Jonpol Refractory	56.2
Southwest and Gap	93.3
55 and Westaway	92.5
Discovery and Windjammer North	89.4
Windjammer Central	92.2
Windjammer South	94.1

Source: Ausenco, 2022.

The recovery model for the 903 deposit was developed as according to the regression model presented in Figure 13-1.

Figure 13-1: 903 Recovery Estimate



Source: Ausenco, 2022.

14 MINERAL RESOURCE ESTIMATES

14.1 Introduction

The mineral resource estimate (MRE) herein is based upon the historical drilling and drilling conducted by Moneta between 2013 and 2021 and supersedes all the prior resource estimates for the Tower Gold Project. Previous historical resource estimates are discussed in the Section 6 of this report and are all considered historical in nature.

This section details an updated NI 43-101 MRE completed for the Tower Gold Project by APEX Geoscience Ltd. (APEX) of Edmonton, Alberta, Canada. Mr. Warren Black, M.Sc., P.Geo. and Mr. Tyler Acorn, M.Sc. completed the mineral resource estimate under the direct supervision of Mr. Michael Dufresne, M.Sc., P.Geol., P.Geo. Mr. Dufresne is an independent QP with APEX and takes responsibility for the MRE and Section 14 herein. Mr. Dufresne visited the property on June 6-7, 2022, and reviewed core from the 2020 to 2021 drill program completed by Moneta, as discussed in Section 12.1.

The workflow implemented for the calculation of the 2022 Tower Gold Project MRE was completed using the commercial mine planning software Micromine (v.22.0) and Resource Modeling Solutions Platform (RMSP; v.1.8.10). Supplementary data analysis was completed using the Anaconda Python distribution and a custom Python package developed by Mr. Black and Mr. Acorn.

The drill hole database was validated by APEX geologists under the supervision of Mr. Dufresne, as summarized in Section 12. In the opinion of the Mr. Dufresne, the current Tower Gold Project drill hole database is deemed to be in good condition and suitable for use in ongoing resource estimation studies.

Modelling was conducted in the UTM coordinate space relative to the North American Datum (NAD) 1983, and UTM zone 17N (EPSG:26917) The mineral resource block model utilized a block size of 2.5 m (X) by 2.5 m (Y) by 2.5 m (Z) to honour the mineralization wireframes. The percentage of the volume of each block below the bare earth surface, below the modelled waste overburden surface and within each mineralization domain was calculated using the 3D geological models and a 3D surface model. For the open pit resources, the block model was block-averaged up to a 5 m (X) by 5 m (Y) by 5 m (Z) selective mining units (SMU) block size for pit optimization with the outer blocks on the boundaries of the domains diluted. The gold grade was estimated for each block using ordinary kriging with locally varying anisotropy (LVA) to ensure grade continuity in various directions is reproduced in the block model. The MRE is reported as undiluted within a series of optimized pit shells. Details regarding the methodology used to calculate the MRE are documented in this section. The mineral resources defined in this section are not mineral reserves.

Definitions used in this section are consistent with those adopted by CIM's "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 29, 2019, and "Definition Standards for Mineral Resources and Mineral Reserves" dated May 10, 2014 and prescribed by the Canadian Securities Administrators' NI 43-101 and Form 43-101F1, Standards of Disclosure for Mineral Projects. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

14.2 Drill Hole Data Description

The Garrison drill hole database consists of 992 drill holes that intersect the interpreted mineralization wireframes. The gold assays were composited to 1 m composites lengths and the estimation utilized 166,673 composited samples. A total of 13% of the total drilled meters inside the interpreted mineralization wireframes were not sampled, assumed to be waste, and assigned a nominal waste value of half the detection limit of modern assay methods (0.0025 g/t)

The Golden Highway drill hole database consists of 748 drill holes that intersected the interpreted mineralization wireframes. The gold assays were composited to 1 m composites lengths and the estimation utilized 75,652 composited samples. A total of 10% of the total drilled meters inside the interpreted mineralization wireframes were not sampled, assumed to be waste, and assigned a nominal waste value of half the detection limit of modern assay methods (0.0025 g/t)

14.3 Estimation Domain Interpretation

Moneta provided APEX with wireframes of the 231 interpreted mineralization zones and vein zones reviewed extensively by APEX for all resource areas except for Jonpol and 903. Multiple iterations were completed based on feedback from APEX to Moneta before the final approval of the wireframes for resource estimation.

APEX personnel created 13 estimation domains to constrain the Jonpol and 903 resources, comprising a series of high-grade domains that generally follow the syenite/metasediment contact and surrounding low-grade domains. Both the high- and low-grade domains are constrained within a set of fault blocks.

14.3.1 Bulk Density

A total of 11,252 bulk density sample measurements are available from the Golden Highway drill hole database. APEX personnel performed exploratory data analysis (EDA) of the bulk density sample measurements available and the density was assigned for each deposit in the Golden Highway area. The density of the deposits ranged from 2.7 g/cm to 2.84 g/cm. The non-mineralized zones were assigned density based on lithological unit. The modelled overburden was assigned a density of 1.8 g/cm^3. Table 14-1 summarizes the density values assigned to the Golden Highway area.

A total of 4,228 bulk density sample measurements were available from the Garrison area drill hole database. APEX personnel performed EDA of the bulk density samples available and density was assigned based on lithological unit. The density of the lithological units ranged from 2.77 g/cm^3 to 3.1 g/cm^3. The modelled overburden was assigned a density of 1.8 g/cm^3. Table 14-1 summarizes the density values assigned to the Garrison area.

Table 14-1: Summary of Specific Gravity Values Applied to MRE

Area	Ore/Waste	Domain/Lithology Group	Specific Gravity (g/cm³)
Garrison	Ore and Waste	Country Rock	2.8
		Overburden	1.8
		Ultra Mafic	2.93
		Mafic Volcanic	2.8
		Meta Sed	2.77
		BIF	3.1
Golden Highway	Waste	Country Rock – Ultra Mafic	2.84
		Country Rock – Metasediments	2.73
		Overburden	1.8
		BIF A	3.1
		BIF B	2.81
		BIF C	2.77
		Dyke	2.98
	Ore	Discovery	2.83
		Windjammer North	2.84
		Windjammer Central	2.73
		Windjammer South	2.71
		South West	2.71
		Westaway	2.7
		55	2.72

Source: APEX, 2022.

14.3.2 Raw Analytical Data

Cumulative histograms and summary statistics for the raw (uncomposited) assays from sample intervals contained within the estimation domains are presented in Table 14-2 to Table 14-4. The assays within each estimation domain appear to exhibit a single coherent statistical population. Cumulative frequency plot of raw gold assays (in ppm) from sample intervals flagged within the estimation domain are provided in Appendix C.1

Table 14-2: Raw Gold (ppm) Assay Statistics for Golden Highway – West Area Resources

Description	55	Westaway	South West	BIF
Count	5555	2706	18918	8373
Mean	0.914	2.843	0.890	0.247
Standard Deviation	3.804	67.490	3.159	1.615
Coefficient of Variation	4.163	23.738	3.548	6.550
Min.	0.001	0.001	0.001	0.001
10 Percentile	0.006	0.006	0.003	0.003
50 Percentile (Median)	0.090	0.579	0.169	0.010
90 Percentile	2.130	4.110	2.260	0.290
Max.	187.990	3510.000	206.000	51.330

Source: APEX, 2022.

Table 14-3: Raw Gold (ppm) Assay Statistics for Golden Highway – Windjammer Area Resources

Description	Discovery	Windjammer North	Windjammer Central	Windjammer South	BIF
Count	1633	1016	15432	22120	3892
Mean	1.023	1.641	0.488	0.648	0.400
Standard Deviation	2.047	3.388	0.930	2.547	6.494
Coefficient of Variation	2.002	2.065	1.905	3.933	16.235
Min.	0.001	0.003	0.001	0.001	0.001
10 Percentile	0.009	0.020	0.033	0.017	0.003
50 Percentile (Median)	0.410	0.700	0.234	0.286	0.028
90 Percentile	2.668	4.000	1.170	1.410	0.482
Max.	42.103	65.000	35.860	265.490	391.840

Source: APEX, 2022.

Table 14-4: Raw Gold (ppm) Assay Statistics for Garrison Area Resources

Description	903	Jonpol	Garrcon
Count	47435	62156	32291
Mean	0.215	0.250	0.671
Standard Deviation	1.634	2.098	6.055
Coefficient of Variation	7.592	8.380	9.017
Min.	0.003	0.003	0.003
10 Percentile	0.003	0.003	0.018
50 Percentile (Median)	0.012	0.011	0.153
90 Percentile	0.360	0.284	1.260
Max.	203.000	195.000	601.820

Source: APEX, 2022.

14.3.3 Compositing Methodology

Downhole sample length analysis shows that the vast majority of sample lengths range from 0.5 m to 1.5 m, with the dominant sample length being 1 m. A composite length of 1 m is selected as it provides high enough resolution for underground mining. Cumulative distribution plots of raw sample lengths are provided in Appendix C.1.2.

The length-weighted compositing process starts from the drill hole collar and ends at the bottom of the hole. However, the final composite intervals along the drill hole cannot cross contacts between estimation domains. Therefore, composites extending downhole are truncated when one of these contacts are intersected. A new composite begins at these contacts and continues to extend downhole until the maximum composite interval length is reached, or another truncating contact is intersected. There are instances where the thickness of the modelled veins is very close to 1 m. Therefore, if a strict 1 m composite length was enforced, the number of composites less than half the composite length, also known as orphans, would be extremely large. To mitigate this, final composites lengths can be ±30% of 1 m.

14.3.4 Capping

To ensure metal grades are not overestimated by including outlier values during estimation, composites are capped to a specified maximum value. Probability plots illustrating each composite's values are used to identify outlier values that appear higher than expected relative to each estimation domain's gold distribution. Composites identified as potential outliers on the probability plots are evaluated in three dimensions (3D) to determine if they are part of a high-grade trend or not. If identified outliers are deemed part of a high-grade trend that still requires a capping level, the level used on them may not be as aggressive as the capping level used to control isolated high-grade outliers.

Capping was completed by assessing either groups of domains or individual domains depending on the nature of mineralization at the resource area. Table 14-5 indicates the capping levels determined using the probability plots. Visual inspection of the potential outliers revealed they have no spatial continuity with each other. Therefore, the capping levels detailed in Table 14-5 are applied to all composites used to calculate the MRE. Probability plots for all domain or domain groups are provided in Appendix C.2.

Table 14-5: Capping Levels Applied to Composites Before Estimation

Project	Resource Area	Domain or Group of Domains	Au Capping Level (ppm)	No. Composites	No. Capped Composites
Golden Highway	55	Flat Domains	3.5	3072	6
		Steep Domains	32	2977	3
	Discovery	All Domains	10.4	1864	4
	South West	Shallow Domains	37	9265	5
		Steep Domains	14	15357	8
	Westaway	Westaway	13	1607	10
		Westblock	10	1394	11
	Windjammer Central	All Domains	9.12	16322	12
	Windjammer North	All Domains	15.04	893	2
	Windjammer South	All Domains	20	22816	10
Garrison	903	MetaSed-HG	9	1544	10
		MetaSed-LG	5.8	7861	6
		PDest-HG	6.7	2372	4
		PDest-LG	1.8	4800	2
		UltMaf-HG	26	8666	6
		UltMaf-LG	7.8	25593	5
	Garrcon	M	80	20398	6
		Remaining Domains	20	11789	13
	Jonpol	MetaSed1-LG	5.5	13182	3
		MetaSed2-LG	3.4	6023	3
		Munro1-HG	36.5	8501	11
		Munro1-LG	18.7	37836	4
		Munro2-HG	17.9	3862	10
		Munro2-LG	5.2	12560	2
		Munro3-LG	1.6	1441	3

Source: APEX, 2022.

