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## **NI 43-101 Technical Report and Mineral Resource Estimate for the Mont-Sorcier Property, Quebec, Canada**

Prepared for



**Voyager Metals Inc**  
3205-200 Bay Street  
Toronto, Ontario, Canada, M5J 2T1

**Project Location**  
Latitude: 49°90'69" North; Longitude: 74°12'46" West  
Roy Township  
Province of Quebec, Canada

**Prepared by:**

Marina Iund, P.Geo., M.Sc.  
Simon Boudreau, P.Eng.

Mathieu Girard, P.Eng.  
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**InnovExplo Inc.**  
**Val-d'Or (Quebec)**

**Soutex Inc.**  
**Quebec City (Quebec)**

Effective Date: June 6, 2022  
Signature Date: July 22, 2022

SIGNATURE PAGE – INNOVEXPLO

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**Marina Iund, P. Geo., M.Sc.**  
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**Signed at Quebec on July 22, 2022**

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2022**

SIGNATURE PAGE – SOUTEX INC.

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*(Original signed and sealed)*

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**Mathieu Girard, P.Eng.**  
**Soutex Inc.**  
**Quebec City (Quebec)**

**Signed at Quebec City on July 22,  
2022**

## CERTIFICATE OF AUTHOR – MARINA IUND

I, Marina Iund, P.Ge., M.Sc. (OGQ No. 1525, NAPEG No. L4431, PGO No. 3123), do hereby certify that:

1. I am employed as Senior Resource Geologist by InnovExplo Inc., located at 725 Boul. Lebourgneuf, Suite 312, Quebec City, Quebec, Canada, G2J 0C4.
2. This certificate applies to the report entitled “NI 43-101 Technical Report and Mineral Resource Estimate for the Mont-Sorcier Property, Quebec, Canada” (the “Technical Report”) with an effective date of June 6, 2022, and a signature date of July 22, 2022. The Technical Report was prepared for Voyager Metals Inc. (the “issuer”).
3. I graduated with a Bachelor's degree in Geology from Université de Besançon (Besançon, France) in 2008. In addition, I obtained a Master's degree in Resources and Geodynamics from Université d'Orléans (Orléans, France), as well as a DESS degree in Exploration and Management of Non-renewable Resources from Université du Québec à Montréal (Montreal, Quebec) in 2010.
4. I am a member of the Ordre des Géologues du Québec (OGQ No. 1525), the Association of Professional Geoscientists of Ontario (PGO, No. 3123), and the Northwest Territories and Nunavut Association of Professional Engineers and Professional Geoscientists (NAPEG licence No. L4431).
5. I have practiced my profession in mineral exploration, mine geology and resource geology for a total of 12 years since graduating from university. I acquired my expertise with Richmond Mines Inc. and Goldcorp. I have been a project geologist and then a senior geologist in mineral resources estimation for InnovExplo Inc. since September 2018.
6. I have read the definition of a qualified person (“QP”) set out in Regulation 43-101/National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
7. I have not visited the Project for the purpose of the Technical Report.
8. I am responsible for the overall supervision of the Technical Report. I am the principal author of items 2 to 12, 23 and 27, for which I am responsible. I am the co-author of items 1, 14 and 25 to 27, for which I share responsibility.
9. I have not had prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101, and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
11. 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 the Technical Report not misleading.

Signed this 22<sup>th</sup> day of July 2022 in Quebec City, Quebec, Canada.

*(Original signed and sealed)* \_\_\_\_\_

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## CERTIFICATE OF AUTHOR – CARL PELLETIER

I, Carl Pelletier, P.Geo. (OGQ No. 384, PGO No. 1713, EGBC No. 43167 and NAPEG No. L4160), do hereby certify that:

1. I am a professional geoscientist and Co-President Founder of InnovExplo Inc., located at 560, 3e Avenue, Val-d'Or, QC, Canada, J9P 1S4.
2. This certificate applies to the report entitled “*NI 43-101 Technical Report and Mineral Resource Estimate for the Mont-Sorcier Property, Quebec, Canada*” (the “Technical Report”) with an effective date of June 6, 2022, and signature date of July 22, 2022. The Technical Report was prepared for Voyager Metals Inc. (the “issuer”).
3. I graduated with a Bachelor’s degree in Geology (B.Sc.) from Université du Québec à Montréal (Montreal, Quebec) in 1992. I initiated a Master’s degree at the same university for which I completed the course program but not the thesis.
4. I am a member of the Ordre des Géologues du Québec (OGQ, No. 384), the Association of Professional Geoscientists of Ontario (PGO, No. 1713), the Association of Professional Engineers and Geoscientists of British Columbia (EGBC, No. 43167) and the Northwest Territories Association of Professional Engineers and Geoscientists (NAPEG, No. L4160).
5. My relevant experience includes a total of 30 years since my graduation from university. My mining expertise was acquired at the Silidor, Sleeping Giant, Bousquet II, Sigma-Lamaque and Beaufor mines. My exploration experience was acquired with Cambior Inc. and McWatters Mining Inc. I have been a consulting geologist for InnovExplo Inc. since February 2004.
6. I have read the definition of a qualified person (“QP”) set out in Regulation 43-101/National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
7. I visited the property on May 17 and May 18, 2022, for the purpose of the Technical Report.
8. I am the co-author of items 1, 14 and 25 to 26, for which I share responsibility.
9. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. I have read NI 43-101, and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
12. 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 the Technical Report not misleading.

Signed this 22<sup>th</sup> day of July 2022 in Val-d’Or, Quebec, Canada.

*(Original signed and sealed)* \_\_\_\_\_

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## CERTIFICATE OF AUTHOR – SIMON BOUDREAU

I, Simon Boudreau, P.Eng. (OIQ No. 132338), do hereby certify that:

1. I am employed as Senior Mine Engineer by InnovExplo Inc., located at 560 3<sup>e</sup> Avenue, Val-d'Or, Quebec, Canada, J9P 1S4.
2. This certificate applies to the report entitled “*NI 43-101 Technical Report and Mineral Resource Estimate for the Mont-Sorcier Property, Quebec, Canada*” (the “Technical Report”) with an effective date of June 6, 2022, and signature date of July 22, 2022. The Technical Report was prepared for Voyager Metals Inc. (the “issuer”).
3. I graduated with a Bachelor’s degree in mining engineering (B.Ing.) from Université Laval (Quebec City, Quebec ) in 2003.
4. I am a member in good standing of the Ordre des Ingénieurs du Québec (No. 132338).
5. My relevant experience includes a total of nineteen (19) years since my graduation from university. I have been involved in mine engineering and production at Troilus mine for four (4) years, HRG Taparko mine for four (4) years and Dumas Contracting for three (3) years. I have also worked as independent consultant for the mining industry for five (5) years and with InnovExplo for three (3) years. As consultant I have been involved in many base metals and gold mining projects.
6. I have read the definition of a qualified person (“QP”) set out in Regulation 43-101/National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
7. I have not visited the property for the purpose of the Technical Report.
8. I am responsible for the economic parameters of Item 14.
9. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101.
10. I have not had any prior involvement with the property that is the subject of the Technical Report.
11. I have read NI 43-101, and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
12. 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 the Technical Report not misleading.

Signed this 22<sup>st</sup> day of July 2022 in Trois-Rivières, Quebec, Canada.

*(Original signed and sealed)*

Simon Boudreau, P.Eng.  
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## CERTIFICATE OF AUTHOR – MATHIEU GIRARD

I, Mathieu Girard, P.Eng. (OIQ No. 129366), do hereby certify that:

1. I am a professional engineer employed by Soutex located at 1990 rue Cyrille-Duquet, Suite 204, Quebec, Quebec, G1N 4K8.
2. This certificate applies to the report entitled “*NI 43-101 Technical Report and Mineral Resource Estimate for the Mont-Sorcier Property, Quebec, Canada*” (the “Technical Report”) with an effective date of June 09, 2022, and signature date of July 22, 2022. The Technical Report was prepared for Voyager Metals Inc. (the “issuer”).
3. I received a Bachelor’s degree in Material and Metallurgy Engineering from Université Laval in 2000 and a Master’s degree in Metallurgical Engineering from Université Laval in 2004.
4. I am a member of the Ordre des Ingénieurs du Québec (OIQ, No. 129366).
5. I have over twenty (20) years of experience in mineral processing operation support, optimization and design. I first worked for Algosys (now Ion), then joined Soutex in 2005 as a metallurgist.
6. I have read the definition of a qualified person (“QP”) set out in Regulation 43-101/National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
7. I have not visited the Project for the purpose of the Technical Report.
8. I am responsible for Item 13 and share responsibility for items 1, 2 and 26.
9. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. I have read NI 43-101, and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
12. 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 the Technical Report not misleading.

Signed this 22<sup>th</sup> day of July 2022 in Quebec City, Quebec, Canada.

*(Original signed and sealed)*

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## 1. SUMMARY

### Introduction

Voyager Metals Inc. (“Voyager” or the “issuer”) retained InnovExplo Inc. (“InnovExplo”) to prepare a technical report (the “Technical Report”) to present and support the results of an updated Mineral Resource Estimate (the “2022 MRE”) for the Mont Sorcier Project (the “Project” or the “Property”), located in the province of Quebec, Canada.

This Technical Report was prepared in accordance with Canadian Securities Administrators’ *National Instrument 43-101 Respecting Standards of Disclosure for Mineral Projects* (“NI 43-101”) and Form 43-101F1. The mandate was assigned by Pierre-Jean Lafleur, Voyager’s Vice-President of Exploration.

Voyager is a junior exploration company listed on the Toronto Stock Exchange (“TSX”) under the symbol ‘VONE’. Its head office is at 3205-200 Bay Street, Toronto, Ontario, Canada, M5J 2T1. Originally Vendome Resources Corp., the company changed its name to Vanadium One Iron Corp. in 2017 and Voyager Metals Inc. in 2021.

InnovExplo is an independent mining and exploration consulting firm based in the city of Val-d’Or (Quebec).

Soutex Inc. (“Soutex”) is an independent metallurgical consulting firm based in the city of Quebec (Quebec).

The 2022 MRE follows the 2014 CIM Definition Standards on Mineral Resources and Mineral Reserves (“CIM Definition Standards”) and the 2019 CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (“CIM Guidelines”).

The Mont Sorcier Project is 100% owned by Voyager. It consists of two main zones—North and South—at an advanced exploration stage with mineral resource estimates.

### Contributors

This Technical Report was prepared by: Marina Iund (P.Geo.), Senior Resources Geologist of InnovExplo; Carl Pelletier (P.Geo.), Co-President Founder of InnovExplo; Simon Boudreau (P.Eng.), Senior Mine Engineer of InnovExplo; and Mathieu Girard (P.Eng.), Senior Metallurgist of Soutex. Each author is a qualified person (“QP”) under NI 43-101.

Ms. Iund is a professional geologist in good standing with the OGQ (licence No. 1525), PGO (licence No. 3123) and NAPEG (licence No. L4431). She is responsible for the overall supervision of the Technical Report. She is the principal author of and responsible for items 2 to 12, 23 and 27. She is the co-author of items 1, 14 and 25 to 26, for which she shares responsibility.

Mr. Pelletier is a professional geologist in good standing with the OGQ (licence No. 384), PGO (licence No. 1713), EGBC (licence No. 43167) and NAPEG (licence No. L4160). He is the co-author of items 1, 14, 25 and 26, for which he shares responsibility.

Mr. Boudreau is a professional engineer in good standing with the OIQ (licence No. 132338). He is responsible for the economic parameters in Item 14.

Mr. Girard is a professional engineer in good standing with the OIQ (licence No. 129366). He is the principal author of and responsible for item 13. He is the co-author of items 1, 2 and 26, for which he shares responsibility.

### **Property Description, Location and Access**

The Project is located in the province of Quebec, Canada, approximately 20 km east of the town of Chibougamau. It lies in Roy Township, in the Jamésie regional county municipality ("RCM"), which is part of the Nord-du-Québec administrative region.

The Project is situated on NTS map sheet 32G/16. The approximate coordinates of its centre are 49°90'69" N, 74°12'46" W (UTM projection: 567277N, 5488459E, NAD83 Zone 18U). It covers an area of approximately 3,196 ha.

The project is easily accessible by an all-weather gravel road heading east from Highway QC-167 some 10 km east-northeast of Chibougamau. The gravel road passes through the northern claims. Numerous forestry roads give access to different sectors in the southern and central portions of the property. Chibougamau is serviced by a railroad, an airport with daily regular scheduled direct flights to Montreal, Québec, a helicopter base and a seaplane base. A seaport is available at La Baie (Port-Alfred), approximately 300 km southeast, along the railroad.

The Property comprises sixty-one (61) map-designated claims ("CDC") covering an area of 3,196 ha. The issuer owns and controls 100% of the mineral rights to the Property. Chibougamau Independent holds a 2% Gross Metal Royalty ("GMR") on all mineral production from the Property. Globex Mining Enterprises Inc. holds a 1% GMR.

### **Geology**

The Project is located at the northeast end of the Abitibi Sub-Province. It covers a vast area of approximately 500 km x 350 km in the southeastern portion of the Archean Superior craton (Monecke et al., 2017).

The Chibougamau area contains some of the oldest volcanic rocks of the Abitibi Subprovince, i.e., the ~2799–2791 Ma Chrissie Formation (Leclerc et al., 2017). These rocks are overlain by two volcanic cycles (Roy Group), with each cycle comprising a thick accumulation of mafic to intermediate lava flows topped by felsic eruptive centers. The Roy Group is overlain by the ~2700 Ma basin-restricted sedimentary rocks of the Opémisca Group (Polat et al, 2018; Leclerc et al, 2017).

A large layered mafic complex, the Lac Doré Complex ("LDC"), has been emplaced into into the rocks of the first volcanic cycle. The LDC can be divided in three parts:

- North-east ("NE"): containing the Mont Sorcier Project
- South ("S"), containing the Lac Doré Project (VanadiumCorp Resources Inc.)
- North-west ("NW"): containing the Armitage Project (Blackrock Metals Inc.)

The LDC formed during volcanic cycle 1, and it is locally brecciated and intruded by cycle 2 tonalite and diorite of the Chibougamau pluton. The LDC is a stratiform intrusive complex composed primarily of (meta-) anorthosite with lesser amounts of gabbro, anorthositic gabbro, pyroxenite, dunite and harzburgite.

The Project area straddles the contact between the mafic magmatic rocks of the LDC to the south and sediments and mafic volcanics of the Roy Group to the north. The LDC was emplaced into this volcano-sedimentary package, and both are crosscut by mafic to ultramafic sills and younger plutonic intrusions ranging from tonalite to carbonatite. The BIFs of the Waconichi Formation are particularly notable in the Project area, as the LDC can be seen in contact with them, and in places, assimilated in the LDC.

The Project area is largely underlain by anorthosites of the LDC, which grade into the iron-rich ultramafic units through a crude stratigraphy comprising (from base to top): anorthosite, gabbro, magnetite-gabbro, magnetite-pyroxenite, magnetite-peridotite, magnetite-dunite and centimetre-scale magnetite layers. The presence of magnetite is strongly associated with ultramafic units.

Two significant mineralized zones are found on the Property, the North Zone and the South Zone. The North Zone is identifiable in the field and through airborne magnetics over a strike length of approximately 4 km. It appears to be between 100 m and 300 m thick, forming a roughly tabular subvertical body that strikes east-west and extends to depths of at least 500 m based on drilling. The North Zone has been drilled over approximately 4.0 km of its strike length. Possible extensions of the North Zone could be found to the east, as well as down-dip.

The South Zone, identifiable over approximately 3 km, strikes east-northeast to west-southwest. It has been mapped in detail and drilled over its entire strike length. It is thought to form a tight synclinal structure, with a shallow plunge to the west-southwest. It is 100–200 m thick and extends to a depth of at least ~300 m in the western part of the deposit, shallowing towards the east. Although the total depth of mineralization has not been fully tested, it is not expected to continue to depths significantly deeper than currently defined. The South Zone has been cut by several small northeast-trending faults, a larger northeast-trending fault with a dextral displacement of ~150 m, and a north-northeast trending dyke ~150 m thick.

The North Zone and South Zone had been interpreted by Dorr (1966) as representing the same stratigraphic unit that has been folded into kilometre-scale parasitic folds by the upright folding that affects the region, with the North Zone representing the north-dipping limb of an anticlinal fold structure, and the South Zone representing the hinge zone of a syncline.

The North and South zones are interpreted to have formed from the crystallization of vanadiferous titanomagnetite (“VTM”) that was triggered when mafic magmas of the LDC assimilated a carbonate-facies iron formation (the Lac Sauvage iron formation) (Mathieu, 2019).

### **Mineral Resource Estimates**

The mineral resource estimate update for the Mont Sorcier Project (the “2022 MRE”) was prepared by Marina Iund (P.Geo.) and Carl Pelletier (P.Geo.), using all available information. The main objective was to update the results of the previous mineral resource estimate for the Project, dated June 25, 2021 (Longridge et al., 2021; the “2021 MRE”). The updated estimate includes data from new drill holes on the North Zone.

The authors have classified the current mineral resource estimate as Indicated and Inferred based on data density, search ellipse criteria, drill hole spacing and interpolation



parameters. The authors also believe that the requirement of “reasonable prospects for eventual economic extraction” has been met by having:

- Resources constrained by a pit shell with a 50° angle in rock and a 30° angle in overburden; and
- Cut-off grades based on reasonable inputs amenable to a potential open-pit extraction scenario.

The 2022 MRE is considered reliable and based on quality data and geological knowledge. The estimate follows CIM Definition Standards.

The following table presents the results of the in-pit portions of the 2022 MRE at a cut-off grade of 2.3% Weight Recovery.

Compared to the 2021 MRE (Longridge et al., 2021), the 2022 MRE converts approximately 40% of the whole rock tonnage from the Inferred category to Indicated, and adds 220 Mt of whole rock to the Indicated Resource in the North Zone. As only inferred resources were defined in the North Zone in the 2021 MRE, that conversion represents a new total Indicated Resource of 559 Mt whole rock at 28.2% Fe<sub>3</sub>O<sub>4</sub>, corresponding to 163 Mt of 65% Fe/0.55% V concentrate.

The variations are due to several factors: the addition of 42 new assayed holes on the North Zone since 2020, the adjustment of the economic parameters to reflect current economic conditions, and the adjustment of the metallurgical parameters to include the new Davis Tube test results.

The Inferred Resource tonnage in the South Zone is lower than the 2021 MRE even though it has not been drilled since then. The author felt it necessary to declassify some inferred resources in the South Zone. As a result, the whole rock resource decreased by 62 Mt. It should be noted that this material is supported by historical drilling from 1966 and could be upgraded in the future.

### Mont Sorcier Project 2022 Mineral Resource Estimate (Table 14.19)

Zone	Category	Tonnage				Head grade								Conc.
		Rock (Mt)	Fe Rec (%)	W Rec (%)	Conc. (Mt)	Fe <sub>2</sub> O <sub>3</sub> (%)	Fe (%)	Fe <sub>3</sub> O <sub>4</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)	TiO <sub>2</sub> (%)	MgO (%)	SiO <sub>2</sub> (%)	S (%)	Fe (%)
North	Indicated	559.3	72.05	29.21	163.4	37.70	26.35	28.20	0.21	1.10	19.78	25.13	1.12	65.00
	Inferred	470.5	72.97	27.39	128.9	34.90	24.40	26.41	0.18	1.32	19.79	27.91	0.49	65.00
South	Indicated	119.2	82.04	26.85	32.0	30.43	21.27	25.64	0.17	1.49	24.09	24.43		65.00
	Inferred	76.2	81.38	25.23	19.2	28.83	20.15	24.11	0.13	1.46	22.39	23.14		65.00
Total	Indicated	<b>678.5</b>	<b>73.52</b>	<b>28.80</b>	<b>195.4</b>	<b>36.42</b>	<b>25.46</b>	<b>27.75</b>	<b>0.20</b>	<b>1.17</b>	<b>20.54</b>	<b>25.01</b>		<b>65.00</b>
	Inferred	<b>546.6</b>	<b>73.96</b>	<b>27.09</b>	<b>148.1</b>	<b>34.05</b>	<b>23.80</b>	<b>26.09</b>	<b>0.17</b>	<b>1.34</b>	<b>20.15</b>	<b>27.25</b>		<b>65.00</b>

Notes to accompany the Mineral Resource Estimate:

- 1) The independent and qualified persons for the mineral resource estimate, as defined by NI 43-101, are Marina lund, P.Geo., Carl Pelletier, P.Geo., Simon Boudreau, P.Eng. all from InnovExplo Inc. and Mathieu Girard P.Eng from Soutex. The effective date is June 6th, 2022
- 2) These mineral resources are not mineral reserves, as they do not have demonstrated economic viability. The mineral resource estimate follows current CIM Definition Standards.
- 3) The results are presented undiluted and are considered to have reasonable prospects for eventual economic extraction by having constraining volumes applied to any blocks using Whittle software and by the application of cut-off grades for potential open-pit extraction method.
- 4) The estimate encompasses two (2) zones (North and South), subdivided into 8 individual zones (7 for North, 1 for South).
- 5) No high-grade capping was applied.
- 6) The estimate was completed using sub-block models in GEOVIA Surpac 2021.
- 7) Grade interpolation was performed with the ID2 method on 4 m composites for the North zone and on 10 m composites for the South zone.
- 8) The density of the mineralized zones was interpolated with the ID2 method. When no density analysis was available, the density value was estimated using linear regression with Fe<sub>2</sub>O<sub>3</sub> analysis. For the unmineralized material, a density value of 2.8 g/cm<sup>3</sup> (anorthosite and volcanics), 3.5 g/cm<sup>3</sup> (Massive sulfide formation) and 2.00 g/cm<sup>3</sup> (overburden) was assign.
- 9) The mineral resource estimate is classified as Indicated and Inferred. The Inferred category is defined with a minimum of two (2) drill holes for areas where the drill spacing is less than 400 m, and reasonable geological and grade continuity have been shown. The Indicated category is defined with a minimum of three (3) drill holes within the areas where the drill spacing is less than 200 m, and reasonable geological and grade continuity have been shown. Clipping boundaries were used for classification based on those criteria.
- 10) The mineral resource estimate is locally pit-constrained for potential open-pit extraction method with a bedrock slope angle of 50° and an overburden slope angle of 30°. It is reported at a rounded cut-off grade of 2.30% Weight Recovery. The cut-off grade was calculated for the concentrate using the following parameters: royalty = 3%; mining cost = CA\$3.30; mining overburden cost = CA\$2.45; processing cost = CA\$3.62; G&A = CA\$0.75; selling costs = CA\$58.36; Fe price = CA\$190/t; USD:CAD exchange rate = 1.3; and mill recovery = 100% (concentrate). The cut-off grades should be re-evaluated considering future prevailing market conditions (metal prices, exchange rates, mining costs etc.).
- 11) The number of metric tonnes was rounded to the nearest thousand, following the recommendations in NI 43-101 and any discrepancies in the totals are due to rounding effects.
- 12) The authors are not aware of any known environmental, permitting, legal, title-related, taxation, socio-political, or marketing issues, or any other relevant issue not reported in the Technical Report, that could materially affect the Mineral Resource Estimate.
- 13) Note that the figures in the current table are slightly different from those disclosed on June 9th, 2022. In the course of writing this technical report, some adjustments were made to some deep inferred blocks in the block model resulting in a small decrease of the inferred MRE. The lost is transferred to exploration potential.

## Interpretation and Conclusions

The authors conclude the following:

- The database supporting the 2022 MRE is complete, valid and up to date.
- Geological and magnetite-grade continuity has been demonstrated for both mineralized zones.
- The key parameters of the 2022 MRE (density, capping, compositing, interpolation, search ellipsoid, etc.) are supported by data and statistical and/or geostatistical analysis.
- The 2022 MRE includes indicated and inferred resources for an open pit mining scenario. The 2022 MRE complies with CIM Definition Standards and CIM Guidelines.
- A cut-off grade of 2.3% Weight Recovery was used, corresponding to the potential open pit mining scenario.
- The cut-off grade was calculated at a 62% Fe concentrate price of US\$ 134 per tonne and an exchange rate of 1.30 USD/CAD, using reasonable mining, processing and G&A costs.
- In a pit mining scenario, the Project contains an estimated Indicated Resources of 678,497,000 t at 27.7% Fe<sub>3</sub>O<sub>4</sub> and 0.2% V<sub>2</sub>O<sub>5</sub> for 195,376,000 t of 65% Fe/0.55% V concentrate and Inferred Resources of 546,608,000 t at 26.1% Fe<sub>3</sub>O<sub>4</sub> and 0.17% V<sub>2</sub>O<sub>5</sub> for 148,056,000 t of 65% Fe/0.55% V concentrate.
- Compared to the 2021 MRE, the results of the 2022 MRE convert approximately 40% of the whole rock tonnage from the Inferred category to Indicated and add 220 Mt of whole rock to the Indicated Resource in the North Zone. As only inferred resources were defined in the North Zone in the 2021 MRE, that conversion represents a new total Indicated Resource of 559 Mt whole rock at 28.2% Fe<sub>3</sub>O<sub>4</sub>, corresponding to 163 Mt of 65% Fe/0.55% V concentrate. The variations are due to several factors: the addition of 42 new assayed holes on the North Zone since 2020, the adjustment of the economic parameters to reflect current economic conditions, and the adjustment of the metallurgical parameters to include the new Davis Tube test results.
- The Inferred Resource tonnage in the South Zone is lower than in the 2021 MRE even though it has not been drilled since then. The author felt it necessary to declassify some inferred resources in the South Zone. As a result, the whole rock resource decreased by 62 Mt. It should be noted that this material is supported by historical drilling from 1966 and could be upgraded in the future.
- Based on the currently available metallurgical test results, mineralized material from the Project could produce an iron concentrate grading 65% Fe and 0.55% V<sub>2</sub>O<sub>5</sub> with good magnetite recovery using a conventional magnetic process. The required grinding size could be as fine as 80% passing 38 microns.
- Additional diamond drilling would likely upgrade some of the Inferred Resource to the Indicated category and/or add to the Inferred Resource since most mineralized zones have not been fully explored at depth. Based on magnetic surveys, only the east part of the South Zone has any potential for lateral extension, with undrilled continuity of the magnetic layer detected.

At this stage, it is reasonable to believe that an open pit mining activity is amenable to the expectation of “reasonable prospects of eventual economic extraction”, as stated in the CIM Guidelines. The best potential for adding new resources in the open pit is to continue exploring the deep eastern part of the North Zone and the east extension of the South Zone, as those areas have not yet been drilled or only sparsely. The favourable geology hosting the Project’s mineralization is constrained to the west of the North and South Zones and the east of the North Zone. Both zones remain open at depth, but the geological interpretation of the South Zone as a fold hinge could imply a limited vertical extent that drilling has not yet proven. There is potential to add material at depth below the existing mineralized model that could still be accessed with an open-pit operation. The reader is cautioned that this exploration targets are conceptual in nature. There has been insufficient exploration to define it as a mineral resource, and it is uncertain if further exploration will delineate the exploration target as a mineral resource.

Drilling to tighten the drill spacing in the inferred resources should allow for conversion from inferred to indicated by adding confidence to the estimate. The reader is cautioned that this conversion targets are conceptual in nature.

The authors consider the 2022 MRE reliable, thorough, and based on quality data, reasonable hypotheses, and parameters compliant with NI 43-101 requirements, CIM Definition Standards and CIM Guideline.

## **Recommendations**

### Geology

The QPs recommends further exploration drilling using a regularly-spaced drill grid that satisfies inferred resource category criteria to potentially increase resources and the confidence level of the geological model. The exploration drilling should be targeted in the extensions of the mineralized zones and in the resource block model to test the potential of the depth extension mainly, but also the lateral extensions which are still open (mainly the East extension of the South Zone).

Further definition drilling is recommended along strike and at depth to upgrade the Inferred resources to the Indicated category and address the underground potential for all zones.

### Metallurgy

Metallurgical testwork is required to develop the process at a feasibility study level. Furthermore, this test work should look at:

- Preconcentration size and methods to reduce the grinding requirement;
- Final concentrate alternative cleaning process;
- Reduction of the sulphur concentrate grade through flotation;
- Production of a high-iron concentrate grade through flotation.

## Mining

Environmental, geotechnical and hydrogeological studies should be undertaken to support the project's advancement. These would involve confirming the structural data over the proposed footprint of the open pit. Ideally, this would involve a geotechnical drilling program with a minimum of one (1) hole oriented perpendicular to each of the four pit walls (north, south, east and west).

To support the work above, the authors recommend a feasibility study.

The authors also recommend that the issuer maintain its proactive and transparent strategy and communication plan with local communities and First Nations.

### Costs Estimate for Recommended Work

The budget for the proposed program is presented in Table 26-1. Expenditures are estimated at C\$5,461,000 (incl. 15% for contingencies). The budget amount of \$5,461,000 represents current commitments toward the project for about a year. It should be increased as work progress in the next few months toward the making of a Feasibility Study.

### **Estimated Costs for the Recommended Work Program (Table 26.1)**

	<b>Work Program</b>	<b>Budget Cost</b>
A	Environmental baseline study	\$2,733,000
B	Community relations and communication plan	\$240,000
C	Feasibility study	\$2,488,000
C1	<i>Tailing, waste and water management</i>	<i>\$875,000</i>
C2	<i>Environmental study</i>	<i>\$300,000</i>
C3	<i>Metallurgical test work and density program</i>	<i>\$165,000</i>
C4	<i>Geotechnical and hydrogeological studies</i>	<i>\$650,000</i>
C5	<i>MRE up-date and feasibility study report</i>	<i>\$479, 000</i>
C6	<i>Railway alignment</i>	<i>\$19, 000</i>
	<b>TOTAL</b>	<b>\$5,461,000</b>

## 2. INTRODUCTION

### 2.1 Overview of Terms of Reference

Voyager Metals Inc. (“Voyager” or the “issuer”) retained InnovExplo Inc. (“InnovExplo”) to prepare a technical report (the “Technical Report”) to present and support the results of an updated Mineral Resource Estimate (the “2022 MRE”) for the Mont Sorcier Project (the “Project” or the “Property”), located in the province of Quebec, Canada.

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The Mont Sorcier Project is 100% owned by Voyager. It consists of two main zones—North and South—at an advanced exploration stage with mineral resource estimates.

### 2.2 Report Responsibility, Qualified Persons

This Technical Report was prepared by: Marina Iund (P.Geo.), Senior Resources Geologist of InnovExplo; Carl Pelletier (P.Geo.), Co-President Founder of InnovExplo; Simon Boudreau (P.Eng.), Senior Mine Engineer of InnovExplo; and Mathieu Girard (P.Eng.), Senior Metallurgist of Soutex. Each author is a qualified person (“QP”) under NI 43-101.

Ms. Iund is a professional geologist in good standing with the OGQ (licence No. 1525), PGO (licence No. 3123) and NAPEG (licence No. L4431). She is responsible for the overall supervision of the Technical Report. She is the principal author of and responsible for items 2 to 12, 23 and 27. She is the co-author of items 1, 14 and 25 to 26, for which she shares responsibility.

Mr. Pelletier is a professional geologist in good standing with the OGQ (licence No. 384), PGO (licence No. 1713), EGBC (licence No. 43167) and NAPEG (licence No. L4160). He is the co-author of items 1, 14, 25 and 26, for which he shares responsibility.

Mr. Boudreau is a professional engineer in good standing with the OIQ (licence No. 132338). He is responsible for the economic parameters in Item 14.

Mr. Girard is a professional engineer in good standing with the OIQ (licence No. 129366). He is the principal author of and responsible for item 13. He is the co-author of items 1, 2 and 26, for which he shares responsibility.

### **2.3 Site Visits**

Mr. Pelletier visited the Project from May 17 to May 18, 2022. His visit included a general visual inspection of buildings and the local roads. He also reviewed selected drill core intervals, inspected the core storage facility and surveyed selected drill hole collars for independent validation.

### **2.4 Effective Date**

The close-out date of the mineral resource database is April 6, 2022.

The effective date of the 2022 MRE is June 6, 2022.

### **2.5 Sources of Information**

The authors used the information described in Item 3 and the documents listed in Item 27 to prepare and support this Technical Report. Excerpts or summaries from documents authored by other consultants are indicated in the text.

The authors' assessment of the Project was based on published material in addition to the data, professional opinions and unpublished material submitted by the issuer. The authors reviewed all relevant data provided by the issuer and/or its agents.

The authors also consulted other sources of information, including the Government of Quebec's online databases for mining title management and assessment work (GESTIM and SIGEOM, respectively) and the issuer's filings on SEDAR (annual information forms, MD&A reports, press releases and previous technical reports).

The authors reviewed and appraised all the information used to prepare this Technical Report and believe that such information is valid and appropriate considering the status of the Project and the purpose of this Technical Report. The authors have thoroughly researched and documented the conclusions and recommendations herein.

### **2.6 Currency, Units of Measure, and Acronyms**

The abbreviations, acronyms and units in this Technical Report are provided in Table 2-1 and Table 2-2. All currency amounts are expressed in Canadian dollars (\$, C\$, CAD) or US dollars (US\$, USD). Quantities are stated in metric units, as per standard Canadian and international practice, including metric tons (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area, percentage (%) for base metal grades, and gram per metric ton (g/t) for precious metal grades. Wherever applicable, imperial units have been converted to the International System of Units (SI units) for consistency.

**Table 2-1 – List of abbreviations and acronyms**

Abbreviation or acronym	Term
3SD	Three times standard deviations
43-101	National Instrument 43-101 (Regulation 43-101 in Quebec)
Ai	Abrasion index
BIF	Banded iron formation
BWi	Bond work index
CAD:USD	Canadian-American exchange rate
CAPEX	Capital expenditure
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CIM Definition Standards	CIM Definition Standards for Mineral Resources and Mineral Reserves (2014)
CIM Guidelines	CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019)
CoG	cut-off grade
CRM	Certified reference material
COV	Coefficient of variation
DDH	Diamond drill hole
DTT	Davis tube test
DTMC	Davis tube magnetic concentrate
EGBC	Association of professional engineers and geoscientists of British Columbia
FS	Feasibility study
G&A	General and administration
GESTIM	Gestion des titres miniers (the MERN's online claim management system)
GRM	Gross Metal Royalty
ID2	Inverse distance squared
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
JBNQA	James Bay and Northern Quebec agreement
LDC	Lac Doré complex
LIMS	Low intensity magnetic separator
LZ	Lower Zone
MD&A	Management discussion and analysis
MERN	Ministère de l'Énergie et des Ressources Naturelles du Québec (Quebec's Ministry of Energy and Natural Resources)
MLA	Mineral Liberation Analyzer
MRE	Mineral resource estimate
NAD	North American Datum
NAD83	North American Datum of 1983

Abbreviation or acronym	Term
NAPEG	Association of professional engineers and professional geoscientists
NI 43-101	National Instrument 43-101 (Regulation 43-101 in Quebec)
NN	Nearest neighbour
NSR	Net smelter return
NTS	National topographic system
OGQ	Ordre des Géologues du Québec
OIQ	Ordre des Ingénieurs du Québec
OK	Ordinary kriging
P <sub>80</sub>	80% passing - Product
PEA	Preliminary economic assessment
PFS	Prefeasibility study
PGO	Association of professional geoscientists of Ontario
QA	Quality assurance
QA/QC	Quality assurance/quality control
QC	Quality control
QP	Qualified person (as defined in National Instrument 43-101)
RCM	Regional county municipality ( <i>Municipalité régionale de comté</i> or MRC in French)
Regulation 43-101	National Instrument 43-101 (name in Quebec)
RWi	Rod work index
UZ	Upper Zone
SAG	Semi-autogenous-grinding
SCC	Standards Council of Canada
SD	Standard deviation
SEDAR	System for electronic document analysis and retrieval
SG	Specific gravity
SIGÉOM	Système d'information géominière (the MERN's online spatial reference geomining information system)
SVT	SAG variability test
TSX	Toronto stock exchange
UTM	Universal Transverse Mercator coordinate system
VMS	Volcanogenic massive sulfides
VTM	Vanadiferous titanomagnetite

**Table 2-2 – List of units**

Symbol	Unit
%	Percent
\$, C, CA, CAD	Canadian dollar
\$/t	Dollars per metric ton
°	Angular degree
°C	Degree Celsius
µm	Micron (micrometre)
cm	Centimetre
cm <sup>3</sup>	Cubic centimetre
d	Day (24 hours)
g	Gram
Ga	Billion years
g/cm <sup>3</sup>	Gram per cubic centimetre
g/t	Gram per metric ton (tonne)
ha	Hectare
k	Thousand (000)
kg	Kilogram
km	Kilometre
km <sup>2</sup>	Square kilometre
kV	Kilovolt
M	Million
Ma	Million years (annum)
masl	Metres above mean sea level
mm	Millimetre
Mt	Million metric tons
t	Metric tonne (1,000 kg)
US\$	American dollar

**Table 2-3 – Conversion Factors for Measurements**

<b>Imperial Unit</b>	<b>Unit Multiplied by Metric Unit</b>	<b>Metric Unit</b>
1 inch	25.4	mm
1 foot	0.3048	m
1 acre	0.405	ha
1 ounce (troy)	31.1035	g
1 pound (avdp)	0.4535	kg
1 ton (short)	0.9072	t
1 ounce (troy) / ton (short)	34.2857	g/t

### 3. RELIANCE ON OTHER EXPERTS

The QPs have followed standard professional procedures in preparing the contents of this Technical Report. It is based upon information the authors believed to be accurate at the time of writing, considering the status of the Project and the purpose of the report. The data have been verified where possible. The QPs have no reason to believe that the data were not collected in a professional manner.

The QPs did not rely on other experts to prepare this Technical Report.