14.3.5 Declustering

It is typical to collect data in a manner that preferentially samples high-value areas over low-value areas. This preferential sampling is an acceptable practice; however, it produces closely spaced measurements that are likely statistically redundant, which results in under-represented sparse data compared to the over-represented closer-spaced data. Therefore, it is desirable to have spatially representative (i.e., declustered) statistics for global resource assessment and to check estimated models. Declustering techniques calculate a weight for each datum that results in sparse data having a higher weight than closely spaced data. The calculated declustering weights allow spatially repetitive summary statistics to be calculated, such as a declustered mean.

Cell declustering is performed globally on all composites within the estimation domains, which calculates a declustering weight for each composite. Cell declustering works by discretizing a 3D volume into cells that are the same size. The sum of the weights of all the composites within the cell must equal 1. Therefore, the weight assigned to each composite is proportional to the number of composites within each cell. For example, if there are four composites within a cell, they are all assigned a declustering weight of 0.25.

As a rule of thumb, the cell size used to calculate declustering weights will ideally contain one composite per cell in the sparsely sampled areas. Visual evaluation of the sparsely sampled areas in a 3D visualization software gives a rough idea of this size. Additionally, a high-resolution block model populated with the distance to each block's nearest composite can help guide the declustering of the cell size. The 90-percentile of the distance block model, with a cell size much lower than the final declustering cell size, approximates the optimal cell size. Finally, plotting a series of declustered means for a range of declustering cell sizes will help determine the optimal cell size. The optimal cell size will likely be when the declustered mean in the plot is locally low or high at a cell size that is very close to the two potential cell sizes that were determined from the visual review and calculated 90-percentile distance. Preferential sampling in high-grade zones results in a declustered mean that is likely within a local minimum. In contrast, preferential sampling in low-grade zones results in a declustered mean that is expected within a local maximum.

Calculated declustering weights for the estimation domain were constructed. Visual evaluation of the sparsely sampled areas in Micromine suggests similar cell sizes as the 90-percentiles from the distance block model for each estimation domain. Plots comprised of a series of declustered means for a range of declustering cell sizes were utilized to inform the final cell sizes. Table 14-6 details the cell size used, which was very close to the size indicated by the visual evaluation and distance block model.

Table 14-6: Cell Sizes Used to Calculate Declustering Weights

Resource Area	Cell Declustering Size (m)
55	45
Westaway	40
South West	80
Windjammer-South	45
Windjammer-Central	45
Windjammer-North	100
Discover	50
Jonpol	60
Garrcon	28
903	60

Source: APEX, 2022.

14.3.6 Final Composite Statistics

Cumulative histograms and summary statistics for the declustered and capped composites contained within the interpreted estimation domains, are presented in Table 14-7 to Table 14-9. The gold assays within the estimation domain generally exhibit a single coherent statistical population.

Table 14-7: Composite Gold (ppm) Assay Statistics for Golden Highway – West Area Resources

Description	55	Westaway	South West
Count	6049	3001	24622
Mean	0.489	0.990	0.576
Standard Deviation	1.447	1.730	1.687
Coefficient of Variation	2.955	1.748	2.928
Min.	0.001	0.001	0.001
10 Percentile	0.003	0.003	0.003
50 Percentile (Median)	0.026	0.258	0.020
90 Percentile	1.306	2.816	1.545
Max.	32.000	13.000	37.000

Note: Statistics consider declustering weights and capping. Source: APEX, 2022.

Table 14-8: Composite Gold (ppm) Assay Statistics for Golden Highway – Windjammer Area Resources

Description	Discovery	Windjammer North	Windjammer Central	Windjammer South
Count	1864	893	16322	22816
Mean	0.910	1.346	0.400	0.448
Standard Deviation	1.343	2.070	0.647	1.029
Coefficient of Variation	1.476	1.538	1.618	2.297
Min.	0.001	0.003	0.001	0.001
10 Percentile	0.010	0.020	0.016	0.006
50 Percentile (Median)	0.480	0.719	0.215	0.200
90 Percentile	2.314	3.024	0.916	1.024
Max.	10.400	15.040	9.120	20.000

Note: Statistics consider declustering weights and capping. Source: APEX, 2022.

Table 14-9: Composite Gold (ppm) Assay Statistics for Garrison Area Resources

Description	903	Jonpol	Garrcon
Count	50836	83405	32187
Mean	0.244	0.203	0.522
Standard Deviation	0.902	1.067	2.163
Coefficient of Variation	3.694	5.265	4.144
Min.	0.002	0.001	0.003
10 Percentile	0.003	0.003	0.015
50 Percentile (Median)	0.021	0.010	0.144
90 Percentile	0.543	0.330	1.040
Max.	26.000	36.500	80.000

Note: Statistics consider declustering weights and capping. Source: APEX, 2022.

14.4 Variography and Grade Continuity

Experimental semi-variograms for each domain are calculated along the major, minor, and vertical principal directions of continuity that are defined by three Euler angles. Euler angles describe the orientation of anisotropy as a series of rotations (using a left-hand rule) that are as follows:

1. Angle 1: A rotation about the Z-axis (azimuth) with positive angles being clockwise rotation and negative representing counter-clockwise rotation;

2. Angle 2: A rotation about the X-axis (dip) with positive angles being counter-clockwise rotation and negative representing clockwise rotation; and

3. Angle 3: A rotation about the Y-axis (tilt) with positive angles being clockwise rotation and negative representing counter-clockwise rotation.

APEX personnel calculated standardized experimental correlograms using composites for each resource area. Within each resource area, the orientation of the primary geological controls on mineralization informed the principal directions of continuity that the variograms were calculate along. Experimental variograms were calculated for multiple domains within each resource area to assess the parameters sensitivity. Modelled variogram ranges for both structures were reasonably consistent throughout the Tower Gold Project, the differences between major and minor direction ranges were minor. The most variation is observed in the vertical direction. The most stable and robust variogram from each area was selected and used for all domains within the resource area.

During estimation, the standardized variogram model is scaled to the variance of the composites within each individual domain. The scaled nugget effect and covariance contributions for each variogram structure are used as input parameters for ordinary kriging. The ranges used for each of the mineralized zones are not changed from the standardized variogram model. Locally varying anisotropy is used during estimation to define the orientation of the variogram on a per-block basis, which is explained in more detail in Section 14.6. The scaled variogram parameters used for each estimation domain and images of the modelled variograms are provided in Appendix C.4.2.

14.5 Block Model Grid Definition

A percent (block factor) style block model was used to calculate the Tower Gold Project MRE. Each estimation domain used for the resource estimation described in Section 14.3 was populated with a block model. All block models used the same block size of 2.5 m x 2.5 m x 2.5 m. The resource areas within the Golden Highway and Garrison areas used different origins, as detailed in Tables 4-10 and 4-11.

Table 14-10: 3D Block Model Grid Definition – Golden Highway Area

Axis	Block Size	Origin
X (Easting)	2.5	568499.54
Y (Northing)	2.5	5365498.29
Z (Elevation)	2.5	-953.75
Rotation	330°	
Coordinate Location	Centre of Block	

Source: APEX, 2022.

Table 14-11: 3D Block Model Grid Definition – Garrison Area

Axis	Block Size	Origin
X (Easting)	2.5	576198.6552
Y (Northing)	2.5	5371697.116
Z (Elevation)	2.5	-904.75
Rotation	340°	
Coordinate Location	Centre of Block	

Source: APEX, 2022.

14.6 Grade Estimation Methodology

Ordinary kriging (OK) was used to estimate gold grades for the Tower Gold Project block model. Only blocks that intersect the mineralization domain were estimated for gold grades.

Estimation of blocks is completed with locally varying anisotropy (LVA), which uses different rotation angles to define the principal directions of the variogram model and search ellipsoid on a per-block basis. Blocks within the estimation domain are assigned rotation angles using a trend surface wireframe. This method allows structural complexities to be reproduced in the estimated block model. Variogram and search ranges are defined by the variogram model described in Section 14.4. All boundaries between estimation domains are treaded as hard, meaning data from one domain cannot be used to inform the estimate of another.

The correct volume-variance relationship is enforced by restricting the maximum number of conditioning data (composites) within ellipsoid sectors, the maximum number of composites per drill hole and the maximum number of conditioning data per search ellipsoid sector used. These restrictions are implemented to ensure the estimated models are not over smoothed and to limit the effect of high-grade samples, which would lead to inaccurate estimation of global tonnage and grade. The parameters used to enforce the right volume-variance relationship cause local conditional bias but ensure the global estimate of grade and tonnes is accurately estimated.

To ensure that all blocks within the estimation domains are estimated and the correct volume variance relationship is achieved, a three-pass method was used for each domain. Each pass uses the same variogram model, as modelled and detailed in Section 14.4, however different search ellipsoid configurations are used, as illustrated in Table 14-12.

Different search ellipsoid configurations are used to control the smoothing inherit in Kriging and manage influence of high-grade samples to achieve the correct volume variance relationship. The three passes are normally not required because the blocks estimated during those passes are far from composites, but because of structural complexities and the limitation of search ellipses not being able to look along the trend of the folds they were utilized here.

Table 14-12: Estimation Search and Kriging Parameters

Zone/Stat Group	Zone	Max Search Ranges			No. Search Sectors	Max Samples per Sector	Max Samples per DH	Minimum No. of Comps
		Major	Minor	Vertical				
Discovery	Pass 1	35	35	15	1	20	3	1
	Pass 2	65	35	15	1	20	3	1
	Pass 3	130	70	30	1	20	3	1
Windjammer North	Pass 1	35	35	15	1	20	3	1
	Pass 2	65	35	15	1	20	3	1
	Pass 3	130	70	30	1	20	3	1
Windjammer Central	Pass 1	35	35	15	1	20	3	1
	Pass 2	65	35	15	1	20	3	1
	Pass 3	130	70	30	1	20	3	1
Windjammer South	Pass 1	35	35	15	1	20	3	1
	Pass 2	65	35	15	1	20	3	1
	Pass 3	130	70	30	1	20	3	1
Westaway (WA)	Pass 1	35	20	5	8	2	6	3
	Pass 2	65	35	8	8	3	8	2
	Pass 3	130	70	30	1	20	3	1
Westaway (WB)	Pass 1	35	20	5	1	20	3	4
	Pass 2	65	35	10	1	20	6	4
	Pass 3	130	70	30	1	20	3	1
55 (Flat)	Pass 1	35	20	5	1	20	2	1
	Pass 2	65	45	10	1	20	4	1
	Pass 3	130	70	30	1	20	3	1
55 (Steep)	Pass 1	25	20	5	1	20	3	1
	Pass 2	65	45	8	8	1	4	1
	Pass 3	130	70	30	1	20	3	1
SouthWest (OP)	Pass 1	40	20	5	8	2	3	3
	Pass 2	80	40	5	1	20	6	3
	Pass 3	130	70	30	1	20	3	1
SouthWest (UG)	Pass 1	40	20	5	8	2	3	2
	Pass 2	80	40	8	1	20	6	3
	Pass 3	130	70	30	1	20	3	1
903	Pass 1	35	35	15	1	20	20	1
	Pass 2	65	35	15	1	20	20	1
	Pass 3	130	70	30	1	20	4	1
Jonpol	Pass 1	35	35	5	1	20	5	1
	Pass 2	65	35	8	1	20	8	1
	Pass 3	130	70	30	1	20	4	1
Garrcon	Pass 1	35	35	5	1	3	3	1
	Pass 2	65	35	8	1	20	8	1
	Pass 3	130	70	30	1	20	4	1

Source: APEX, 2022.