The QPs have not verified the legal status of, or legal title to, any claims, nor the legality of any underlying agreements concerning the properties described in Item 4. The QPs have relied on the issuer for information on mining titles, option agreements, royalty agreements, environmental liabilities, and permits. Neither the QPs nor InnovExplo are qualified to express any legal opinion concerning the Project's mining titles, current ownership or possible litigation.

The QPs consulted GESTIM and SIGEOM over the course of the mandate. The websites were most recently viewed on July 08, 2022:

- [gestim.mines.gouv.qc.ca/MRN\\_GestimP\\_Presentation/ODM02101\\_login.aspx](http://gestim.mines.gouv.qc.ca/MRN_GestimP_Presentation/ODM02101_login.aspx)
- [sigeom.mines.gouv.qc.ca/signet/classes/l1102\\_indexAccueil?l=a](http://sigeom.mines.gouv.qc.ca/signet/classes/l1102_indexAccueil?l=a)

## 4. PROJECT DESCRIPTION AND LOCATION

### 4.1 Location

The Project is located in the province of Quebec, Canada, approximately 20 km east of the town of Chibougamau. It lies in Roy Township, in the Jamésie regional county municipality ("RCM"), which is part of the Nord-du-Québec administrative region. Figure 4-1 shows the location of the Project in the province.

The Project is situated on NTS map sheet 32G/16. The approximate coordinates of its centre are 49°90'69" N, 74°12'46" W (UTM projection: 567277N, 5488459E, NAD83 Zone 18U). It covers an area of approximately 3,196 ha.

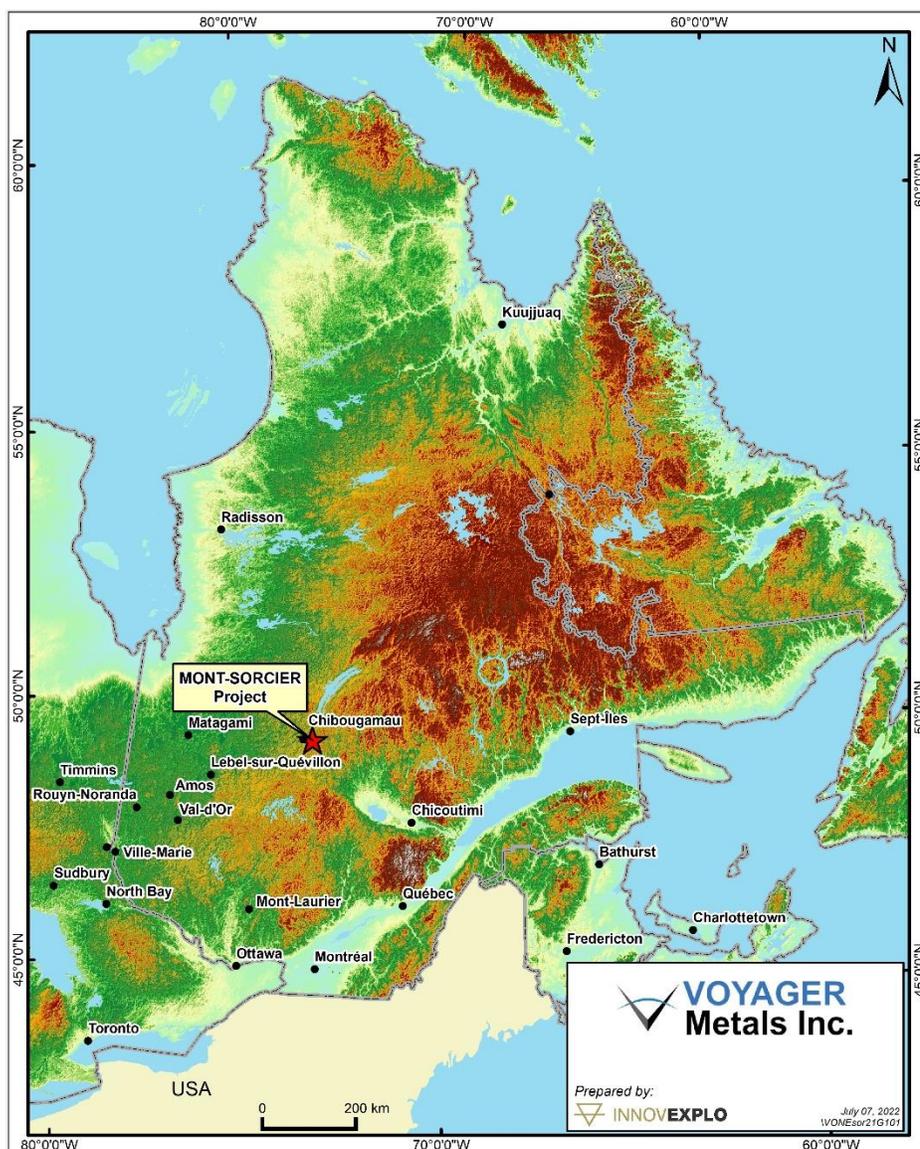


Figure 4-1 – Location of the Mont Sorcier Project

## 4.2 Mining Title Status

InnovExplo verified the status of all mining titles in GESTIM.

The Property comprises sixty-one (61) map-designated claims (“CDC”) covering an area of 3,196 ha. The Property is subject to claim work requirements (Figure 4-2). As of the effective date of this Technical Report, all the claims are in good standing, with assessment work requirements being kept up to date.

The issuer owns and controls 100% of the mineral rights to the Property. The Property is subject to various royalties as discussed below.

On November 8, 2016, Vanadium One (now Voyager) had an earn-in agreement with Chibougamau Independent Mines Inc. (“Chibougamau Independent”). Under the agreement, Chibougamau Independent received from Voyager \$150,000 in cash and 2,750,000 common shares of Voyager. Voyager agreed to undertake a minimum of \$1 million in exploration work in the first 24 months following the signature of the agreement. Chibougamau Independent retains a 2% Gross Metal Royalty (“GMR”) on all mineral production from the Property. Globex Mining Enterprises Inc. (GMX-TSX), which held a 3% GMR on some claims, reduced its royalty to 1% GMR (on all claims) and was issued a finder’s fee of 300,000 common shares of Voyager.

In January 2019, Voyager fulfilled its \$1 million financial commitment for exploration expenditures and completed the earn-in.

In April 2020, the transfer of 100% ownership was completed for all 37 claims.

On December 2021, Voyager entered into an agreement with an undisclosed vendor to acquire 24 additional claims adjacent to the Property. Under the agreement, on closing, the vendor would receive from Voyager \$250,000, plus 500,000 common shares of Voyager, at which time the claims would be transferred to Voyager. This term was satisfied at closing. Also, per the agreement, Voyager is required to pay an additional \$200,000 per year from years 5 to 10, for a total of \$1,000,000 in deferred consideration. The vendor would be granted a 3% net smelter royalty (“NSR”) applicable only to the claims subject to the agreement, subject to the option of the company to buy back 1% of the NSR for C\$1,000,000. If no development project has commenced at Mont Sorcier at the end of ten (10) years, the claims will revert to the vendor.

Figure 4-2 presents the mineral title map, and Table 4-1 lists the mineral titles.



No. Title	Area (Ha)	Status	Registration Date	Expiration Date	Required work	Owner
CDC2436339	55.45	Actif	2016-02-26	2024-05-09	1800	Voyager Metals Inc.
CDC2436341	55.44	Actif	2016-02-26	2024-05-09	1800	Voyager Metals Inc.
CDC2436342	55.43	Actif	2016-02-26	2024-05-09	1800	Voyager Metals Inc.
CDC2436343	55.43	Actif	2016-02-26	2024-05-09	1800	Voyager Metals Inc.
CDC2436344	55.43	Actif	2016-02-26	2024-05-09	1800	Voyager Metals Inc.
CDC2436345	55.43	Actif	2016-02-26	2024-05-09	1800	Voyager Metals Inc.
CDC2436346	55.45	Actif	2016-02-26	2024-05-09	1800	Voyager Metals Inc.
CDC2436347	55.44	Actif	2016-02-26	2024-05-09	1800	Voyager Metals Inc.
CDC2436532	11.06	Actif	2016-03-01	2024-10-24	750	Voyager Metals Inc.
CDC2436662	31.63	Actif	2016-03-01	2024-10-24	1800	Voyager Metals Inc.
CDC2436663	8.10	Actif	2016-03-01	2024-10-24	750	Voyager Metals Inc.
CDC2436664	41.05	Actif	2016-03-01	2024-10-24	1800	Voyager Metals Inc.
CDC2436665	55.46	Actif	2016-03-01	2024-10-24	1800	Voyager Metals Inc.
CDC2436666	55.46	Actif	2016-03-01	2024-10-24	1800	Voyager Metals Inc.
CDC2436667	55.46	Actif	2016-03-01	2024-10-24	1800	Voyager Metals Inc.
CDC2436668	55.46	Actif	2016-03-01	2024-10-24	1800	Voyager Metals Inc.
CDC2436669	55.45	Actif	2016-03-01	2024-10-24	1800	Voyager Metals Inc.
CDC2436670	55.45	Actif	2016-03-01	2024-10-24	1800	Voyager Metals Inc.
CDC2436671	55.45	Actif	2016-03-01	2024-10-24	1800	Voyager Metals Inc.
CDC2437441	55.43	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437442	55.43	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437443	55.42	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437444	55.42	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437445	55.42	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437446	55.42	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437447	55.42	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437448	55.41	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437449	55.41	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437450	55.41	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437451	55.41	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437452	55.41	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437456	55.42	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437457	55.41	Actif	2016-03-16	2024-04-09	1800	Voyager Metals Inc.
CDC2437463	1.74	Actif	2016-03-16	2024-04-09	750	Voyager Metals Inc.
CDC2477242	55.43	Actif	2017-02-06	2023-01-08	1800	Voyager Metals Inc.
CDC2477243	55.43	Actif	2017-02-06	2023-01-25	1800	Voyager Metals Inc.

No. Title	Area (Ha)	Status	Registration Date	Expiration Date	Required work	Owner
CDC2477244	55.43	Actif	2017-02-06	2023-01-25	1800	Voyager Metals Inc.
CDC2477245	55.43	Actif	2017-02-06	2024-11-06	1800	Voyager Metals Inc.
CDC2477246	53.69	Actif	2017-02-06	2023-01-05	1800	Voyager Metals Inc.
CDC2477247	55.44	Actif	2017-02-06	2023-01-08	1800	Voyager Metals Inc.
CDC2477248	55.44	Actif	2017-02-06	2023-01-08	1800	Voyager Metals Inc.
CDC2477249	55.07	Actif	2017-02-06	2024-12-14	1800	Voyager Metals Inc.
CDC2477250	55.44	Actif	2017-02-06	2023-04-02	1800	Voyager Metals Inc.
CDC2477251	55.44	Actif	2017-02-06	2023-02-08	1800	Voyager Metals Inc.

### 4.3 Permitting and Socio-Environmental Responsibilities

The Project is located in the Nord-du-Québec Region on lands subject to the James Bay and Northern Quebec Agreement (“JBNQA”). The JBNQA governs the environmental and social protection regimes for the James Bay and Nunavik regions.

The JBNQA establishes three categories of lands, numbered I, II and III and defines specific rights for each category. The Mont Sorcier Property lies over Category III lands, which are public lands in the domain of the State. Category III lands include all the lands within the territory covered by the JBNQA that are located south of the 55<sup>th</sup> parallel and are not included in other land categories. Category III lands are managed by the Eeyou Istchee James Bay Regional Government. The Cree Nation has exclusive trapping rights on these lands, as well as certain non-exclusive hunting and fishing rights. The Cree Nation also benefits from an environmental and social protection regime that includes, among other things, the obligation for proponents to carry out an Environmental and Social Impact Assessment for mining projects and the obligation to consult with First Nations communities. In addition, the issuer must inform and consult with the First Nation communities and trap line permit holders concerning any planned exploration work to minimize interference with traditional trapping, hunting and fishing activities.

InnovExplo is unaware of any environmental liabilities, permitting issues or municipal social issues concerning the Project. All exploration activities conducted on the Project comply with the relevant environmental permitting requirements.

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

### 5.1 Accessibility

The Mont Sorcier Project is located approximately 20 km east of the town of Chibougamau. The project is easily accessible by an all-weather gravel road heading east from Highway QC-167 some 10 km east-northeast of Chibougamau. The gravel road passes through the northern claims. Numerous forestry roads give access to different sectors in the southern and central portions of the property.

Chibougamau is an active mining and forestry centre which straddles Highway QC-167 and has a population of over 7,500 peoples. Chibougamau is serviced by an airport with daily regular scheduled direct flights to Montreal, Québec. A helicopter base and seaplane base are also present at Chibougamau-Chapais.

Chibougamau is deservd by a railroad. A seaport is available at La Baie (Port-Alfred), approximately 300 km southeast, along the railroad.

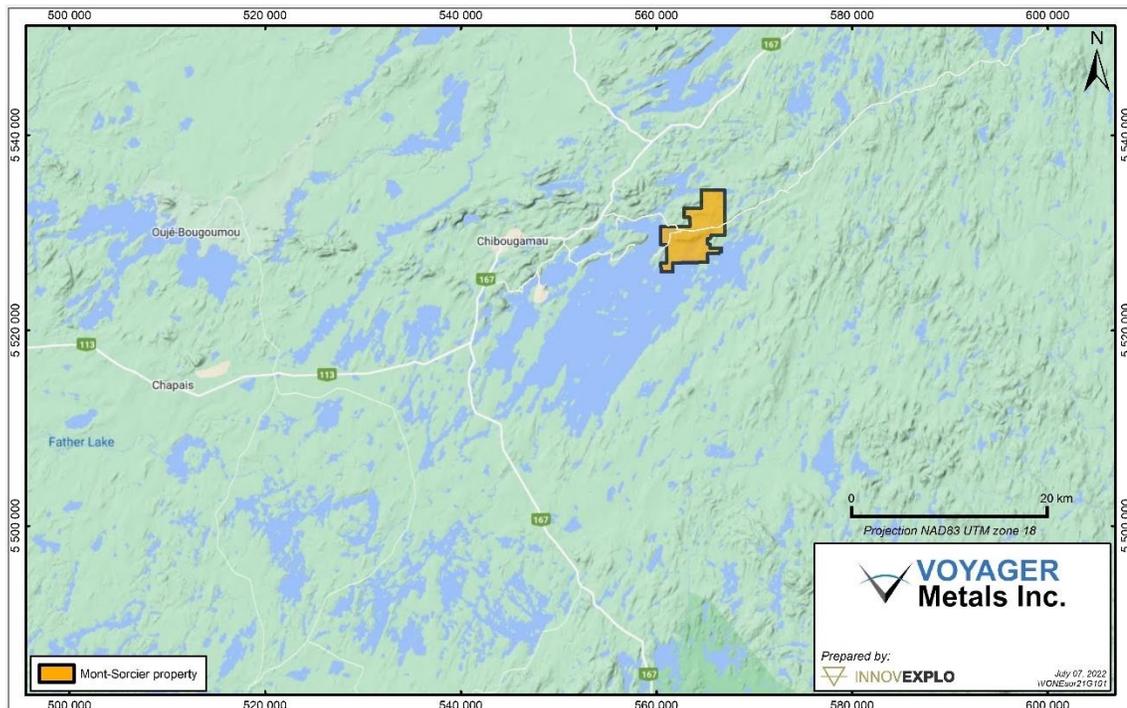


Figure 5-1 – Access to the Mont Sorcier Project

## 5.2 Climate

Chibougamau has a subarctic climate. Winters are long, cold, and snowy. Summers are warm though short. The temperature varies from an average minimum of -26°C in winter (January and February) to an average maximum of 22°C in the summer (July and August). Overall precipitation is high for a subarctic climate, with an average annual precipitation of 996 mm and 313 cm of snow per season. Snow falls from mid-November to mid-April.

Mining and drilling operations can be conducted year-round. Surface exploration work, such as mapping and channel sampling, can generally only be carried out from mid-April to mid-November. Depending on local ground conditions, drilling may be best conducted during winter when the ground and water surfaces are frozen.

## 5.3 Local Resources

Chibougamau and nearby Chapais (approximately 45 km drive west of Chibougamau) are former copper and gold mining centres with a combined municipal population of about 10,000 residents. The local Cree communities of Mistissini and Ouje-Bougoumo have a population of approximately 3,000 and 1,000 residents, respectively. In addition to regional mining, the local economy is based on forestry, tourism, energy and an integrated service industry.

A skilled labour force, including mining personnel, is available in the Chibougamau area, which is well served by heavy equipment service and maintenance providers.

The Chibougamau region contains abundant water sources sufficient for mining operations.

A 735-kV line linking generator facilities in the James Bay region (north of Chibougamau) to Montreal and Quebec City (to the south) runs through Chibougamau, where a 735-kV substation is located.

## 5.4 Infrastructure

The Property has no infrastructure except for the east-west all-weather gravel road (Lac Chibougamau North Road) maintained by the local logging company (Chantiers Chibougamau Ltd) in the north and several poorly maintained logging roads.

## 5.5 Physiography

The physiography of the area is rolling hills with abundant lakes and rivers. The area is 85% covered by forests and 15% by lakes and rivers. Widespread swampy areas are found within moderately dense to locally dense forests (generally black spruce, with lesser birch, pine, aspen and alder undergrowth).

The overburden generally consists of sand and clay varying in thickness from 1 m to locally more than 30 m. Bedrock exposures are sparse.

The Property has local relief of up to approximately 130 masl. Mont Sorcier rises to roughly 510 masl with local steep topographic features characterized by vertical cliffs up to 30 m high. The level of Lac Chibougamau, just south of the mining claims, is about 380 masl.



**Figure 5-2 – Photograph showing the physiography of the Mont Sorcier Property**

## 6. HISTORY

This section summarizes the historical work conducted on the Property (i.e., claims currently held by the issuer). It is mainly based on the 2020 NI 43-101 report by CSA Global Canada Geosciences Ltd (Bartsch et al. 2020) and the 2016 NI 43-101 report by C.P.Larouche (Larouche, 2016). The issuer's work is described in items 9 and 10.

The current claims have had numerous owners since the 1920s. They have only recently been amalgamated into the current property boundary.

On the Property, exploration has been carried out on several targets, including:

- The Baie Magnetite Nord and Baie Magnetite Sud occurrences (iron, titanium and vanadium), herein referred to as the “North Zone” and “South Zone”, respectively);
- The Sulphur Converting/Baie de l'Ours occurrence (gold, silver, copper, zinc, iron); and
- The Baie Magnetite Ouest occurrence (gold).

This item only documents the historical work undertaken on the North and South zones, as summarized in Table 6-1. The work carried out on the other occurrences is not considered relevant to the magnetite mineralization that is of interest to Voyager. Details of the historical work on other occurrences on the Property can be found in the 2016 technical report (Larouche, 2016), available on SEDAR at:

<https://www.sedar.com/GetFile.do?lang=EN&docClass=24&issuerNo=00025074&issueType=03&projectNo=02549636&docId=4008373>

**Table 6-1– Summary of historical work on magnetite occurrences on the Mont Sorcier Property**

Year	Company	Work	Results
1929 to 1930	Dome Mines Ltd	Trenching Drilling	<ul style="list-style-type: none"> <li>• 8 channel samples (30 m each)</li> <li>• 5 DDH (115 to 330 m)</li> <li>• Description of 300-m-long mineralization interpreted as a sulphide deposit (pyrite, pyrrhotite and magnetite, and subordinate amounts of chalcopyrite and sphalerite) along the contact of an anorthosite batholith (North Zone).</li> <li>• A sample described as representative material assayed 36.66% iron, 33.28% sulphur and 0.93% zinc <b>GM-01723</b></li> </ul>
1950	Cambridge Syndicat Prop	Field exploration and sampling	<ul style="list-style-type: none"> <li>• 6 samples grading from 27.7 to 69.1% Fe and 0 to 0.86% Ti</li> <li>• GM-01222</li> </ul>
1955-1957	Roycam Copper Mines Ltd	Geological and geophysical surveys Trenching Drilling	<ul style="list-style-type: none"> <li>• 15 channel samples (3 m each) with average values of 30.67% Fe and 1.32% Ti</li> <li>• 6 DDH totalling 900 m (MS57-01 to 06)</li> <li>• Description of a zone of heavily disseminated and massive blobs of fine- to medium-grained magnetite over a width of 155 m, a length of 1,700 m and a depth of 150 m (North Zone) <b>GM-04600, GM-05190-B, GM-05537, GM05861</b></li> </ul>

1958-1961	Sulphur Converting Corporation	Mineralogical, petrographic and 60- element semi-quantitative spectrographic analyses Chemical analyses for iron and sulphur Metallurgical testwork	<ul style="list-style-type: none"> <li>10 samples analyzed; the results improved the understanding of the zone geology and composition</li> <li>Flotation and magnetic separation tests on a 2-kg sample</li> </ul> <p><b>GM10836, GM-12621, GM-21163</b></p>
1961 to 1975	Campbell Chibougamau Mines	Magnetic and electromagnetic surveys Geological mapping and trenching Geochemistry Drilling and sampling	<ul style="list-style-type: none"> <li>73 holes drilled for 13,767 m on the North and South zones (FE-01 to 68; FN-46 to 68; FS-41 to 69; MS74-SC-74-1 to 4)</li> <li>Potential for significant magnetite layers (Fe+Ti+V) confirmed within the Lac Dore Complex</li> <li>Historical resource estimate (non-compliant with NI 43-101) of 270 Mt grading 28% Fe <sup>(1)</sup></li> </ul> <p><b>GM-17227, GM-17300, GM-19218, GM-21163, GM-25694, GM-28547, GM-28549, GM-30635, GM-30764</b></p>
2010	Apella Resources Inc.	Magnetic survey	<ul style="list-style-type: none"> <li>Improved definition of zone extensions</li> </ul>
2012 to 2016	Chibougamau Independent Mines Inc.	Drilling	<ul style="list-style-type: none"> <li>2 DDH (MS-13-17, MS-13-19)</li> <li>Both holes intercepted mineralization</li> </ul>

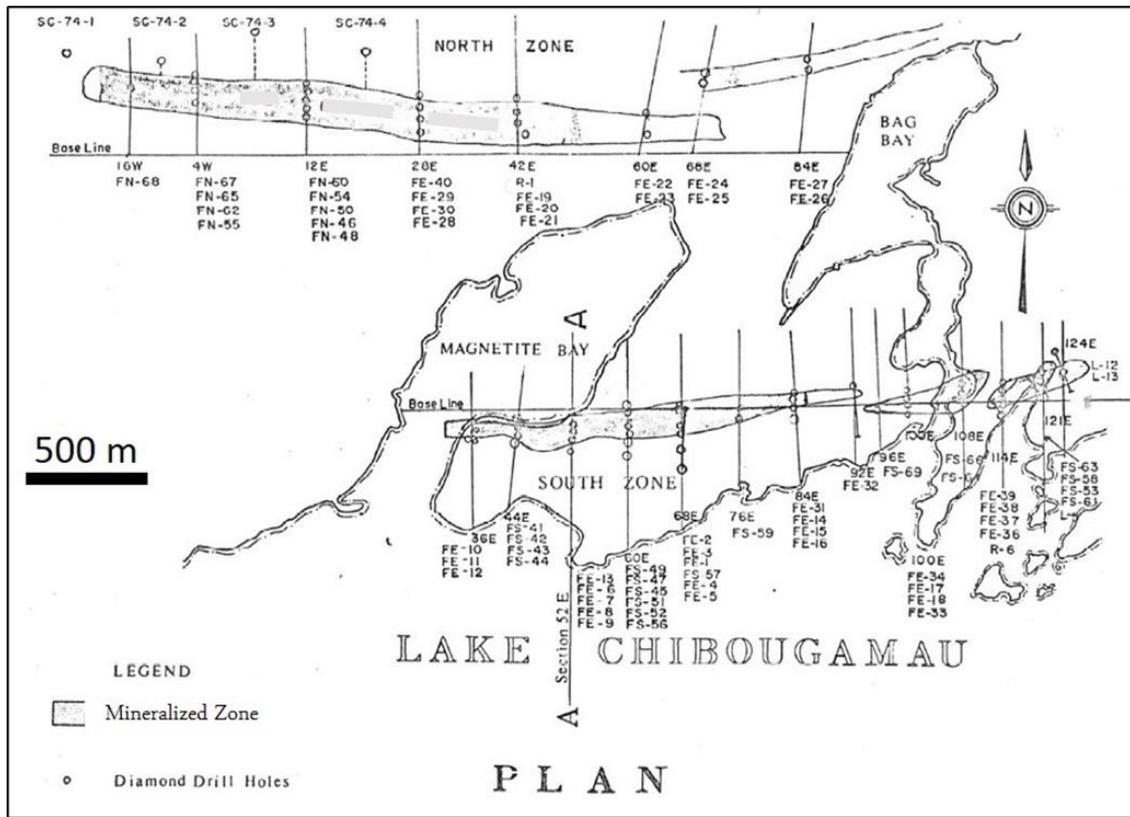
Note: This list is not comprehensive.

1. These "resources" are historical and should not be relied upon. It is unlikely they conform to current NI 43-101 criteria, CIM Definition Standards, or CIM Guidelines, and they have not been verified to determine their relevance or reliability. They are included in this section for illustrative purposes only and should not be disclosed out of context.

## 6.1 Campbell Chibougamau Mines Ltd - Exploration (1961 to 1975)

The bulk of historical work was carried out by Campbell Chibougamau Mines Ltd ("Campbell") in 1961, from 1965 to 1969 and from 1974 to 1975. The exploration programs investigated the potential of the magnetite layers on the Property for iron resources. Work included a ground magnetic survey, geological mapping, electromagnetic surveys, geochemistry, trenching, surface diamond drilling, and sampling and assaying.

Between 1963 and 1966, Campbell drilled 69 holes totalling 12,773 m on the North Zone and South Zone. The holes were generally vertical and drilled on north-south sections (Figure 6-1). Historical data are available as PDF documents, showing detailed drill logs and assay data for each drill hole.



From Campbell Chibougamau Mines Ltd, 1974

**Figure 6-1 – Map of Campbell’s historical drillhole locations**

The work performed by Campbell confirmed the potential of significant magnetite layers (Fe+Ti+V) within the Lac Dore Complex, a differentiated mafic-ultramafic intrusion. The North Zone has been drill-tested over a length of 1.8 km and the South Zone over 1.9 km. The average true width of the North Zone intercepts reached up to 137 m, and up to 61 m in the South Zone. Both structures remained open at depth.

In the 1970s, Campbell re-evaluated the project and created composite samples from the 1963–1966 drill cores. These composite samples were milled to 95% passing -325 mesh (44 µm). Magnetic separates were created using Davis Tube testing, and the concentrates were assayed for Fe, TiO<sub>2</sub> and V<sub>2</sub>O<sub>5</sub>.

In 1974, Campbell prepared an “ore reserve” estimate for the magnetite layers within the project area. Using a cut-off grade of 17.0% Fe (or 24.3% Fe<sub>2</sub>O<sub>3</sub>), the estimate totalled 274.4 Mt grading 29% Fe (172 Mt at 30% Fe for the North Zone, 103 Mt at 27.4% Fe for the South Zone). The estimate was completed using polygonal methods and excluding polygons (or blocks) with 1.75% TiO<sub>2</sub> in the concentrate.

***These “reserves” are historical and should not be relied upon. It is unlikely they conform to current NI 43-101 criteria, CIM Definition Standards, or CIM Guidelines, and they have not been verified to determine their relevance or reliability. They are included in this section for illustrative purposes only and should not be disclosed out of context.***

## 6.2 Campbell Chibougamau Mines Ltd – Metallurgy (1963 to 1975)

Campbell carried out several phases of historical metallurgical testwork during this period, including mineralogy, magnetite concentration tests, autogenous grinding tests, pelletizing tests and blast furnace smelting tests.

Magnetite concentration tests (Davis Tube) were performed on fine grinds of 95% passing 325 mesh (44 µm) and 98% passing 325 mesh. These results showed that an acceptable concentrate grade of 66% Fe was produced at 95% passing 325 mesh, but this could be improved to 68.5% to 69% Fe by regrinding to 98% passing 325 mesh.

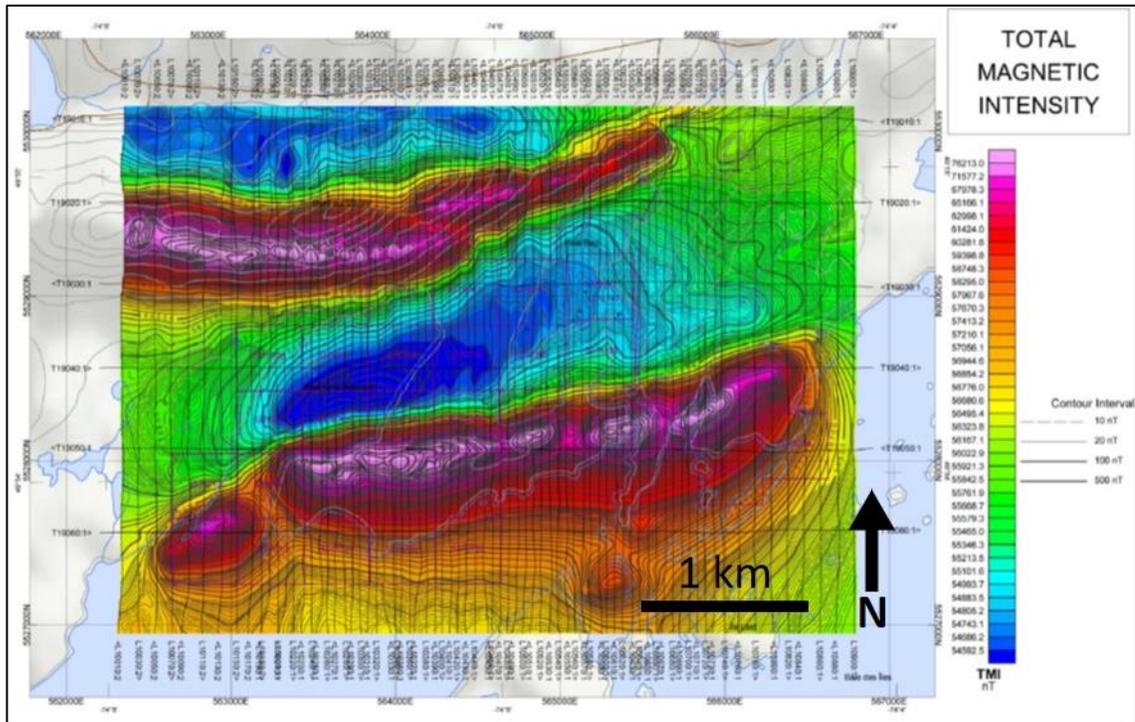
The Davis Tube testwork was followed by the magnetic separation of two bulk samples (35 t each) to emulate Davis Tube testwork on a larger scale. Separation included magnetic cobbing (rejection of waste) on samples ground to minus 10 mesh (2 mm), then regrinding the cobbled concentrate to 95% passing 325 mesh and upgrading using two-stage magnetic separation. One concentrate sample was further reground to 98% passing 325 mesh and subjected to an additional magnetic separation stage. The results are summarized in Table 6-2.

**Table 6-2 – Campbell bulk samples metallurgical testwork results (grinding size versus concentrate grade)**

Grind (% at -325 mesh)	Concentrate grade (% Fe)	Iron recovery to concentrate (%)
94.1	66.5	83.0
95.5	66.7	84.3
98.0	68.5	82.4
98.8	68.5	81.3
94.8	66.7	89.5

## 6.3 Apella Resources Inc. – Geophysics (2010)

In 2010, Apella Resources Inc. (a company that had an option on the Property) contracted AeroQuest International Ltd (“Aeroquest”) to conduct an airborne magnetic survey using a helicopter-borne tri-axial gradiometer. The survey was flown at a nominal instrument terrain clearance of 30 m and a line spacing of 100 m, with 50 m infill lines over the core of the zones (Figure 6-2). Products included total magnetic intensity and measured vertical gradient.



From Aeroquest, 2010

**Figure 6-2 – Map of the 2010 magnetic survey**

#### 6.4 Chibougamau Independent Mines Inc. – Drilling (2013)

In 2013, Chibougamau Independent Mines Inc. drilled two (2) holes: MS-13-17 (on the North Zone) and MS-13-19 (on the South Zone). Voyager is in possession of this drill core and has verified and surveyed the collar locations.

## 7. GEOLOGICAL SETTING AND MINERALIZATION

The information in this item was partly based on the 2020 NI 43-101 report by CSA (Bartsch et al., 2020) and on a scientific article by L. Mathieu (Mathieu, 2019).

### 7.1 Regional Geology

The Project is located at the northeast end of the Abitibi Sub-Province, also known as the Abitibi greenstone belt, the world's largest contiguous area of Archean volcanic and sedimentary rocks and host to a significant number of mineral deposits. It covers a vast area of approximately 500 km x 350 km in the southeastern portion of the Archean Superior craton (Monecke et al., 2017). The Precambrian rocks in the area are commonly covered by an overburden of Quaternary glacial deposits of variable thickness.

The Abitibi greenstone belt is primarily composed of east-trending submarine volcanic packages, which largely formed between 2795 Ma and 2695 Ma (Ayer et al., 2002; Leclerc et al., 2012). The volcanic packages of the belt are folded and faulted and typically have a steep dip, younging away from major intervening domes of intrusive rocks (Monecke et al., 2017). Major, crustal-scale, east-trending fault zones are prominent in the Abitibi greenstone belt (Figure 7-1).

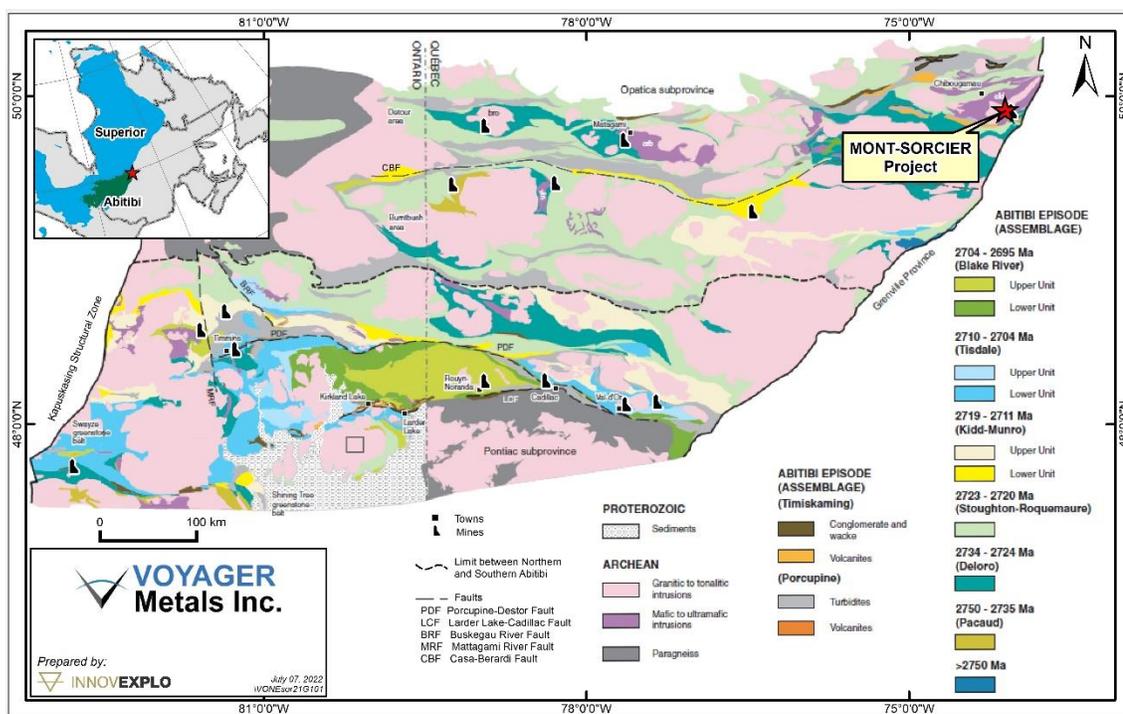


Figure 7-1 – Geologic map of the Superior Province

### 7.2 Chibougamau Area Geology

The Chibougamau area contains some of the oldest volcanic rocks of the Abitibi Subprovince, i.e., the ~2799–2791 Ma Chrissie Formation (Leclerc et al., 2017). These rocks are overlain by two volcanic cycles (Roy Group), with each cycle comprising a thick accumulation of mafic to intermediate lava flows topped by felsic eruptive centers. The

Roy Group is overlain by the ~2700 Ma basin-restricted sedimentary rocks of the Opémisca Group (Polat et al, 2018; Leclerc et al, 2017). The first volcanic cycle (cycle 1) corresponds to the Obatogamau and Waconichi formations. The undated Obatogamau Formation is mostly composed of basaltic to andesite lava flows intercalated with evolved volcanic centers. The ~2730–2726 Ma Waconichi Formation (Leclerc et al., 2017) is composed of intermediate to felsic volcanic rocks with tholeiitic to calc-alkaline affinities. The Waconichi Formation contains several exhalative units (chert and iron formations) and sulphide accumulations related to volcanogenic massive sulphide (“VMS”) systems (e.g., the Lemoine mine) (Mercier-Langevin et al., 2014). The second cycle (cycle 2) corresponds to the tonalite and diorite of the Chibougamau pluton.

### 7.3 Lac Doré Complex

A large layered mafic complex, the Lac Doré Complex (“LDC”), has been emplaced into the rocks of the first volcanic cycle. The LDC can be divided in three parts (Figure 7-3):

- North-east (“NE”): containing the Mont Sorcier Project
- South (“S”), containing the Lac Doré Project (VanadiumCorp Resources Inc.)
- North-west (“NW”): containing the Armitage Project (Blackrock Metals Inc.)

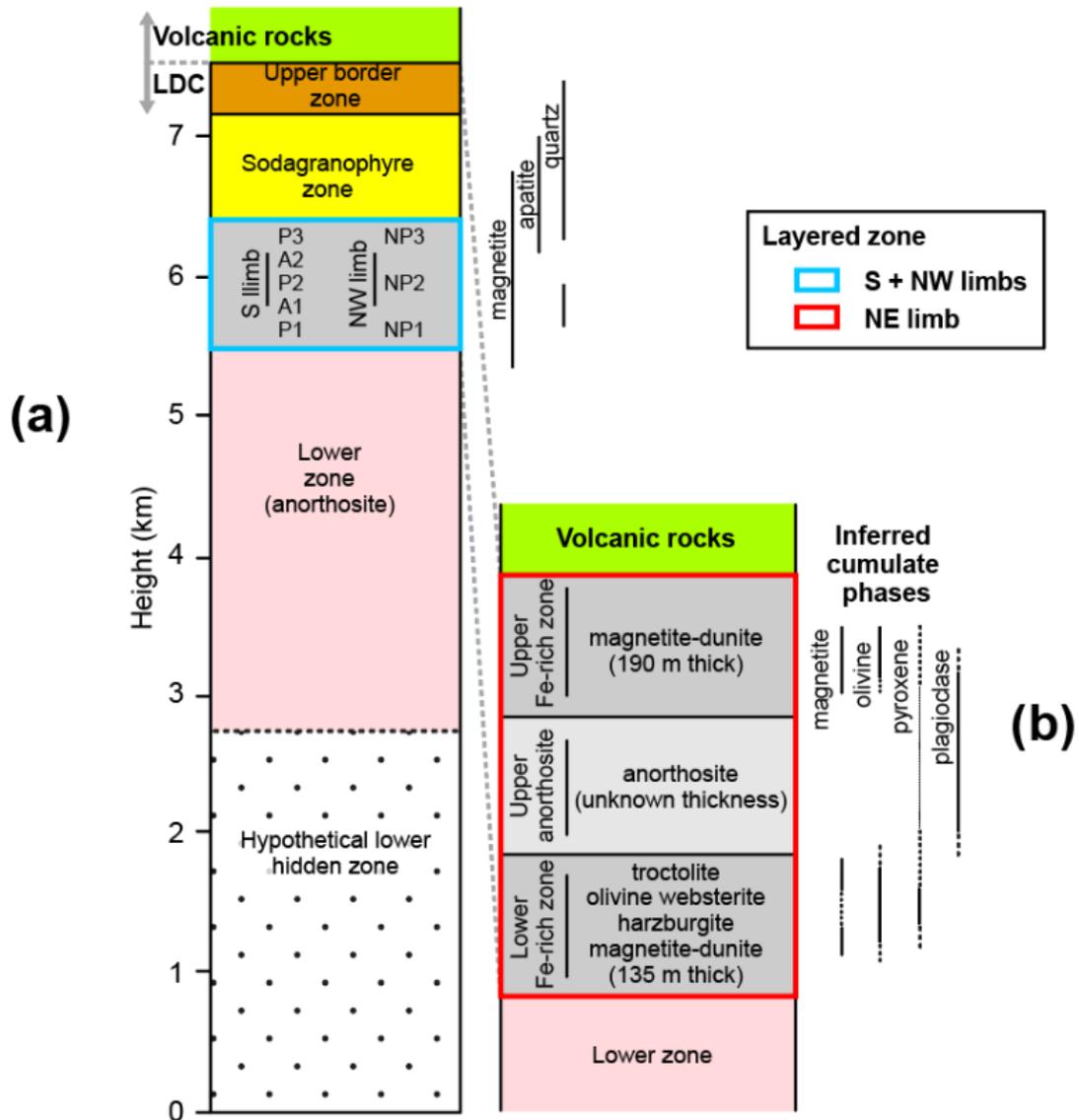
The NW and SE parts of the LDC are in contact with the Waconichi Formation, whereas its SW parts is in discordant contact with the Opémisca Group. The NE part is in contact with the David Member, an accumulation of andesitic basalt lava flows that form the upper part of the Obatogamau Formation (Leclerc et al., 2017). U-Pb dating of zircon provided ages of  $2727.0 \pm 1.3$  Ma and  $2728.3 \pm 1.2/1.1$  Ma for rocks located in the upper part of the LDC (Mortensen, 1993). The LDC thus formed during volcanic cycle 1, and it is locally brecciated and intruded by cycle 2 tonalite and diorite of the Chibougamau pluton.

The LDC is a stratiform intrusive complex composed primarily of (meta-) anorthosite with lesser amounts of gabbro, anorthositic gabbro, pyroxenite, dunite and harzburgite. The anorthosite represents 70–90% by volume of the lithologies present within the LDC. A younger granitic phase of the LDC is emplaced in the centre of the LDC and obscures the mafic lithologies in this area.

The LDC stratigraphy comprises four zones (Allard, 1976):

- The lowermost anorthositic zone is composed of anorthosite and gabbro in variable proportions (including gabbroic anorthosite and anorthositic gabbro). A maximum thickness of 3,000 m has been estimated by Allard (1976).
- The layered zone is composed of bands of ferro-pyroxenite, magnetite-bearing gabbro, magnetite (rock consisting of at least 90% magnetite) (containing titanium and vanadium) and anorthosite. The maximum thickness has been estimated at 900 m (Allard, 1976). The rocks of the layered zone pass gradually into the underlying anorthosites and gabbros of the anorthositic zone.
- The granophyre zone (at the top) is composed of soda-rich leuco-tonalite.
- The border zone, found in contact with the volcanic rocks of the Roy Group (Waconichi Formation), forms the margin of the complex. This border zone is

discontinuous and composed of gabbro and anorthosite locally containing a considerable percentage of quartz.

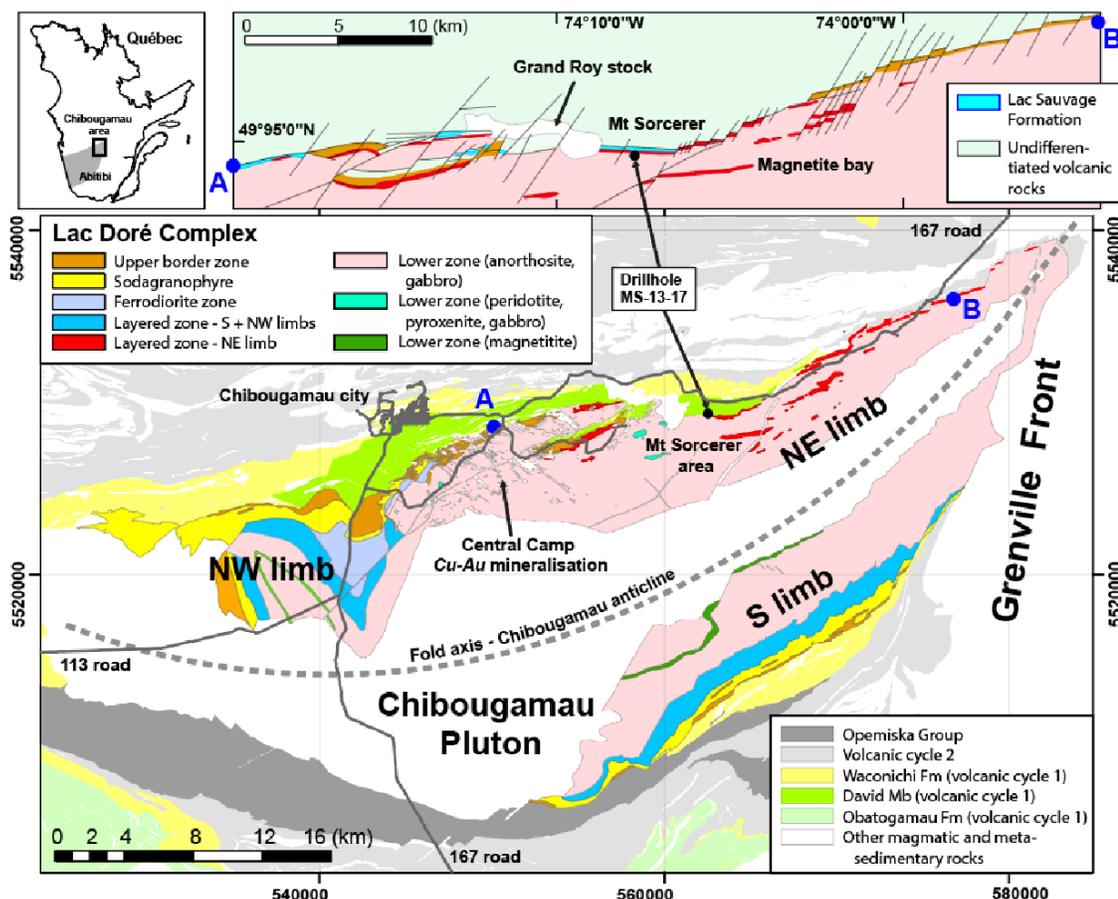


From Mathieu, 2019

**Figure 7-2 – Stratigraphic column of the Lac Doré Complex (LDC) showing the units observed in (a) the NW and S limbs of the LDC (from Allard, 1976) and (b) in its NE limb (from Lapollo, 1988)**

In the S limb, the layered zone is divided into the P1, P2, and P3 members dominated by magnetite, chlorite, and amphibole, and the A1 and A2 members dominated by albite, epidote, actinolite, and chlorite (Figure 7-2, a). In the layered zone of the S limb, V, Cr and Ni decrease upward, but Ti increases upward (Allard, 1976; Arguin et al., 2018; Taner et al., 1998; Arguin et al., 2017). In the NW limb, the anorthosite members are

missing and the magnetite-, chlorite-, amphibole-, albite-, and epidote-bearing units are divided into the NP1, NP2, and NP3 members (Baskin, 1975). In the NE limb, the possible equivalent of the layered zone (Allard, 1976) is discontinuous and consists of one anorthosite unit and two Fe-rich units dominated by serpentine, magnetite and chlorite (Lapollo, 1988) (Figure 7-2, b).



From Mathieu, 2019

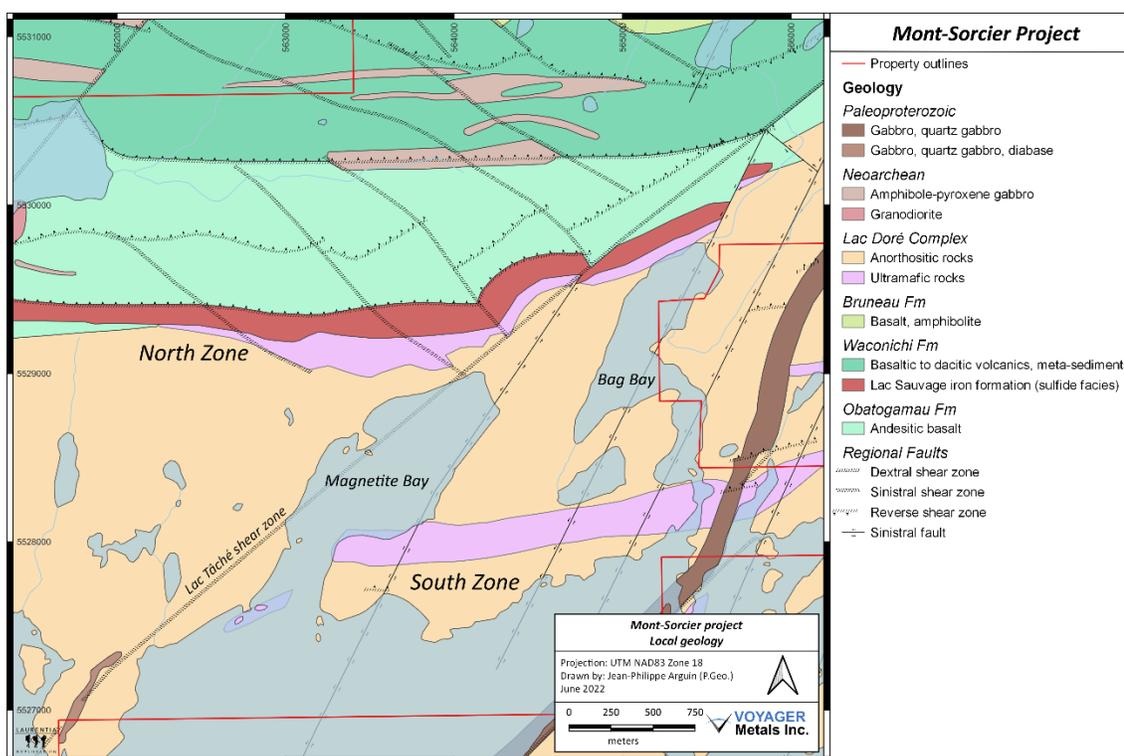
**Figure 7-3 - Regional geology of the Chibougamau area and the LDC**

### 7.3.1 Regional tectonics and structure

All rock units in the area were affected by multiple deformation events and are folded into a succession of east-west trending anticlines and synclines. Lithological units tend to have steep to subvertical dips. The LDC was folded into a broad east-west trending anticline (Figure 7-3) during the compressive accretion of the Abitibi-Wawa Terrane between 2.698 Ga and 2.690 Ga (Daigneault and Allard, 1990). The LDC has also been affected by deformation (and low-grade metamorphism) owing to the much younger Grenville Orogeny (c. 1.1 Ga), along the eastern edge of the Superior Province.

Faults and shear zones in the region strike between northeast and east, although northwest-striking faults are also reported. Large-scale synclines and anticlines are generally bound by regional synvolcanic/sedimentary and syntectonic east-west faults.





From Voyager, 2022

**Figure 7-5 – Geological map of the Mont Sorcier Property**

## 7.5 Mineralization on the Property

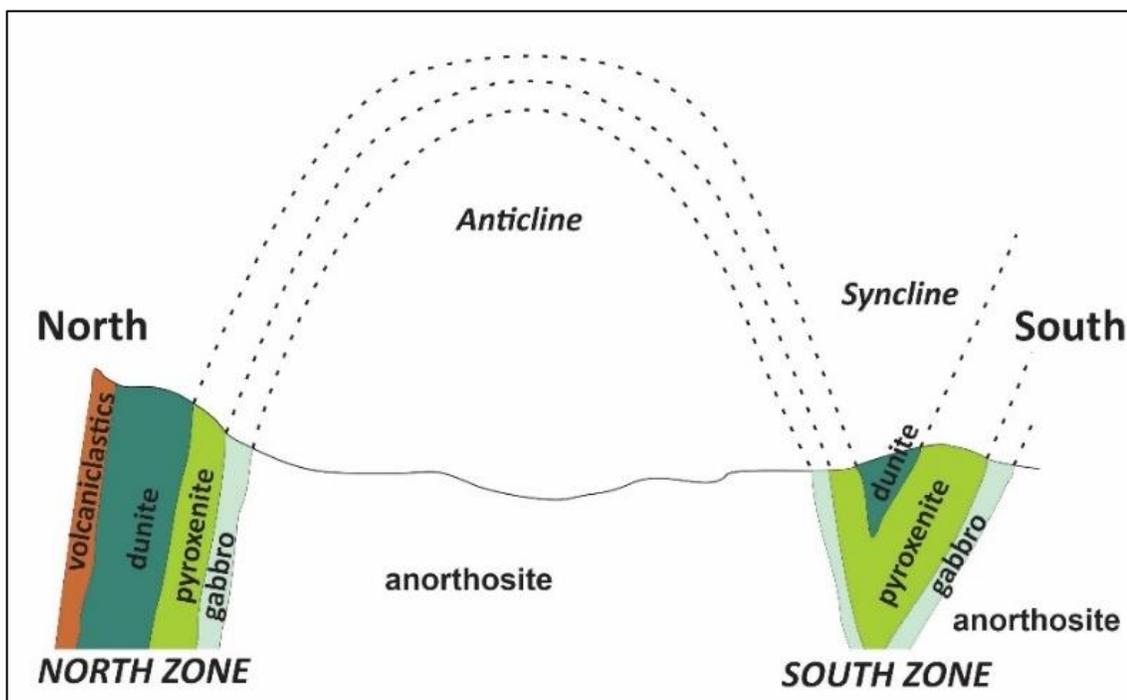
### 7.5.1 North and South zones

Two significant mineralized zones are found on the Property, the North Zone and the South Zone.

The North Zone is identifiable in the field and through airborne magnetics over a strike length of approximately 4 km. It appears to be between 100 m and 300 m thick, forming a roughly tabular subvertical body that strikes east-west and extends to depths of at least 500 m based on drilling. The North Zone has been drilled over approximately 4.0 km of its strike length. Possible extensions of the North Zone could be found to the east, as well as down-dip.

The South Zone, identifiable over approximately 3 km, strikes east-northeast to west-southwest. It has been mapped in detail and drilled over its entire strike length. It is thought to form a tight synclinal structure, with a shallow plunge to the west-southwest. It is 100–200 m thick and extends to a depth of at least ~300 m in the western part of the zone, shallowing towards the east. Although the total depth of mineralization has not been fully tested, it is not expected to continue to depths significantly deeper than currently defined. The South Zone has been cut by several small northeast-trending faults, a larger northeast-trending fault with a dextral displacement of ~150 m, and a north-northeast trending dyke ~150 m thick.

The North Zone and South Zone had been interpreted by Dorr (1966) as representing the same stratigraphic unit that has been folded into kilometre-scale parasitic folds by the upright folding that affects the region, with the North Zone representing the north-dipping limb of an anticlinal fold structure, and the South Zone representing the hinge zone of a syncline (Figure 7-6).



**Figure 7-6 – Structural relationship between the North Zone and South Zone (after Dorr, 1966)**

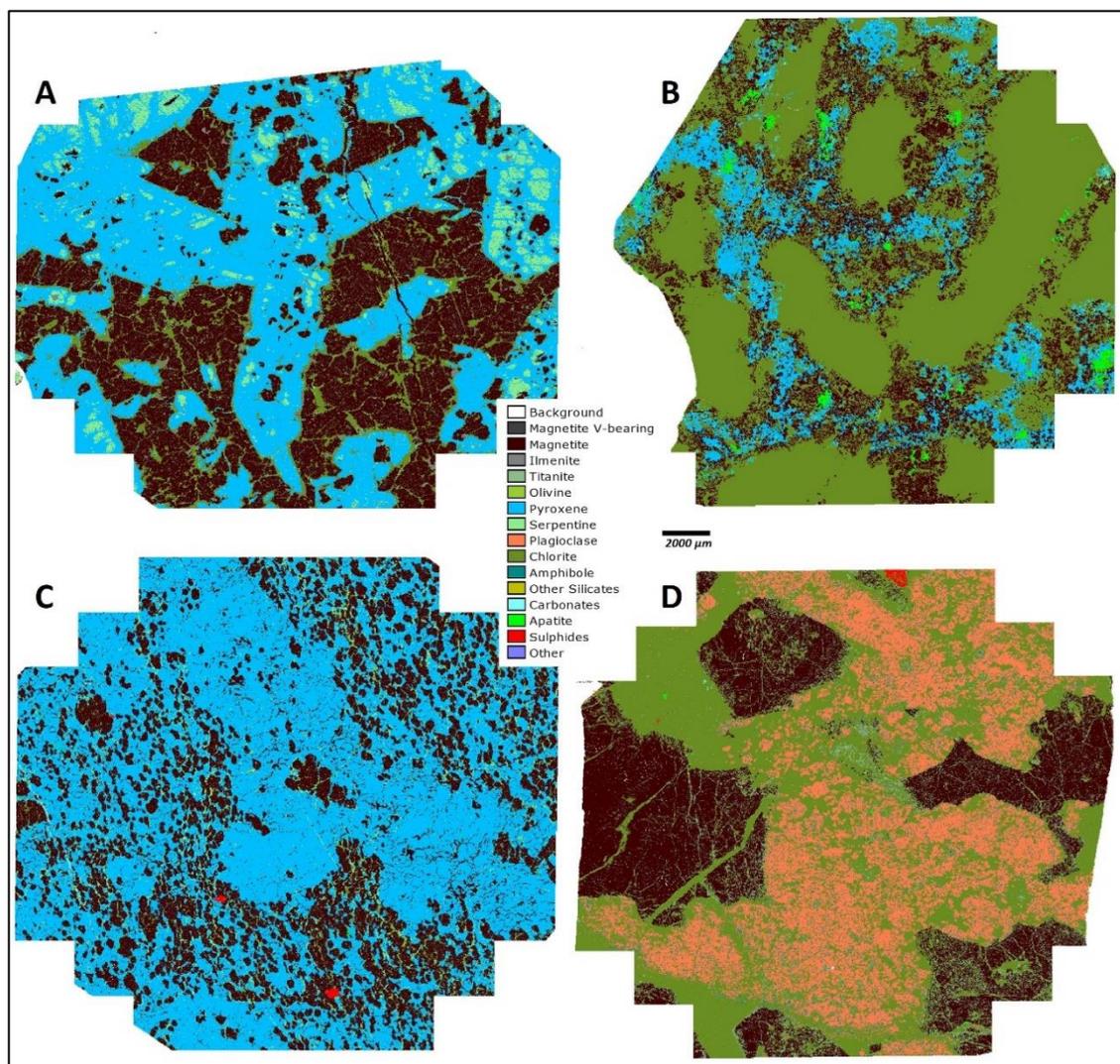
The North and South zones are interpreted to have formed from the crystallization of vanadiferous titanomagnetite (“VTM”) that was triggered when mafic magmas of the LDC assimilated a carbonate-facies iron formation (the Lac Sauvage iron formation) (Mathieu, 2019; see Item 8). In both zones, magnetite is disseminated within ultramafic rocks (dunite, peridotite pyroxenite), and the ultramafic VTM-bearing lithologies are surrounded by mafic units (gabbro and anorthosite).

## 7.5.2 Mineralogy

In early 2018, Voyager commissioned ActLabs to undertake mineralogical studies on selected samples using QEMSCAN to determine the liberation characteristics of the magnetite and associated minerals. In late 2018, Voyager commissioned SGS Laboratories to carry out additional QEMSCAN mineralogical characterization of selected magnetite-bearing samples to investigate any alteration, characterize the mode of occurrence of magnetite, and gain insight into the formation of the magnetite-rich ultramafic rocks (Glossop and Prout, 2019).

Several of the samples analyzed by SGS show fresh, igneous textures with limited alteration of pyroxene and olivine (Figure 7-7). In pristine samples, magnetite often displays an interstitial texture, filling spaces between subhedral to euhedral pyroxene

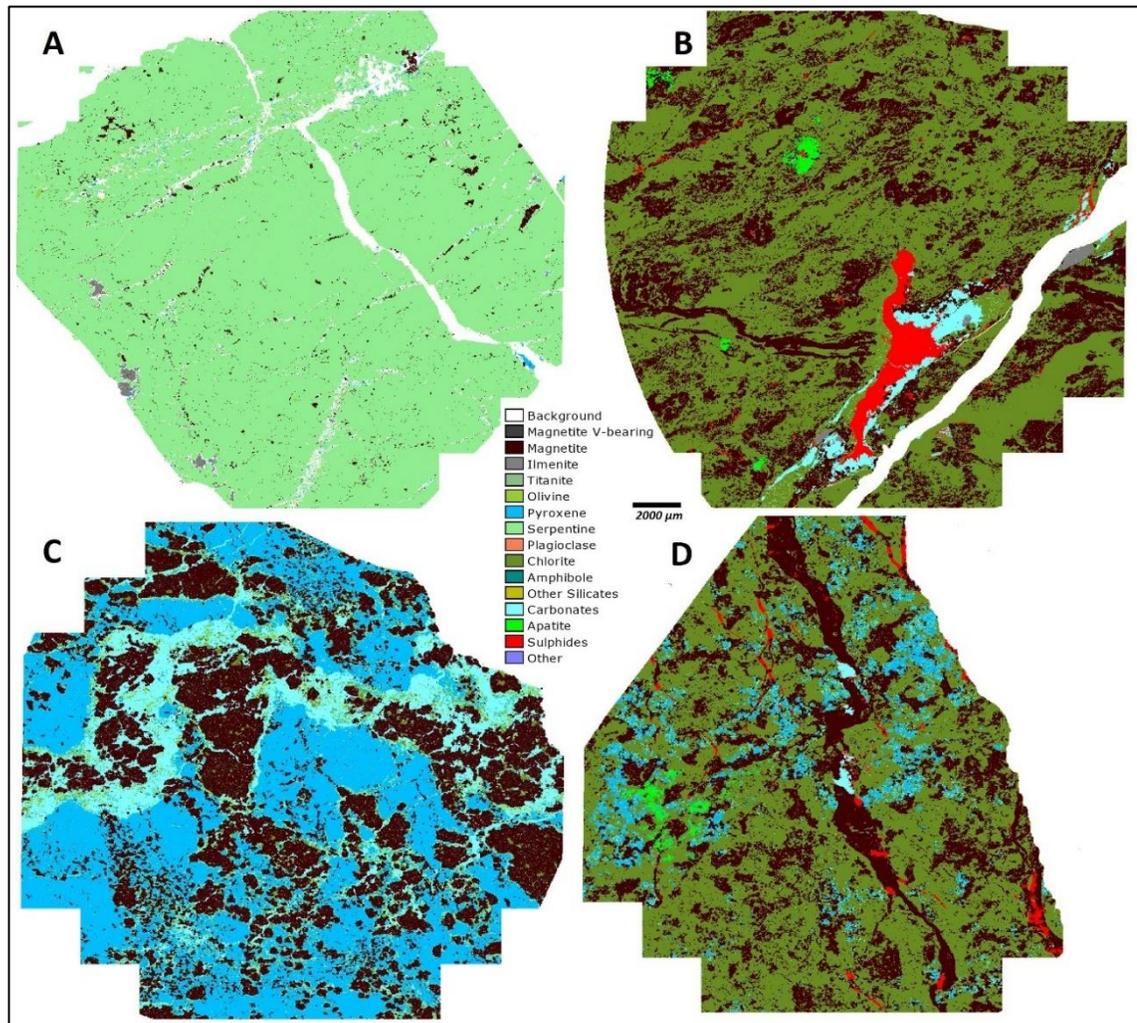
(Figure 7-7A) and olivine crystals (Figure 7-7B). Elsewhere, magnetite occurs as minute grains within pyroxene (Figure 7-7C) and olivine grains (Figure 7-7D). Large subhedral pyroxene crystals contain few magnetite inclusions (Figure 7-7C), and some samples display younger magnetite veins in addition to the disseminated igneous magnetite (Figure 7-7D).



- A. Interstitial magnetite associated with subhedral to euhedral pyroxene.
- B. Large, magnetite-free chlorite pseudomorphs (after pyroxene) surrounded by an interstitial mix of extremely fine-grained magnetite and pyroxene.
- C. Fine-grained magnetite grains within pyroxene.
- D. Interstitial magnetite between subhedral grains of plagioclase feldspar that has been partially altered to chlorite.

**Figure 7-7 – SGS QEMSCAN images of magnetite-bearing samples (Glossop & Prout, 2019)**

The more deformed or altered samples (Figure 7-8) show complete serpentinization of olivine (Figure 7-8A), as well as evidence for deformation in the form of small, intrafolial folds of magnetite (Figure 7-8B). In rare cases where olivine is still preserved, it is found as relict grains within an alteration matrix of carbonate and chlorite (Figure 7-8C). In some cases, secondary remobilized veins of magnetite crosscut altered samples and primary magnetite (Figure 7-8D).



- A. Serpentine (after olivine) with fine-grained secondary magnetite.
- B. Deformed magnetite bands within a chlorite sample. Note the small-scale folded magnetite bands.
- C. Magnetite-bearing pyroxenite with a zone of carbonate (with chlorite), and other similar zones of carbonate surrounding magnetite crystals. Note that some fine-grained relict olivine is present within the carbonate-chlorite matrix.
- D. Sample of chlorite (with minor unaltered pyroxene), as well as a vein a magnetite.

**Figure 7-8 – SGS QEMSCAN images of altered and deformed samples (Glossop & Prout, 2019)**

## 8. DEPOSIT TYPES

### 8.1 VTM Deposits

Magnetite mineralization at the Mont Sorcier Project shows several similarities to other vanadiferous titanomagnetite (“VTM”) deposits or ilmenite deposits associated with layered mafic intrusive complexes, such as the Bushveld Complex (South Africa) or the Skaergard Intrusion (Greenland).

VTM deposits are typically found in the upper, more fractionated portions of layered complexes. In the Upper Zone of the Bushveld Complex, the formation of VTM-enriched layers has been attributed to magma mixing events, resulting from either a breakdown of densely stratified liquid layers (i.e., overturn) or an influx of new magma (Harne and Von Gruenewaldt, 1995). The separation of dense, iron-rich magma owing to large-scale silicate liquid immiscibility has also been suggested. It may explain the occurrence of apatite-oxide layers in the upper portions of some layered mafic complexes (Van Tongeren and Mathez, 2012).

VTM and ilmenite deposits have been subdivided into ilmenite-dominant deposits (generally in massif-type anorthosite host rocks) and magnetite-dominant deposits (generally in layered intrusions within gabbroic host rocks; Gross, 1996).

Crystallization of magnetite is initiated when the evolving magma becomes sufficiently iron-enriched to form oxide minerals. The subsequent settling of magnetite crystals results in a localized lowering of the magma density from  $\sim 2.7 \text{ g/cm}^3$  to  $\sim 2.5 \text{ g/cm}^3$ . This creates an inverted density stratification, resulting in the overturning of the magma and magma mixing, thereby precipitating additional magnetite. The repetition of this process leads to the formation of several stratified layers of magnetite, often with sharp bases and gradational upper contacts. Because vanadium is compatible in the crystal structure of magnetite, it fractionates into magnetite, thereby depleting the remaining magma of vanadium. This results in the lowermost magnetite-bearing units in layered complexes typically having the highest  $\text{V}_2\text{O}_5$  values, with the vanadium content of the magnetite gradually decreasing upwards through the stratigraphy. Lower layers can have  $\text{V}_2\text{O}_5$  contents of up to 3%, dropping to less than 0.3% in the upper layers. Conversely, titanium is incompatible and becomes more concentrated in the residual magma. The lower VTM layers have lower titanium contents (typically 7 to 12%  $\text{TiO}_2$ ) than the upper layers (up to 20%  $\text{TiO}_2$ ), where ilmenite and even rutile may be observed (Gross, 1996).

### 8.2 Lac Doré Complex Deposits

The parental magma of the Lac Doré Complex (“LDC”) is generally viewed as tholeiitic (Allard, 1976; Baskin, 1975; Caty, 1970) and, according to trace element modelling, may have coexisted with a calc-alkaline magma (Bédard, 2009). The main cumulus phases are plagioclase, pyroxene, magnetite, ilmenite, and apatite (Baskin, 1975; Caty, 1970). The  $f\text{O}_2$  of the magma promoted the early crystallization of silicates (Allard, 1967). The delayed crystallization of large amounts of titanomagnetite implied an increase in  $f\text{O}_2$  that, according to observations made on other intrusions, could result from fractional crystallization, magma replenishment, and/or contamination (Zhang et al., 2012; Mungall et al., 2016). In the NW and S limbs, assimilation of Waconichi rocks would have modified the  $f\text{O}_2$  and promoted the crystallization of titanomagnetite in the layered zone (Daigneault and Allard, 1990). An alternative hypothesis is that the well-developed

rhythmic layering of the layered zone of the NW and S limbs resulted from multiple injections of magma (Caty, 1970). A recent study focused on the S limb of the LDC also minimizes the importance of contamination. This study concluded that the crystallization and distribution of titanomagnetite were controlled by successive injections and mixing of magmas, crystal settling and sorting, and expulsion of interstitial melt during compaction (Arguin et al., 2018).

Although this conceptual model appears to explain the formation of the VTM-enriched units elsewhere on the LDC, the VTM mineralization at Mont Sorcier is unusual in several respects:

- It is associated with olivine-bearing ultramafic units with remarkably primitive compositions (Fo82–90: Mathieu, 2019)
- The VTM is anomalously low in titanium, with TiO<sub>2</sub> grades generally below 2%.

Following the model proposed by Allard and Lapallo (Allard, 1976; Lapallo, 1988), in combination with detailed studies of the chemistry of the VTM and host rocks at the Mont Sorcier Property, these unusual features have led Mathieu (2019) to propose that the formation of VTM mineralization at Mont Sorcier was triggered by assimilation of a carbonate-facies iron formation (the Lac Sauvage iron formation within the Waconichi Formation of the Roy Group). The assimilation of these iron-enriched, magnesium-bearing, and silicon-poor rocks would have desilicified and added iron-magnesium to an already iron-enriched, evolved basaltic magma and favoured the formation of magnesium-olivine (Mathieu, 2019). In addition, the assimilation of carbonate by magma is known to favour the crystallization of clinopyroxene over plagioclase and to induce CO<sub>2</sub> degassing. Oxidizing CO<sub>2</sub>-bearing fluids may have favoured the crystallization of magnetite. Furthermore, the volatiles may also have promoted fast cooling rates, preventing prolonged magma differentiation, local vanadium-enrichment and magnetite settling (Mathieu, 2019).

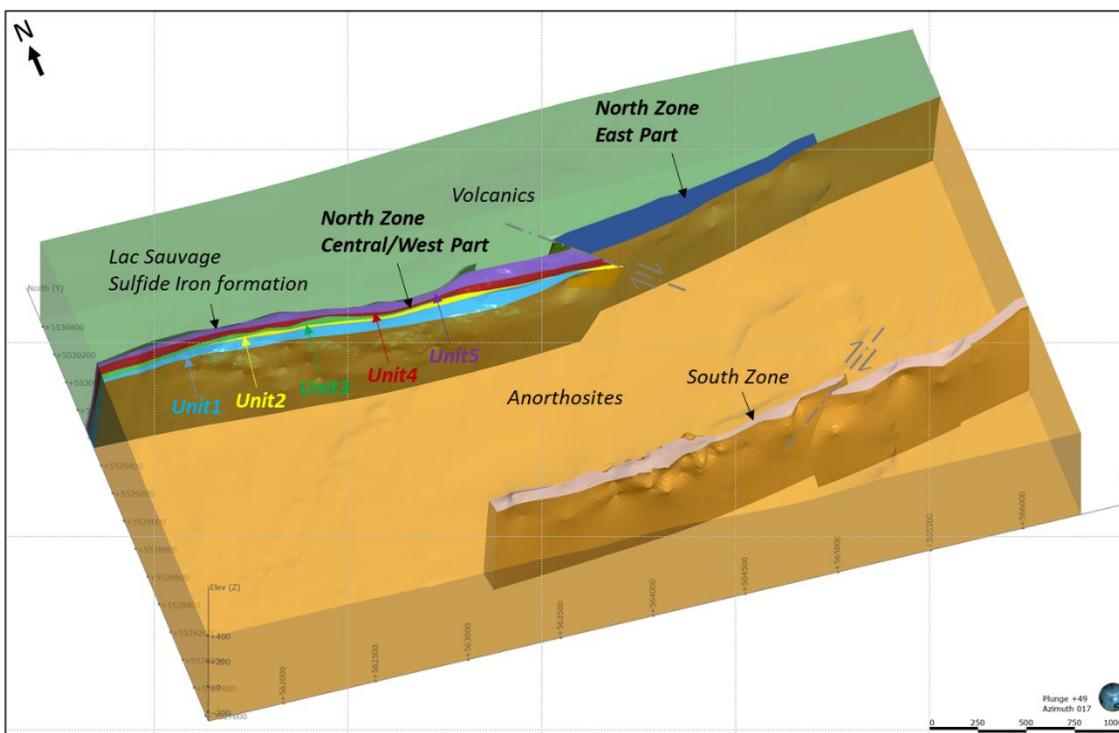
The overall result is the formation of a broad layered zone of magnetite mineralization in which vanadium has a relatively homogeneous spatial distribution, in contrast to the rhythmic succession of centimetre- to metre-thick magnetite and silicate-rich rocks that characterize the VTM deposits elsewhere within the LDC and within other layered complexes, but which are not observed at Mont Sorcier (Mathieu, 2019).

### 8.3 North Zone

Following the 2021 drilling campaign, the west and central part of the North Zone has been divided into two main zones (Arguin, 2022): Lower (“LZ”) and Upper (“UZ”). The stratigraphic limit between the LZ and the UZ was established by the substantial chemical break between two distinct mineralogical domains (units 3 and 4). Both the LZ and the UZ are composed of distinct magnetite-bearing ultramafic units (or mineralogical domains). The LZ consists of units 1, 2 and 3, whereas the UZ is composed of units 4 and 5 (Figure 8-1). Table 8-1 summarizes the textural and mineralogical characteristics of all five units.

The east part of the North zone is quite different from the west and central part as the sub-division into five units is not observed. It is essentially composed of ferro-pyroxenite, which is bordered by a “minor envelope” that consists of an inner horizon of talc-peridotite

(meta-dunite) and an outer horizon of gabbroic rocks. No massive sulfides were reported in the east part of the North zone (Arguin, 2022).



**Figure 8-1 – Geological model of the Mont Sorcier Project showing the distribution of magnetite-bearing ultramafic units in the North Zone**

**Table 8-1 – Summary of the magnetite-bearing ultramafic units of the North Zone**

Zone	Unit	Textures	Magnetite grain size	Magnetite habitus	Silicates
Upper Zone	Unit 5	Brecciated (to massive)	Fine to medium	Disseminated or interstitial to breccia fragments	Chlorite ( $\pm$ talc)
	Unit 4	Foliated or sheared	Medium	Disseminated, stretched along the foliation	Talc, chlorite
Lower Zone	Unit 3	Massive, granular to intergranular	Medium to coarse	Disseminated, subhedral to euhedral crystals	Chlorite, Al-Ca silicates ( $\pm$ talc)
	Unit 2	Porphyritic	Fine	Finely disseminated	Serpentine, chlorite ( $\pm$ amphibole)
	Unit 1	Massive	Fine to medium	Disseminated, clustered	Serpentine ( $\pm$ chlorite, $\pm$ chrysotile)

## Unit 1

Unit 1 is located at the base of the LZ, generally in contact with anorthosite. The silicate matrix consists of a greenish-grey to bottle-green mixture of very fine grains. The grain size makes the matrix minerals difficult to identify with the naked eye. Serpentine is most likely the dominant phase and appears to be accompanied by various amounts of chlorite and accessory talc.