14.7 Model Validation

14.7.1 Statistical Validation

APEX personnel performed three varying statistical validation methods to ensure the estimated block model honours the input drill hole data. Swath plots are used to check that the block model honours directional trends, Volume-variance analysis is used to check that the proper quantity of minerals above varying cut-off grades is being estimated, and boundary analysis is performed to check that the observed grade trends along the mineralized and unmineralized boundaries are being reproduced in the block models.

14.7.1.1 Directional Trend Analysis Validation

Swath plots verify that the estimated block model honours directional trends and identifies potential areas of over- or under-estimation in grade. They are generated by calculating the average metal grades of composites, and the OK estimated blocks.

Overall, the block model compares well with the composites. There is some local over- and under-estimation observed. Due to the limited number of conditioning data available for the estimation in those areas, this is the expected result.

Swath plots for each resource area are provided in Appendix C.5.1.

14.7.1.2 Volume-Variance Analysis Validation

Smoothing is an intrinsic property of Kriging, and as described in Section 14.6 volume-variance corrections are used to help reduce its effects. To verify that the correct level of smoothing is achieved, theoretical histograms that indicate each estimated metal's anticipated variance and distribution at the selected block model size are calculated. The scaled composite histograms are used to calculate expected tonnages and expected grades above a series of cut-off grades. Comparing the curves of the expected versus estimated values helps ensure the correct volume of resource above varying cut-offs is being estimated.

Some domains illustrate the desired amount of smoothing, such as Discovery and Windjammer South. However, some areas, such as 55, illustrate more smoothing then desired. Further modifications of the search strategy to help control the smoothing will introduce excessive bias to the gold estimates. Future resource studies should explore reducing the amount of internal dilution within the estimation domains to help control this effect.

Volume-variance plots for each resource area are provided in Appendix C.5.2.

14.7.2 Visual Validation

APEX personnel visually reviewed the estimated block model grades in sectional views comparing the estimated block model grades to the input composited drill hole assays and the modelled mineralization trends. The block model compares very well to the input compositing data. Local high- and low-grade zones within the resource areas are reproduced as desired, and the locally varying anisotropy adequately maintains variable mineralization orientations.

14.8 Mineral Resource Classification

14.8.1 Classification Definitions

The Tower Gold Project MRE discussed in this report has been classified in accordance with guidelines established by the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 29, 2019 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated May 14, 2014.

A measured mineral resource is that part of a mineral resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of modifying factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A measured mineral resource has a higher level of confidence than that applying to either an indicated mineral resource or an inferred mineral resource. It may be converted to a proven mineral reserve or to a probable mineral reserve.

An indicated mineral resource is that part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An indicated mineral resource has a lower level of confidence than that applying to a measured mineral resource and may only be converted to a probable mineral reserve.

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.

14.8.2 Classification Methodology

The Tower Gold Project MRE is classified as inferred and indicated according to the CIM definition standards. The classification of the indicated and inferred resources is based on geological confidence, data quality and grade continuity of the data. The most relevant factors used in the classification process were the following:

- density of conditioning data
- level of confidence in drilling results and collar locations
- level of confidence in the geological interpretation
- continuity of mineralization
- level of confidence in the assigned densities
- metallurgical information available for potential recoveries.

Resource classification was determined using a multiple-pass strategy that consists of a sequence of runs that flag each block with the run number a block first meets a set of search restrictions. With each subsequent pass, the search restrictions decrease, representing a decrease in confidence and classification from the previous run. For each run, a search ellipsoid is centred on each block and orientated in the same way described in Section 14.6. Table 14-13 details the range of the search ellipsoids and the number of composites that must be found within the ellipse for a block to be flagged with that run number. The runs are executed in sequence from run 1 to run 2. Classification is then determined by relating the run number that each block is flagged as to indicated (run 1) or inferred (run 2). This process is completed separately from gold estimation.

Table 14-13: Search Restrictions Applied During each Run of the Multiple-Pass Classification Strategy

Area	Domain Style	Classification	Min. No. Drill Hole	Major Range	Minor Range	Vertical Range
55, Westaway, Westblock South West	All	Indicated	3	65	45	12
		Inferred	2	150	100	30
Windjammer South, Windjammer Central, Windjammer North, Discovery	Thick	Indicated	3	65	45	12
		Inferred	2	100	80	30
	Thin	Indicated	3	65	45	12
		Inferred	2	110	90	30
Jonpol, Garrcon, 903	High Grade	Indicated	3	65	45	12
		Inferred	1	100	80	30
	Low Grade	Inferred	2	65	45	12

Source: APEX, 2022.

14.9 Evaluation of Reasonable Prospects for Eventual Economic Extraction

14.9.1 Open Pit Parameters

To demonstrate that the Tower Gold property has the potential for future economic extraction, recovery was estimated based on the assay and geological logged information available, and the unconstrained and partially diluted resource block model was subjected to several pit optimization scenarios to look at the prospect for eventual economic extraction. Pit optimization was performed in Datamine StudioMaxiPit software using the pseudo-flow pit optimization algorithm.

The criteria used in the pit optimizer were considered reasonable for a structurally-controlled orogenic gold deposits in an Archean greenstone belt. All open pit mineral resources reported below are reported within an optimized pit shell using US$1,750/oz for gold and was defined using blocks classified as indicated or inferred. The criteria used for the US$1,750/oz pit shell optimization are shown in Table 14-14. A variable lower gold grade cut-off and recovery was determined by deposit and is based on using a gravity separation, cyanide leaching and carbon absorption using carbon-in-pulp (CIP) processing methods. Ore hosted within ultramafic rocks at the Jonpol deposit was determined to be refractory type material and was assigned a lower recovery value based on the processing method chosen. The pit optimization cut-off grades are based on a breakeven cut-off grade calculation, Equation 14.1, using the mining parameters in Table 14-14. The open pit cut-off grade used for all deposits for reporting the MRE was 0.3 g/t.

$$COG\ breakeven = (Cost\ processing + Cost\ (mining\ ore) - Cost\ (mining\ waste))\ /\ (Recovery\ ore * (SalePrice - RefiningUnitCost)\ ) \qquad (14.1)$$

Mr. Dufresne, the author and QP, considers the pit parameters presented in Table 14-14 appropriate to evaluate the reasonable prospect for potential future economic extraction at the Tower Gold Project for the purpose of providing an MRE. The resources presented herein are not mineral reserves, and they do not have demonstrated economic viability. There is no guarantee that any part of the resources identified herein will be converted to a mineral reserve in future.

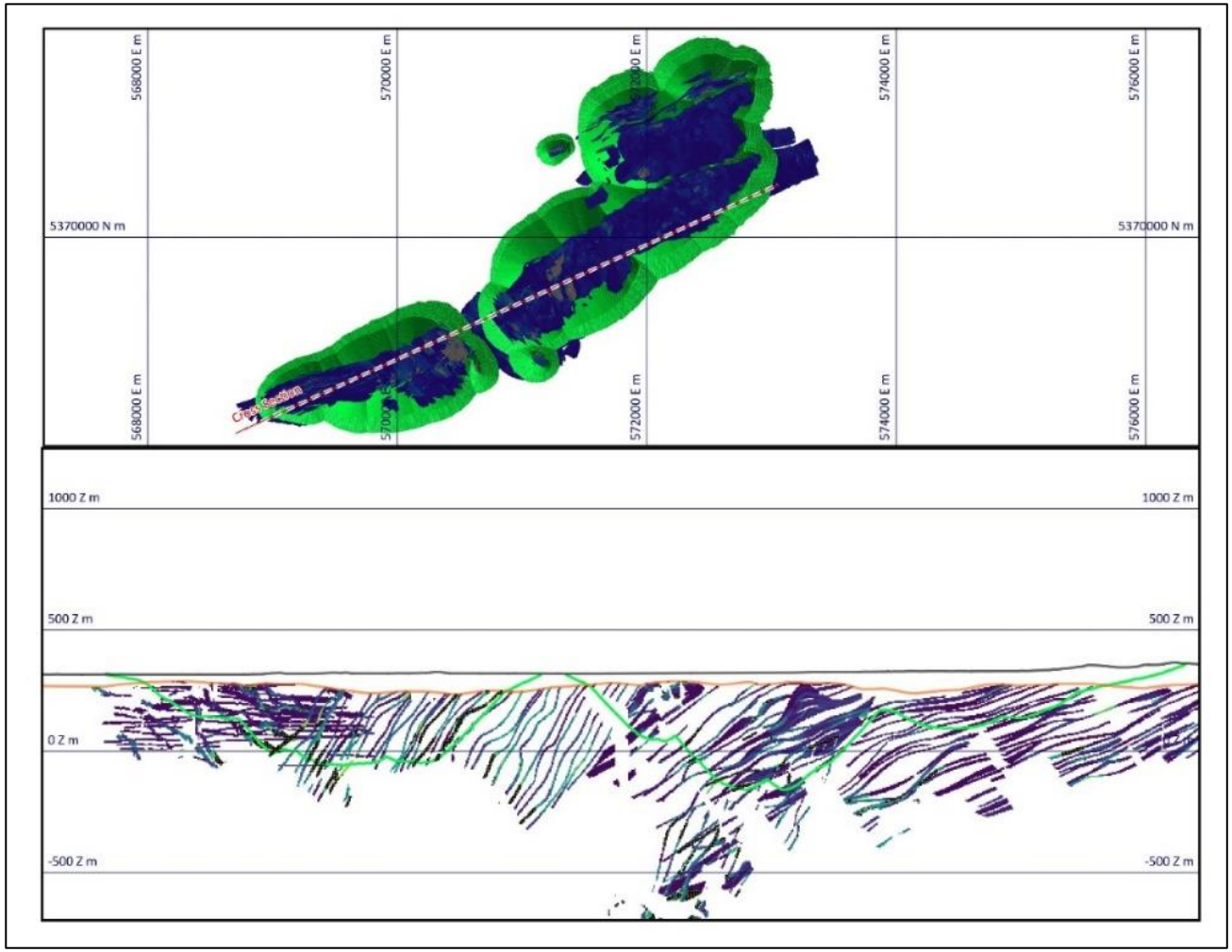
Table 14-14: Parameters Used for Open Pit Resource Estimate

Parameters	Unit	Value
Gold Price	US$/oz	1,750
Exchange Rate	USD/CAD	0.78
Mill Recovery by Deposit		
Discovery, Windjammer-North	%	89.4
Windjammer Central	%	92.2
Windjammer South	%	94.1
South West	%	93.33
Westaway, Westblock, 55	%	92.54
Bulk Rock Banded Iron Formation	%	90
903	Formula	1-(0.0828*Head Grade Au g/t ^ 0.4854)/Head Grade Au g/t)
Jonpol – Non-Refractory	%	92.54
Jonpol – Refractory	%	56.2
Garrcon	%	96.11
Mining Parameters		
Sell Cost	C$/oz	2.40
Royalties*	%	0.00/1.50
Mining Cost – Rock	C$/t mined	2.75
Mining Cost – Overburden	C$/t mined	1.84
G&A Cost	C$/t milled	1.00
Processing Cost	C$/t milled	10.60
Pit Slope in Rock	degrees	50
Pit Slope in Overburden	degrees	25
Reporting Cut-Off Grade	Au g/t	0.30

Note: *Golden Highway area has no royalties; in the Garrison area royalties average 1.50%. Source: APEX, 2022.