The magnetite is mostly in the form of fine to medium grains, disseminated (Figure 8-2A) or sometimes clustered. Magnetite veins (or fracture fillings) are common but not dominant (Figure 8-2B). They are secondary in origin and result from an excess of iron during the serpentinization of olivine and orthopyroxene.



From Arguin, 2022.

A. Hole MSN-21-21: Disseminated grains of magnetite in a dark green matrix made of serpentine.

B. Hole MSN-21-32: Disseminated grains of magnetite in a dark green matrix, as well as some magnetite veins.

**Figure 8-2 – Example of core from Unit 1**

## Unit 2

The Unit 2 represents the smallest volume of the North Zone units (~7%). It is characterized by 10-40 vol.% of centimetric, subrounded to euhedral-prismatic phenocrysts. The crystals are pseudomorphosed, either completely replaced by chlorite or displaying mineral zoning composed of (from rim to core) chlorite, green amphibole and possibly altered pyroxene (Figure 8-3).

The magnetite grains are finely disseminated throughout the matrix, of which the silicate minerals are mainly serpentine and chlorite.



From Arguin, 2022.

- A. Hole MSN-21-32: Subrounded, chloritized phenocrysts in a fine-grained matrix made of magnetite and ferromagnesian silicates.
- B. Hole MSN-21-28: Phenocrysts with mineral zoning composed (from rim to core) of chlorite, green amphibole and possibly altered pyroxene. The phenocrysts are hosted in a fine-grained matrix composed of magnetite and ferromagnesian silicates.

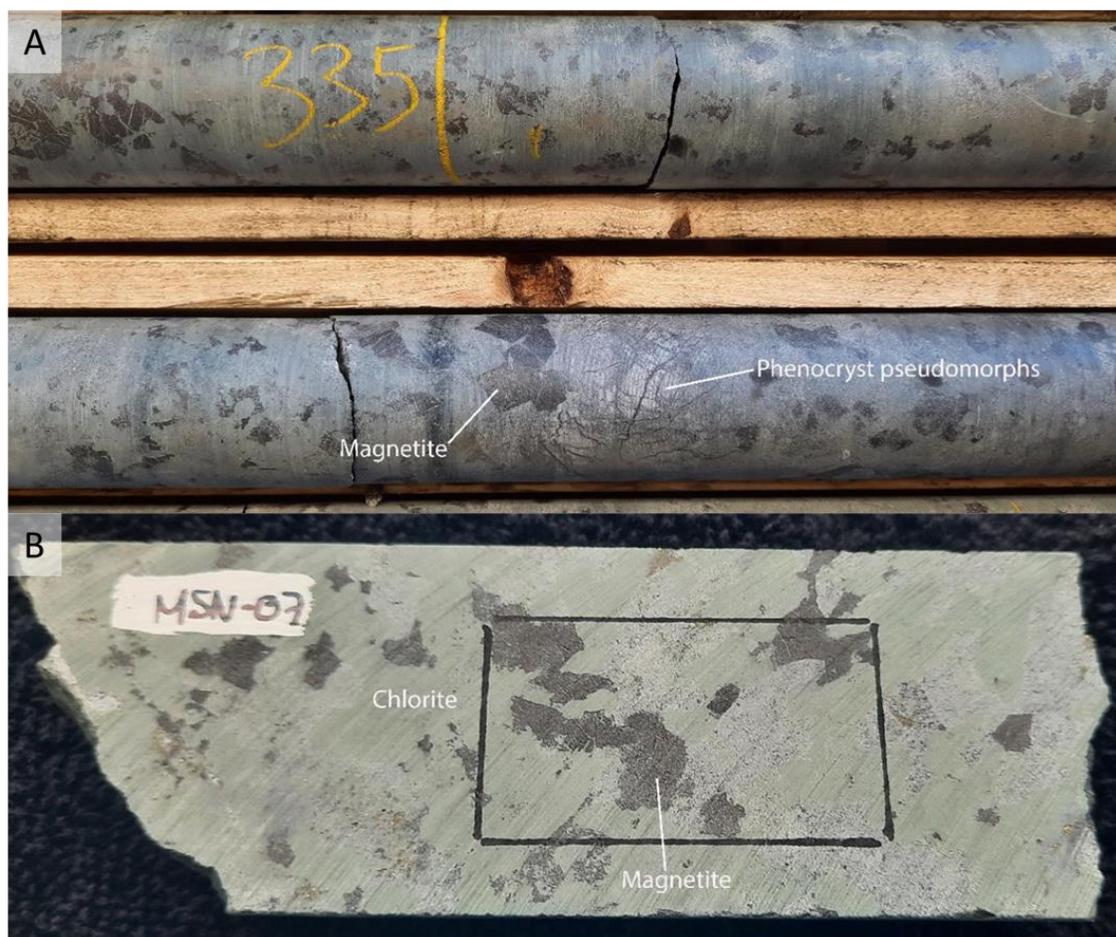
**Figure 8-3 – Example of core from Unit 2**

## Unit 3

Unit 3 is generally located at the top of the LZ. The rock is medium to coarse grained and shows hypidiomorphic granular to intergranular textures. It contains up to 60-70 vol.% of chlorite pseudomorphs, possibly after pyroxene, as well as magnetite and

white-colored silicates. Phenocryst pseudomorphs were found as accessory phases in Unit 3. These are white to pale grey in color and shows a well-developed network of fractures filled with magnetite (Figure 8-4).

The magnetite content of Unit 3 is generally lower than that of other North Zone units. Magnetite is fractured, either interstitial to chlorite (anhedral) or in the form of subhedral to euhedral (cubic) crystals. The grains are usually 0.3-1.0 cm in size but can reach up to a few centimetres. Magnetite is commonly accompanied by accessory disseminated ilmenite.



From Arguin, 2022.

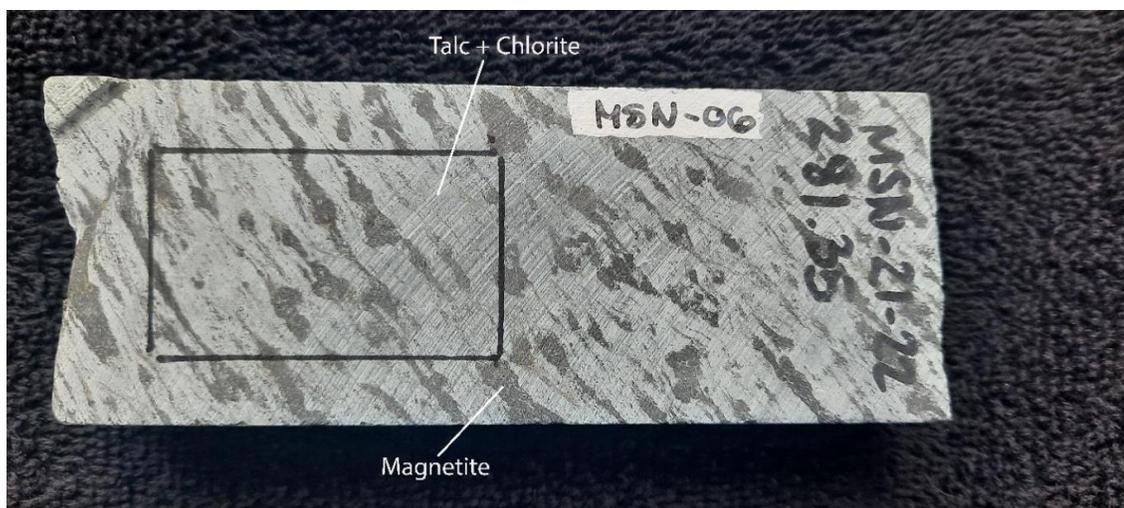
- A. Hole MSN-21-16: Anhedral to euhedral cubic magnetite crystals. White-colored phenocrysts with abundant fractures filled with magnetite.
- B. Hole MSN-21-19: Chlorite pseudomorphs and white-coloured silicates with interstitial magnetite.

**Figure 8-4 – Example of core from Unit 3**

#### Unit 4

Unit 4 is located at the base of the UZ. The rock is usually characterized by a well-developed foliation with shear band-like features. The foliation is marked by parallel arrangement of magnetite grains hosted in a fine-grained matrix of platy talc and chlorite (Figure 8-5). More massive textures are also present sporadically in Unit 4.

Magnetite is generally medium-grained and stretched along the foliation planes. It is commonly accompanied by pyrrhotite, which is likely formed at the expense of magnetite as evidenced by replacement textures.



From Arguin, 2022.

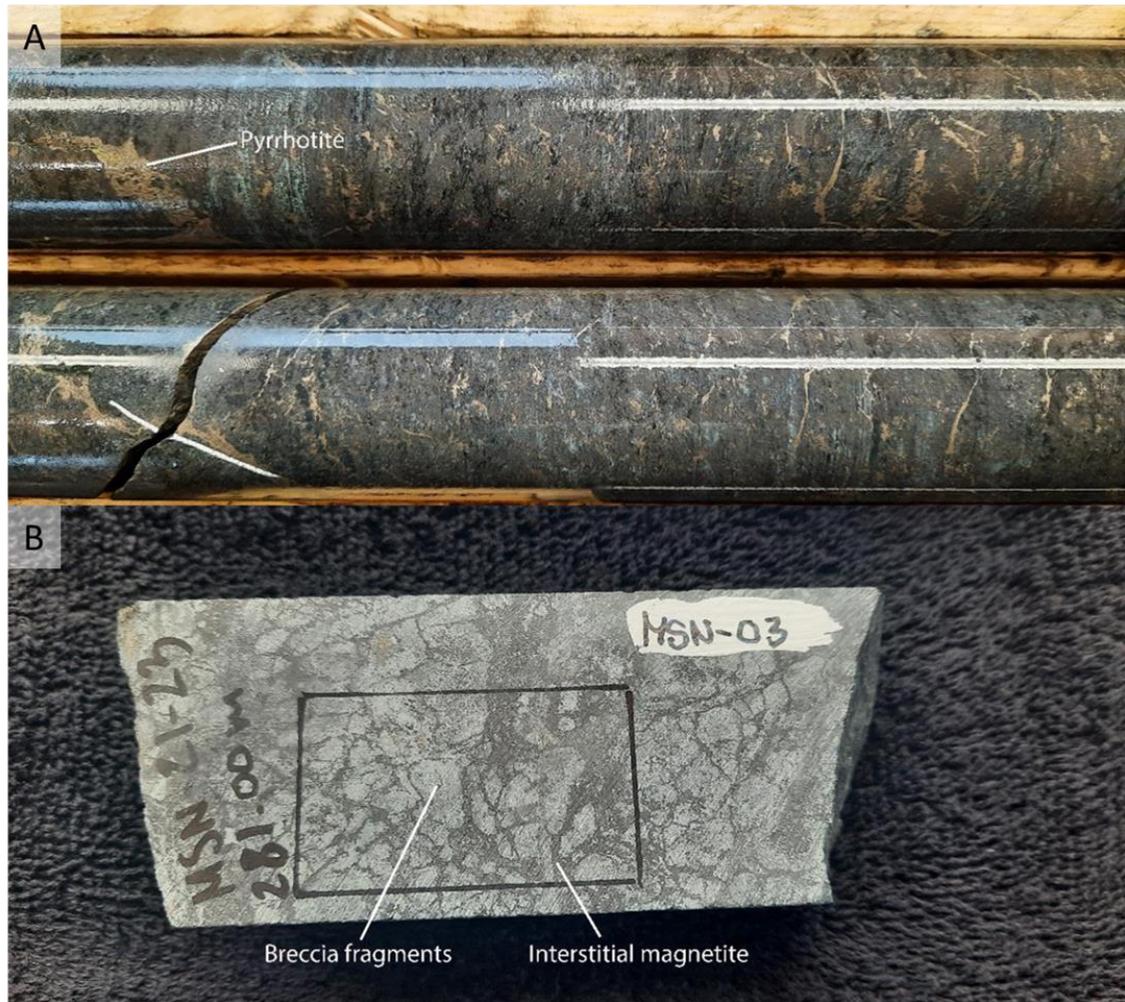
Hole MSN-21-22: Well-developed foliation marked by parallel arrangement of stretched magnetite in a fine-grained matrix composed of talc and chlorite.

**Figure 8-5 – Example of core from Unit 4**

## Unit 5

Unit 5 is located at the top of the NZW, in contact with massive to semi-massive pyrrhotite or sulphide-rich basaltic rocks. The rock is brecciated (or rarely massive) and is typically characterized by chlorite-rich, sub-angular to angular fragments of various sizes (up to a few centimetres) enclosed in a chaotic network of interstitial magnetite (Figure 8-6A).

The magnetite content of Unit 5 is relatively high. Magnetite is in the form of interstitial fillings between breccia fragments and finely disseminated grains. It is commonly associated with substantial amounts of pyrrhotite as veinlets or magnetite replacements (Figure 8-6B). Trace amounts of chalcopyrite often accompany pyrrhotite.



From Arguin, 2022.

- A. Hole MSN-21-32: abundant pyrrhotite including veinlets and replacement textures.
- B. Hole MSN-21-23: Chlorite-rich fragments enclosed in a chaotic network of interstitial magnetite.

**Figure 8-6 – Example of core from Unit 5**

## 9. EXPLORATION

### 9.1 Stripping, Mapping and Sampling

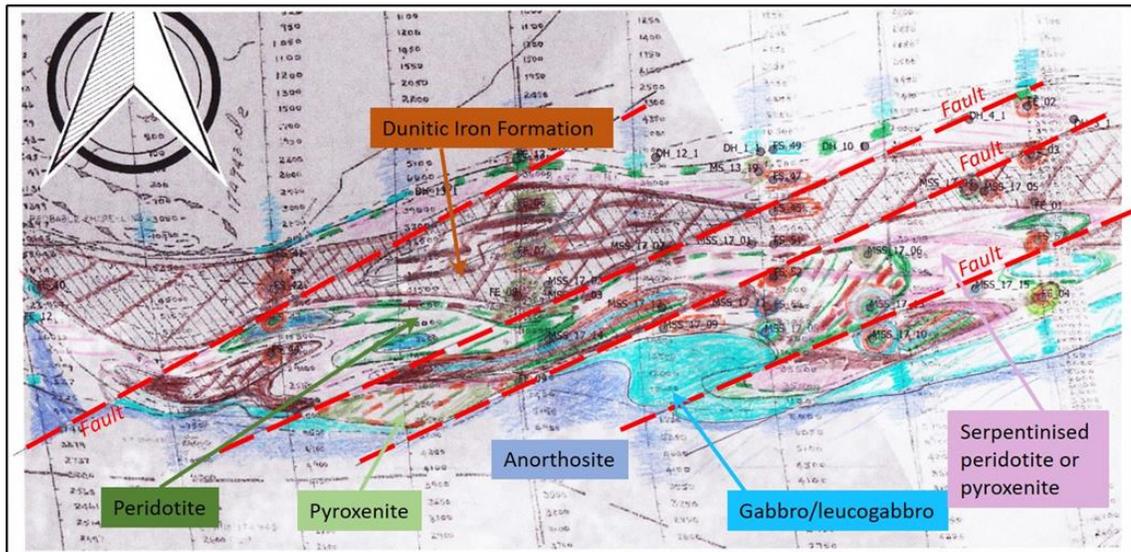
In June 2018, stripping was performed on the South Zone (Figure 9-1). The stripped area, named MSS-TR-01, is located east of historical section 52E, a site of historical trenching and diamond drilling (historical holes FE-6, FE-7, FE-8 and FE 9, FE-13).



**Figure 9-1 – Washing of a stripped area on the South Zone**

In August 2018, Voyager commissioned Dr. A. Ben Ayad to carry out detailed lithological and structural mapping of the stripped area. This mapping focused on identifying major structures within the deposit and mapping the distribution of mafic and ultramafic units. An example is shown in Figure 9-2.

In 2021, MSS-TR-01 was sampled and mapped. A compilation map of the work is presented in Figure 9-3.

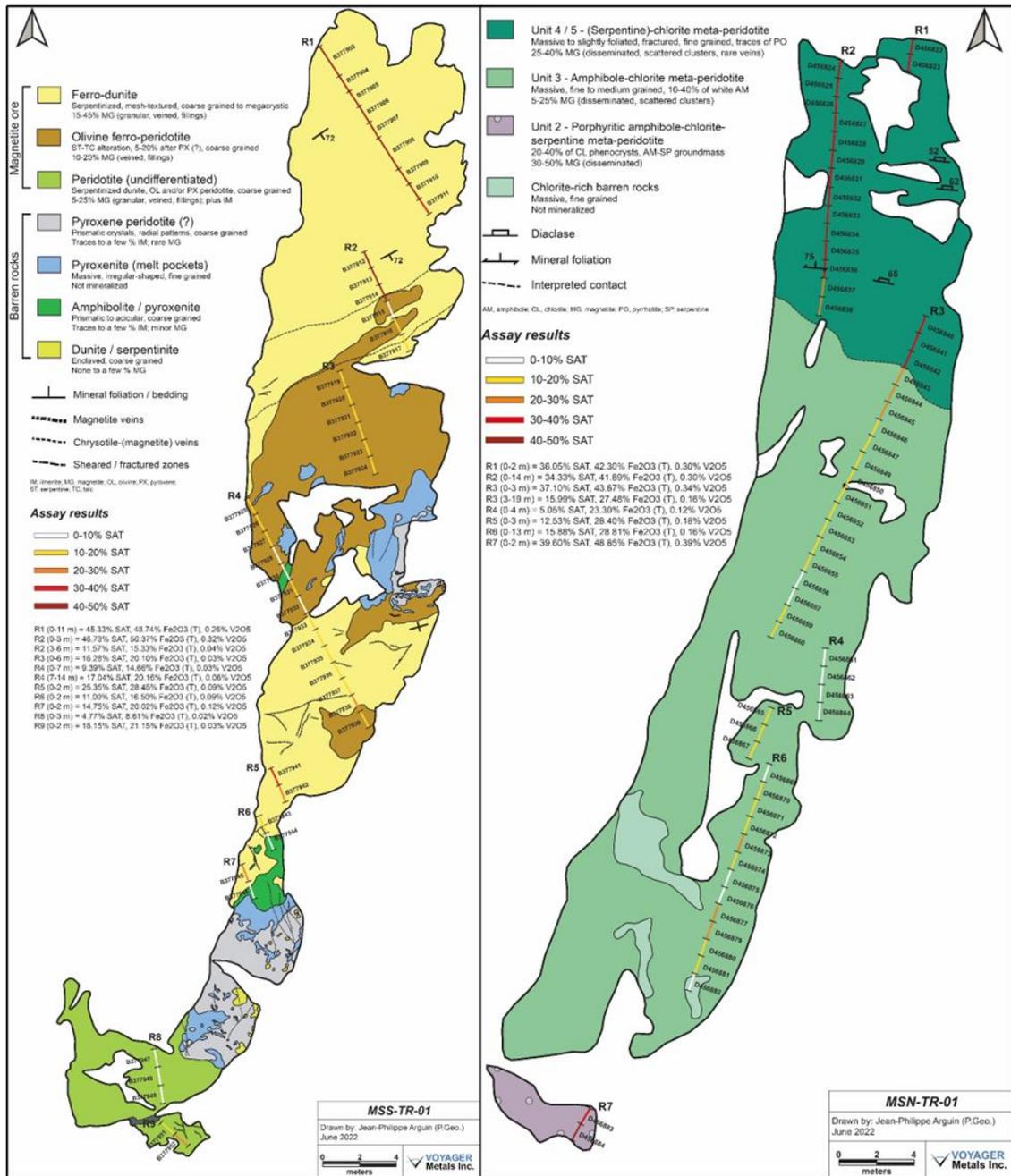


Modified from original by L. Longridge, 2019. Original from Dr. A. Ben Ayad, 2018

**Figure 9-2 – Hand-drawn geological map of a portion of the South Zone**

In 2021, stripping was performed on three areas of the North Zone: MSN-TR-01, 02 and 03. The exposed bedrock was sampled in 2021 and mapped in 2022. Compilation maps are presented in Figure 9-3 and Figure 9-4.

Figure 10-1 shows the location of the stripped areas on the Property.



**Figure 9-3 – Compilation maps of strippings MSS-TR-01 and MSN-TR-01 showing geology and sample locations**

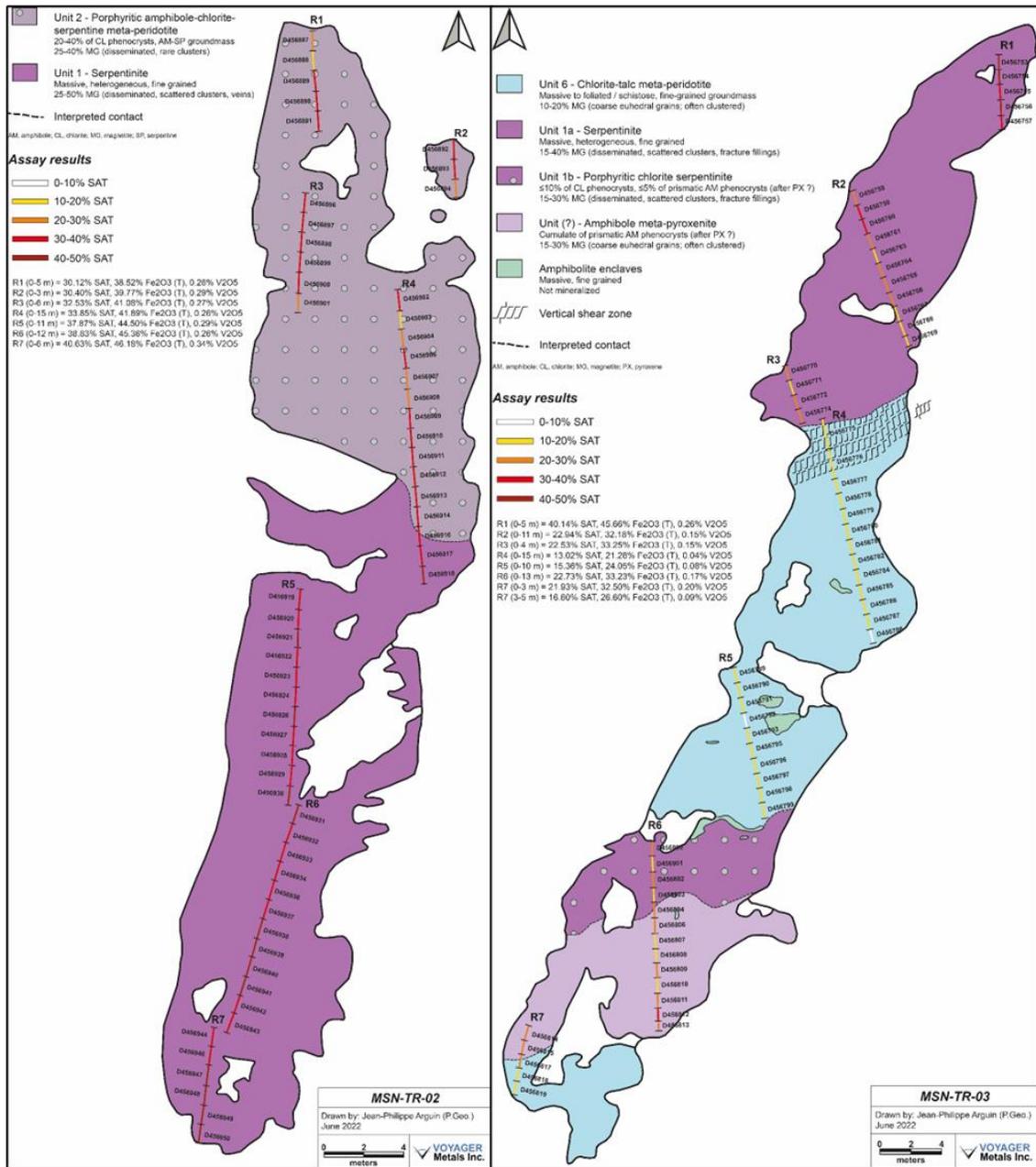
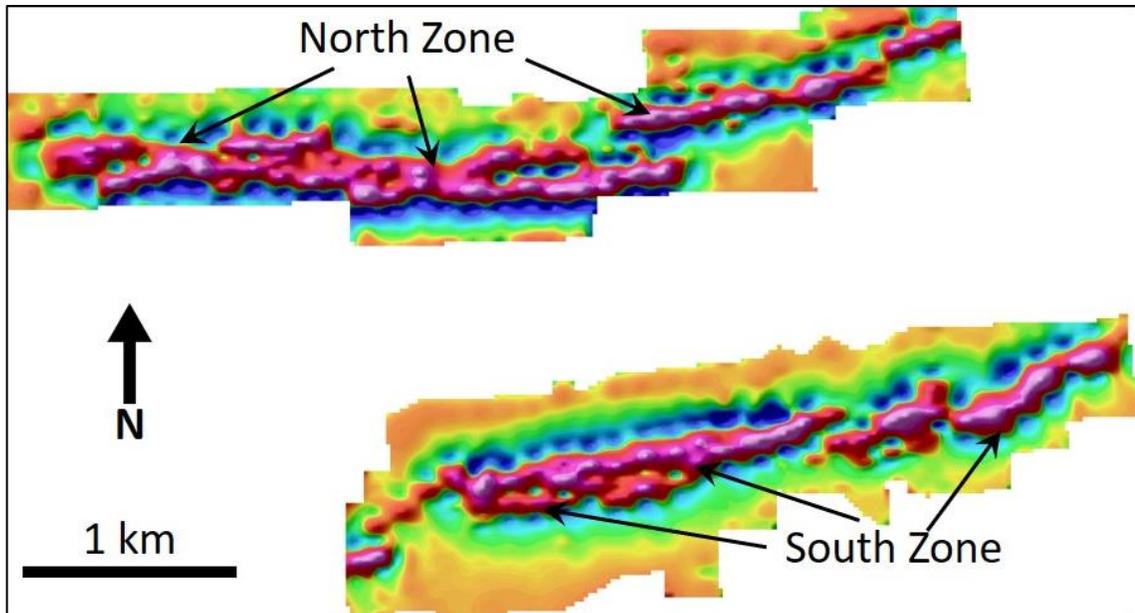


Figure 9-4 – Compilation maps of strippings MSN-TR-02 and MSN-TR-03 showing geology and sample locations

## 9.2 Reprocessing of Airborne Geophysics

In 2018, Voyager commissioned Laurentia Exploration of Jonquière (Quebec) to reprocess the aeromagnetic data from 2010 to produce derivative products, including First Vertical Derivative (“1VD”) (Figure 9-5) and Tilt.

Combined with field mapping, these products were used to create the geological model wireframes. The strong magnetic response of the magnetite-bearing ultramafic rocks proved highly useful in delineating the mineralized zones on the Project.



**Figure 9-5 – 1VD created in 2018 by Laurentia Exploration using 2010 AeroQuest airborne magnetic data**

## 10. DRILLING

This item describes the issuer's surface diamond drilling programs from 2017 to April 6, 2022, the close-out date of the resource database. Previous drilling programs are summarized in Item 6.

In 2017, Claude Larouche, geologist based in Thunder Bay, Ontario and with 20 years of experience working in Chibougamau started the drilling program. Between 2017 and 2018, Dr. Ali Ben Ayad, supervised the drilling program temporarily until Laurentia Exploration, an exploration consulting firm based in Jonquière, Quebec, took over the execution of the program. From 2018 to 2021, the drilling programs were supervised by Laurentia Exploration.

The information in this item was provided by the issuer's geology team or obtained by InnovExplo's geologists during the site visit or subsequent discussions. Grade results are uncapped, and stated intervals are downhole lengths, not true widths.

### 10.1 Drilling Methodology

Chibougamau Diamond Drilling Ltd carried out the drilling campaigns from 2017 to 2021.

Collar locations were determined using a handheld GPS. The core size was NQ. Down-hole orientation surveys were performed using a north-seeking Champ Gyro. The Champ Gyro was run down and then up the entire borehole length, with the up-run being a repeat for quality assurance. Azimuth and dip accuracies were 0.75° and 0.15°, respectively. The use of a gyro-based instrument is appropriate for rocks with significant proportions of magnetite. No historical holes were surveyed for downhole deviations. However, as all the holes were drilled vertically, only minimal deviation was anticipated.

The drill helpers laid out the core in core boxes at the drill rig and marked off each 3-m drill run using a labelled wooden block.

The drill core was delivered to the issuer's core facility in Chibougamau at the end of each shift.

### 10.2 Collar Surveys

Casings were left in place with an identification tag. Collars were surveyed by an independent surveyor (Paul Roy, Q.L.S., C.L.S). A Leica GS15 GNSS RTK receiver was set up as a base station at control point MS-1 (5,527,937.63mN, 564,210.33mE) whose coordinates were determined in June 2018 using Precise Point Positioning from Natural Resource Canada (30 June 2018 report, Document 7662). A measurement check was performed on existing permanent control point MS-2 (5,527,922.09mN, 564,091.77mE). Drill hole collars for all 2013 to 2020 drill holes, as well as most historical drill holes were measured by a Leica GS18 multi-frequency GNSS, providing centimetre-level accuracy. At the time of writing this report, the 2020 and 2021 drill holes had not yet been professionally surveyed; however, the collars had been check-surveyed in the field by the issuer's project geologist using a handheld GPS.

### 10.3 Logging Procedures

Voyager used its Chibougamau facility for core handling, core logging and storage.

Company contractors (technicians) opened the boxes at the core shack. The core was checked for measurement and placement errors and then metered appropriately. The issuer's project geologist or a technician used a magnetic probe to measure the magnetic susceptibility and conductivity every 50 cm down the drill hole. A geologist recorded the most important information, including rock type, mineralization, alteration, structures, and textures of interest, with a special focus on structures (bedding, foliation, shearing, faults) and geologic relationships (contacts).

After marking sample intervals on the core, the boxes were transferred to the core cutting room, where a technician sawed the core samples into two halves. The typical sample lengths were 4.0 m in the North Zone and 2.0 m in South Zone. Once all sample intervals had been sawed, the core technician placed one-half of the core in a labelled sample bag. The sampler stapled the sample tags to the core box underneath the half-core and re-traced the sample interval marks, and re-wrote the sample numbers on the remaining half with a grease pencil. Bagged samples were loaded into rice bags labelled with the contained sample intervals and contact information (laboratory and company). Since 2018, QA/QC samples (5% standards, blanks, and duplicates) are included with each shipment sent to the lab. The shipment information was entered into the shipment database, and the boxes were transferred to the long-term core storage facility in Chibougamau.

### 10.4 Drill Programs

Between 2017 and 2021, the issuer completed four (4) drilling programs in the Mont Sorcier project totalling 87 holes for 26,421 m. The details are presented in Table 10-1 Table 2-1. Figure 10-1 shows the location of the holes drilled between 2017 and 2021 and the historical holes.

**Table 10-1 – Summary of Voyager's 2017 to 2021 Exploration Drilling Program in the Mont Sorcier project**

Period	Zone	Work Completed	Number of Holes	Metres
2017	South Zone	MSS-17-01 to MSS-17-15	15	2,859
2018	South Zone	MSS-18-16 to MSS-18-28	13	2,597
	North Zone	MSN-18-01 to MSN-18-04	4	1,933
2020	North Zone	MSN-20-05 to MSN-20-14	10	3,414
2021	North Zone	MSN-21-15 to MSN-21-56 and MSN-21-H-01 to MSN-21-H-01	45	15,618
<b>Total</b>			<b>87</b>	<b>26,421</b>

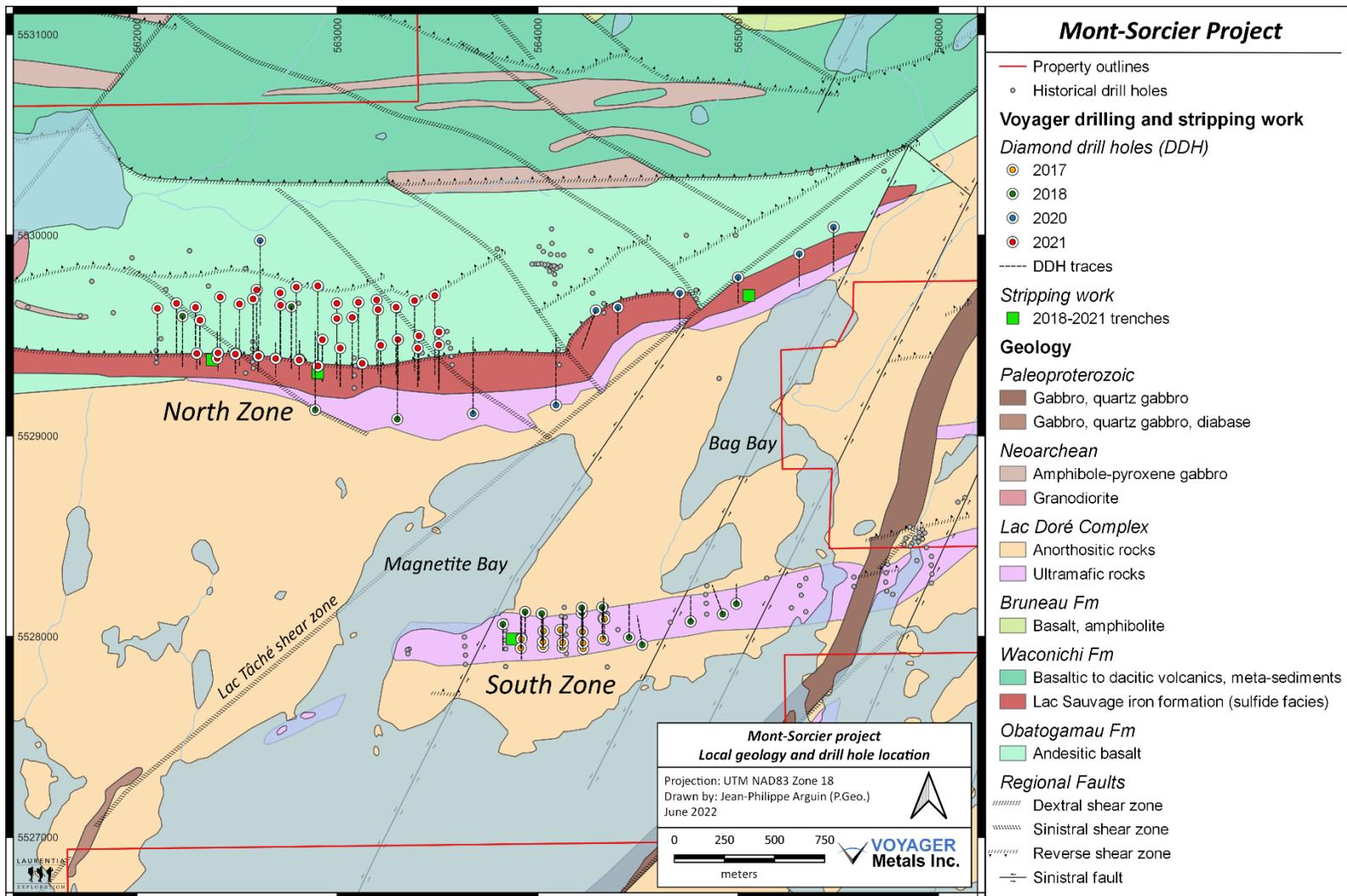


Figure 10-1 – Location map of drill holes and trenches on the Mont Sorcier Project

### 10.4.1 2017 drill program

During the summer of 2017, fifteen (15) holes were drilled on the South Zone for 2,859 m. Voyager drilled the holes on five (5) sections at 100-meter spacing, equivalent to about 600 m of continuous drilling, on strike.

The program aimed to confirm and upgrade (to current standards) a portion of the historical Fe-V-Ti resources established in the early 1960s and 1970s. Thirteen (13) of the holes were for rock core assays (head grade) and Davis Tube Magnetic Concentrate (“DTMC”) analysis. The other two (2) holes, MSS-17-06 and MSS-17-07, were used for metallurgical testing.

All holes intersected continuous mineralization. The average grades of these intersections were comparable to Campbell’s historical iron and vanadium grades in 1974.

Highlights are presented in Table 10-2. Note that some drill holes may start or end in the iron formation due to the formation’s width and vertical dip.

**Table 10-2 – 2017 drilling highlights from the Mont Sorcier Project**

Area	Hole ID	From	To	Length	Rock (Head grade)			Davis Tube (Concentrate)	
					Fe <sub>2</sub> O <sub>3</sub> -T (%)	V <sub>2</sub> O <sub>5</sub> (%)	Fe MAG (%)	Fe <sub>2</sub> O <sub>3</sub> -T (%)	V <sub>2</sub> O <sub>5</sub> (%)
South Zone	MSS-17-08	45.9	258.0	212.1	39.0	0.31	24.5	90.1	0.60
	MSS-17-09	29.5	269.6	240.1	41.4	0.31	26.0	92.2	0.60
	MSS-17-10	124.2	254.5	130.3	35.2	0.27	23.5	91.2	0.59
	MSS-17-11	11.0	174.0	163.0	39.1	0.33	24.7	89.1	0.65
	MSS-17-12	2.4	148.8	146.4	43.2	0.34	27.5	88.8	0.65
	MSS-17-13	3.2	204.0	200.8	37.0	0.29	22.9	93.2	0.60

### 10.4.2 2018 drill program

Voyager drilled 17 holes between September and December 2018, adding thirteen (13) holes in the South Zone and four (4) holes in the North Zone, for a total of 4,530 m. At the South Zone, drilling targeted the eastern extension on line spacings of 100 m and 200 m. At the North Zone, drilling was performed along strike and on a line spacing of roughly 500 m.

Drilling intersected significant continuous mineralization throughout each hole. Highlights are presented in Table 10-3. Note that some drill holes may start or end in the iron formation due to the formation’s width and vertical dip.

**Table 10-3 – 2018 drilling highlights from the Mont Sorcier Project**

Area	Hole ID	From	To	Length	Rock (Head grade)			Davis Tube (Concentrate)	
					Fe <sub>2</sub> O <sub>3</sub> _T (%)	V <sub>2</sub> O <sub>5</sub> (%)	Fe MAG (%)	Fe <sub>2</sub> O <sub>3</sub> _T (%)	V <sub>2</sub> O <sub>5</sub> (%)
North Zone	MSN-18-03	167	283	116	39.9	0.26	22.3	86.12	0.57
	MSN-18-04	215	380	165	39.4	0.22	21.2	84.3	0.48
South Zone	MSS-18-19	41.8	222	180.2	38.9	0.27	24.8	91.1	0.55
	MSS-18-20	48.6	192	143.4	43.9	0.38	28.4	92.1	0.69
	MSS-18-21	56.6	201	144.4	34.7	0.24	22.3	87.9	0.53
	MSS-18-22	80	210	130.0	37.7	0.30	23.7	92.1	0.65

#### 10.4.3 2020 drill program

The 2020 drill program consisted of ten (10) holes totalling 3,414 m, with line spacings of 200 m to 300 m. The goal was to define the eastern extension of the North Zone.

The results confirmed the East extension of the North Zone over 2.0 km. Highlights are presented in Table 10-4. Note that some drill holes may start or end in the iron formation due to the formation's width and vertical dip.

**Table 10-4 – 2020 drilling highlights from the Mont Sorcier Project**

Area	Hole ID	From	To	Length	Rock (Head grade)		
					Fe <sub>2</sub> O <sub>3</sub> _T (%)	V <sub>2</sub> O <sub>5</sub> (%)	Fe MAG (%)
North Zone	MSN-20-07	24.6	189.0	164.5	36.2	0.32	21.7
	MSN-20-08	53.0	263.3	210.3	38.3	0.39	23.1
	MSN-20-11	242.9	498.0	255.1	37.8	0.28	24.4
	MSN-20-12	206.5	534.0	327.5	36.5	0.35	23.4
	MSN-20-14	459.2	600.0	140.8	37.3	0.25	21.3

#### 10.4.4 2021 drill program

In 2021, forty-five (45) holes were drilled on the North Zone for 15,618 m. The goal was to upgrade a portion of the inferred mineral resources to the indicated category.

The 2021 holes intersected mineralized material as generally predicted by the 2020 resource outline. Intersection lengths averaged 190 m, and grades averaged 38% Fe<sub>2</sub>O<sub>3</sub>\_T, 20.6% magnetic Fe and 0.22% V<sub>2</sub>O<sub>5</sub>. These results confirmed grade and thickness expectations for the mineralized zone. Highlights are presented in Table 10-5. Note that some drill holes may start or end in the iron formation due to the formation's width and vertical dip.

**Table 10-5 – 2021 drilling highlights from the Mont Sorcier Project**

Area	Hole ID	From	To	Length	Rock (Head grade)		
					Fe <sub>2</sub> O <sub>3</sub> -T (%)	V <sub>2</sub> O <sub>5</sub> (%)	Fe MAG (%)
North Zone	MSN-21-30	189.7	367.1	177.5	39.5	0.23	21.4
	MSN-21-35	6.0	156.7	150.7	42.3	0.28	24.8
	MSN-21-36	4.4	119.7	115.3	41.5	0.24	23.3
	MSN-21-38	4.8	132.8	128.0	47.0	0.19	22.2
	MSN-21-39	5.8	186.9	181.1	40.3	0.27	24.0
	MSN-21-44	3.6	121.6	118.0	41.0	0.25	21.7
	MSN-21-45	60.6	239.3	178.7	42.7	0.25	25.6
	MSN-21-46	91.5	258.4	166.9	41.5	0.28	25.0
	MSN-21-48	119.8	279.9	160.1	40.4	0.28	22.5
	MSN-21-49	141.0	298.1	157.1	42.6	0.25	24.2

## **11. SAMPLE PREPARATION, ANALYSES AND SECURITY**

The following paragraphs describe the sample preparation, analyses, and security procedures during the drilling programs carried out between 2017 and 2021 on the Project by the issuer, as well as the drilling program carried out in 2013 by Chibougamau Independent Mines Ltd. Sample preparation and security procedures utilized by historical operators are undocumented.

### **11.1 Core Handling, Sampling and Security**

The drill core is boxed, covered and sealed at the drill rigs, and transported by the drilling company employees to the core logging facility at Chibougamau, where the issuer's personnel take over the core handling.

The core is logged and sampled by (or under the supervision of) geologists, all of whom are members in good standing with the OGG. A geologist marks the samples by placing a unique identification tag at the end of each core sample interval. Sample contacts respect lithological boundaries, major structures, and magnetite mineralization. A technician saws each marked sample in half. One half of the core is placed in a plastic bag along with a detached portion of the unique bar-coded sample tag. The other half is returned to the core box with the remaining tag portion stapled in place. The core boxes are stored in outdoor core racks for future reference. Individually bagged samples are placed in security-sealed rice bags along with the sample list for delivery to the assay laboratory. Starting in 2018, QA/QC samples (5% standards, blanks, and duplicates) have been included with each shipment sent to the lab.

The issuer ensured the security of the samples before sending them to the analytical laboratory by limiting access to the samples to authorized persons only. Samples remained under the supervision of Voyager personnel at the core facility until transferred to a commercial trucking company for ground delivery to the analytical laboratory.

### **11.2 Laboratory Accreditation and Certification**

The International Organization for Standardization ("ISO") and the International Electrotechnical Commission ("IEC") form the specialized system for worldwide standardization. ISO/IEC 17025 – *General Requirements for the Competence of Testing and Calibration Laboratories* sets out the criteria for laboratories wishing to demonstrate that they are technically competent, operating an effective quality system, and able to generate technically valid calibration and test results. The standard forms the basis for the accreditation of laboratory competence by accreditation bodies.

Samples from the 2013 to 2021 drill programs were sent to four (4) laboratories for preparation and analysis: Activation Laboratories Ltd. ("Actlabs") in Ancaster, Ontario; ALS Ltd. ("ALS") in Val-d'Or, Quebec; Laboratoire Expert Inc. ("Expert") in Rouyn-Noranda, Quebec; and SGS Canada Inc. ("SGS") in Lakefield, Ontario. Actlabs, ALS and SGS received ISO/IEC 17025 accreditation through the Standards Council of Canada ("SCC"). Actlabs, ALS, Expert and SGS are commercial laboratories independent of the issuer and have no interest in the Project.

### 11.3 Laboratory Preparation and Assays

The laboratories used to analyze Voyager’s drilling samples are shown in Table 11-1.

**Table 11-1 – Laboratories used for assaying between 2013 and 2021**

Laboratory	Hole ID
Actlabs	MS-13-17, MS-13-19, MSS-17-01 to MSS-17-05, MSS-17-08 to MSS-17-15
ALS	MSN-20-05 to MSN-20-14
Expert	MS-13-17
SGS	MSN-18-01 to MSN-18-04, MSS-18-16 to MSS-18-28, MSN-21-15 to MSN-21-56

#### 11.3.1 Head grade analysis

At each laboratory, samples were weighed, dried at 105°C, and crushed to 75% passing 2 mm. A 250 g split was taken using a riffle splitter and milled in a non-magnetic chromium-steel ring and bowl mill to 80% passing 75 µm.

Samples were assayed using similar methodologies at all laboratories. Head samples were fused into disks using a borate flux (borate fusion) and analyzed using XRF spectrometry. A 30–50 g subsample of the head sample was used to create magnetic separates using a Davis Tube magnetic separator, at a magnetic intensity of 1000 Gauss. The head sample was weighed, and the magnetic fraction produced was dried and weighed, to determine the percentage of magnetics within the sample. The magnetic fraction was also analyzed using XRF on a borate fusion disk.

Sample analytical procedures utilized by Campbell Chibougamau Mines Ltd are largely undocumented. However, historical reports indicate that magnetic separation was also carried out using Davis Tube tests on samples milled to >95% or >98% passing 44 µm.

#### 11.3.2 Davis Tube Test

Since 2017, samples have been subject to Davis Tube test (“DTT”). DTT was used as part of the assaying procedure for each sample and to estimate the iron grades of the magnetite concentrates as part of the MRE. DTT also gives useful insights into the metallurgical parameters of the Mont Sorcier Project.

Davis Tube magnetic separators (Figure 11-1) create a magnetic field that can extract magnetic particles from pulverized samples, allowing the percentage of magnetic and non-magnetic material in a sample to be determined. A 30–50 g aliquot of a pulp sample (grind size of -75 microns) is gradually added to a cylindrical glass tube oscillating at 60 strokes per minute. The magnetic field captures magnetic particles as the sample progresses down the inclined tube. Wash water flushes the non-magnetic fraction out of the tube until only the magnetic fraction remains. The magnetic and non-magnetic fractions are dried and weighed to determine the percentage of magnetics in each sample.



From <https://geneq.com/materials-testing/en/product/sep/or/davis-tube-tester-11534>

**Figure 11-1 – A Davis Tube magnetic separator**

For DTT, it was assumed that all magnetic iron is present in magnetite, and all vanadium is present as a solid solution in magnetite. Mineralogical testwork has shown no evidence for other magnetic iron-bearing minerals (e.g., pyrrhotite) and has also confirmed that vanadium is in magnetite. Since many samples from across the entire zones have been tested, the samples reflect the various mineralization styles in the zones.

#### **11.4 Quality Assurance and Quality Control**

The quality assurance and quality control (“QA/QC”) program for drill core had included the insertion of blanks and standards in the sample stream of core samples since 2018. About 15% of the samples were control samples in the sampling and assaying process. One (1) standard and one (1) blank sample of barren rock were added to each group of 20 samples as an analytical check for the laboratory batches.

Geologists were responsible for the QA/QC program and database compilation. Upon receiving the analytical results, the geologists extracted the results for blanks and

standards to compare against the expected values. If QA/QC acceptability was achieved for the analytical batch, the data were entered into the project's database; if not, the laboratory was contacted to review and address the issue, including retesting the batch if required.

The discussion below details the results of the blanks, standards and pulp duplicates used in the issuer's QA/QC program.

#### 11.4.1 Certified Reference Materials (Standards)

Accuracy is monitored by inserting CRMs at a ratio of one (1) for every 20 samples (1:20). Two standards, high-grade ("HG") and low-grade ("LG"), were created by Voyager using archived 2017 reject material. Actlabs prepared the standard materials, and two samples of each standard were assayed at three commercial referee laboratories: ALS, COREM and AGAT Laboratories Ltée ("AGAT"). Although the small number of standards assayed by these three independent laboratories may not have captured the inherent variability of the samples, the results from the standard analyses show no obvious evidence for bias. Ideally, creating a standard material should involve more samples and laboratories to calculate a statistically valid mean and standard deviation for the sample material. This is recommended for future programs.

A QC failure is defined as when the assay result for a standard falls outside three standard deviations ("3SD"). Gross outliers are excluded from the standard deviation calculation.

Of the 284 CRM samples, two (2) returned results outside 3SD for  $\text{Fe}_2\text{O}_3\text{-T}$ , three (3) for  $\text{TiO}_2$  and three (3) for  $\text{V}_2\text{O}_5$  (Table 11-2). Of those fails, three (3) were gross outliers. Samples 01675 and D455064 failed for  $\text{Fe}_2\text{O}_3\text{-T}$  and  $\text{V}_2\text{O}_5$  and likely represent an inversion between the two standards. The third, sample 00475, failed only for  $\text{TiO}_2$  and is assumed to be an isolated typographic error as other analyzed elements had passed the QC.

The overall success rate was 99%. Outliers did not generally show persistent analytical bias (either below or above the 3SD limit). They were close to the 3SD threshold and appeared to be isolated errors, as other standards and blanks processed from the same batches had passed. Consequently, no batch re-runs were performed. Figure 11-2, Figure 11-3, Figure 11-4 and Figure 11-5 show examples of control charts for the standard CDN-GS-P7H assayed by Techni-Lab. A similar control chart was prepared for each CRM to visualize the analytical concentration value over time.

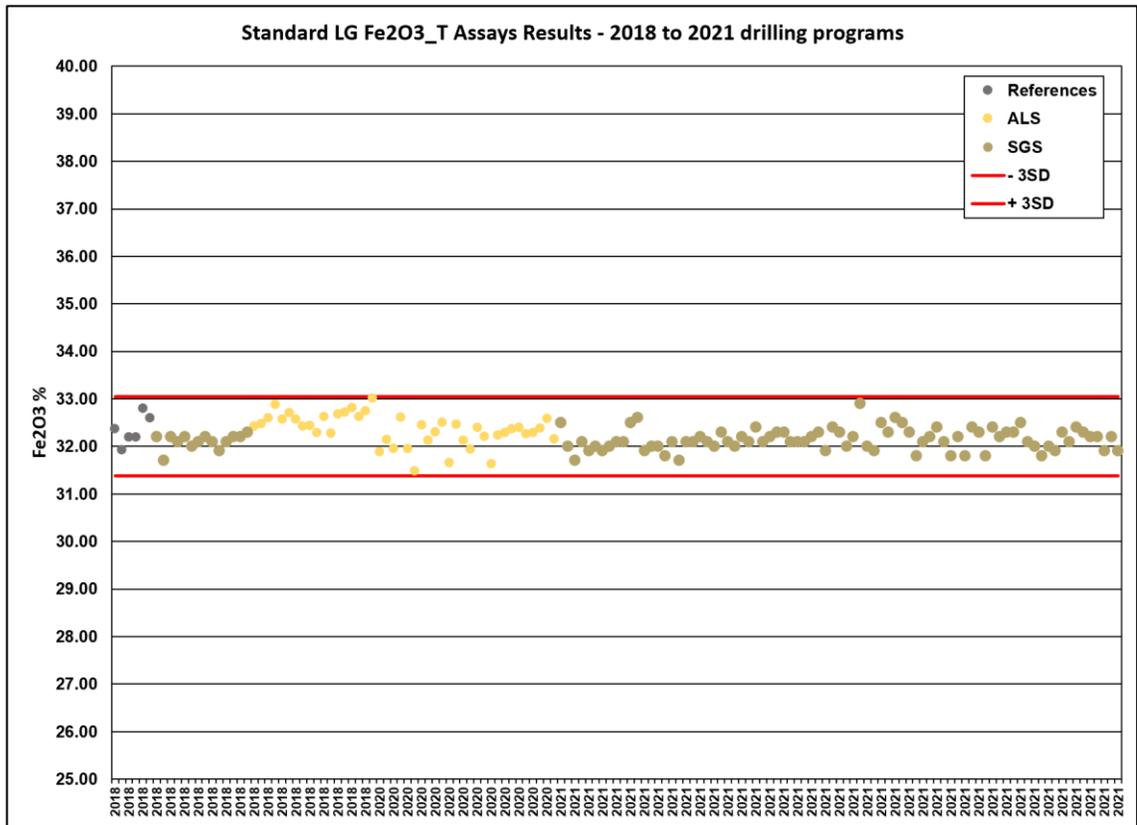
The overall results exhibit a slight negative bias in terms of accuracy, with an average of -2.0% and a precision of around 1.8% for standards.

Both parameters meet standard industry criteria.

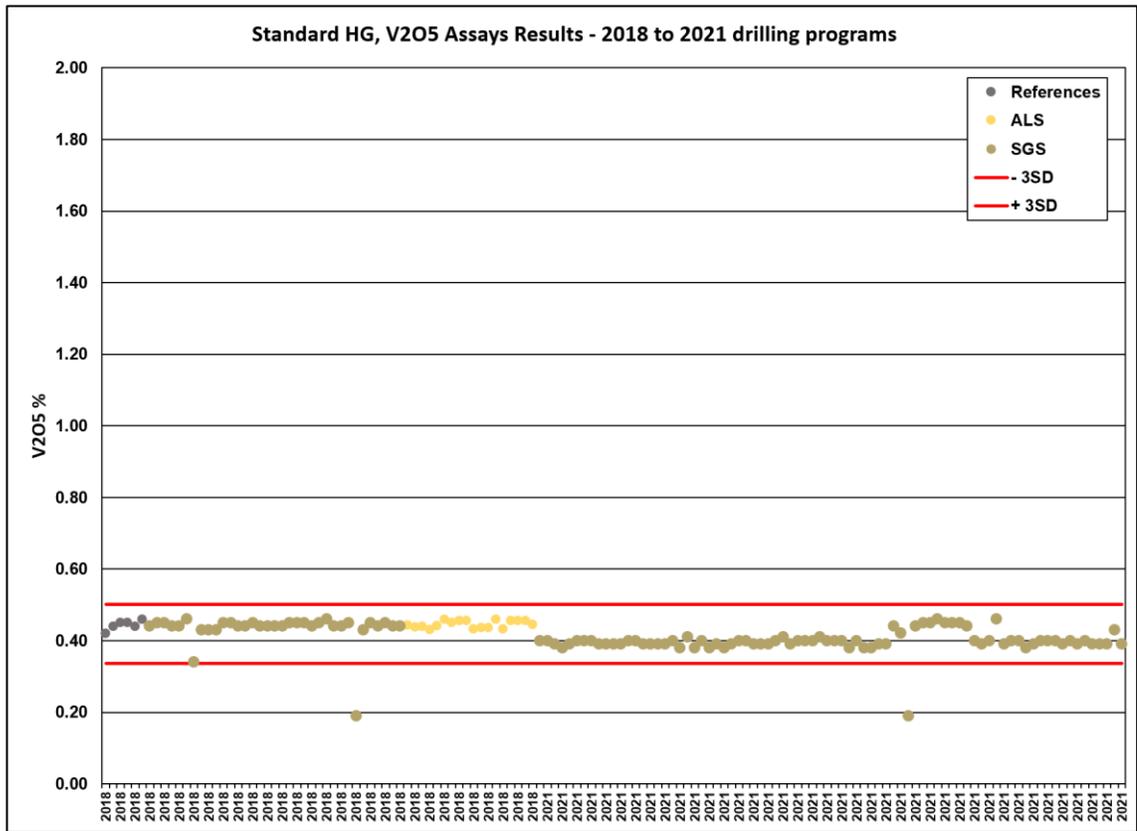
**Table 11-2 – Results of standards used between 2013 to 2018**

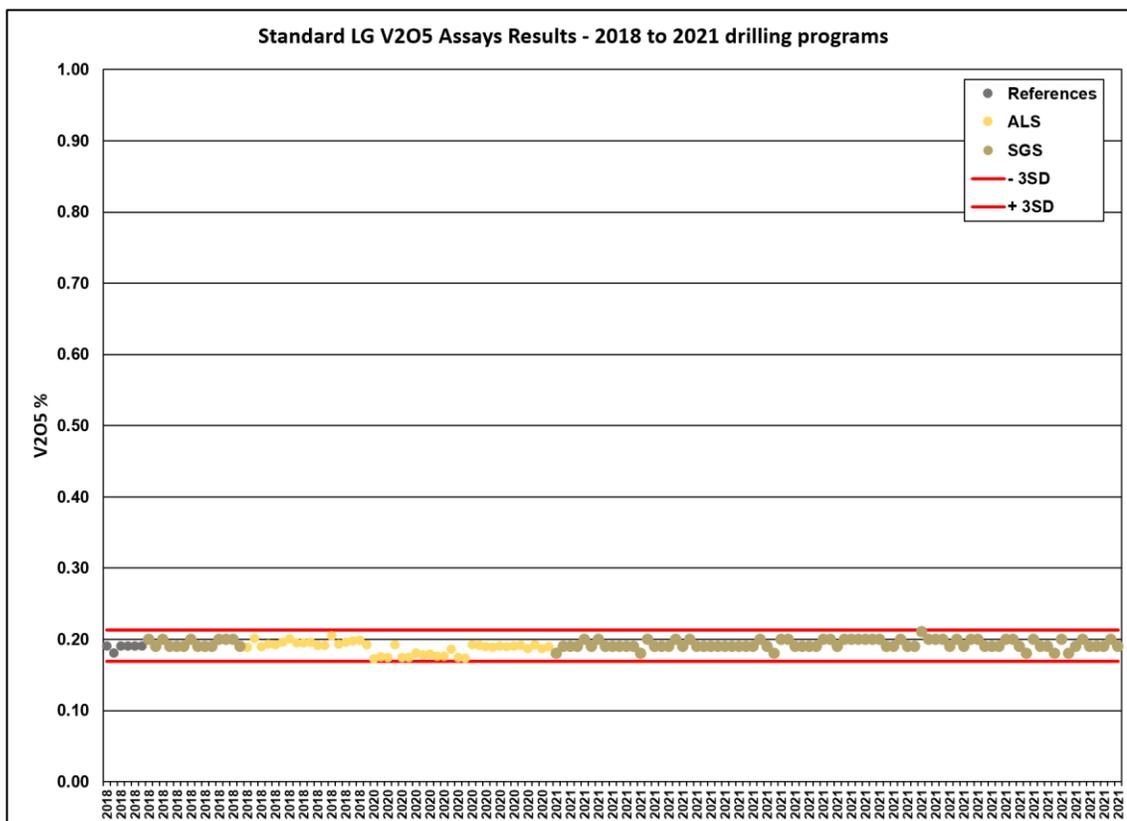
CRM	Metal	No. Of Assays	CRM value (%)	Average (%)	Accuracy (%)	Precision (%)	Outliers	Gross Outliers	Percent passing QC
HG	Fe <sub>2</sub> O <sub>3</sub> _T	139	44.5	43.24	-2.7	1.6	0	2	98
HG	TiO <sub>2</sub>	139	0.89	0.84	-6.0	2.5	2	1	98
HG	V <sub>2</sub> O <sub>5</sub>	139	0.44	0.42	-4.8	2.5	1	2	98
LG	Fe <sub>2</sub> O <sub>3</sub> _T	145	32.4	32.2	-0.6	0.7	0	0	100
LG	TiO <sub>2</sub>	145	1.10	1.11	1.3	1.1	0	0	100
LG	V <sub>2</sub> O <sub>5</sub>	145	0.19	0.19	0.7	2.6	0	0	100





**Figure 11-3 – Control chart of standard LG analyzed for Fe2O3\_T**





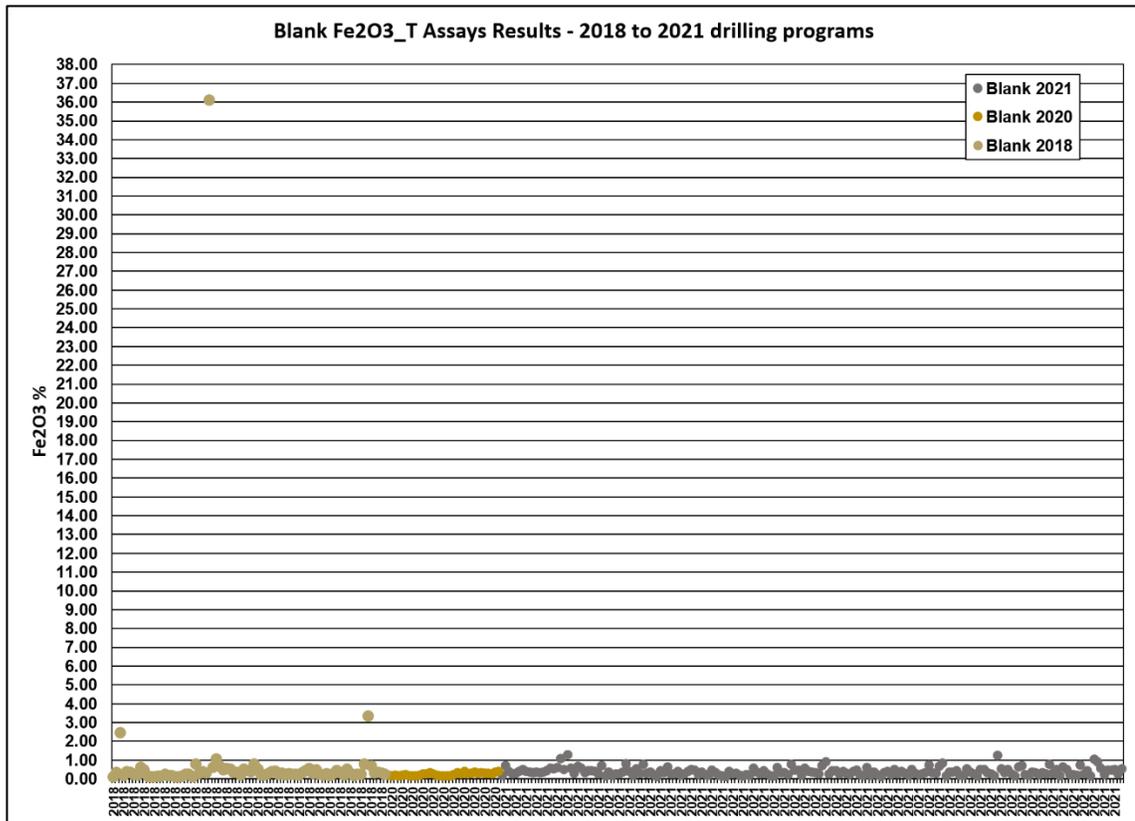
**Figure 11-5 – Control chart of standard LG analyzed for V<sub>2</sub>O<sub>5</sub>**

#### 11.4.2 Blank Samples

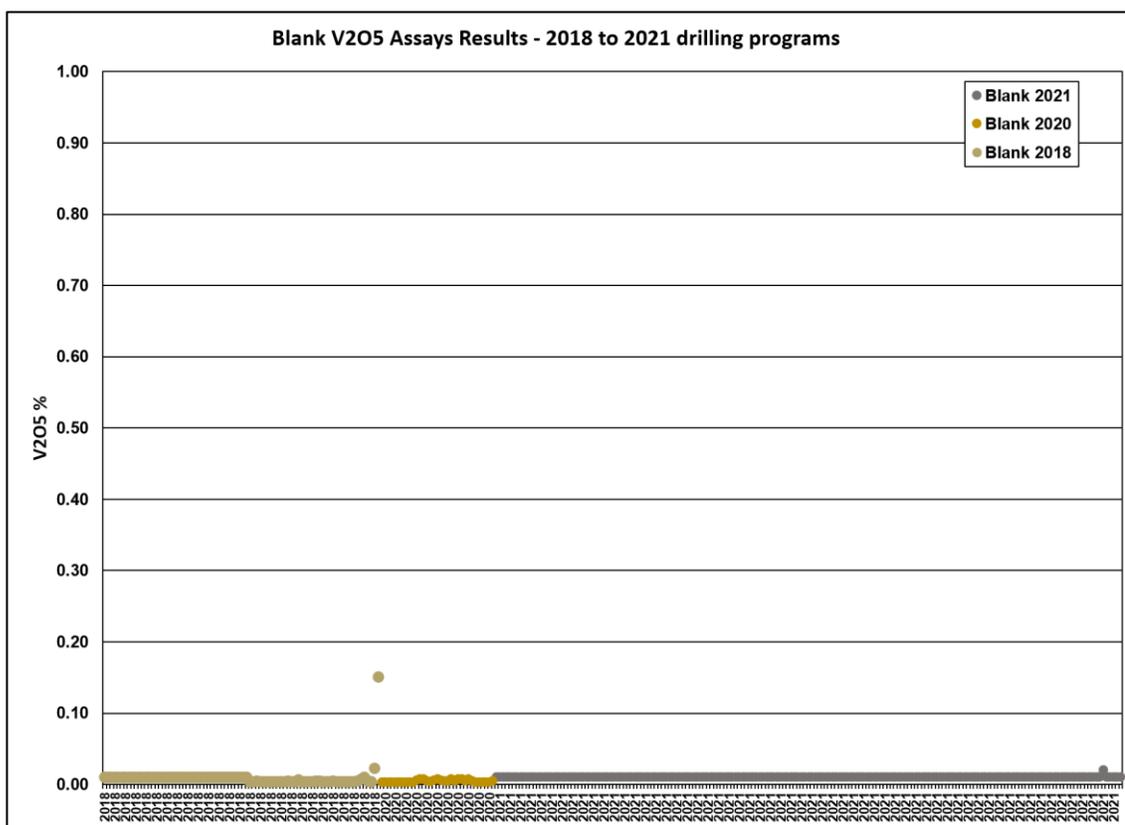
Contamination is monitored by the routine insertion of a barren sample (blank), which goes through the same sample preparation and analytical procedures as the core samples.

A total of 294 blanks were inserted in the sample batches from 2018 to 2021. The blank material consisted of quartz rocks collected near Chapais, Québec.

The assayed blank samples showed no significant contamination for Fe<sub>2</sub>O<sub>3</sub> (Figure 11-6) and V<sub>2</sub>O<sub>5</sub> (Figure 11-7). The single outlier is clearly a mislabelled mineralized core sample.



**Figure 11-6 – Time series plot of blank samples assayed for Fe<sub>2</sub>O<sub>3</sub>\_T from 2018 to 2021**



**Figure 11-7 – Time series plot of blank samples assayed for V<sub>2</sub>O<sub>5</sub> from 2018 to 2021**

### 11.4.3 Duplicates

In 2017, 48 duplicates (quarter-core split and pulp) were sent to SGS for verification.

In 2018, 44 samples were duplicated using quarter-core (about 3 duplicates per drill hole) and pulp (about 1 duplicate per drill hole) for verification at Actlabs. In addition, the quarter-core were also used for metallurgical testing at COREM, Quebec City, Quebec, which provided additional duplicates.

Between 2020 and 2021, the company changed the duplicate program strategy to focus on Davis Tube test results. In 2017 and 2018, DTT were assayed on the concentrate only and, therefore, could not be used as duplicates. In 2020 and 2021, DTT was done on composite samples of about 20-meter length (about 4 or 5 original assayed 4-m long samples) and assays were conducted on head grade, magnetite concentrates and rejects of these composites. Therefore, since 2020, DTT results were used as duplicates by comparing the calculated grades of composites from original 4-m long samples to the DTT head grade of the matching composites.

During 2020, 158 DTT were performed by SGS. In addition, 34 duplicates were also performed on samples from holes drilled in 2017 and 2018 and assayed at SGS or COREM.

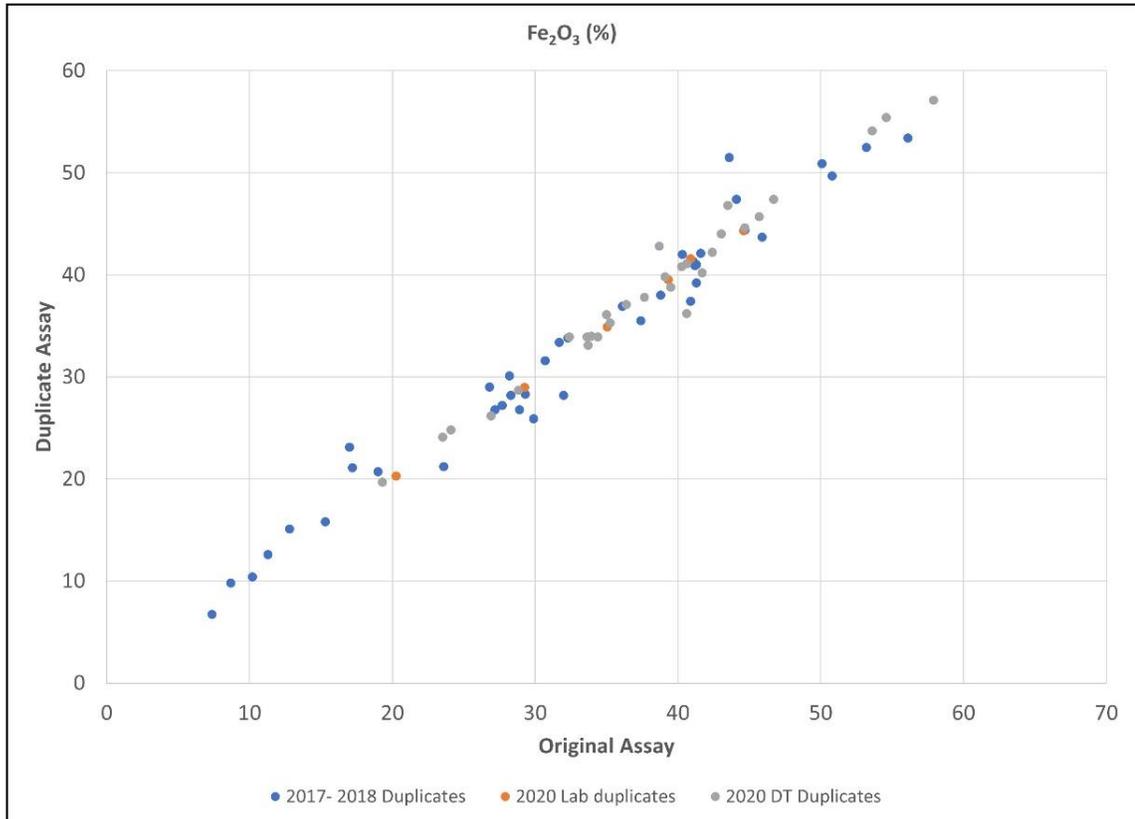
In 2021, 478 DTT were performed by SGS at their Quebec City laboratory. In addition, 1 of 10 DTT sample was resampled and sent to SGS, Lakefield laboratory for duplication

of head, concentrate and reject DTT. At the time of the report, the analyses were still in progress and 455 had been received.

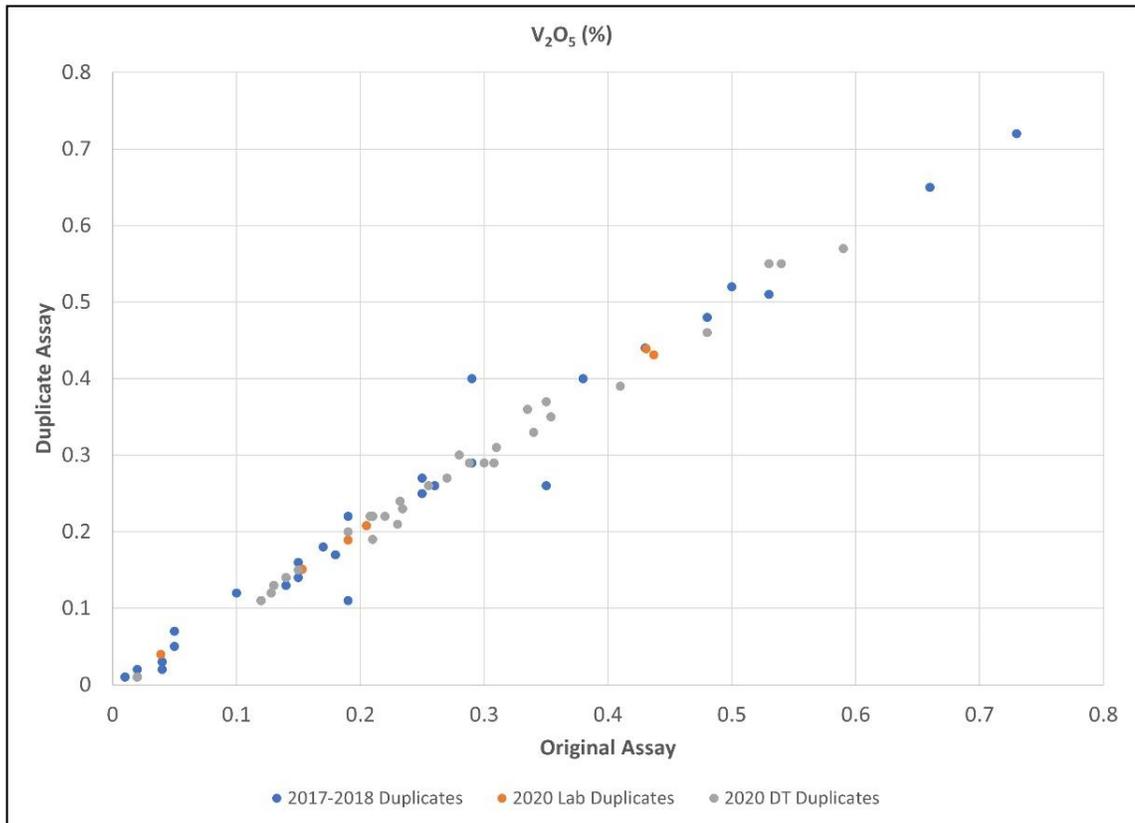
Comparison of original assays with duplicate assays analyzed between 2017 and 2020 are shown in Figure 11-8 ( $\text{Fe}_2\text{O}_3$ ) and Figure 11-9 ( $\text{V}_2\text{O}_5$ ) scatter plots.

The results available for 2021 comparing the DTT composite head grade to the calculated composite grades is illustrated in Figure 11-10 and Figure 11-11.