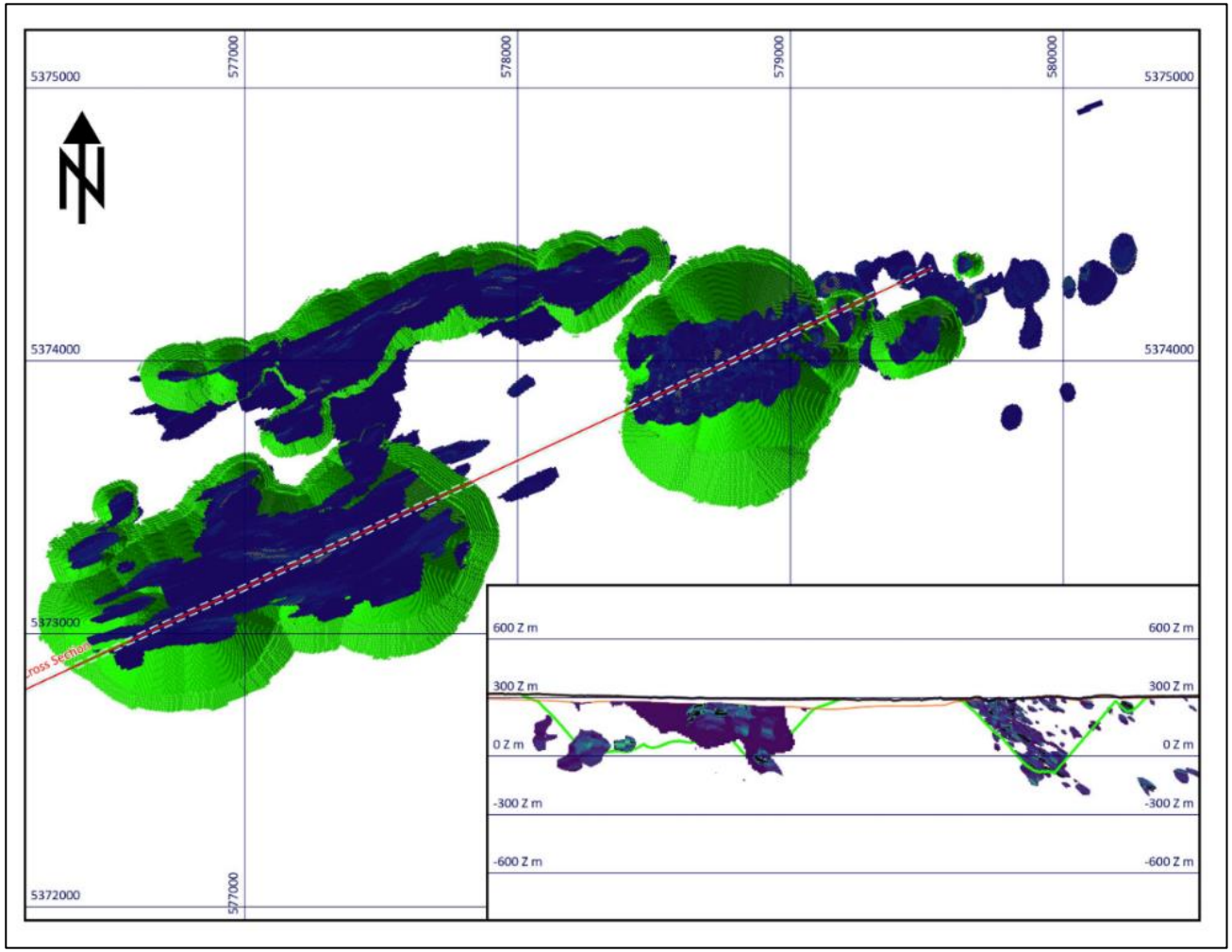
For the open pit optimization, the estimation models were block averaged to a 5 m x 5 m x 5 m SMU block size and the blocks partially outside of the mineralized wireframes were diluted with a nominal waste value of 0.0025 g/t based on the volume of block outside of the mineralized wireframes. However, there is sporadic mineralization within the BIF units throughout the project. Therefore, waste grades were estimated for blocks within 35 m of composites within the BIF units. Dilution of ore blocks used the estimated low-grade material instead of the nominal waste value. The overall strip ratio for the Golden Highway property and the Garrison property open pits was 4.8:1 and 5.2:1, respectively, inclusive of overburden. The MRE is reported using undiluted gold grades. Figures 14-1 and 14-2 illustrate the calculate open pits used to constrain the MRE.

Figure 14-1: Golden Highway Area – Conceptual US$1750 Open Pits, Plan and Long-Section



Note: The blue area represents the block model; the green surface represents the conceptual US$1750 open pits. Source: APEX, 2022.

Figure 14-2: Garrison Area – Conceptual US$1750 Open Pits, Plan and Long-Section



Note: The blue area represents the block model; the green surface represents the conceptual US$1750 open pits. Source: APEX, 2022.

14.9.2 Underground Parameters

The CIM guidelines for mineral resources and mineral reserves require that a mineral resource be that part of a mineral deposit with reasonable prospects for economic extraction. For the Tower Gold Project underground resource, open stope style mining methods were selected. The economic assumptions used in the mineral resource statement are shown in Table 14-15.

Table 14-15: Parameters Used for Underground Mineral Resource Estimate

Parameters	Unit	Value
Gold Price	US$/oz	1,750
Exchange Rate	US$/C$	0.78
Mill Recovery	%	92.00
Sell Cost	C$/oz	2.40
Payable	%	99.95
Royalties	%	0.00/1.5%
Mining Cost	C$/t mined	75.00
G&A Cost	C$/t milled	1.00
Processing Cost	C$/t milled	10.60
Cut-Off Grade	Au g/t	2.6

Source: APEX, 2022.

The calculated cut-off of 2.60 g/t Au was selected in reporting the underground mineral resource in the 2022 resource estimates. To isolate small areas of the resource that would not reasonably be minable in an open stope mining method, the underground mineral resources below the resource open pit is constrained by wireframe solids that encapsulate contiguous 2.5 m x 2.5 m x 2.5 m underground blocks that are above the 2.60 g/t Au cut-off with a volume greater than 1,400 m^3 and with a minimum domain width of 1.50 m.

14.10 Mineral Resource Reporting

The Tower Gold Project MRE is reported in accordance with the CSA NI 43-101 rules for disclosure and has been estimated using the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 29, 2019 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated May 10, 2014. The effective date of the resource is May 11, 2022.

Modelling was conducted in the UTM coordinate space relative to the NAD 1983, and UTM Zone 17N (EPSG:26917). The mineral resource block model utilized a block size of 2.5 m (X) by 2.5 m (Y) by 2.5 m (Z) to honour the mineralization wireframes. The percentage of the volume of each block below the bare earth surface, below the modelled waste overburden surface and within each mineralization domain was calculated using the 3D geological models and a 3D surface model. For the open pit resources, the block model was block-averaged up to a 5 m (X) by 5 m (Y) by 5 m (Z) SMU block size for pit optimization with the outer blocks on the boundaries of the domains diluted. The gold grade was estimated for each block using ordinary kriging with locally varying anisotropy (LVA) to ensure grade continuity in various directions is reproduced in the block model. The MRE is reported as undiluted within a series of optimized pit shells. The mineral resources defined in this section are not mineral reserves.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, market or other relevant issues. The quantity and grade of reported inferred resources are uncertain in nature and there has not been sufficient work to define these inferred resources as indicated or measured resources.

The calculated open pit cut-off of 0.30 g/t Au was selected in reporting the open pit mineral resources in the 2022 resource estimates using the 5 m x 5 m x 5 m SMU block size model (Table 14-16).

Table 14-16: NI 43-101 Mineral Resource Estimate by Deposit – Tower Gold Project

May 2022 Resource	Category	Indicated			Inferred		
		Tonnes (t)	Grade (g/t Au)	Ounces (oz)	Tonnes (t)	Grade (g/t Au)	Ounces (oz)
Total	Open Pit	146,294,000	0.88	4,153,000	207,878,000	0.87	5,801,000
	Underground	701,000	4.95	112,000	12,269,000	4.30	1,695,000
Total Open Pit + Underground		**146,995,000**	**0.90**	**4,265,000**	**220,147,000**	**1.06**	**7,496,000**
Breakdown by Deposit							
South West	Open Pit	11,176,000	0.88	316,000	41,178,000	0.90	1,195,000
	Underground	168,000	4.54	25,000	6,761,000	4.36	948,000
Windjammer South	Open Pit	45,146,000	0.78	1,135,000	26,631,000	0.72	613,000
	Underground	-	-	-	918,000	4.57	135,000
Westaway	Open Pit	312,000	2.22	22,000	15,530,000	2.14	1,067,000
	Underground	-	-	-	3,214,000	3.94	407,000
Windjammer Central	Open Pit	31,986,000	0.62	632,000	85,086,000	0.65	1,780,000
	Underground	-	-	-	-	-	
55 Zone	Open Pit	4,379,000	1.25	176,000	4,621,000	1.02	151,000
	Underground	-	-	-	186,000	4.20	25,000
Discovery	Open Pit	2,251,000	1.72	125,000	5,511,000	1.50	266,000
	Underground	-	-	-	440,000	4.19	59,000
Garrcon	Open Pit	25,614,000	1.02	841,000	707,000	0.67	15,000
	Underground	533,000	5.08	87,000	750,000	4.98	120,000
903	Open Pit	18,843,000	1.01	610,000	25,040,000	0.74	600,000
	Underground	-	-	-	-	-	-
Jonpol	Open Pit	6,587,000	1.40	297,000	3,574,000	0.99	114,000
	Underground	-	-	-	-	-	-

Notes: **1.** Mineral resource estimates are reported at two different cut-off grades; 0.3 g/t Au for the surface mining scenario and 2.6 g/t Au for the underground mining scenario. **2.** The cut-off grade was determined at a gold price of US$1,750 per ounce and a USD/CAD exchange rate of 0.78. **3.** The resource estimate is supported by statistical analysis with different high-grade capping applied to each of the deposits ranging from 1.6 g/t Au to 80.0 g/t Au applied on assays composited into 1 m composites. **4.** The mineral resources presented here were estimated with a block size of 2.5 m x 2.5 m x 2.5 m utilizing percent blocks and constrained within geological wireframes with a minimum width of 1.50 m. Gold was estimated by ordinary kriging using locally varying anisotropy variogram models. Block grade estimation employed locally varying anisotropy, which uses different rotation angles to define the principal directions of the variogram model and search ellipsoid on a per-block basis. The maximum range of the variogram models generally are between 65 m x 25 m x 2.5 m and 80 m x 45 m x 5 m. The search ellipse was constrained to selecting composites flagged within each domain. **5.** The mineral resources presented here were estimated by APEX Geoscience Ltd. Using the CIM Standards on Mineral Resources and Reserves definitions and guidelines. **6.** The historical underground or open pit voids from mining in any of the deposit areas have been removed. **7.** Tonnage estimates are based on bulk densities individually measured and calculated for each of the deposit areas. Resources are presented as undiluted and in situ. **8.** This mineral resource estimate is dated May 11, 2022. The effective date for the drill-hole database used to produce this updated mineral resource estimate is March 15, 2022. Tonnages and ounces in the tables are rounded to the nearest thousand and hundred, respectively. Numbers may not total due to rounding. **9.** Discovery includes the Windjammer North resource. **11.** Mr. Mike Dufresne, P.Geol., P.Geo. of APEX Geoscience Ltd., who is deemed a qualified persons as defined by NI 43-101 is responsible for the completion of the updated mineral resource estimation. Source: APEX, 2022.

The calculated cut-off of 2.60 g/t Au was selected in reporting the underground mineral resources in the 2022 resource estimates (Table 14-16). Underground mineral resources below the resource open pit are constrained by wireframe solids that encapsulate contiguous 2.5 m x 2.5 m x 2.5 m underground blocks that are above the 2.60 g/t Au cut-off with a volume greater than 1,400 m^3.

Mineral resources can be sensitive to the selection of the reporting cut-off grade. For sensitivity analyses, other cut-off grades are presented for review. Mineral resources at various cut-off grades are presented for the open pit and underground resources in Tables 14-17 and 14-18, respectively.