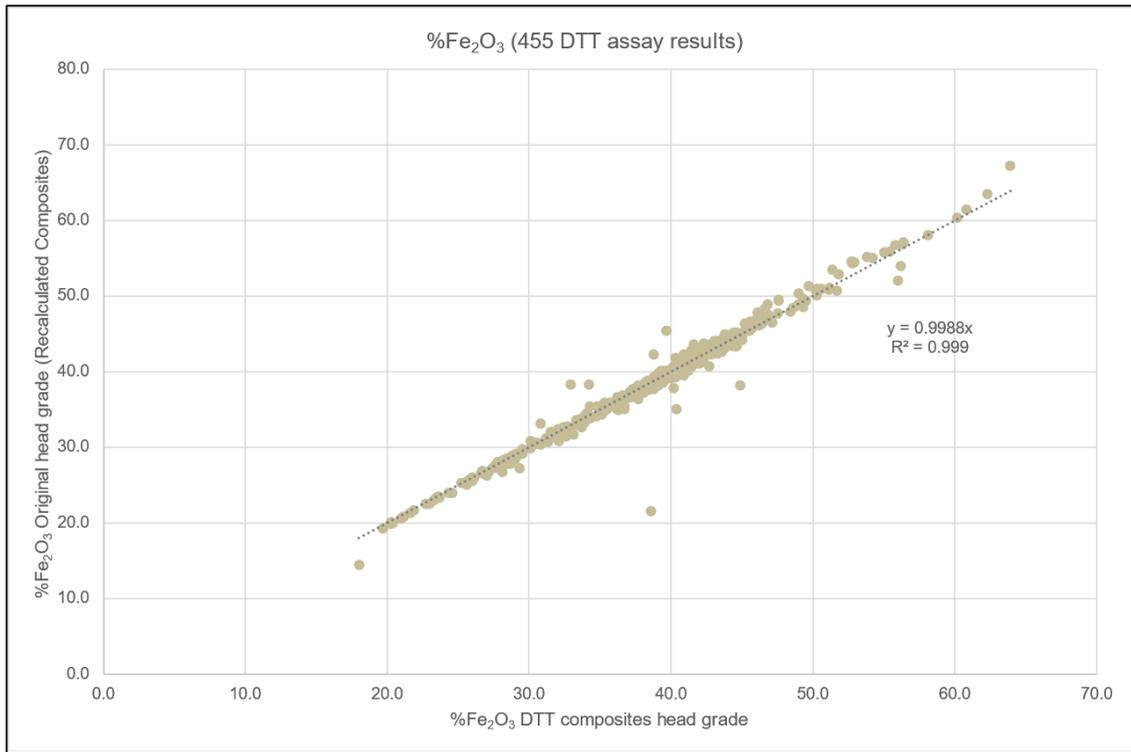
Overall, the comparison shows a good correlation between original and duplicate results.



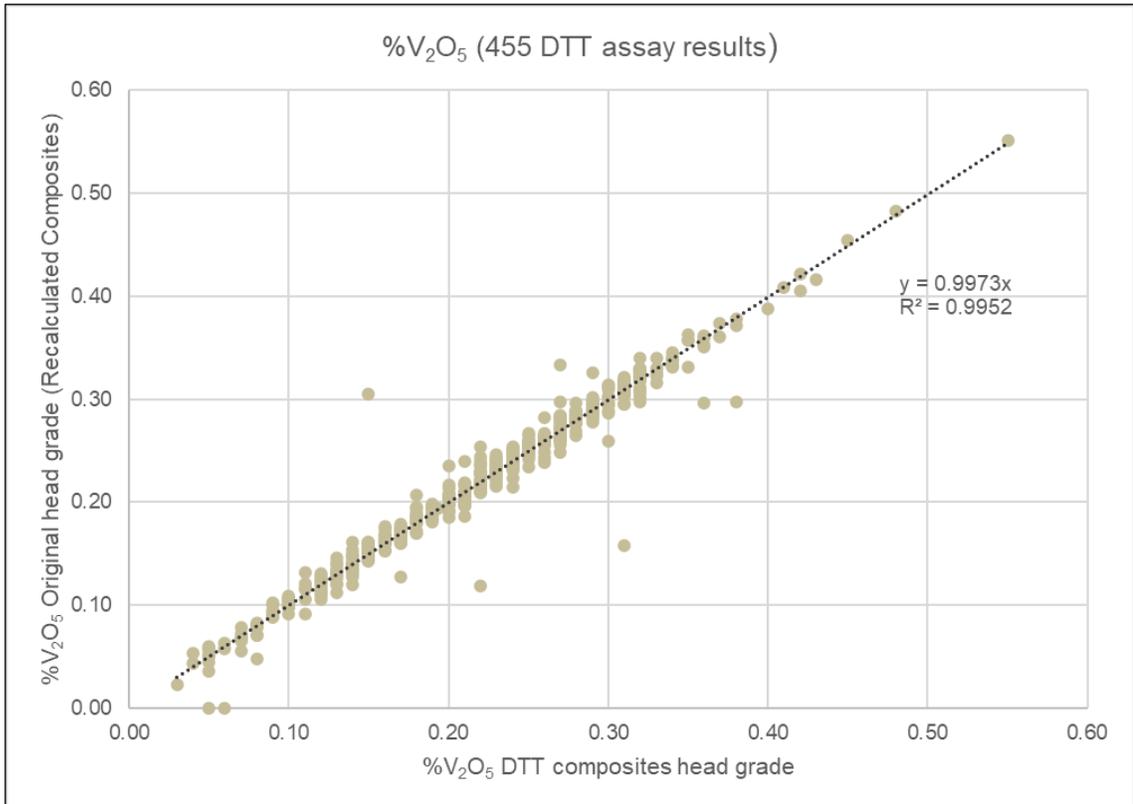
**Figure 11-8 – Linear graph comparing original and duplicate samples analyzed from 2017 to 2020 for  $\text{Fe}_2\text{O}_3$**



**Figure 11-9 – Linear graph comparing original and duplicate samples analyzed from 2017 to 2020 for V<sub>2</sub>O<sub>5</sub>**



**Figure 11-10 – Linear graph comparing original and duplicate samples analyzed in 2021 for Fe<sub>2</sub>O<sub>3</sub>**



**Figure 11-11 – Linear graph comparing original and duplicate samples analyzed in 2021 for V<sub>2</sub>O<sub>5</sub>**

## 11.5 Conclusion

The authors believe that the sample preparation, security, analysis and QA/QC protocols from 2018 to 2021 followed generally accepted industry standards, and the data is valid and of sufficient quality for mineral resource estimation. Although QA/QC data are not available for earlier historical assays, they are considered adequate for estimating inferred resources where the historical assays are not supported by the 2018–2021 drill results.

## **12. DATA VERIFICATION**

This item covers data verification for information supplied by the issuer (the “Voyager database”). The database close-out date for the 2022 MRE is April 6, 2022.

Data verification included visits to the Property and an independent review of the data for selected drill holes (surveyor certificates, assay certificates, QA/QC program and results, downhole surveys, lithologies, alteration and structures).

### **12.1 Site Visits**

Carl Pelletier (P.Geo.) visited the Project from May 17 to May 18, 2022. Onsite data verification included a general visual inspection of the Property and the core storage facilities, a check of drill collar coordinates, and a review of selected mineralized core intervals, the QA/QC program and the log descriptions of lithologies, alteration and mineralization.

### **12.2 Core Review**

The core boxes are stored in core racks. The authors found the boxes in good order and properly labelled with the sample tags. The wooden blocks at the beginning and end of each drill run were still in place, matching the indicated footage on each box. The authors validated the sample numbers and confirmed the presence of mineralization in the reference half-core samples (Figure 12-1).



- A. Proper labelling of the drill core boxes and mineralization from hole MSN-21-49;
- B. Sample tag stapled on core box;
- C. Sawing facility;
- D. Core racks

**Figure 12-1 – Photographs taken during the drill core review**

### 12.3 Database

The Voyager database contains a total of 201 holes (46,906 m). The database includes 114 historical holes (20,486 m) drilled before 2017 (1960s, 1970s, 1983, 1993 and 2003) and 87 holes (26,420 m) drilled between 2017 and 2021.

### 12.3.1 Drill Hole Locations

Collar position coordinates and azimuths are presented in the database using the UTM system (NAD 83, Zone 17).

Casings were left in place with an identification tag. Collars from 2013 to 2018 drilling campaigns were surveyed by an independent surveyor (Paul Roy, Q.L.S., C.L.S.). A Leica GS15 GNSS RTK receiver was set up as a base station at control point MS-1 (5,527,937.63mN, 564,210.33mE). The control point coordinates were determined in June 2018 using Precise Point Positioning from Natural Resource Canada (June 30, 2018 report, Document 7662). A measurement check was performed on existing permanent control point MS-2 (5,527,922.09mN, 564,091.77mE). At the time of the report, the 2020 and 2021 drill holes had not yet been professionally surveyed, but the collars had been check-surveyed by Voyager's project geologist using a handheld GPS. The collars of most historical drill holes were also check-surveyed by Voyager's project geologist using a handheld GPS.

The coordinates of 24 surface holes were confirmed by the author using a handheld GPS (Figure 12-1 and Table 12-1), then compared to the database. All results had acceptable precision.

The collar locations in the Voyager database are considered adequate and reliable.



- A. South Zone stripping and trenches;
- B. Close-up of South Zone mineralization;
- C. MSN-21-02 collar;
- D. MSS-18-23 collar

**Figure 12-2 – Examples of onsite verification**

**Table 12-1 – Original collar survey data compared to InnovExplo’s checks**

Hole ID	Original coordinates		Checked coordinates		Difference (m)	
	Easting	Northing	Easting	Northing	Easting	Northing
MS-13-17	562539	5529314.6	562539	5529317	0	2.4
MSS-17-03	563918.6	5527987.4	563918	5527990	-0.6	2.6
MSS-17-07	564028.4	5528026.9	564028	5528030	-0.4	3.1
MSS-17-09	564026	5527948.5	564027	5527950	1	1.5
MSS-17-12	564025.9	5527973.2	564026	5527975	0.1	1.8
MSS-17-14	563915.1	5527942.4	563915	5527943	-0.1	0.6
MSS-18-23	563826.1	5528061.2	563826	5528062	-0.1	0.8
MSN-20-10	565305	5529907	565305	5529902	0	-5
MSN-20-13	565476	5530040	565474	5530044	-2	4
MSN-21-H-02	562606	5529397	562604	5529396	-2	-1
MSN-21-H-03	562604	5529398	562604	5529401	0	3
MSN-21-26	562902	5529747	562897	5529751	-5	4
MSN-21-27	562997	5529660	563002	5529656	5	-4
MSN-21-28	563105	5529665	563105	5529657	0	-8
MSN-21-29	563074	5529590	563075	5529587	1	-3
MSN-21-30	562997	5529584	562999	5529582	2	-2
MSN-21-31	563196	5529677	563199	5529661	3	-16
MSN-21-32	563203	5529629	563198	5529619	-5	-10
MSN-21-39	562604	5529397	562606	5529400	2	3
MSN-21-40	562691	5529386	562691	5529389	0	3
MSN-21-41	562692	5529385	562690	5529386	-2	1
MSN-21-43	562811	5529381	562811	5529387	0	6
MSN-21-44	562903	5529348	562903	5529346	0	-2
MSN-21-54	563297	5529638	563289	5529639	-8	1

### 12.3.2 Downhole Survey

Since 2017, down-hole orientation surveys have been performed using a north-seeking Champ Gyro. The Champ Gyro was run down and then up the borehole length, with the up run being a repeat for quality assurance. Azimuth and dip accuracies are 0.75° and 0.15°, respectively. The use of a gyro-based instrument is appropriate for rock with significant proportions of magnetite. No historical holes were surveyed for downhole deviation; however, as these holes were all vertical, only minimal deviation was anticipated.

The downhole survey information was verified for 5% of the holes used in the 2022 MRE. The holes were selected based on their representativeness in terms of the drilling program they were part of and their geographical position with respect to the interpreted mineralized zones.

Minor errors of the type normally encountered in a project database were identified and corrected.

### 12.3.3 Assays

The author was given access to the assay certificates for all drilling programs since 2013. The assays in the database were compared to the original certificates sent from the laboratory. The verified holes represent 5% of the holes used in the 2022 MRE database. The holes were selected based on their representativeness in terms of the drilling program they were part of and their geographical position with respect to the interpreted mineralized zones. Minor errors of the type normally encountered in a project database were identified and corrected.

For the pre-2013 historical holes, only paper logbooks were available for validation by the author. The author compared the historical assays to recent assays to verify and validate the quality of the historical data for these holes. Cumulative probability plots of  $\text{Fe}_2\text{O}_3$  and  $\text{TiO}_2$  (head grades) show an excellent correlation between recent and historical values (Figure 12-3 and Figure 12-4). A cumulative probability plot of  $\text{V}_2\text{O}_5$  values (head grade) shows a greater proportion of lower grades below 0.1%  $\text{V}_2\text{O}_5$  and higher grades above 0.1%  $\text{V}_2\text{O}_5$  in the recent assays compared to historical assays (Figure 12-5). These discrepancies could be explained by the fact that vanadium grades in historical samples were measured on longer samples (an average of 7 m for historical samples versus 2 to 4 m for recent samples). As vanadium grades are characterized by greater heterogeneity spatially, longer samples cause smoothing of the grades. The differences, however, are not considered material.

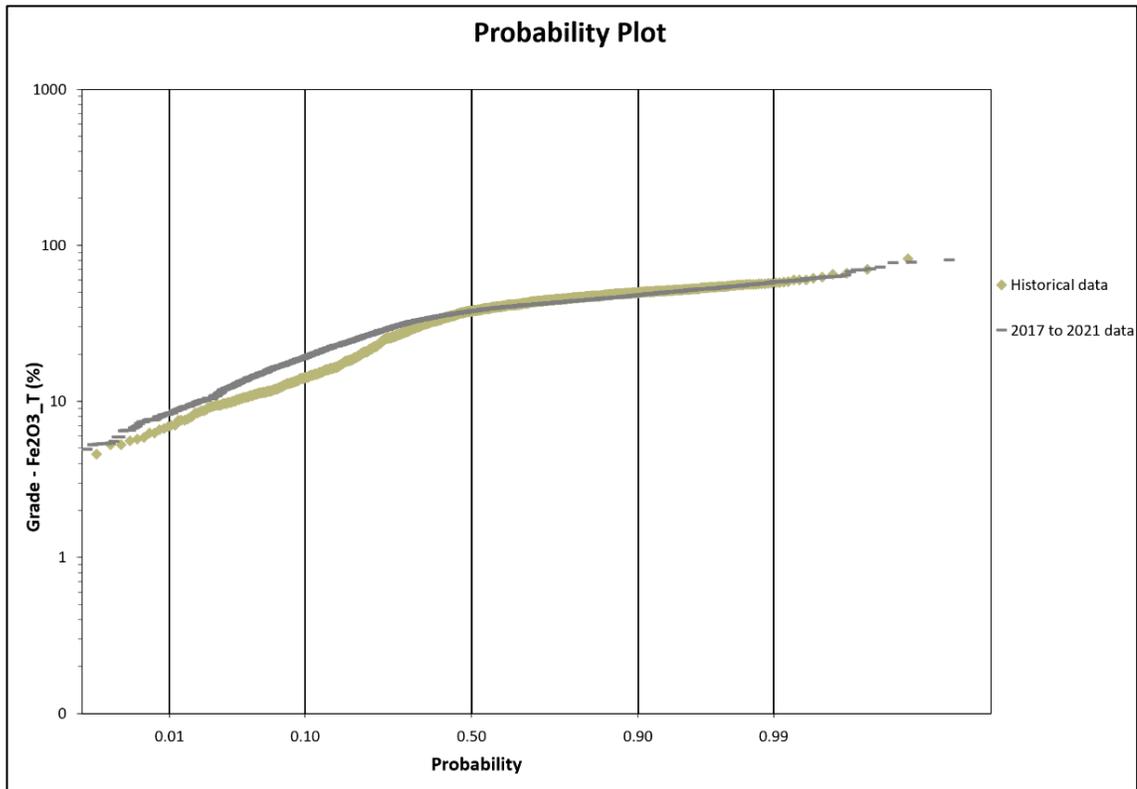


Figure 12-3 – Cumulative probability plot for Fe<sub>2</sub>O<sub>3</sub> in recent and historical assays

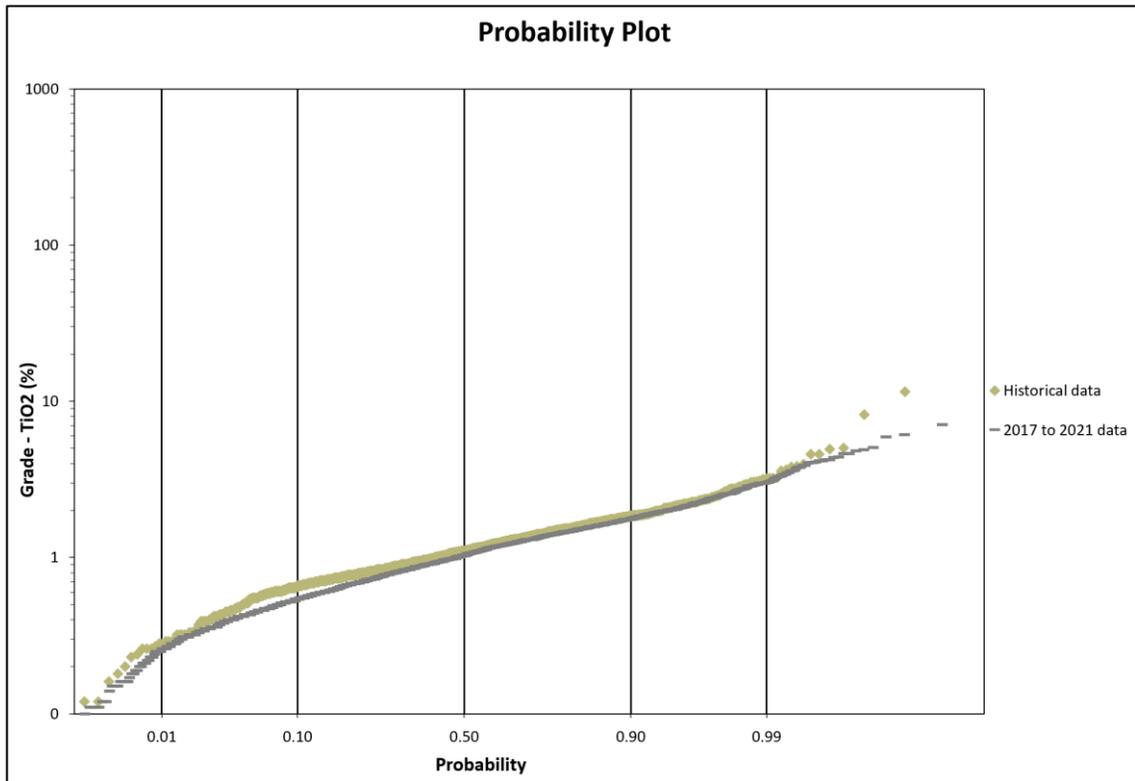
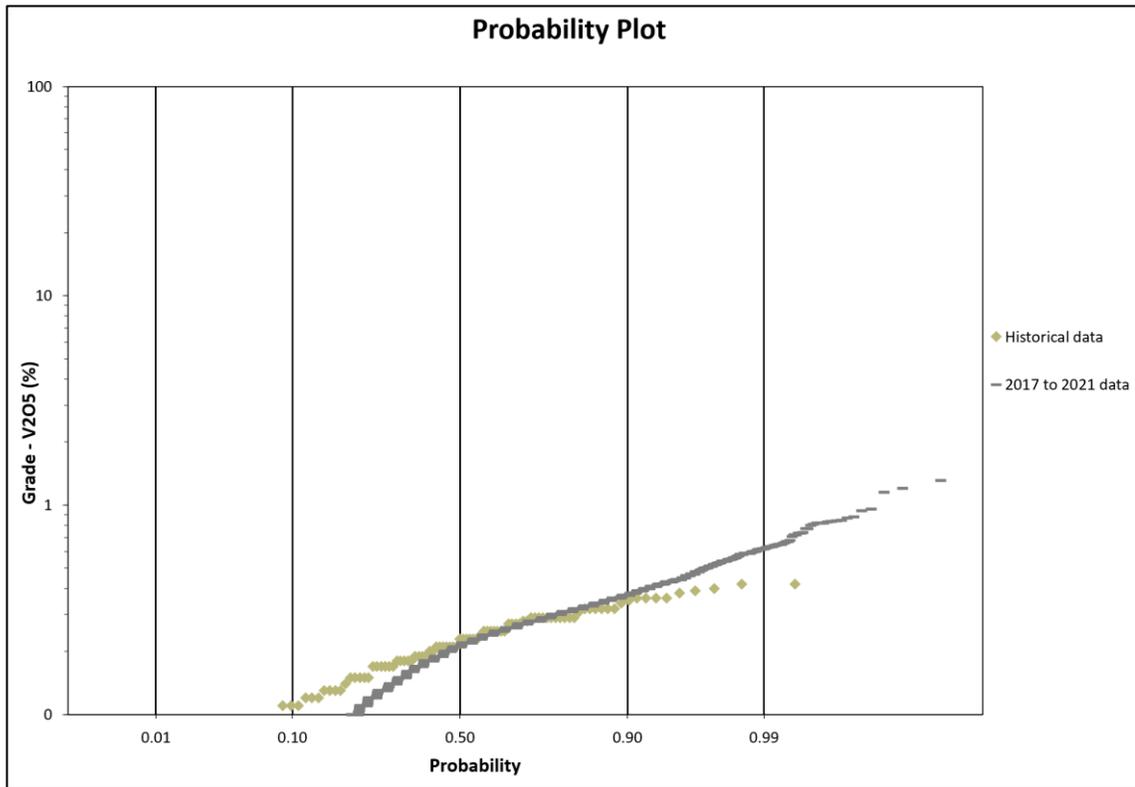


Figure 12-4 – Cumulative probability plot for TiO<sub>2</sub> in recent and historical assays



**Figure 12-5 – Cumulative probability plot for V<sub>2</sub>O<sub>5</sub> in recent and historical assays**

## 12.4 Conclusion

The author believes his data verification has demonstrated the validity of the data and the project protocols. The author considers the Voyager database valid and of sufficient quality to be used for the mineral resource estimate herein.

## 13. MINERAL PROCESSING AND METALLURGICAL TESTING

### 13.1 1966 Lakefield Research of Canada Limited Test Program

In 1966, Lakefield Research of Canada Limited executed an autogenous grinding and magnetic separation and pilot plant test program on a 35-ton magnetite bearing sample. As part of the program, tests were carried out to determine liberation with particle size distribution relationships and dry magnetic separation using a Sala-Mortsell drum separator to give additional information on the concentration characteristics of the mineralized material. The findings were presented in a report entitled “*An investigation into the recovery of iron by autogenous grinding and magnetic separation from an ore submitted by Campbell Chibougamau Mines Limited, Project 1049*” (Lakefield, 1966).

Crude mineralized material analyses were obtained by directly sampling the screen undersize in tests 4 to 10. Magnetic iron assays were obtained from the balance of tests 9 and 11. Results showed on average:

- 28.9% soluble (sol.) Fe
- 25.3% magnetic (mag.) Fe

The purpose of the grinding was to reduce the magnetite bearing sample to a degree of fineness so that subsequent magnetic separation could produce a finished concentrate of the desired grade. The required grind was thought to be 90% passing 44  $\mu\text{m}$ :

- Tests were conducted in a closed-loop autogenous mill but only led to 72.6% passing 44  $\mu\text{m}$ ;
- Two-stage grinding, one open-circuit cascade mill and the other a conventional ball mill, successfully reached the target and produced concentrate grading between 63.7 and 66.7% Fe.

Concentrates from the previous grinding and magnetic separation tests were reground and submitted to further magnetic separation to produce a high-grade concentrate. Table 13-1 summarizes these results.

**Table 13-1 – Two-Stage Grinding and Regrind Test Results (Lakefield, 1966)**

Test No	Description	Concentrate % -44 µm	Concentrate % Sol. Fe	Concentrate % Sol. Fe Recovery
1	Single grinding	58.0	57.7	-
2	Single grinding	71.8	61.5	-
3	Single grinding	72.6	62.6	-
4	Two-stage grinding	84.7	64.2	70.0
5	Two-stage grinding	86.3	64.4	85.6
6	Two-stage grinding	93.6	65.4	88.0
7	Two-stage grinding	94.1	66.3	83.0
8	Two-stage grinding	95.5	66.7	84.3
9	Two-stage grinding	95.4	65.6	83.1
10	Two-stage grinding	92.4	63.7	82.4
11	Test 9 concentrate regrind	98.0	68.5	82.4
12	Test 10 concentrate regrind	98.8	68.5	81.3
13	Test 2 to 6 concentrate regrind	97.3	67.6	-
14	Test 2+6 concentrate regrind	97.6	68.0	83.1
15	Test 4+5 concentrate regrind	98.8	67.6	83.4

### 13.2 1975 Centre de Recherches Minérales Test Program

A total of 85 samples from drill holes on the North Zone were submitted to Centre de Recherches Minérales for Davis Tube testing to produce a magnetic concentrate above 64% Fe with maximum iron recovery. The possibility of producing a concentrate above 68% Fe was also tested. The findings were presented in a report entitled “*Projet 776 1<sup>e</sup> partie, Zone Nord de la Baie Magnétique – Séparation Magnétique au Tube Davis*” (Centre de Recherches Minérales, 1975).

The tests showed that the sample must be ground to 98% -45 µm to produce a magnetic concentrate with an iron grade between 62.7 and 68.1% Fe, a titanium grade between 0.57 and 2.77% TiO<sub>2</sub>, and a vanadium grade V<sub>2</sub>O<sub>5</sub> between 0.4% and 0.7%.

It also showed that grinding at a coarser size did not have a significant effect on Fe recovery.

### 13.3 2017 COREM Test Program

The issuer sent sample material from drill hole MSS-17-06 to COREM for testing. The testwork was done on a composite of 24 separate 4-kg samples combined to produce a 96 kg composite with a grade of 0.39% V<sub>2</sub>O<sub>5</sub> and 32.2% Fe. The findings were published in the report “*Preliminary testing on Mont Sorcier ore for vanadium concentration, Final Report T2256*” (COREM, 2018).

A Bond Ball Mill Work Index (“BWI”) at 53 µm on the composite sample resulted in 18.6 kWh/t, which classified the ore as hard.

### 13.3.1 Mineralogical liberation

A mineralogical study was performed from -300  $\mu\text{m}$  to -38  $\mu\text{m}$  using the Mineral Liberation Analyzer (“MLA”) to identify the liberation of the magnetite.

Figure 13-1 shows the fraction of liberated magnetite for the composite and by size fractions. None of the size fractions contained 90% or more liberated magnetite. The liberation of magnetite increased significantly with size, reaching a maximum of 78% of the particle weight for the -38  $\mu\text{m}$  fraction.

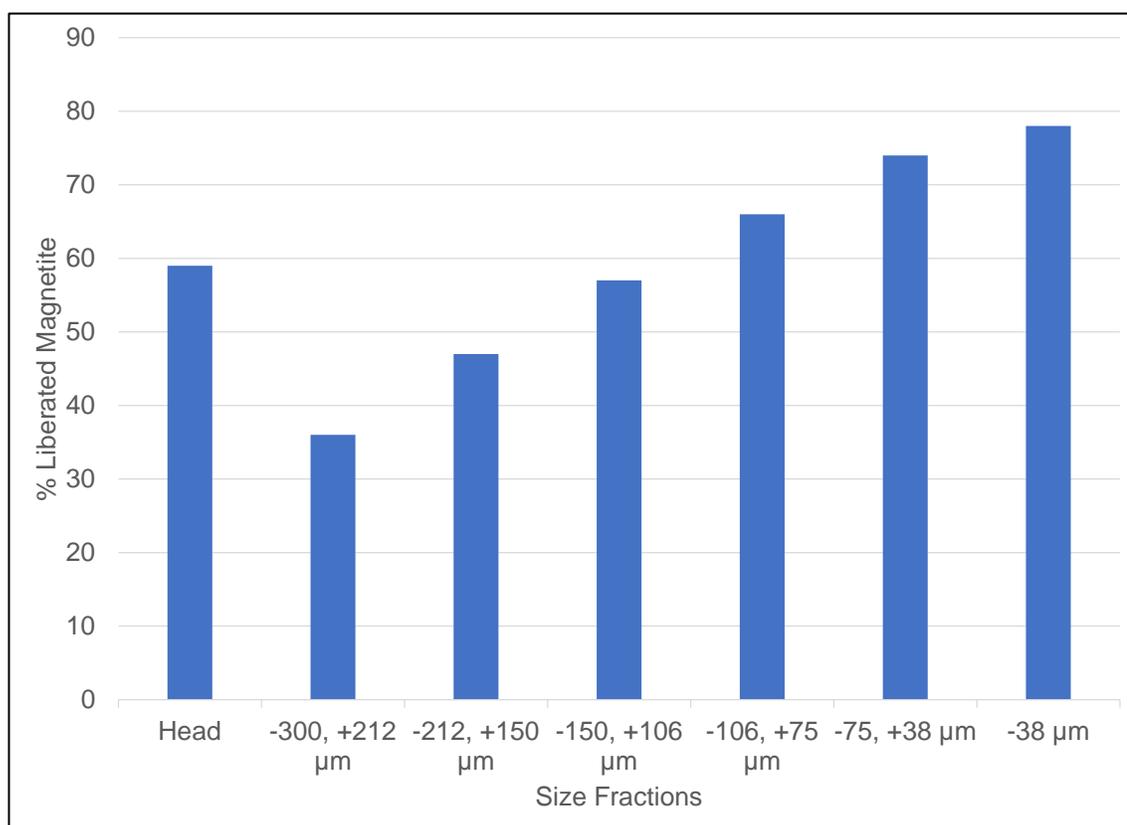


Figure 13-1 – MLA Liberation Results (COREM 2017)

### 13.3.2 Magnetic recovery tests

COREM carried out Davis Tube tests at 80% passing 75  $\mu\text{m}$ , 53  $\mu\text{m}$  and 38  $\mu\text{m}$  (Table 13-2), which showed that while recovery of iron and vanadium does not vary significantly with grind size, there is an effect on the Fe grade of the concentrate produced, with a grind size of -38  $\mu\text{m}$  required to achieve a concentrate grade of >65% Fe.

A magnetic production was with a lab scale Low-Intensity Magnetic Separator (“LIMS”) on a 30 kg composite at 80% passing 38  $\mu\text{m}$ , which confirmed the Davis Tube test results.

**Table 13-2 – Davis Tube and LIMS Production Tests Results (COREM, 2017)**

Test No	Concentrate % Fe	Concentrate % SiO <sub>2</sub>	Concentrate % V <sub>2</sub> O <sub>5</sub>	Weight Recovery (%)	Fe Recovery (%)	V <sub>2</sub> O <sub>5</sub> Recovery (%)
DTT P80 = 75 μm	63.3	3.0	0.69	47.0	93.7	81.4
DTT P80 = 53 μm	64.4	2.4	0.69	47.0	93.3	81.4
DTT P80 = 38 μm	65.1	2.1	0.71	46.0	93.9	81.2
LIMS P80 = 38 μm	66.3	2.0	0.73	46.0	91.4	79.5

### 13.3.3 Alkali roasting and leaching tests

The LIMS concentrate was subjected to a series of alkali roasting tests to render vanadium amenable to leaching, followed by a water leaching step.

Following several preliminary roasting optimization tests (using 50 g concentrate samples) at varying temperatures, a 4 kg sample was roasted with NaOH salt at 400 °C, then leached in water and a final concentrate precipitated. The final roasting/leaching test showed a 69.2% recovery of vanadium to the leach solution. The final vanadium concentrate was obtained after a 1-hour calcination step, which led to the production of a 64.6% V<sub>2</sub>O<sub>5</sub> concentrate.

### 13.4 2019 COREM Test Program

In 2019, COREM processed drill core samples provided by Vanadium One (now Voyager). The material sent for testing was stored in bags and composited into four composite samples based on the issuer's instructions. The composite samples were labelled North High-Grade ("NHG"), North Low-Grade ("NLG"), South High-Grade ("SHG") and South Low-Grade ("SLG"). The findings were published in a report entitled "*Grindability and metallurgical test work for Vanadium One, Final Report T2594*" (COREM, 2020).

The objective was to conduct grindability and concentratability testwork on these composites. The methodology is presented in Figure 13-2.

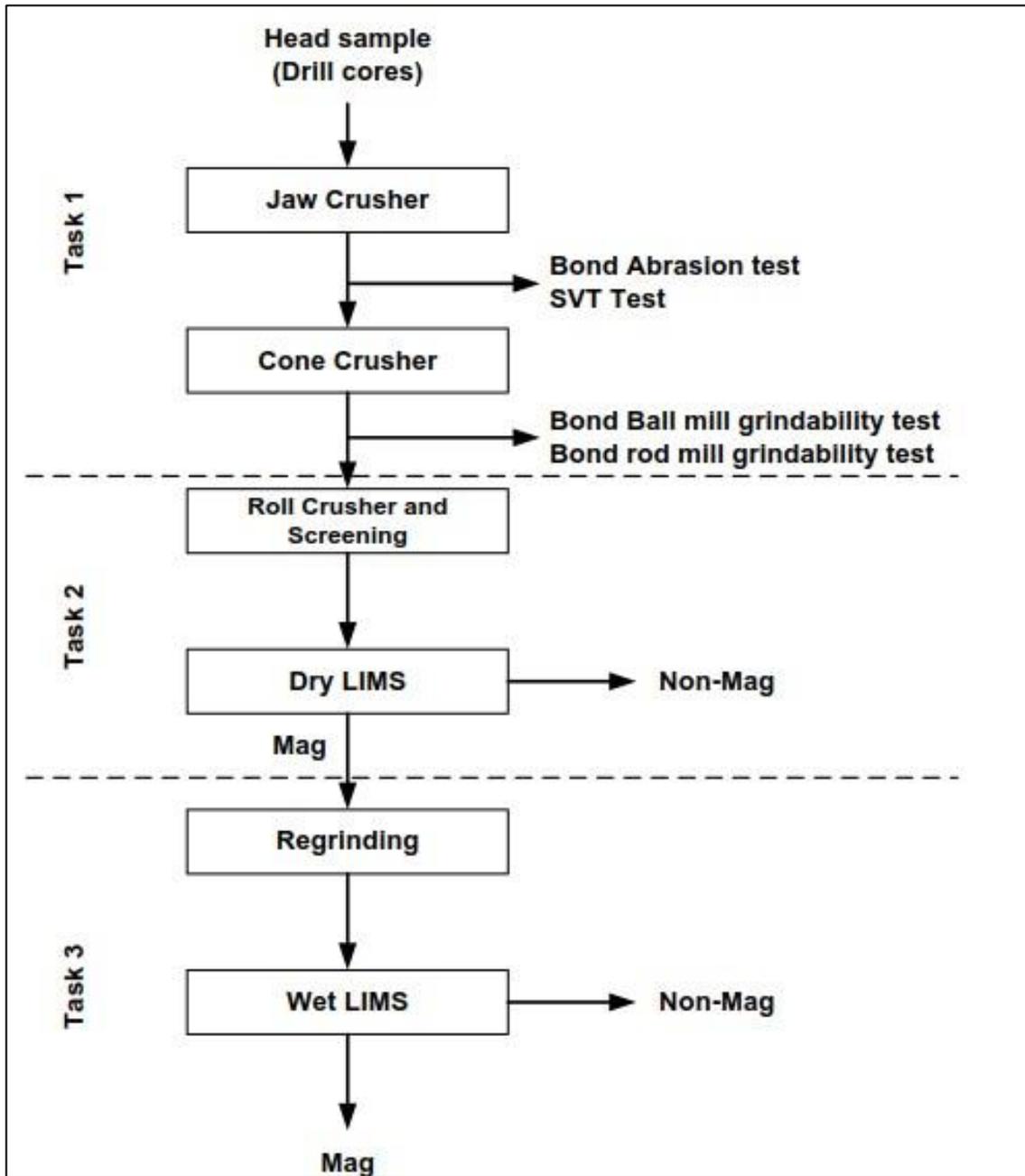


Figure 13-2– Testwork Methodology (COREM 2019)

### 13.4.1 Composite sample characterisation

The head analyses of the composite samples are summarized in Table 13-3:

- The magnetite content is significantly higher than the average resource;
- The main impurities were SiO<sub>2</sub> and MgO;
- Based on the Satmagan and the Fe values, it can be assumed that iron-bearing minerals were not only magnetite.

**Table 13-3 – Composite Composition (COREM 2019)**

Composite	Fe (%)	Mag. (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	MgO (%)	CaO (%)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
North High Grade (NHG)	32.0	38	22.2	2.1	20.9	0.8	1.2	0.38
North Low Grade (NLG)	24.5	26	26.3	6.0	21.6	1.9	1.0	0.19
South High Grade (SHG)	35.5	45	19.1	1.1	21.0	0.2	1.0	0.50
South Low Grade (SLG)	31.2	39	20.9	1.1	23.2	0.4	0.7	0.25
Average	30.8	37	22.1	2.6	21.7	0.8	1.0	0.33

### 13.4.2 Grindability tests

The grindability tests included the standard Bond abrasion test, rod and ball mill work indexes and a SAG variability test (“SVT”).

Table 13-4 summarizes the results of the grindability tests. The average standard grindability tests results indicated:

- Abrasion index (“Ai”): The material was classified as non-abrasive;
- Bond rod mill work index (“RWI”) and Bond ball mill work index (“BWI”): The material was classified as hard;
- SVTs tests results: The material was classified at the 82.9 percentile, which means that this material was harder than 82.9% of the materials tested by Starkey & Associate Inc.

**Table 13-4 – Grindability Test Results Summary (COREM 2019)**

Composite	Ai (g)	RWI (kWh/t)	BWI (kWh/t)	SVT (kWh/t)
North High Grade (NHG)	0.0458	16.4	20.0	10.8
North Low Grade (NLG)	0.0255	18.0	19.2	19.0
South High Grade (SHG)	0.0184	13.8	19.6	13.8
South Low Grade (SLG)	0.0153	12.7	19.6	10.3
Average	0.0263	15.2	19.6	13.5

### 13.4.3 Preconcentration stage with dry LIMS

The concentratability test work included preconcentration using dry LIMS at a crushing size of 6.3 mm, 3.35 mm and 1.0 mm (Table 13-5). Based on the results, the following average metallurgical performances of the magnetic products were calculated as:

- Weight yield of 82.7%;
- Magnetite grade of 41% at a 98.3% recovery;
- Iron grade of 33.4% at a 95.1% recovery;
- V<sub>2</sub>O<sub>5</sub> grade of 0.37% at a 94.6% recovery.

Based on these results, it can be concluded that preconcentration will remove low-grade material in an early stage of the beneficiation process, and thus result in potential savings in energy and CAPEX for downstream equipment.

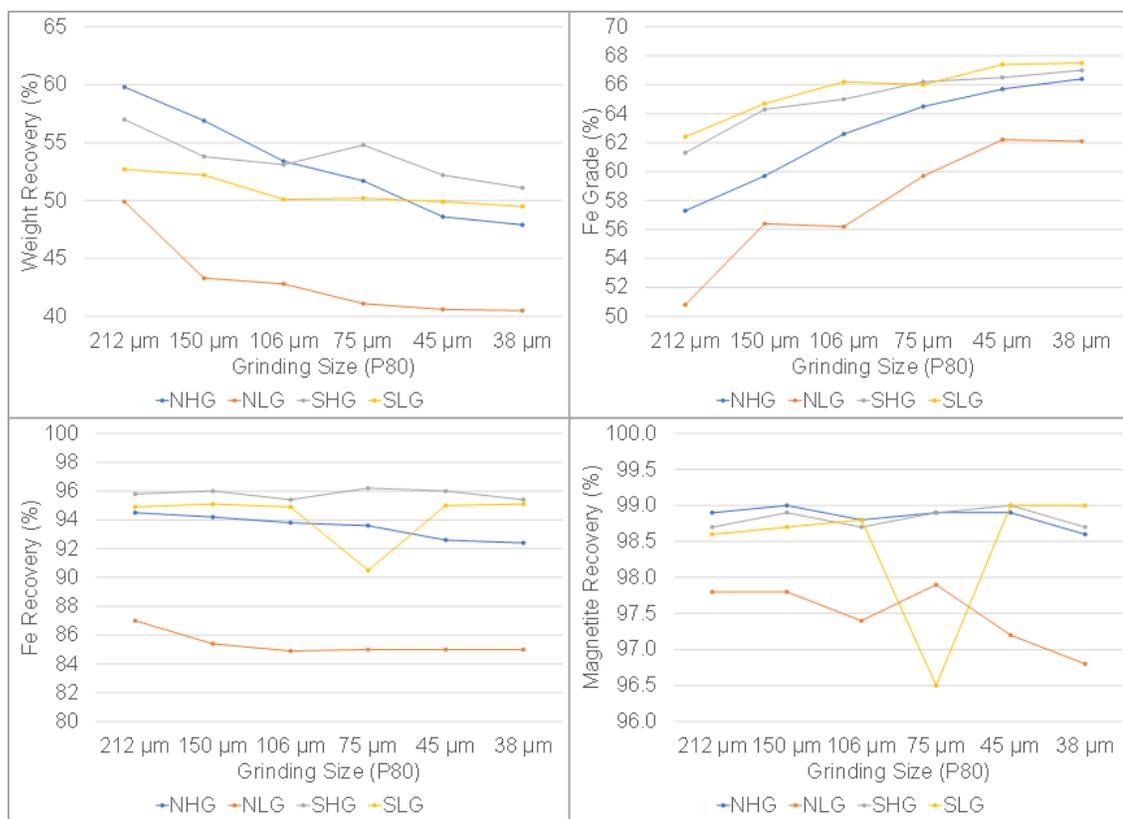
**Table 13-5 – Grindability Test Results Summary (COREM, 2019)**

Test type	Concentrate % Fe	Concentrate % Mag	Concentrate % V <sub>2</sub> O <sub>5</sub>	Weight Recovery (%)	Fe Recovery (%)	V <sub>2</sub> O <sub>5</sub> Recovery (%)
Average P95 = 6.3 mm	31.6	38	0.35	88.4	96.6	96.5
Average P95 = 3.35 mm	32.5	40	0.36	84.1	95.1	95.0
Average P95 = 1.0 mm	36.2	45	0.41	75.5	93.6	92.3
Average NHG	35.1	43	0.45	87.0	97.1	98.8
Average NLG	28.2	31	0.21	75.8	89.6	91.4
Average SHG	36.3	46	0.52	87.6	97.7	98.7
Average SLG	34.2	43	0.31	80.2	96.1	98.4

### 13.4.4 Davis Tube concentration tests

During the concentration tests, the Davis Tube test results showed, at a grind of P95 ~38 µm for the four composite samples, that the average weight recovery of the magnetic product was 47.3%, grading 65.8% Fe, 89% magnetite and 0.67% V<sub>2</sub>O<sub>5</sub>, with corresponding recoveries of 92.0% Fe, 98.3% magnetite and 85.3% V<sub>2</sub>O<sub>5</sub>.

Figure 13-3 Figure 13-3 – Davis Tube Concentration Tests Summaries (COREM, 2019) presents a summary of the Davis Tube concentration tests.



**Figure 13-3 – Davis Tube Concentration Tests Summaries (COREM, 2019)**

### 13.4.5 Wet LIMS concentration tests

From the wet LIMS test results performed on NHG and SHG composite samples at -106 µm and -38 µm (Table 13-6), it can be observed that:

- Globally, the wet LIMS results were consistent with the Davis Tube results. The quality of the wet LIMS magnetic products was slightly lower than the Davis Tube magnetic products. This behavior was expected because the separation of the wet LIMS is less efficient than the Davis Tube separation due to a less efficient washing of the wet LIMS magnetic product compared to that of the Davis Tube;
- The quality upgrade of the concentrate when ground to 38 µm instead of 106 µm was negligible;
- SiO<sub>2</sub>, MgO, TiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub> grades in the magnetic concentrate remained similar despite the grinding size.

**Table 13-6 – Wet LIMS Concentration Results Summary (COREM, 2019)**

Composite	Concentrate Grade (%)						Recovery (%)		
	Fe	Mag	V <sub>2</sub> O <sub>5</sub>	SiO <sub>2</sub>	MgO	TiO <sub>2</sub>	Weight	Fe	V <sub>2</sub> O <sub>5</sub>
P95 = 106 µm - NHG	61.1	84	0.75	4.9	5.0	1.9	50.4	96.6	96.5
P95 = 38 µm - NHG	61.8	84	0.75	4.5	4.5	1.7	47.5	96.6	96.5
P95 = 106 µm - SHG	63.8	85	0.85	2.9	4.4	1.2	52.7	96.6	96.5
P95 = 38 µm - SHG	65.7	89	0.87	1.8	3.1	1.1	49.8	96.6	96.5

Table 13-6 presents the final concentrate mass balance recoveries of the pre-concentration step at 3.35 mm and concentration step at P95 = 106 µm and 38 µm. The final concentrate grades are presented in Table 13-7. Weight recoveries are high due to the high magnetite content of the samples tested.

**Table 13-7 – Final Concentrate Global Mass Balance (COREM, 2019)**

Composite	Recovery (%)						
	Weight	Fe	Mag	V <sub>2</sub> O <sub>5</sub>	SiO <sub>2</sub>	MgO	TiO <sub>2</sub>
P95 = 106 µm - NHG	44.3	87.8	94.6	83.8	9.7	10.1	60.8
P95 = 38 µm - NHG	41.7	83.6	90.8	80.3	8.4	8.7	50.0
P95 = 106 µm - SHG	47.6	93.0	96.6	85.2	6.6	9.1	62.8
P95 = 38 µm - SHG	45.0	90.6	94.4	82.5	4.0	6.3	52.9

### 13.5 Recovery Model Development (Soutex 2022)

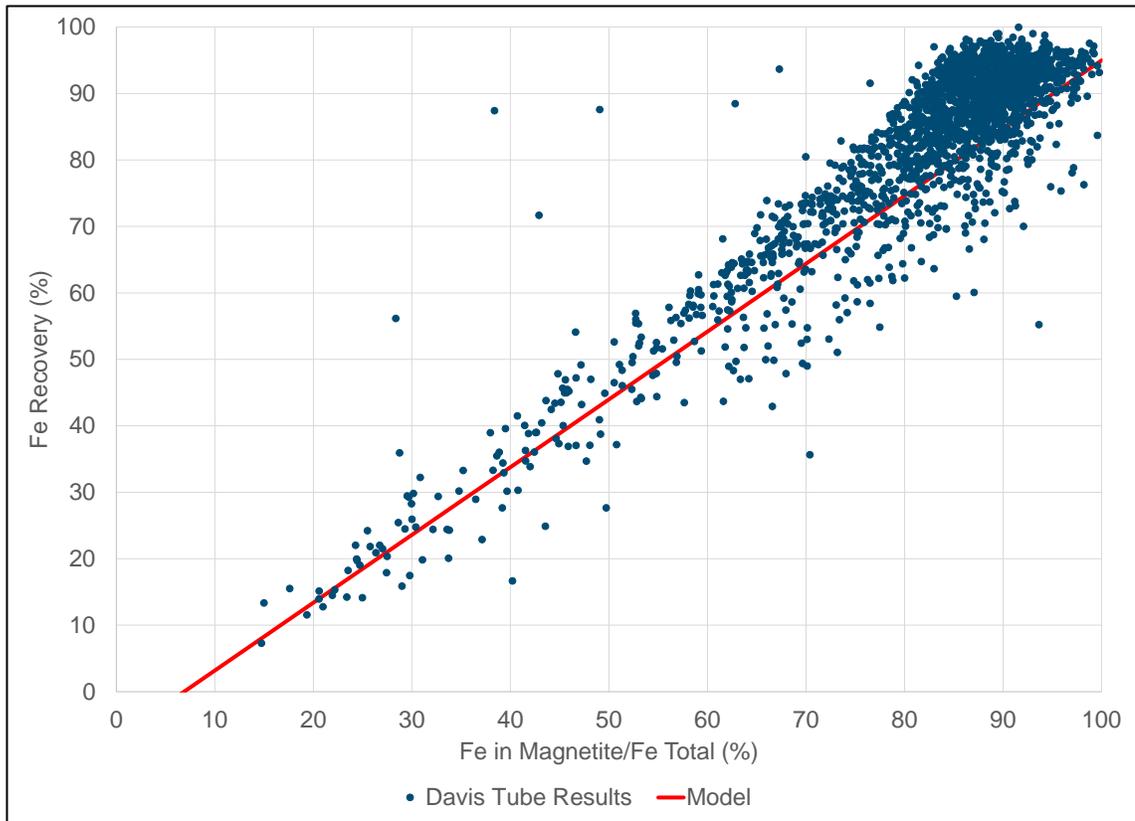
The drill hole database from Mont Sorcier was used to develop a geometallurgical model to predict the iron recovery of geological samples, units or blocks based on their iron and magnetite content (Satmagan). The model was developed based on the drill hole samples for which:

- Davis Tube tests were performed, and the complete results were logged in the database:
  - 154 Davis Tube results on composites from 2021 drill holes were included. The model should be updated once all results are available.
- Complete chemical analysis was logged in the database, including magnetite content of the samples using a Satmagan.

The developed model is as follows:

$$Fe \text{ Recovery (\%)} = 73.87 * (\text{Feed Magnetite Grade (\%)} / \text{Feed Fe Grade (\%)} - 7$$

The model is valid for producing a concentrate at 65% Fe at 0.55% V<sub>2</sub>O<sub>5</sub> and assumes typical magnetic process performances that available testwork showed were achievable. Figure 13-4 presents the Fe recovery predicted by the model and the Davis Tube tests.



**Figure 13-4 – Fe Recovery Model (Soutex, 2022)**

## 14. MINERAL RESOURCE ESTIMATES

The mineral resource estimate update for the Mont Sorcier Project (the “2022 MRE”) was prepared by Marina lund (P.Geo.) and Carl Pelletier (P.Geo.), using all available information. The main objective was to update the results of the previous mineral resource estimate for the Project, dated June 25, 2021 (Longridge et al., 2021; the “2021 MRE”). The updated estimate includes data from new drill holes on the North Zone.

The effective date of the 2022 MRE is June 6, 2022.

### 14.1 Methodology

The resource area has an E-W strike length of 4.8 km, a width of approximately 1.5 km, and a vertical extent of 750 m below surface.

The 2022 MRE was prepared using Leapfrog 2021.2 (“Leapfrog”) and GEOVIA Surpac 2021 (“Surpac”) software. LeapFrog was used to model the lithologies, mineralized zones and fault wireframes. Surpac was used for the estimation, which consisted of 3D block modelling and the inverse distance square (“ID2”) interpolation method. Statistical, capping and variography studies were completed using Snowden Supervisor v8.13 and Microsoft Excel software.

The main steps in the methodology were as follows:

- Review and validate the database;
- Validate the geological model and interpretation of the mineralized units;
- Validate the drill hole intercepts database, compositing database and capping values for geostatistical analysis and variography;
- Validate the block model and grade interpolation;
- Revise the classification criteria and validate the clipping areas for mineral resource classification;
- Assess the resources with “reasonable prospects for economic extraction” and select appropriate cut-off grades and pit shell; and
- Generate a mineral resource statement.

### 14.2 Drill hole database

Forty-two (42) new diamond drill holes (“DDH”) have been drilled on the North Zone since the 2021 MRE.

The updated database from Voyager contains 201 holes (46,906 m). The database includes 114 historical holes (20,486 m) drilled before 2017 (1960s, 1970s, 1983, 1993 and 2003) and 87 holes (26,420 m) drilled between 2017 and 2021.

Holes from the 1980s were used to build the geological model but not the resource estimate. All these holes are located outside the mineralized zones, except hole MS84-SC-83-14, which does pass through the North Zone but was not sampled as iron and vanadium were not the targeted commodities at the time. These holes are not included in the 2022 MRE database. Therefore, the 2022 MRE database contains 170 holes (43,178 m), including 83 historical holes (16,758 m) drilled before 2017 (1960s, 1970s, 1993 and 2003) and 87 holes (26,420 m) drilled between 2017 and 2021. It contains

7,395 sampled intervals taken from 27,432 m of drilled core (Table 14-1), with assay results and coded lithologies from the drill core logs.

The older drilling campaigns took place between 1963 and 1966. Samples were assayed for head grade  $\text{Fe}_2\text{O}_3\text{-T}$  and  $\text{TiO}_2$  over intervals approximately 7 m long. These campaigns also yielded some larger composite sample intervals, collected in the 1970s from the old holes, that vary from 10 m to 60 m. These composites were assayed for  $\text{Fe}_2\text{O}_3\text{-T}$  and  $\text{TiO}_2$  head grades. A Davis Tube magnetic concentrate fraction was also prepared from the composites and assayed for several other oxides, including  $\text{V}_2\text{O}_5$ .

Holes from the 1974 drilling program were assayed for head grade  $\text{Fe}_2\text{O}_3\text{-T}$  and Cu over intervals of approximately 2 m.

Holes from the 1993 drilling program were assayed for head grade  $\text{Al}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3\text{-T}$ , MgO,  $\text{TiO}_2$ ,  $\text{SiO}_2$ , CaO,  $\text{Cr}_2\text{O}_3$ ,  $\text{K}_2\text{O}$ , MnO,  $\text{Na}_2\text{O}$ ,  $\text{P}_2\text{O}_5$ ,  $\text{Na}_2\text{O}$  and Cu over intervals of approximately 3 m.

Holes from the 2013 drilling program were assayed for head grade  $\text{Al}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3\text{-T}$ , MgO,  $\text{TiO}_2$ ,  $\text{SiO}_2$ , CaO,  $\text{Cr}_2\text{O}_3$ ,  $\text{K}_2\text{O}$ , MnO,  $\text{Na}_2\text{O}$ ,  $\text{P}_2\text{O}_5$ ,  $\text{Na}_2\text{O}$ ,  $\text{V}_2\text{O}_5$  and S over intervals of approximately 3 m. Satmagan tests were also performed to estimate magnetite percentages.

The latest drilling programs were completed between 2017 and 2021. Diamond drill core was sampled over intervals of 2 m in the South Zone and 4 m in the North Zone. They were assayed for  $\text{Al}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3\text{-T}$ , MgO,  $\text{TiO}_2$ ,  $\text{SiO}_2$ , CaO,  $\text{Cr}_2\text{O}_3$ ,  $\text{K}_2\text{O}$ , MnO,  $\text{Na}_2\text{O}$ ,  $\text{P}_2\text{O}_5$ ,  $\text{Na}_2\text{O}$ , and  $\text{V}_2\text{O}_5$  in both the head grade and the magnetic fraction produced using Davis Tube magnetic separation. Sulphur head grades were collected for some intervals. Satmagan tests were also performed to estimate the percentage of magnetic Fe ("Fe Mag").

The 170 DDH cover the 4.8-km strike length of the Project at a reasonably regular drill spacing of 100 to 200 m. Until 2020, drilling was spaced at 100 m in the South Zone and 500 m in the North Zone. In 2021, Voyager completed drilling at 100 m spacing in the core of the North Zone.

**Table 14-1 – Detail of variables assayed for samples included in the 2022 MRE database**

	Variables assayed	1960s DDH	1974 DDH	1993 DDH	2013 DDH	2017 to 2021 DDH
Head Grade	$\text{Fe}_2\text{O}_3\text{-T}$	x	x	x	x	x
	$\text{TiO}_2$	x		x	x	x
	$\text{V}_2\text{O}_5$				x	x
	$\text{Al}_2\text{O}_3$			x	x	x
	CaO			x	x	x
	Cu		x	x		partially
	$\text{Cr}_2\text{O}_3$				x	x
	$\text{K}_2\text{O}$			x	x	x
	MgO			x	x	x

	Variables assayed	1960s DDH	1974 DDH	1993 DDH	2013 DDH	2017 to 2021 DDH
	MnO			x	x	x
	Na <sub>2</sub> O			x	x	x
	P <sub>2</sub> O <sub>5</sub>			x	x	x
	S				x	partially
	SiO <sub>2</sub>			x	x	x
	Fe Mag				x	x
Davis Tube Test	Fe <sub>2</sub> O <sub>3</sub> _T	x	partially			x
	TiO <sub>2</sub>	x	partially			x
	V <sub>2</sub> O <sub>5</sub>	x	partially			x
	Al <sub>2</sub> O <sub>3</sub>	x	partially			x
	CaO					x
	Cu	x	partially			
	Cr <sub>2</sub> O <sub>3</sub>					x
	K <sub>2</sub> O					x
	MgO	x	partially			x
	MnO					x
	Na <sub>2</sub> O	x				x
	P <sub>2</sub> O <sub>5</sub>					x
	SiO <sub>2</sub>	x	partially			x

Since only Fe<sub>2</sub>O<sub>3</sub>\_T was assayed systematically, the percentage of magnetite was estimated using the regression formulas obtained from the Satmagan (Fe Mag) and Fe<sub>2</sub>O<sub>3</sub>\_T results (Figure 14-1 and Figure 14-2). As the Satmagan test estimates the percentage of Fe magnetic, results were multiplied by 1.381 to obtain the magnetite percentage (Fe<sub>3</sub>O<sub>4</sub>).

Davis Tube test results were used to estimate the Fe Recovery and the Weight Recovery. The methodology used to define those parameters is described in item 13.5.

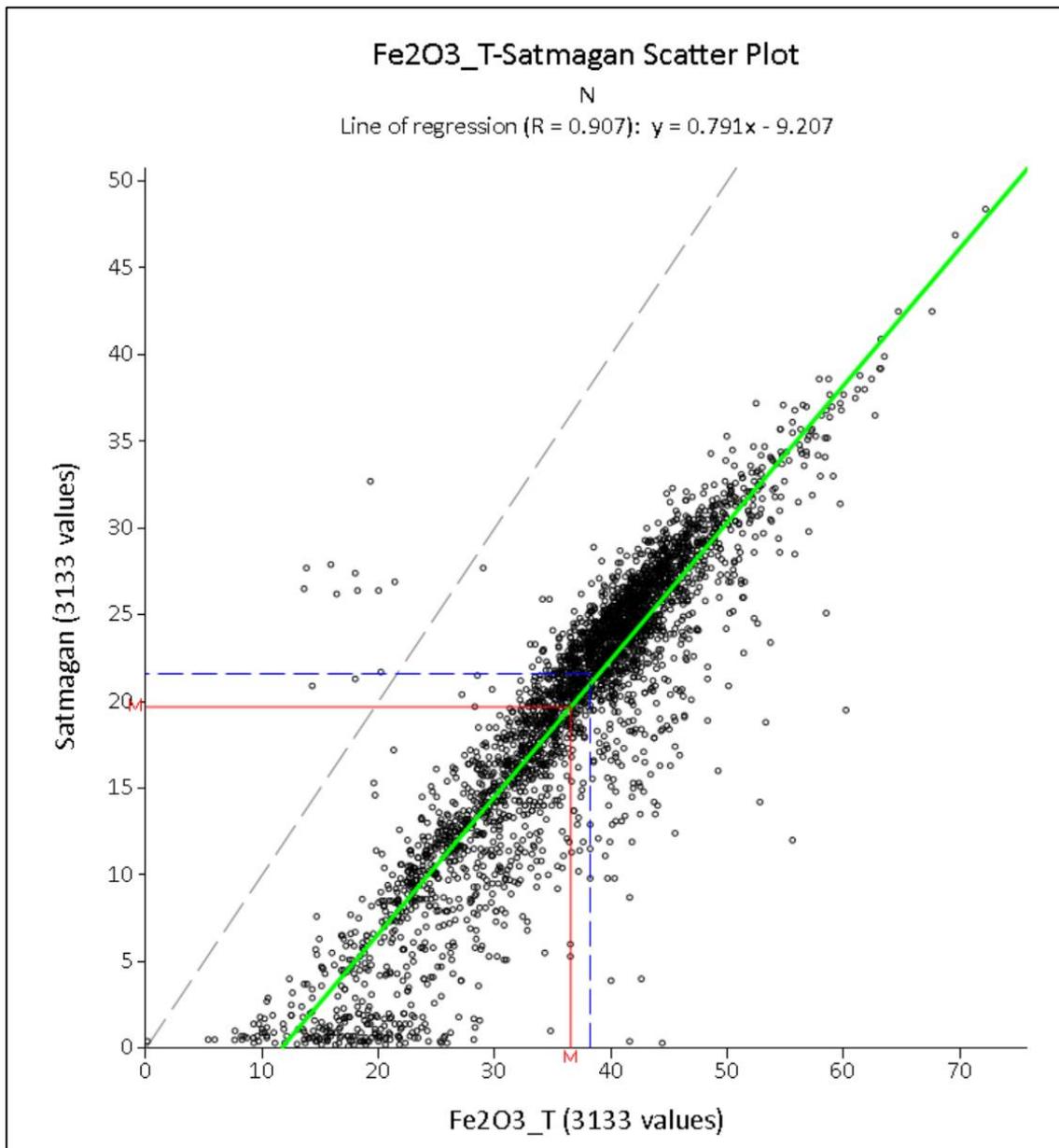
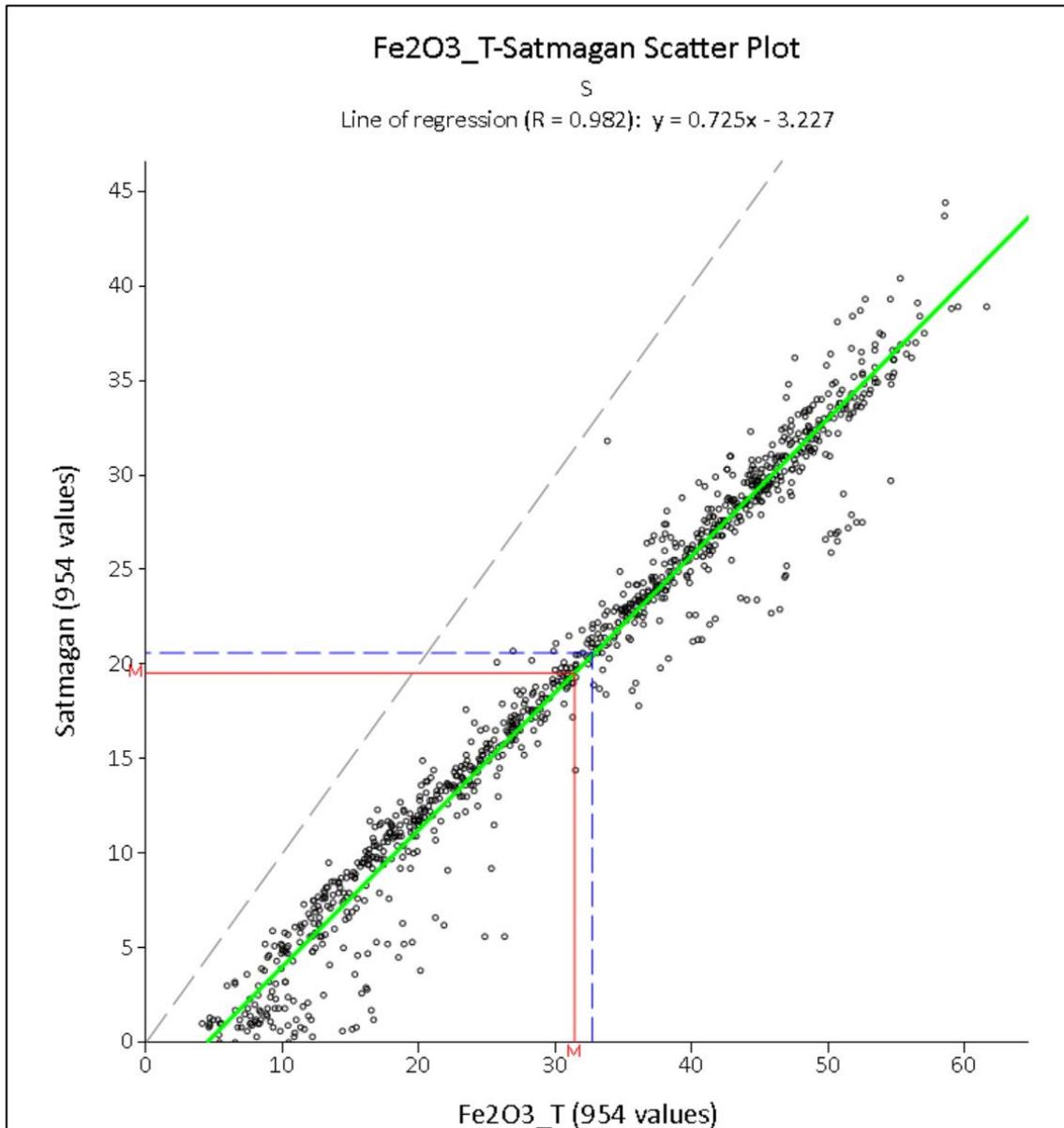


Figure 14-1 – Linear regression formula between Fe2O3\_T and Fe Mag, North Zone



**Figure 14-2 – Linear regression formula between Fe2O3\_T and Fe Mag, South Zone**

In addition to the basic tables of raw data, the Surpac database includes several tables containing the calculated drill hole composites and wireframe solid intersections required for the statistical analysis and resource block modelling.

### 14.3 Geological Model

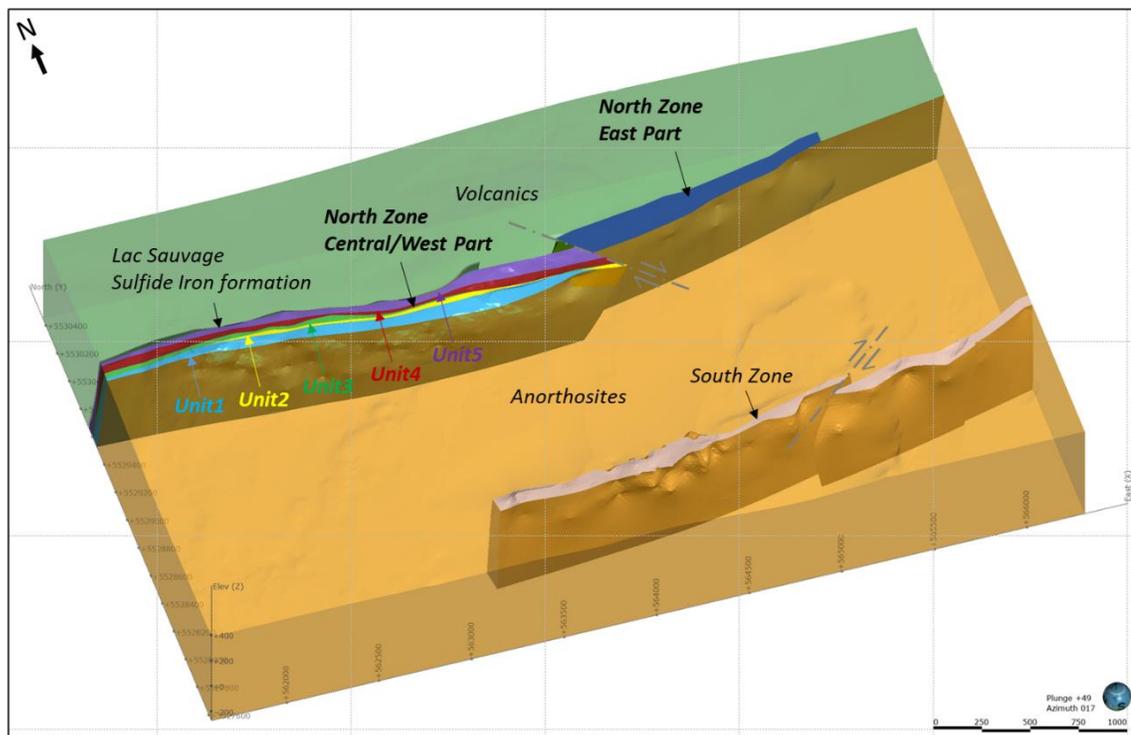
The geological model was based on Voyager's geological interpretation using geophysical and drilling data and geological mapping. All geological solids were modelled in Leapfrog and were snapped to drill holes.

The two magnetite-bearing ultramafic units were used as mineralized domains for the South and North zones. The mineralized domains were extended up to a depth of -280 m, and the lateral extensions were limited based on the magnetic survey data.

The North Zone is divided into five (5) units based on textural and mineralogical characteristics (see section 8.3 for more detail). A sinistral fault with a displacement of approximately 150 m divides the North Zone into a central/western part and an eastern part. As the eastern part has seen less drilling, the subdivisions in this area is less understood and less well-defined. Therefore, it was decided not to subdivide the eastern part, using instead the magnetite-bearing ultramafic unit as is.

Two surfaces were created to define the topography and the overburden/bedrock contact. The topography was created using DTM data from 2021 (5-m resolution). The overburden-bedrock contact was modelled using logged overburden intervals.

Figure 14-3 shows a 3D isometric view of the geological wireframes used for the 2022 MR.



**Figure 14-3 – General isometric view showing the geological wireframe used for the 2022 MRE**

#### 14.4 Density

Density measurements were taken using gas pycnometry at both SGS and Activation Laboratories. Of the 7,463 samples in the 2022 MRE database, 2,941 (39%) were measured for density. All samples were collected in the mineralized domains. Density is expected to show a positive correlation with total iron of the sample. It will depend on the relative proportions of magnetite (SG = 5.15), plagioclase feldspar (SG = 2.6 to 2.7), pyroxene (SG = 3.2 to 3.95) and olivine (SG = 3.3). A regression through the data gives

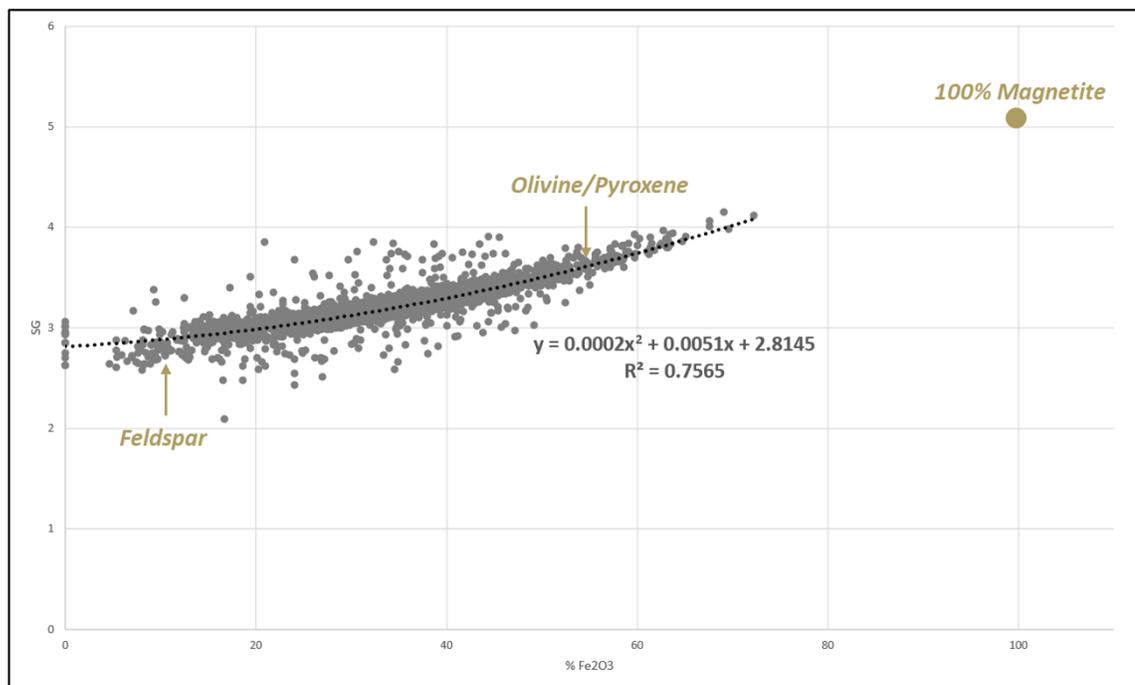
a polynomial curve that corresponds well to a theoretical mixing model between magnetite, olivine and feldspar (Figure 14-4).

The polynomial formula:

$$SG = 0.0002(Fe_2O_3)^2 + 0.0051(Fe_2O_3) + 2.8145$$

was used to calculate the density of samples without density measurements, based on the  $Fe_2O_3\_T$  of the sample.

The density of the mineralized domains was then interpolated based on variography study (see section 14.8).



**Figure 14-4 – Plot of  $Fe_2O_3$  (total) vs density (SG) for all samples measured for density**

As the unmineralized material and the overburden have no density measurements, a bulk density of  $2.80 \text{ g/cm}^3$  was attributed to the unmineralized material (anorthositic and volcanic rocks), and a bulk density of  $2.00 \text{ g/cm}^3$  was attributed to the overburden.

## 14.5 High-Grade Capping

Basic univariate statistics were performed on the raw assay datasets for the North and South zones. Three oxides were studied:  $Fe_2O_3\_T$ ,  $TiO_2$  and  $V_2O_5$ . The following criteria were used to decide if capping was warranted:

- The coefficient of variation (“COV”) of the assay population is above 2.0.
- The quantity of metal contained in the top 10% highest grade samples is above 40%, and/or the quantity in the top 1% of the highest-grade samples is higher than 10%.
- The probability plot of the grade distribution shows abnormal breaks or scattered points outside the main distribution curve.
- The log-normal distribution of grades shows erratic grade bins or distanced values from the main population.

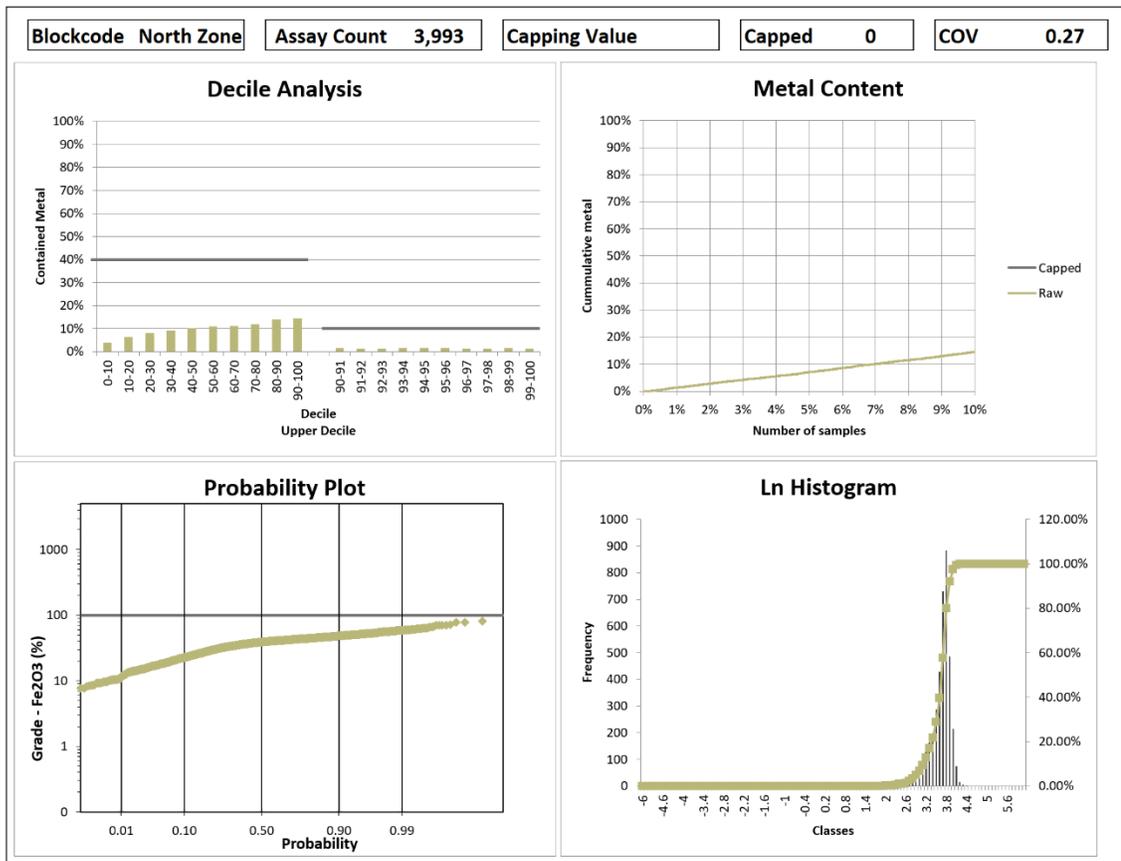
The capping threshold decided for all domains is consistent with the combination of three criteria:

- A break in the probability plot.
- A coefficient of variation below 2.0 after capping.
- The total metal contained in the top 1% of the highest-grade samples is below 10% after capping.