Table 14-17: Tower Gold, Open Pit Resource Estimate Sensitivity Table

Cut-Off Grades	Indicated			Inferred		
	Tonnes (t)	Grade (g/t Au)	Ounces (oz)	Tonnes (t)	Grade (g/t Au)	Ounces (oz)
0.20	179,584,000	0.77	4,421,000	259,798,000	0.74	6,218,000
0.25	162,836,000	0.82	4,299,000	232,794,000	0.80	6,023,000
0.30	146,293,000	0.88	4,153,000	207,879,000	0.87	5,802,000
0.40	117,035,000	1.02	3,826,000	162,690,000	1.01	5,296,000
0.50	94,078,000	1.16	3,495,000	128,435,000	1.16	4,803,000

Note: Mineral resource estimates are reported at a cut-off grade of 0.3 g/t Au for the surface mining scenario. Source: APEX, 2022.

Table 14-18: Underground Resource Estimate Sensitivity Table

Cut-Off Grades	Indicated			Inferred		
	Tonnes (t)	Grade (g/t Au)	Ounces (oz)	Tonnes (t)	Grade (g/t Au)	Ounces (oz)
1.50	1,584,000	3.30	168,000	28,201,000	2.99	2,711,000
2.00	1,035,000	4.10	136,000	18,983,000	3.59	2,190,000
2.60	701,000	4.95	112,000	12,268,000	4.30	1,695,000
3.00	545,000	5.53	97,000	9,443,000	4.74	1,438,000

Note: Mineral resource estimates are reported at a cut-off grade of 2.6 g/t Au for the underground mining scenario. Source: APEX, 2022.

14.11 Risk and Uncertainty in the Mineral Resource Estimate

The complete drillhole and assay database comprises assays from 31 drilling programs from 1986 to 2021, utilizing numerous analytical labs. The uniformity of analytical data across these generations of data collection is difficult to characterize because of the large number of drilling programs and different laboratories used, which provides a source of risk. To date, data verification of historical data has been completed to industry standards as described in Section 12, including several twin drill holes. In addition, very few areas within the resource are not well supported by post-2000 drilling. Therefore, to help decrease this risk further, Moneta could complete additional data analysis to establish the uniformity of the various generations of analytical data and determine if specific generations show bias or require special treatment in future resource assessments.

Metallurgical difficulties have been identified at Jonpol. Currently, any mineralized material hosted within ultramafic rocks in the area utilizes a lower recovery than all other resource areas within the Tower Gold Project. Further work to increase the understanding of this and better delineate the lower recovery material would help decrease the risk and uncertainty in the resources at Jonpol.

Modelling structurally controlled orogenic gold deposits in an Archean greenstone belt has inherent geological risk. This style of gold deposit is very complex regarding geological and mineralization continuity. Broader zones with a high density of veins and structural features favourable to mineralization provide much less uncertainty as they are easier to map and predict. Connecting drillhole intercepts of thin mineralized discrete vein or vein zones into continuous interpretations is a more significant source of uncertainty. Open pit resources have less risk as mining does not need to be as selective with underground resources. De-risking the geological continuity for this deposit style requires rigorous interpretation and high-quality orientated structural data from drilling. The current mineralization domain interpretations are well-founded and supported by modern drilling, often in several differing orientations based upon significant structural modelling using orientated core. There are some areas with wider spaced drilling that, with additional drilling, may see changes in the mineralization domain interpretations. Moreover, as additional drilling is completed, updating the mineralization interpretation on an ongoing basis and working to remove internal dilution as much as possible will provide confidence increases in the interpretation.

Unsampled intervals within mineralization zones provide a source of uncertainty. There are instances where Moneta's drilling has illustrated that previous issuers did not sample the entire length of mineralization, creating unsampled intervals within mineralization zones. APEX personnel applied a nominal waste value of 0.0025 ppm Au to the unsampled intervals to calculate the MRE detailed in this report. If possible, all unsampled intervals within mineralization zones should be sampled.

Moneta's 2021 drilling identified materially more mineralization than previously expected within the Windjammer Central area, resulting in a material increase of inferred resources. Mineralization at Windjammer Central appears similar in style to Windjammer South, and further drilling to confirm will reduce the uncertainty in the new inferred resources.

The authors are not aware of any other significant material risks to the MRE other than the risks that are inherent to mineral exploration and development in general. The authors of this report are not aware of any specific environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant factors that might materially affect the results of this resource estimate and there appear to be no obvious impediments to developing the MRE at the Tower Gold Project.

15 MINERAL RESERVE ESTIMATES

This section is not relevant to this report.

16 MINING METHODS

This section is not relevant to this report.

17 RECOVERY METHODS

This section is not relevant to this report.

18 PROJECT INFRASTRUCTURE

This section is not relevant to this report.

19 MARKET STUDIES AND CONTRACTS

This section is not relevant to this report.

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

This section is not relevant to this report.

21 CAPITAL AND OPERATING COSTS

This section is not relevant to this report.

22 ECONOMIC ANALYSIS

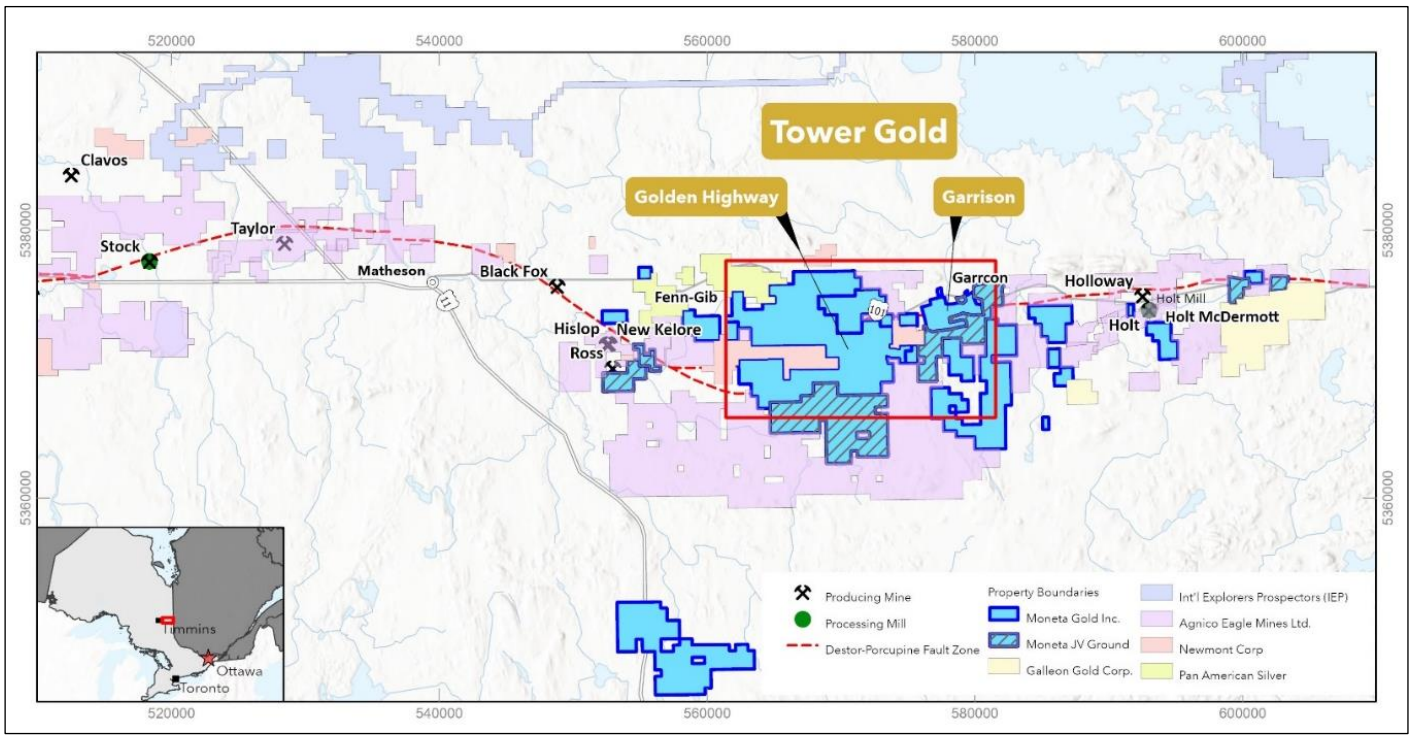
This section is not relevant to this report.

23 ADJACENT PROPERTIES

23.1 General

Moneta's Tower Gold Project is located on the DPFZ, a major gold-mineralized regional fault structure. Figure 23-1 shows the location of the DPFZ and several prominent gold deposits including the Black Fox Mine, Hislop Mine, Ross Mine, Holloway Mine and Holt-McDermott Mine that are located within an approximately 25 km radius of the Tower Gold Project. The project is surrounded by claims, mining leases, or patents held by other mining and exploration companies. The most active of the neighbouring companies are Mayfair Gold, Pan American Silver, McEwen Mining, and Agnico Eagle Mines.

Figure 23-1: Tower Gold Project Location



Source: Moneta Gold, 2022.

The current resources and information on the adjacent properties are reported on the corporate websites and SEDAR filings of the holding companies. These data have not been verified by the authors and are not reported herein. The authors have not visited any of these adjacent properties. The information presented may not necessarily be indicative of the geology or mineralization on the Tower Gold Project that is the subject of this technical report. The information provided in this section is simply intended to describe examples of the type and tenor of mineralization that exists in the region and may or may not be an exploration target for Moneta at the Tower Gold Project.

23.2 Fenn-Gib Project

Mayfair Gold acquired the Fenn-Gib property in 2020 from Pan American Silver, which in turn had acquired Tahoe Resources in 2019 (Makarenko et al., 2021). The latter had acquired Lake Shore Gold in 2016, owner of the Fenn-Gib property to the west-northwest of Moneta's property since 2012.

Mayfair Gold completed the acquisition of the Fenn-Gib property on December 31, 2020. In March 2021, Mayfair Gold filed a "NI 43-101 Technical Report for the Fenn-Gib Project, Ontario, Canada" dated February 5, 2021 (revised on February 19, 2021), prepared by JDS Energy and Mining Inc. (Makarenko et al., 2021). The resource for Fenn-Gib is based on an indicated mineral resource and inferred mineral resource estimate undertaken by Garth Kirkham, P. Geo., of Kirkham Geosystems Ltd. The mineral resource estimate incorporated more than 420 drill holes totalling 134,546 metres and was reported at a base case above a 0.35 g/t Au cut-off and included 70,203,723 tonnes grading 0.921 g/t Au for 2,077,661 oz indicated and 3,774,865 tonnes grading 0.618 g/t Au for 74,967 oz inferred (Makarenko et al., 2021).

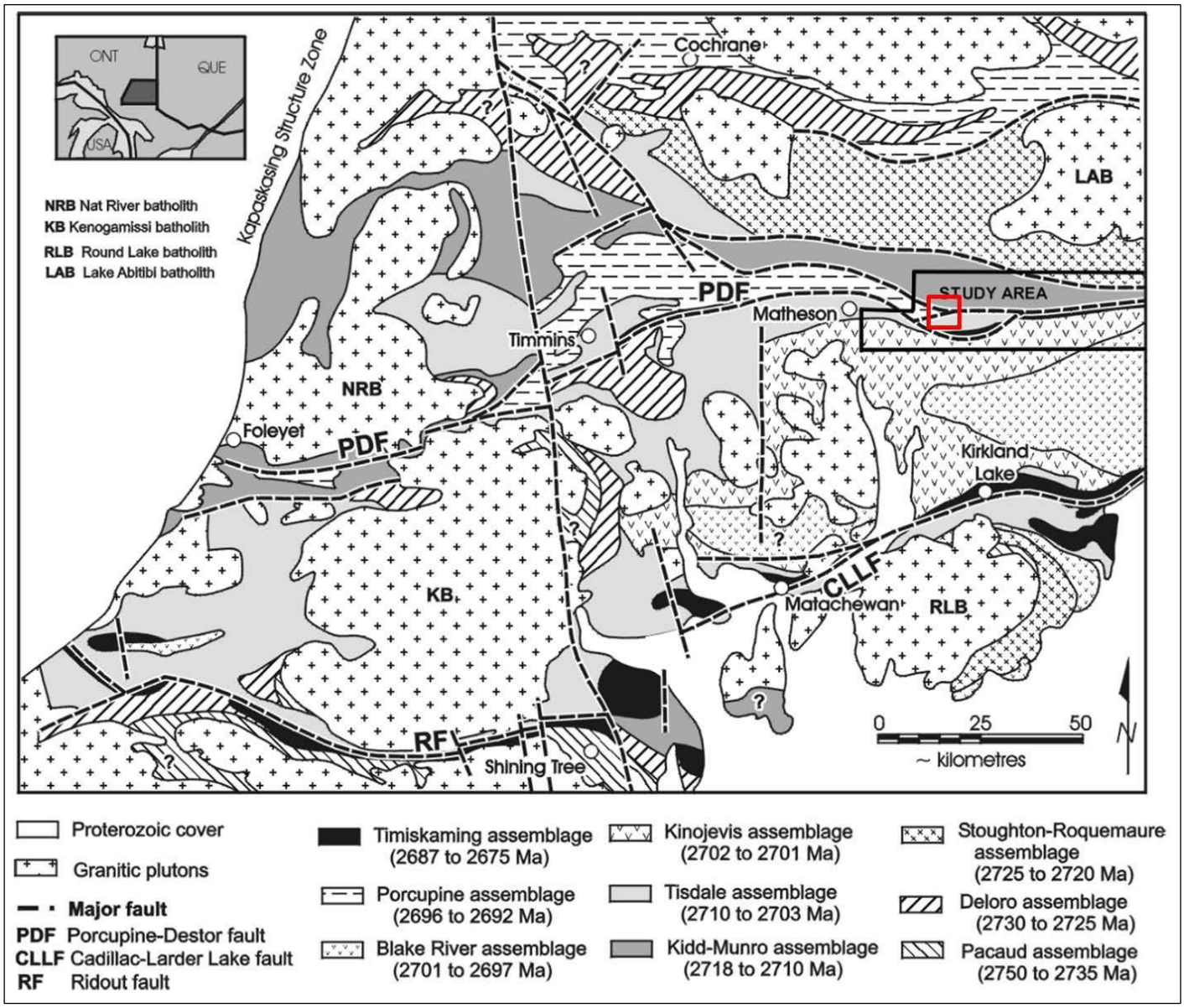
The Fenn-Gib property is located along Highway 101, approximately 80 km east of Timmins and 21 km east of Matheson, Ontario. Geologically, the Fenn-Gib property is located in the southern portion of the Abitibi Sub-province, which is part of the Superior Province of the Canadian Shield. The province is principally composed of volcanic and sedimentary assemblages that have been metamorphosed to greenschist facies and intruded by late tectonic plutons of tonalite and trondhjemite affinity.

The property is underlain by the dominantly volcanic Kidd-Munro Assemblage to the north and the dominantly sedimentary Hoyle Assemblage to the south. The two sequences are juxtaposed along the Contact Fault, an east-west to south-east trending shear zone, which is interpreted to be a splay of the DPFZ. Gold within the Fenn-Gib property is primarily associated with disseminated pyrite in syenites and basalts affected by albitization and silicification in proximity to the fault contact between the Hoyle and Kidd-Munro packages.

There appears to be a close association of the mineralization with syenite dykes and intrusions. The deposit itself can be traced for 1.25 km along strike and is thickest at the western end (300 m). The mineralization forms a thinner extension to the east along the same contact, concentrated within the deformation zone itself. Although the deposit is open in all directions, the quality of current known mineralization (grade and thickness) appears to decrease away from the core of the Fenn-Gib deposit.

Of the several styles of gold mineralization at the property area, the most common consists of quartz-carbonate veins, stringers and breccias hosted within intensely altered volcanic rocks and granitoid intrusions and, in particular, syenite dykes. A second style of gold mineralization is associated with intensely altered sediments with variable fine crystalline pyrite. A third style of gold mineralization is associated with alteration, shearing and sulphides (Figure 23-1).

Figure 23-2: Regional Geological Map of the Timmins Area



Notes: The location of the Fenn-Gib property is shown by the red square. Source: Berger, 2002.

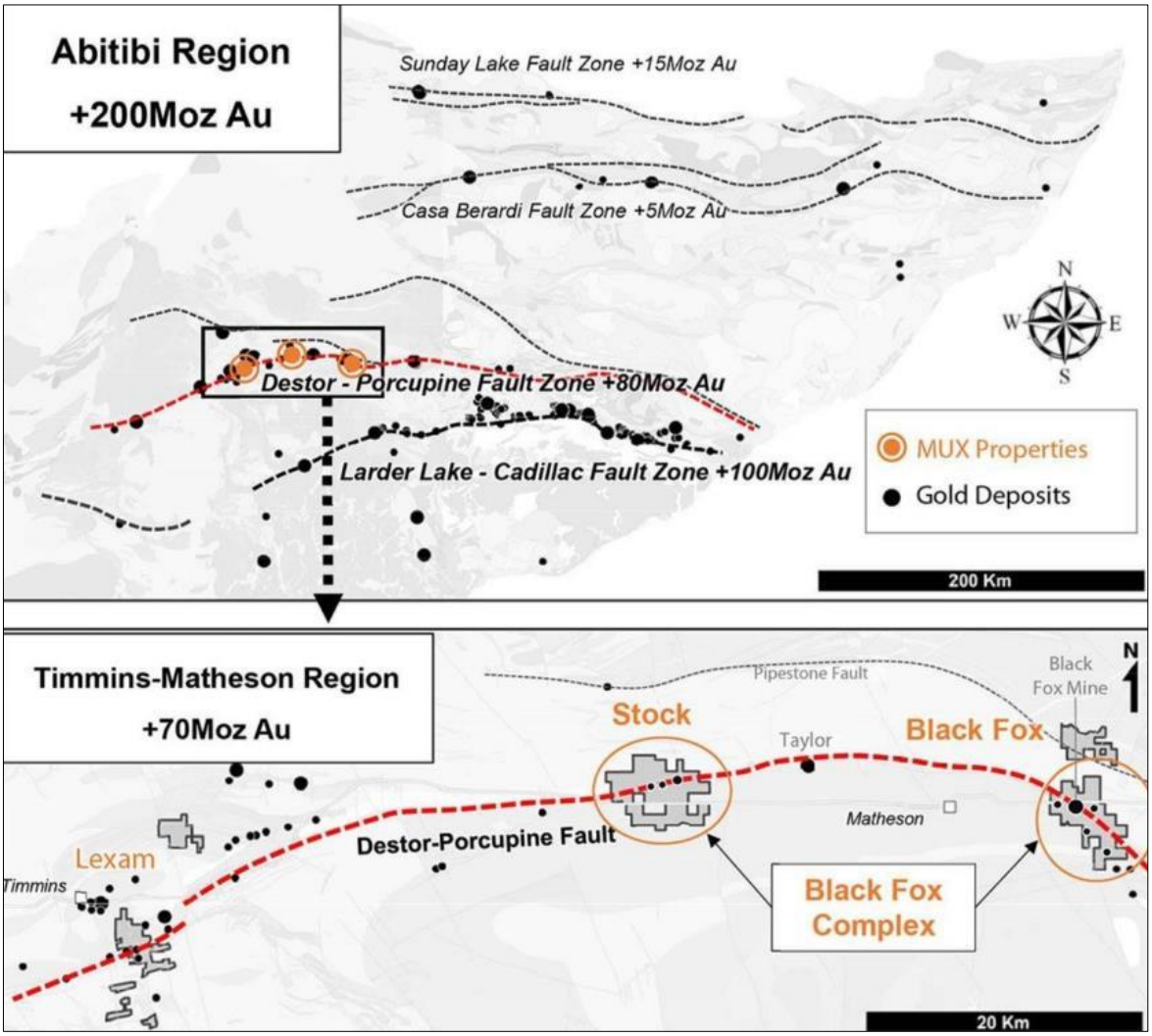
23.3 Black Fox Complex

The Black Fox Complex includes the Black Fox and Stock properties, located along the Provincial Highway 101. The Stock property is located 22 km west of Matheson and 45 km east of Timmins. The Black Fox property is located 11 km east of Matheson. The Black Fox complex is composed of approximately 3,300 ha of land packages that cover 11 km of the DPFZ. The DPFZ has a total strike length of approximately 200 km and hosts many of Ontario's gold mines and deposits (Figure 23-3).

The Black Fox property is a key component of the Black Fox complex, including the Black Fox and Froome mines and the Tamarack and Grey Fox deposits. The Black Fox mine had initial production from 1997 to 2001. Recommissioned in 2009, it operated continuously, with open pit commercial production from May, 2009 to September, 2015 and underground mining commenced in October 2011 and continued to 2021. The open pit and underground operations at the Black Fox mine have produced a total of 950,000 oz of gold to the end of 2021 (www.mcewenmining.com). During 2021, production wound down at the Black Fox mine and ramped up at the Froome mine.

The Stock property is also located along the DPFZ, between the Lexam property and the Black Fox property. Stock hosts the Black Fox-Stock mill and is the site of the former Stock Mine, which produced 137,000 oz of gold from an underground operation between 1989 and 2005 (www.mcewenmining.com). Exploration initiated in 2018 at Stock and continued to date has defined deposits east and west of the Stock Mine, within a 3 km mineralized trend along the DPFZ.

Figure 23-3: Black Fox Mine Complex



Source: McEwen Mining, 2022.

In January 2022, McEwen Mining announced a PEA to extend mine life and increase gold production at the Fox Complex (McEwen Mining News Release dated January 26, 2022). Although there is a history of exploration and production, the land packages of the Black Fox Complex remain relatively underexplored. Black Fox has a high gold endowment, the presence of high-grade mineralization, multiple prospective structural trends, as well as various styles of mineralization and host rock types.

23.4 Holt Mine Project

The Holt Mine (Figure 23-1) was originally built and operated by Barrick in the late 1980s (www.miningdataonline.com). The mine has a long history of reserve replacement. Approximately 85% of the current reserves are situated in three zones: Zone 4, Zone 6, and Zone 7. Kirkland Lake Gold acquired St Andrew Goldfields Ltd. in January 2016, which included the Taylor, Holloway, Holt and Hislop mines and a milling facility on the Holt property. Operations were suspended at the Holt Complex in April 2020 as part of the company's COVID-19 response and after a strategic review, in July 2020, the company announced the suspension would be extended until further notice. In February 2022, Agnico Eagle Mines acquired Kirkland Lake Gold and assumed ownership of the Holt Mine (Agnico Eagle Mines News Release dated February 8, 2022).

The Holt Mine is a mafic volcanic, sulphide-replacement-hosted gold deposit. The mineralized zones are structurally controlled by both the McDermott Fault and the Ghostmount Fault Zone, which are splays off the DPFZ. Different from other quartz vein-hosted deposits in the region, native gold at the Holt Mine occurs as very fine grains spatially associated with pyrite, typically located in fractures, on grain boundaries, or encapsulated in pyrite grains. Zone thickness can widen from less than 10 m to locally more than 50 m. Historically mined zones include the South (Zone 4), C-104, McDermott, Worvest/Three Star, Mattawasaga and C-97, which occur over a strike length of 3 km and have been mined to depths of over 1 km below surface. More recently, the bulk of the existing gold mineralization is located within Zone 4, Zone 6, Zone 7, and C Zones.

The mineralized zones at the Holt Mine display two pronounced shoot plunges: (a) moderate to steep east plunges that outline the major zones, and (b) alignment of zones and small mineralized shoots along shallow west-plunging axes.

24 OTHER RELEVANT DATA AND INFORMATION

This section is not relevant to this report.

25 INTERPRETATION AND CONCLUSIONS

25.1 Introduction

The authors of this technical report consider the supporting data to be sufficient and credible for this updated mineral resource estimate (MRE). As is typical in project development, more work will be required to develop definitive data for analysis in the next phase(s) to mitigate risk, as well as present further optimization opportunities to provide higher confidence levels to proceed to economic studies such as a preliminary economic assessment and eventually a pre-feasibility study.

Ausenco has prepared this technical report for Moneta, a mineral resource company focused on the exploration and development of gold projects in the prolific Timmins Camp of Ontario, Canada. The focus of this technical report is on the Tower Gold Project, which covers the Golden Highway and Garrison properties located 100 km east of Timmins in northeastern Ontario, Canada.

This report was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and in accordance with the requirements of Form 43-101 F1.

The responsibilities of the consultants are as follows: Ausenco was commissioned by Moneta to manage and coordinate the work related to the NI 43-101; APEX Geoscience Ltd. (APEX) was commissioned to conduct data verification of historical and recent drilling data and to produce an updated MRE for the Tower Gold Project.

Based upon continued drilling by Moneta in 2020 to 2021 and the acquisition of the Garrison Project, this technical report supports disclosures by Moneta in a news release dated May 11, 2022, entitled “Moneta increases resources to 4,265,000 oz gold indicated and 7,496,000 oz gold inferred at Tower Gold Project”.

Mineral resources and mineral reserves are reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2014) and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (CIM, 2019).

25.2 Property Description, Location and Access

The Tower Gold Project is located in Guibord, McCool, Michaud, Barnet, and Garrison townships, Larder Lake Mining Division in northeastern Ontario, Canada, approximately 540 km north of Toronto, 90 km east of Timmins and 40 km north of the municipality of Kirkland Lake. It is centred approximately 5371620N and 573677E in Zone 17N of the NAD 83 UTM coordinate system (48° 29' 36.20" N latitude and 080° 00' 09.92" W longitude).

The property comprises 85 patented mineral claims, 4 leased mineral claims, and 318 unpatented mineral claims (consisting of 221 single cell mining claims and 97 boundary cell claims). These contiguous claims total 7,705.54 ha in area and are owned 100% by Moneta.

The property is accessed by logging and drilling roads that extend south from Highway 101, east of Matheson, Ontario. The intersection for the main logging access road (Tower Road) is 32 km east of Matheson. The mineral deposits are located

approximately 4 km south of Highway 101 and accessed locally by a network of forestry logging and drilling roads of varying quality.

Regional-scale, poorly drained swamp dominates much of the property area. The topography is relatively flat with an elevation of approximately 330 m above sea level. Relief is generally only a few metres, with drier sandy esker ridges and dunes rising up to 25 m above open and forested swampy areas in western parts. The property has very limited outcrop. All streams and rivers in the project area are part of the Arctic watershed.

Mineral exploration can be conducted year-round. However, because of the swampy ground conditions on much of the project area, exploration activities such as geophysical surveys and diamond drilling are more easily conducted in the winter due to better accessibility after freeze-up. Drilling at other times is possible on a large portion of the property.

Mining equipment and personnel are readily available from the towns of Matheson, Kirkland Lake and Timmins. Timmins and Kirkland Lake are major supply and service centres for the mining industry. They are serviced by modern telecommunications, commercial airlines or rail service and truck transportation.

Communications and power are available along Highway 101 and Highway 672. Water resources are locally available. Cell phone coverage extends to the property. Electrical power is supplied to various mining and mineral exploration projects along Highway 101 from west of Matheson to the Quebec border.

25.3 Geology and Mineralization

The property is situated in the Abitibi Greenstone Belt (AGB). The AGB consists of Neoarchean supracrustal rocks divided into tectonic-stratigraphic assemblages that include metavolcanic rocks, synvolcanic intrusions, metasedimentary rocks, calc-alkaline and alkaline intrusive rocks, and late Proterozoic dykes. The dominant regional structures of interest are the Destor Porcupine Fault Zone (DPFZ) and Pipestone Fault Zone with their associated gold deposits and mineralization.

The central portion of the Golden Highway property has been the focus of exploration work and is divided into a North Corridor and South Corridor that together define the DPFZ, as it crosses Michaud and western Garrison townships. These distinct geological corridors contain the bulk of the known gold mineralization discovered at the property to date. The North Corridor contains the historical DPFZ (north branch) trace in a sequence of Tisdale mafic and ultramafic metavolcanics. The Timiskaming metasedimentary rocks, iron formation and associated rocks are contained in the South Corridor.

The Tower Gold Project to date is host to nine gold deposits, six from the Golden Highway property and three from the Garrison property. Most of the gold occurrences are found within a corridor parallel to the DPFZ. The nine gold deposits include South West, Westaway, Windjammer South, Windjammer Central, Discovery, 55 Zone, Garrcon, 903 and Jonpol. These deposits have been classified as structurally controlled gold orogenic gold deposits in an Archean greenstone belt setting.

The Garrison property geology is underlain by rocks of the Kidd-Munro and Timiskaming Assemblages and about 4 km of the regionally significant DPFZ and a major splay, the Munro Fault Zone. Both fault zones comprise a variably altered and deformed sequence of metavolcanic rocks that include komatiites and tholeiitic basalts. The Kidd-Munro Assemblage is composed of massive to pillowed, mafic (high magnesium and iron tholeiites) and ultramafic (komatiite) metavolcanic rocks. The metavolcanic flows strike in a general east-west direction and dip steeply to the south. The Timiskaming Assemblage is composed of clastic metasedimentary rocks, consisting of conglomerate, wacke-sandstone, siltstone, argillite and schist, and is closely associated with the Porcupine-Destor deformation zone.

25.4 Exploration, Drilling and Development

The Golden Highway property has been explored since the 1940s. Historical exploration included geological mapping, geophysical surveying and drilling including diamond drilling and a small amount of reverse-circulation (RC) drilling. Moneta has conducted exploration on the Golden Highway property since 1986. Since the end of 2012, exploration has included primarily diamond drilling and has focused on the expansion and better definition of known gold mineralization areas. All current and most historical Golden Highway drill hole data have been compiled into Moneta's drill hole database.

For the Golden Highway property, Moneta's current drill hole database includes holes completed between 1946 and the present and includes 1,169 drill holes totalling 438,235 m across all seven mineralization areas: Windjammer North Zone (WJN), Windjammer South Zone (WJS), Discovery (DIS), South West Zone (SW), West Block (WB), Westaway (WA) and 55 Zone (55). The Golden Highway drill hole database used in the MRE consists of 748 drill holes that intersected the interpreted mineralization.

For the Garrison property, Moneta's current drill hole database includes holes completed between 1983 and the present and includes 1,096 drill holes totalling 350,822 m. The majority of work has concentrated on the Jonpol deposit, Garrcon deposit and the 903 Zone areas within the Garrison property. The true thickness of the mineralized zones identified from previous drilling are 60% to 95% of the sample lengths. Mineralization at the Garrcon deposit was previously interpreted to be striking approximately 075° and dipping 50° to the south; mineralization for Jonpol was previously interpreted to be striking approximately 070° and dipping 75° to 85° to the south. The Garrison drill hole database used in the MRE consists of 992 drill holes that intersect the interpreted mineralization.

Minor underground and open pit development has occurred at the Garrison and Jonpol deposits. The most important historical data relating to the Garrison Property are from the exploration work completed since 1985 by Jonpol Explorations Ltd. (and its partners, Cominco, Lac Minerals, and Hillsborough Resources), ValGold, Northern Gold, Osisko, O3 and Moneta.

The QPs have reviewed the adequacy of the exploration information and the property's physical, visual, and geological characteristics. No significant issues or inconsistencies were discovered that would call into question the validity of the data. In the QPs' opinion, the Tower Gold data are adequate and suitable for use in this technical report.

25.5 Metallurgical Considerations

Separate historical and current metallurgical campaigns have been conducted on the Garrison and Golden Highway properties to quantify metallurgical performance. With the exception of a portion of the Jonpol property, all deposits exhibited free milling gold recoveries amenable to gravity concentration and cyanide leaching.

Testing has largely focused on cyanide leach testing with some comminution testing in the historical testing. In recent metallurgical testing using standard gravity concentration and cyanide gold processing there is no evidence from the metallurgical test results of any deleterious elements that would impair recovery or result in low quality doré.

25.6 Mineral Resource Estimate

The updated MRE is based on historical drilling and drilling conducted by Moneta as recently as 2021 at the Golden Highway portion of the project, along with historical drilling conducted at the Garrison project area. This MRE supersedes all prior resource estimates for the Tower Gold Project.

This section details an updated NI 43-101 MRE completed for the Tower Gold Project by APEX of Edmonton, Alberta, Canada. Mr. Warren Black, M.Sc., P.Geo. and Mr. Tyler Acorn, M.Sc. completed the MRE under the direct supervision of Mr. Michael Dufresne, M.Sc., P.Geol., P.Geo. Mr. Dufresne is an independent QP with APEX and takes responsibility for the MRE. Mr. Dufresne visited the property on June 21st, 2022, and reviewed core from a number of drilling campaigns completed by Moneta and others.

The Tower Gold Project MRE is reported in accordance with the CSA NI 43-101 rules for disclosure and has been estimated using the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 29, 2019 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated May 10, 2014.

Modelling was conducted in the UTM coordinate space relative to the NAD 1983, and UTM Zone 17N (EPSG:26917). The mineral resource block model utilized a block size of 2.5 m (X) by 2.5 m (Y) by 2.5 m (Z) to honour the mineralization wireframes. The percentage of the volume of each block below the bare earth surface, below the modelled waste overburden surface and within each mineralization domain was calculated using the 3D geological models and a 3D surface model.

For the open pit resources, the block model was block-averaged up to a 5 m (X) by 5 m (Y) by 5 m (Z) SMU block size for pit optimization with the outer blocks on the boundaries of the domains diluted. The gold grade was estimated for each block using ordinary kriging with locally varying anisotropy (LVA) to ensure grade continuity in various directions is reproduced in the block model.

The MRE is reported as undiluted within a series of optimized pit shells. The mineral resources defined in this section are not mineral reserves. Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, market or other relevant issues.

The calculated open pit cut-off of 0.30 g/t Au was selected in reporting the open pit mineral resources in the 2022 resource estimates using the 5 m x 5 m x 5 m SMU block size model (Table 25-1).

The calculated cut-off of 2.60 g/t Au was selected in reporting the underground mineral resources in the 2022 resource estimates (Table 25-1). Underground mineral resources below the resource open pit are constrained by wireframe solids that encapsulate contiguous 2.5 m x 2.5 m x 2.5 m underground blocks that are above the 2.60 g/t Au cut-off with a volume greater than 1,400 m^3. The effective date of the MRE is May 11, 2022. The MRE outlined below is a combination of Indicated and Inferred mineral resources. The quantity and grade of the reported inferred resources are uncertain in nature and there has not been sufficient work to define these inferred resources as indicated or measured resources.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, market or other relevant issues.

Table 25-1: NI 43-101 Mineral Resource Estimate by Deposit – Tower Gold Project

May 2022 Resource	Category	Indicated			Inferred		
		Tonnes (t)	Grade (g/t Au)	Ounces (oz)	Tonnes (t)	Grade (g/t Au)	Ounces (oz)
Total	Open Pit	146,294,000	0.88	4,153,000	207,878,000	0.87	5,801,000
	Underground	701,000	4.95	112,000	12,269,000	4.30	1,695,000
Total Open Pit + Underground		**146,995,000**	**0.90**	**4,265,000**	**220,147,000**	**1.06**	**7,496,000**
Breakdown by Deposit							
South West	Open Pit	11,176,000	0.88	316,000	41,178,000	0.90	1,195,000
	Underground	168,000	4.54	25,000	6,761,000	4.36	948,000
Windjammer South	Open Pit	45,146,000	0.78	1,135,000	26,631,000	0.72	613,000
	Underground	-	-	-	918,000	4.57	135,000
Westaway	Open Pit	312,000	2.22	22,000	15,530,000	2.14	1,067,000
	Underground	-	-	-	3,214,000	3.94	407,000
Windjammer Central	Open Pit	31,986,000	0.62	632,000	85,086,000	0.65	1,780,000
	Underground	-	-	-	-	-	
55 Zone	Open Pit	4,379,000	1.25	176,000	4,621,000	1.02	151,000
	Underground	-	-	-	186,000	4.20	25,000
Discovery	Open Pit	2,251,000	1.72	125,000	5,511,000	1.50	266,000
	Underground	-	-	-	440,000	4.19	59,000
Garrcon	Open Pit	25,614,000	1.02	841,000	707,000	0.67	15,000
	Underground	533,000	5.08	87,000	750,000	4.98	120,000
903	Open Pit	18,843,000	1.01	610,000	25,040,000	0.74	600,000
	Underground	-	-	-	-	-	-
Jonpol	Open Pit	6,587,000	1.40	297,000	3,574,000	0.99	114,000
	Underground	-	-	-	-	-	-

Notes: **1.** Mineral resource estimates are reported at two different cut-off grades; 0.3 g/t Au for the surface mining scenario and 2.6 g/t Au for the underground mining scenario. **2.** The cut-off grade was determined at a gold price of US$1,750 per ounce and a USD/CAD exchange rate of 0.78. **3.** The resource estimate is supported by statistical analysis with different high-grade capping applied to each of the deposits ranging from 1.6 g/t Au to 80.0 g/t Au applied on assays composited into 1 m composites. **4.** The mineral resources presented here were estimated with a block size of 2.5 m x 2.5 m x 2.5 m utilizing percent blocks and constrained within geological wireframes with a minimum width of 1.50 m. Gold was estimated by ordinary kriging using locally varying anisotropy variogram models. Block grade estimation employed locally varying anisotropy, which uses different rotation angles to define the principal directions of the variogram model and search ellipsoid on a per-block basis. The maximum range of the variogram models generally are between 65 m x 25 m x 2.5 m and 80 m x 45 m x 5 m. The search ellipse was constrained to selecting composites flagged within each domain. **5.** The mineral resources presented here were estimated by APEX Geoscience Ltd. Using the CIM Standards on Mineral Resources and Reserves definitions and guidelines. **6.** The historical underground or open pit voids from mining in any of the deposit areas have been removed. **7.** Tonnage estimates are based on bulk densities individually measured and calculated for each of the deposit areas. Resources are presented as undiluted and in situ. **8.** This mineral resource estimate is dated May 11, 2022. The effective date for the drill-hole database used to produce this updated mineral resource estimate is March 15, 2022. Tonnages and ounces in the tables are rounded to the nearest thousand and hundred, respectively. Numbers may not total due to rounding. **9.** Discovery includes the Windjammer North resource. **11.** Mr. Mike Dufresne, P.Geol., P.Geo. of APEX Geoscience Ltd., who is deemed a qualified persons as defined by NI 43-101 is responsible for the completion of the updated mineral resource estimation. Source: APEX, 2022.

25.7 Conclusions

In conclusion, based on the currently available information for project scope and methods outlined in this technical report, in the authors' opinion, the Tower Gold Project is worthy of moving forward to the next phase of information development upon which economic evaluations would be based.

The following additional geological and metallurgical work are required:

- update and improve the lithology, alteration and mineralization models with improved characterization and quantification of all mineralized material types
- additional specific gravity/bulk density work coincident with characterization of all mineralized material types
- additional drilling in areas of wide spaced drilling where there is not enough information to accurately interpret depth and extent of mineralization
- geotechnical and metallurgical drilling, to accurately characterize the waste rock in the potential pit walls and characterize all potential mineralized material types and their respective recovery potential
- continued environmental baseline work
- exploration drilling to find additional mineralized material and expand the mineral resource with potential to join up certain pit areas with more drilling and the addition or improved modelling of the mineralized zones
- infill drilling in areas of wide spaced drilling to convert exploration targets and inferred resources to higher category resources
- confirmation drilling (perhaps as part of the metallurgical drilling), particularly in areas where the MRE is based on large portions of pre 2000 drill hole data
- metallurgical testwork suitable for PEA and leading to pre-feasibility level work
- additional mineral resource studies and additional drilling is completed.

25.8 Risks and Uncertainties

There are some risks and uncertainties centered around the sheer size of the project and the number of mineralized zones and the current geological understanding of these zones in an area with poor outcrop exposure and a reliance on significant amounts of drilling and interpretation of the structures controlling the mineralization. Other than the normal risks associated with exploration projects at this stage of exploration, the QPs have identified a few specific risks and areas of uncertainty based upon the level of work to date. These include the following:

- This early stage of resource development with a number of deposits and complex mineralization domain interpretations that may change with additional drilling.
- Uncertainty in the mineralization models and continuity of mineralization associated with wide spaced drilling and large amounts of exploration targets and inferred mineral resources in large portions of the deposits.

- Modern metallurgical characterization of all the mineralization types and styles within all the nine deposit areas.
- With exploration still at an early stage, there is potential for unrecognized risks related to permitting and sensitive environmental, social and community issues that are often associated with any potential sizeable future mining development.

26 RECOMMENDATIONS

The Apex and Ausenco authors have reviewed a recommended program of continued exploration that has been proposed by Moneta staff. It is recommended that the activities and programs outlined in the subsections below be conducted to continue to advance the development of the project.

26.1 Recommended Future Work for Geology

The following work is recommended:

- Exploration drilling program to test mineralized targets already identified
- Exploration drilling to expand the current mineral resources
- Exploration drilling to test new exploration drill targets
- Infill drilling within the current resource where drilling gaps occur or to upgrade resource confidence categories
- Further geological interpretation and modelling
- Updating mineral resource estimates upon completion of drill campaigns
- Updated resource and preliminary economic assessment (PEA) of the project to include new and expanded resource areas, to determine the focus, direction and plans for further resource development.

An infill drilling program of 40,000 m is recommended to infill portions of the resource where drill spacing is not sufficient within the interpreted wireframes to fully interpolate grade between more widely spaced drill holes and to connect shallower structures with extensions at depth.

A 60,000 m exploration drilling program is recommended to expand the currently modelled or pending resources. A new maiden resource estimate is currently planned for Westaway. Drilling should be allocated to the following target areas: down dip and strike extensions of the 55, Westaway at depth, South West underground and northern areas, Garrcon underground, 903 extensions and Windjammer Central (to the east and West) deposits, as well as the Discovery and Windjammer North deposits and associated zones along the northern splay of the DPFZ.

A number of new targets not included in the current resource have been identified and found to host gold mineralization, notably along the southern contact of the regional banded iron formation (BIF) and the southern margins of the sedimentary basin where a repeat of the BIF unit has been discovered associated with mineralization. A program of 35,000 m is recommended to test the Halfway, South Basin, Garrcon East, 903 extensions, Dyment 3, 55 extensions and Western Zones.

A number of zones including LC, Landing Zone and Twin Creeks occur along the northern splay of the DPFZ within the Tisdale and Kidd-Munro Formations which warrant additional drill testing. A large portion of this structure east of Windjammer North has not been tested. Along the regional BIF, approximately 8 km of strike length is untested. Drill testing

is required east of the Windjammer South and west of the 55 deposit area. Historical holes have also been identified with gold mineralization along the Arrow Fault to the north. It is recommended to conduct 65,000 m of exploration drilling.

Upon completion of the proposed additional drilling, updated mineral resource estimates and an updated PEA should be completed to first determine the overall size of the project, then determine the potential economics and outline the best program to advance the project prior to commencing a full pre-feasibility study covering all resource areas.

26.2 Recommended Future Work for Metallurgy & Engineering

The following work is recommended:

- Metallurgical testwork including the following:
  - samples reflecting the different styles and geological settings of mineralization to test recoveries near cut-off grade, the new higher average grade, as well as higher-grade areas of the resources; samples need to also reflect spatial distribution of each deposit and potential underground mineable mineralization
  - bulk mineralogy studies and gold deportment studies of major lithological units in the larger deposits
  - comminution testing including Bond rod and ball mill work indices, SMC testing and abrasion index tests
  - extended gravity recovery gold tests of the major deposits to determine amenability of deposits to gravity concentration
  - leach tests including grind size optimization
  - cyanide detoxification testing
  - acid/base accounting and kinetic testing of detoxified tailings including trace element background data collection for environmental base line studies
  - solids liquid separation testing
- Metallurgical testwork can be divided into two phases, with the initial phase supporting the PEA studies and the second phase supporting future pre-feasibility studies
- Geotechnical data collection and testwork to establish geotechnical aspects of mining the deposits
- Environmental study programs including aquatic, terrestrial, hydrology, and groundwater to provide data for planning and permitting
- First Nation and other stakeholder consultation
- Subject to positive results from the updated PEA, pre-feasibility studies, geotechnical studies, hydrological studies and additional engineering and mine plan studies.

It is recommended that Moneta characterize the acid generation/acid consuming and metal leaching potential of the different mineralized zones and rock types potentially to be mined/exposed.

Commencing geotechnical data collection is recommended in line with the current status of the project in order to establish suitable base line data as required for further development.

A program of environmental and social baseline data collection and studies is recommended to reflect the current status of the project and situate the project favourably for further advancement. The commencement of suitable hydrology, groundwater and weather data gathering is also recommended.

Moneta is still in the exploration stage of the project. Some environmental baseline data have been collected. It is recommended that Moneta continue all environmental baseline studies, including continued First Nations engagement and future consultation. It is then recommended that a Terms of Reference be prepared and submitted to the government for approval.

Once the approval has been received, Moneta will need to prepare an Environmental Assessment (EA) report that identifies all positive and negative environmental impacts and how it intends to mitigate all negative impacts.

The Closure Plan document should be prepared at the same time as the EA report to streamline the permitting process as much as possible. The EA report will need to be submitted to the government for review, comments and approval. It is recommended that Moneta secure all necessary permits as soon as practical.

26.3 Recommended Program Budget

Moneta has prepared a work program budget which is based, in part, on the QP's recommendations (Table 26-1).

Table 26-1: Recommended Work Program Budget

Program	Units (m)	Unit Cost (C$/m)	Budget
Mine Property General			
Infill Drilling Program	40,000	$150	$6,000,000
Resource Expansion Drilling	60,000	$150	$9,000,000
Exploration Drilling	65,000	$150	$9,750,000
Drill Test Known Targets	35,000	$150	$5,250,000
Metallurgical Testwork (Phase 1)			$25,000
Metallurgical Testwork (Phase 2)			$450,000
Petrographic and Mineralogical Studies			$50,000
Geological Interpretation and Modelling			$550,000
Environmental Baseline Study Work (Aquatic, Terrestrial, Groundwater, Water Quality)			$350,000
First Nation Consultation and Archaeological Studies			$350,000
Geotechnical and Hydrology Programs and Studies			$250,000
Resource Updates and PEA			$850,000
Pre-feasibility Study			$1,500,000
Total			$34,625,000

Source: Ausenco/Apex, 2022.

The QPs have reviewed the proposed program of work and associated budget and find them to be reasonable and justified in light of the observations made in this report. The QPs recommend that Moneta conduct the planned activities subject to availability of funding and any other matters which may cause the objectives to be altered in the normal course of business activities.

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