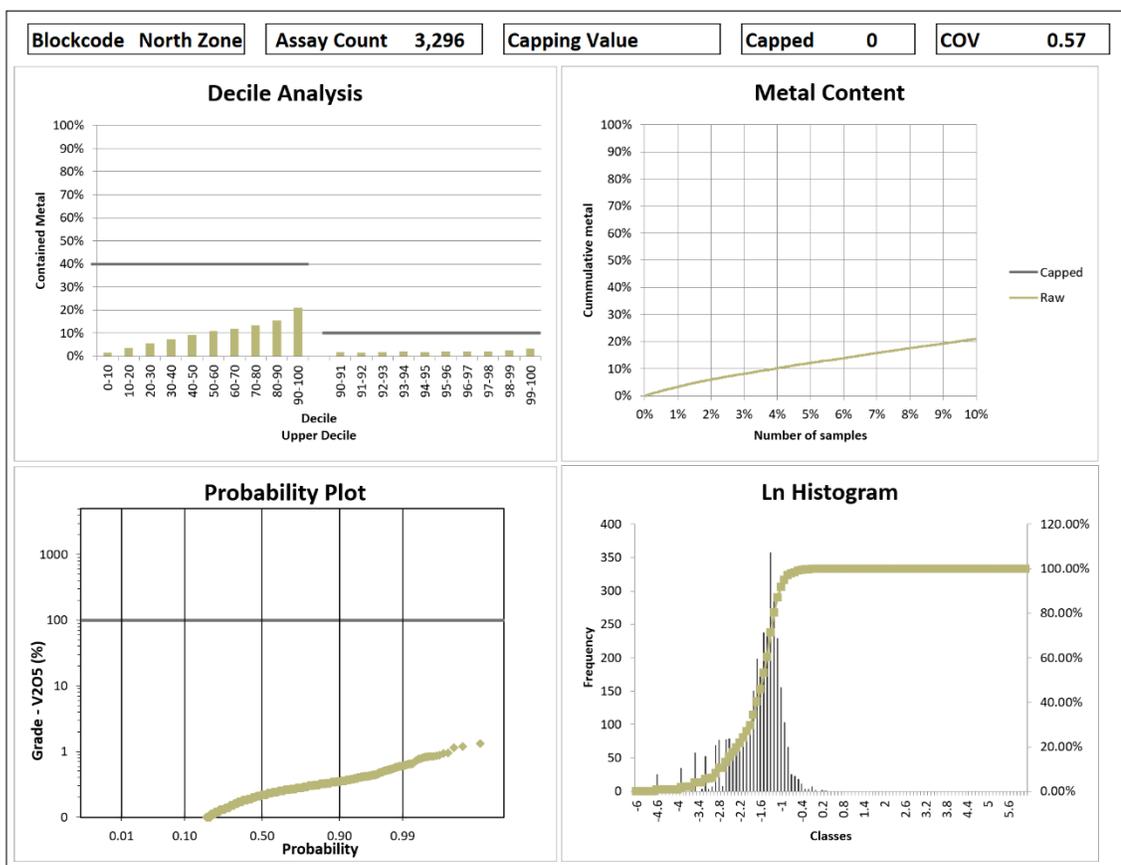
No high-grade capping was applied. Table 14-2 summarizes the statistical analysis by domain and by oxides. Figure 14-5 and Figure 14-6 show examples of graphs supporting the capping threshold decisions.

**Table 14-2– Summary of univariate statistics on raw assays**

Domain name	Oxide	No. of samples	Max grade (g/t)	Uncut mean grade (g/t)	Uncut COV	High-grade capping (g/t)
North	Fe <sub>2</sub> O <sub>3</sub> _T	3,993	80.76	37.25	0.27	none
	V <sub>2</sub> O <sub>5</sub>	3,296	1.31	0.22	0.57	none
	TiO <sub>2</sub>	3,883	8.22	1.16	0.48	none
South	Fe <sub>2</sub> O <sub>3</sub> _T	1,559	82.06	30.95	0.46	none
	V <sub>2</sub> O <sub>5</sub>	1,058	0.82	0.22	0.73	none
	TiO <sub>2</sub>	1,840	11.48	1.09	0.65	none



**Figure 14-5 – Example of graphs supporting the decision not to cap Fe<sub>2</sub>O<sub>3</sub>\_T for the North Zone**

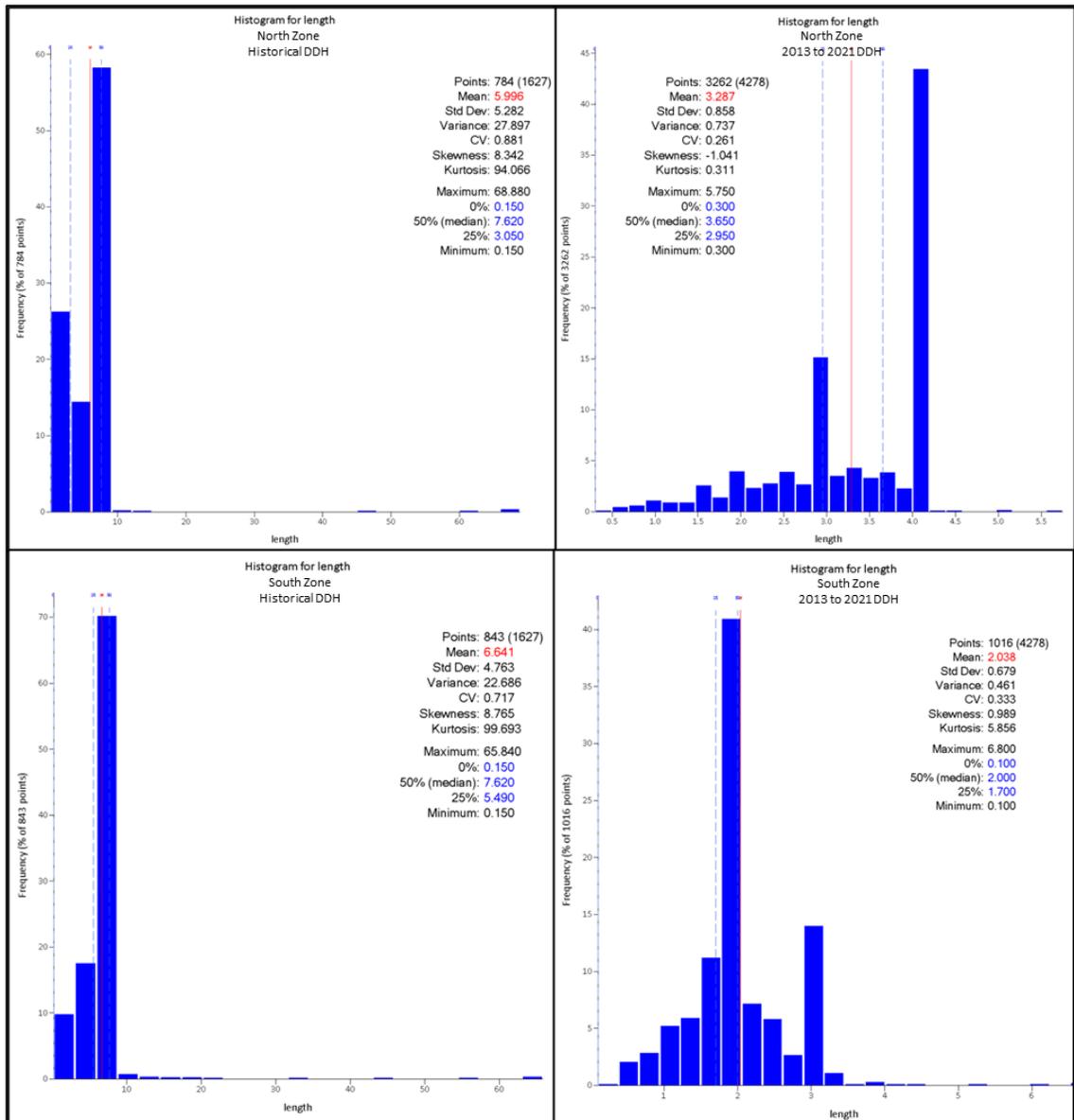


**Figure 14-6 – Example of graphs supporting the the decision not to cap V<sub>2</sub>O<sub>5</sub> for the North Zone**

## 14.6 Compositing

The assays were composited within each mineralized domain to minimize any bias introduced by variations in sample lengths. The thickness of the mineralized domains, the proposed block size and the original sample length were considered when selecting the composite length.

The sampling intervals in the 2013 to 2021 drilling programs were typically 4 m long in the North Zone and 2 m in the South Zone. The sampling intervals in the 1960s were roughly 7 m long, and the composite samples collected from the 1960s holes were between 10 m and 60 m (Figure 14-7).



**Figure 14-7 – Histogram for raw sample length by mineralized domains and by drilling periods**

For drill holes from the 2013 to 2021 drilling campaigns, the intervals defining each mineralized domain were composited to 4-m equal lengths for the North Zone and 10-m equal lengths for the South Zone. As sample lengths range from 7 m to 60 m in historical drill holes, it was decided that compositing would not be performed to minimize their weight during the interpolation process.

No grade was assigned to missing sample intervals as most of them are from historical holes. It is assumed that the lack of sampling reflects the different exploration targets (metals) at the time and not because the geologist in charge of the core logging was considering the unsampled intervals as unmineralized for the metals of interest in the 2022 MRE.

A total of 972 composites were generated for the South Zone and 7,456 for the North Zone.

Table 14-3 summarizes the basic statistics for the raw data and composites.

**Table 14-3 – Summary statistics for the raw data and composites**

Domain name	South Zone			North Zone		
Element	Fe <sub>2</sub> O <sub>3</sub> _T	V <sub>2</sub> O <sub>5</sub>	TiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub> _T	V <sub>2</sub> O <sub>5</sub>	TiO <sub>2</sub>
<b>No. of raw assays samples</b>	2,367	1,884	2,578	4,116	3,371	4,014
<b>Raw assays Max grade (%)</b>	82.06	0.82	11.48	72.20	1.31	8.22
<b>Raw assays Mean grade (%)</b>	33.28	0.24	1.07	37.36	0.22	1.15
<b>Raw assays COV</b>	0.41	0.62	0.57	0.27	0.57	0.48
<b>No. of comp.</b>	765	446	915	3,772	2,751	3,700
<b>Comp. Max grade (%)</b>	64.05	0.65	11.48	66.71	1.18	8.08
<b>Comp. Mean grade (%)</b>	32.43	0.25	1.17	37.76	0.22	1.20
<b>Comp. COV</b>	0.37	0.52	0.84	0.24	0.53	0.45

## 14.7 Block Model

A block model was built to enclose a large enough volume to host an open pit. The model corresponds to a sub-blocked model in Surpac with no rotation. The user block size was defined as 10m x 10m x 10m with a minimal sub-block size of 2.5m x 2.5m x 2.5m. Block dimensions reflect the sizes of mineralized domains and plausible mining methods. All blocks with more than 50% of their volume falling within a selected solid were assigned the corresponding solid block code. Table 14-4 lists the properties of the block model. Table 14-5 details the naming convention for the corresponding Surpac solids and the rock codes and precedence assigned to each solid.

**Table 14-4 – Block model properties**

Properties	Y (rows)	X (columns)	Z (levels)
Min. coordinates	5,527,550	560,850	-270
Max. coordinates	5,530,590	566,350	580
User block size	10	10	10
Min. block size	2.5	2.5	2.5
Rotation	0	0	0

**Table 14-5 – Block model naming convention and rock codes**

Domain Name	Description	Rock code	Precedence
Air	Air	1	1
OB	Overburden	33	5
Waste	Unmineralized domain	70	10
SM	Massive sulphide unit	71	11
Unit1a	Mineralized domain. North Zone West	101	21
Unit2a	Mineralized domain. North Zone West	102	22
Unit3a	Mineralized domain. North Zone West	103	23
Unit4a	Mineralized domain. North Zone West	104	24
Unit4b	Mineralized domain. North Zone West	105	25
Unit5a	Mineralized domain. North Zone West	106	26
Unit_north_east	Mineralized domain. North Zone East	107	27
Unit_South	Mineralized domain. South Zone	201	28

## 14.8 Variography and Search Ellipsoids

Three-dimensional directional variography was carried out in Snowden Supervisor on capped composites.  $Fe_2O_3\_T$ ,  $Fe_3O_4$ ,  $TiO_2$ ,  $V_2O_5$ ,  $MgO$ ,  $S$  and density were studied individually for each zone. For that study, the North Zone was considered as a whole and not as separate units.

Performed in connection with the geological knowledge of the Project, the main steps in the variography process are:

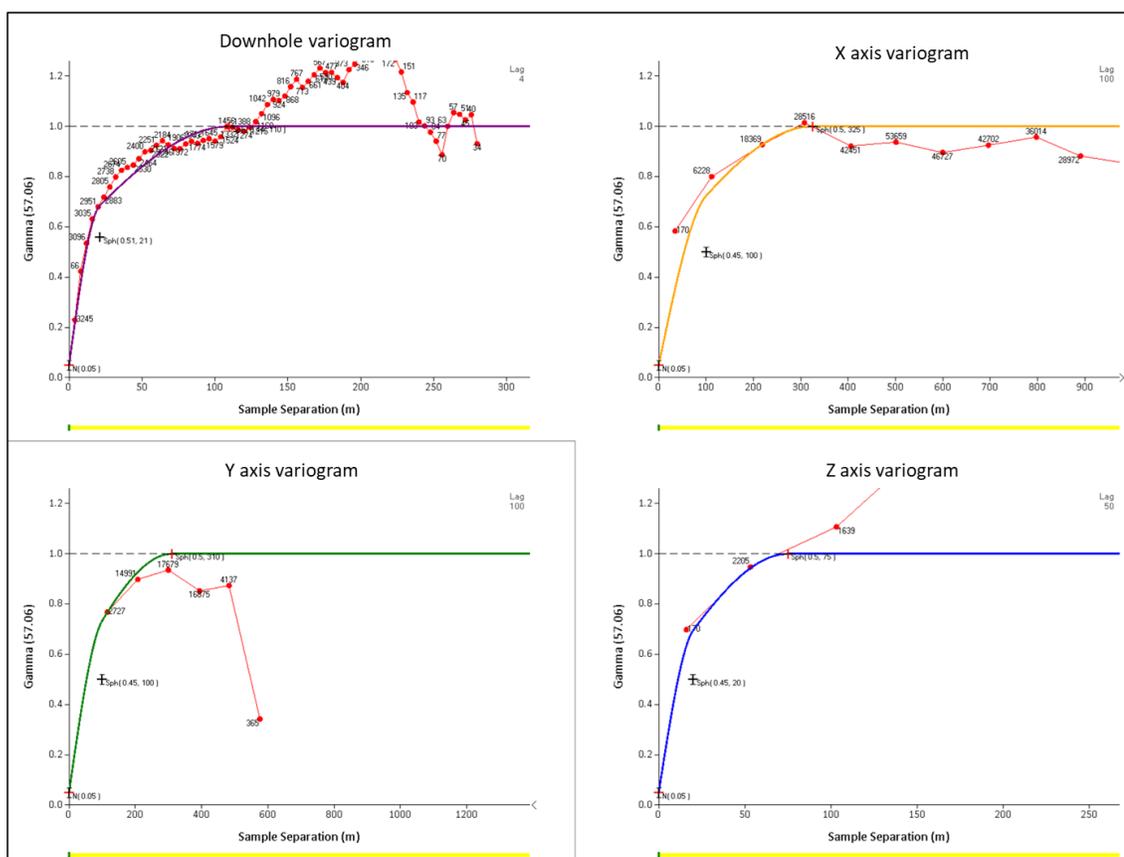
- Examine the strike, dip and dip plane of the mineralized zones to define the direction and plunge of the best continuity in the mineralization.
- Estimate the nugget effect (C0) based on the downhole variogram.
- Model the major, semi-major and minor axes of continuity.

Table 14-6 documents the variogram model parameters of each element by zone.

Figure 14-8 shows examples of the variography study of  $Fe_3O_4$  for the North Zone.

**Table 14-6 – Variogram model parameters**

Zone	Dataset	Variogram Components											
		Orientation (Surpac)			Nugget (C0)	First Structure - Spherical			Second structure - Spherical				
		Z	X	Y		Sill	Range			Sill	Range		
					X (m)	Y (m)	Z (m)		X (m)	Y (m)	Z (m)		
North Zone	Density	106	28	67	0.05	0.1	255	115	30	0.85	400	200	40
	Fe <sub>2</sub> O <sub>3</sub> _T	102	19	69	0.15	0.4	45	35	15	0.45	400	400	45
	Fe Mag	102	19	69	0.05	0.45	100	100	20	0.5	325	310	75
	TiO <sub>2</sub>	79	-37	65	0.05	0.1	55	55	10	0.8	500	450	35
	V <sub>2</sub> O <sub>5</sub>	98	9	70	0.05	0.05	100	100	10	0.9	450	400	80
	Mgo	102	19	69	0.05	0.3	150	90	80	0.65	720	450	90
	S	106	28	67	0.05	0.1	210	155	25	0.85	400	300	50
South Zone	Density	80	0	80	0.1	0.4	80	25	25	0.5	325	300	125
	Fe <sub>2</sub> O <sub>3</sub> _T	78	-10	80	0.1	0.55	205	145	60	0.35	450	350	110
	Fe Mag	78	-10	80	0.1	0.4	155	50	25	0.5	450	350	110
	TiO <sub>2</sub>	84	20	79	0.05	0.5	125	90	15	0.6	450	200	85
	V <sub>2</sub> O <sub>5</sub>	78	-10	80	0.1	0.1	240	55	40	0.8	250	150	65
	Mgo	84	20	79	0.05	0.55	115	95	10	0.4	400	110	80
	S	80	0	80	No data								



**Figure 14-8 – Variography study of Fe Mag for the North Zone**

## 14.9 Grade Interpolation

The variography study provided the parameters used to interpolate the grade model using capped composites. The interpolation was run on point area workspaces extracted from the composite datasets (flagged by zone). A cumulative 2-pass or 3-pass search was used for the resource estimate. The interpolation profiles were applied to each mineralized zone using hard boundaries to prevent block grades from being estimated using sample points with different block codes other than the block being estimated. For the east part of the North Zone, the search ellipsoid was adjusted to the zone's orientation.

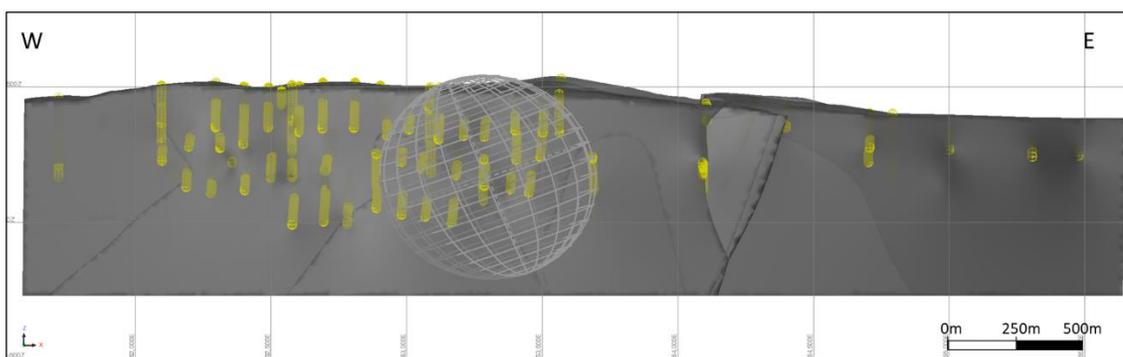
Several models were produced using the nearest neighbour (“NN”), inverse distance squared (“ID2”) and ordinary kriging (“OK”) methods to choose the one that best honoured the raw assays and composite grade distribution for that particular Project. Models were compared visually (on sections, plans and longitudinals), statistically and with swath plots. The aim was to limit the smoothing effect to preserve local grade variations but avoid smearing high-grade values.

The method retained for the resource estimation was ID2.

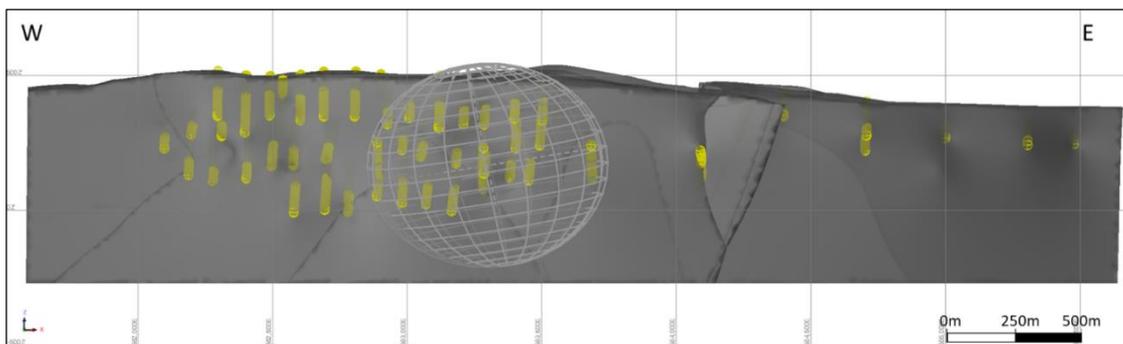
The two strategies and the parameters for the grade estimation are summarized in Table 14-7. Figure 14-9 to Figure 14-10 show examples of the composites and ellipsoids in longitudinal views.

**Table 14-7 – Interpolation strategies**

Folder	Pass	Search ellipsoid range	Number of composites		
			Min	Max	Max per hole
North Zone	1	x 1	7	20	3
	2	x 1	4	20	3
	3	x 1	2	20	3
South Zone	1	x 1	3	20	2
	2	x 1	1	20	2



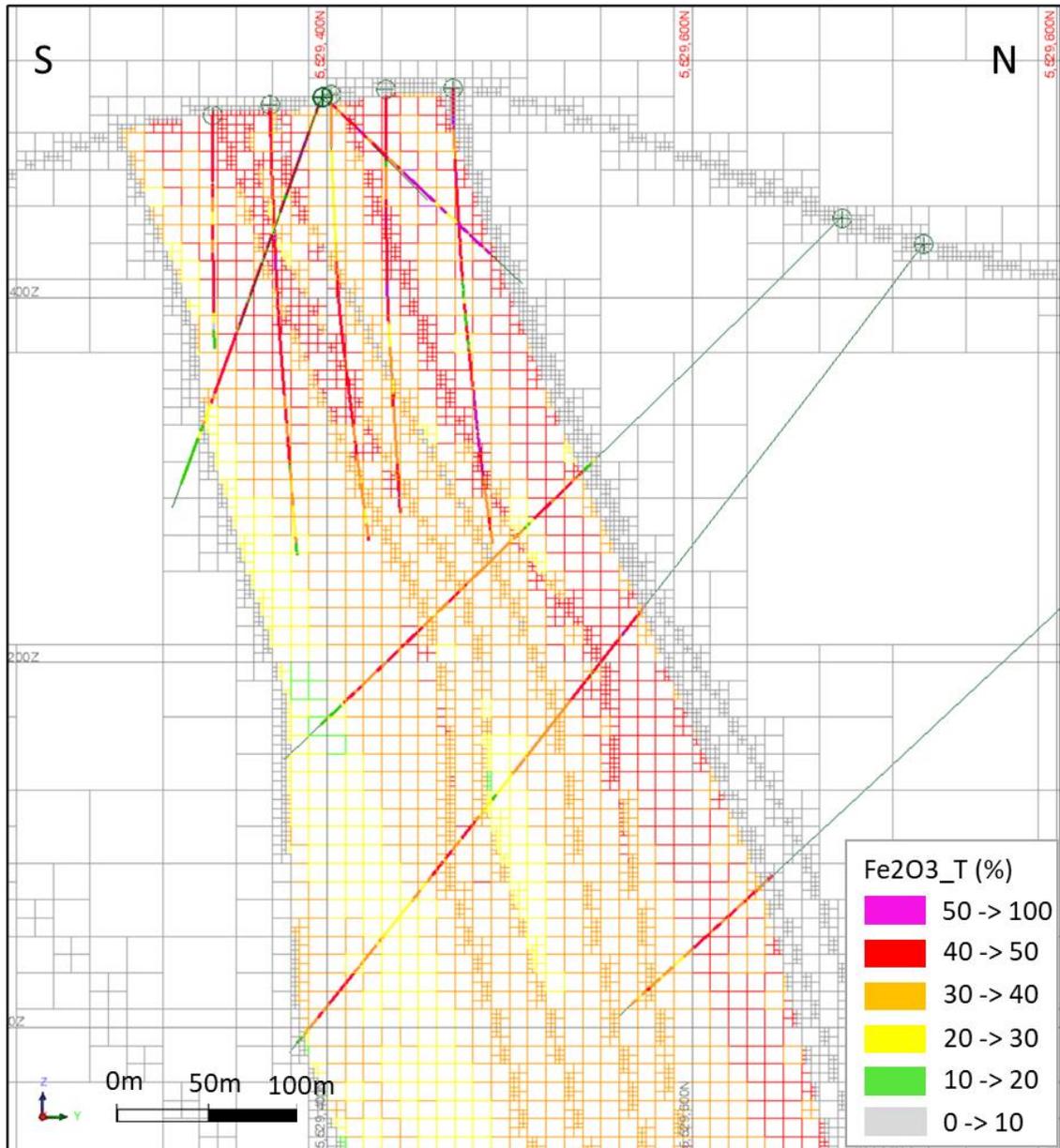
**Figure 14-9 – Longitudinal view (looking North) of the mineralized zone wireframes, composites and search ellipsoid for  $\text{Fe}_2\text{O}_3\_T$  in the North Zone**



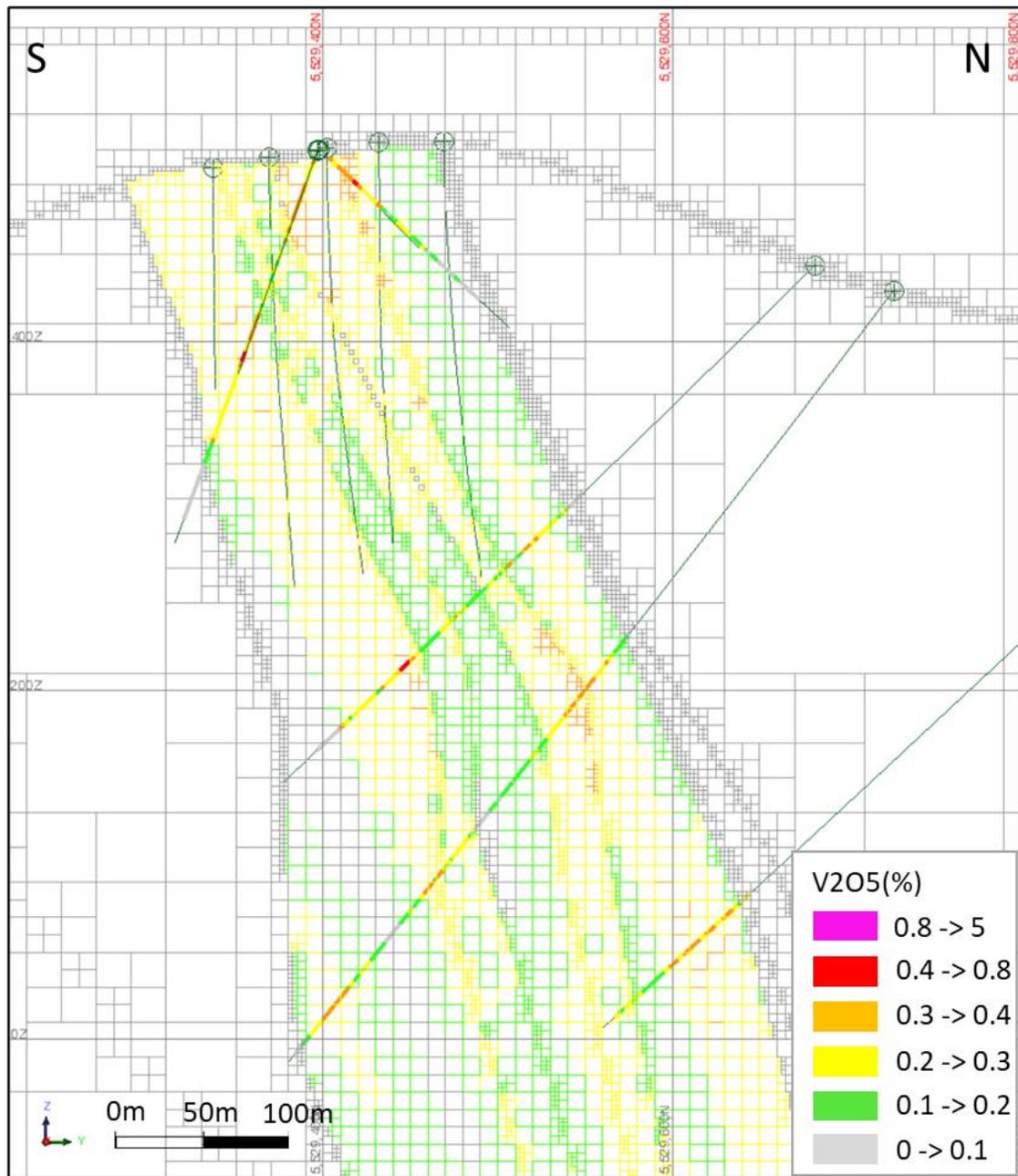
**Figure 14-10 – Longitudinal view (looking North) of the mineralized zone wireframes, composites and search ellipsoid for  $\text{V}_2\text{O}_5$  in the North Zone**

#### 14.10 Block Model Validation

Block model grades and composite grades were visually compared on sections, plans and longitudinal views for densely and sparsely drilled areas. The grade distribution had a good match without excessive smoothing in the block model. The process confirmed that the block model honours the drill hole composite data (Figure 14-11).



**Figure 14-11 – Block model interpolated Fe<sub>2</sub>O<sub>3</sub>\_T values versus drill holes assays (section view 551,600N)**



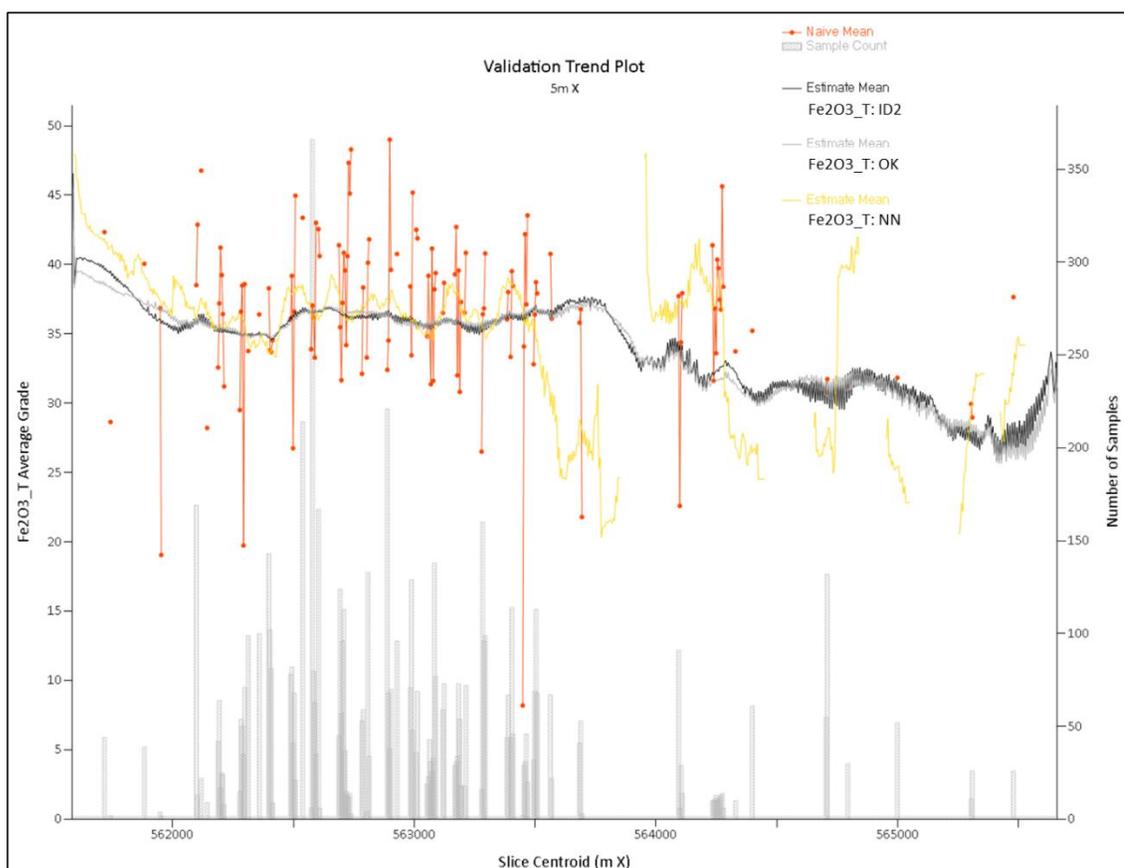
**Figure 14-12 – Block model interpolated  $V_2O_5$  values versus drill holes assays (section view 551,600N)**

The trend and local variation of the estimated ID2 model were compared to the composite data using statistics and swath plots in three directions (North, East and Elevation). As previously stated, several models were produced for each zone using NN, ID2 and OK methods to check the local bias of every method. Table 14-8 presents the results of the statistical comparison. Generally, the comparison between composite and block grade distribution did not identify any significant issues. Figure 14-13 shows an example of the swath plot used to compare the block model grades to the composite grades. In general,

the model correctly reflects the trends demonstrated by the composites, with the expected smoothing effect.

**Table 14-8 – Comparison of block models and composite mean grades**

Domain	Element	Parameter	Composite	Declustered Composite	ID2 Model	OK Model	NN Model
North Zone	Fe <sub>2</sub> O <sub>3</sub> _T	Number	6,914	6,914	3,221,296	3,221,296	2,221,758
		Mean (g/t)	37.27	36.02	35.33	35.26	35.96
		COV	0.26	0.29	0.19	0.18	0.28
	V <sub>2</sub> O <sub>5</sub>	Number	6,090	6,090	2,855,075	2,855,075	2,185,871
		Mean (g/t)	0.22	0.21	0.19	0.19	0.20
		COV	0.55	0.66	0.42	0.43	0.57
	TiO <sub>2</sub>	Number	6,743	6,743	3,079,824	3,079,824	2,228,730
		Mean (g/t)	1.15	1.27	1.24	1.25	1.22
		COV	0.47	0.49	0.36	0.36	0.46
	Density	Number	7,456	7,456	3,232,721	3,232,721	2,558,988
		Mean (g/t)	3.24	3.19	3.19	3.17	3.22
		COV	0.07	0.08	0.05	0.05	0.07
South Zone	Fe <sub>2</sub> O <sub>3</sub> _T	Number	765	765	663,272		
		Mean (g/t)	32.43	28.41	27.65		
		COV	0.37	0.45	0.3		
	V <sub>2</sub> O <sub>5</sub>	Number	446	446	214,489		
		Mean (g/t)	0.25	0.19	0.18		
		COV	0.52	0.7	0.53		
	TiO <sub>2</sub>	Number	915	915	722,349		
		Mean (g/t)	1.17	1.25	1.42		
		COV	0.84	0.92	0.67		
	Density	Number	972	972	589,020		
		Mean (g/t)	3.12	3.02	3		
		COV	0.08	0.08	0.06		



**Figure 14-13 – Swath plot comparing the ID2, OK and NN interpolations to the DDH composites for the  $\text{Fe}_2\text{O}_3\_T$  at the North Zone (sliced by section, looking North)**

### 14.11 Mineral Resource Classification

By default, all interpolated blocks were assigned to the “exploration potential” when creating the grade block model. Subsequent reclassification to the indicated or inferred category was done according to the following criteria:

Inferred category criteria:

- Blocks showing geological and grade continuity;
- Blocks from well-defined mineralized zones only;
- Blocks interpolated by a minimum of two holes; and
- Blocks in areas where drill spacing is no more than 200 m.

Indicated category criteria:

- Blocks showing geological and grade continuity;
- Blocks from well-defined mineralized zones only;
- Blocks interpolated by a minimum of three holes; and
- Blocks in areas where drill spacing is no more than 100 m.

No measured resources were defined.

Some blocks were locally upgraded to the inferred or indicated category, and some blocks were locally downgraded to inferred or exploration potential to homogenize (smooth out) the resource volumes in each category and avoid isolated blocks from being included in a category domain.

Final block classification was done using a series of outline rings (clipping boundaries) built on a longitudinal view.

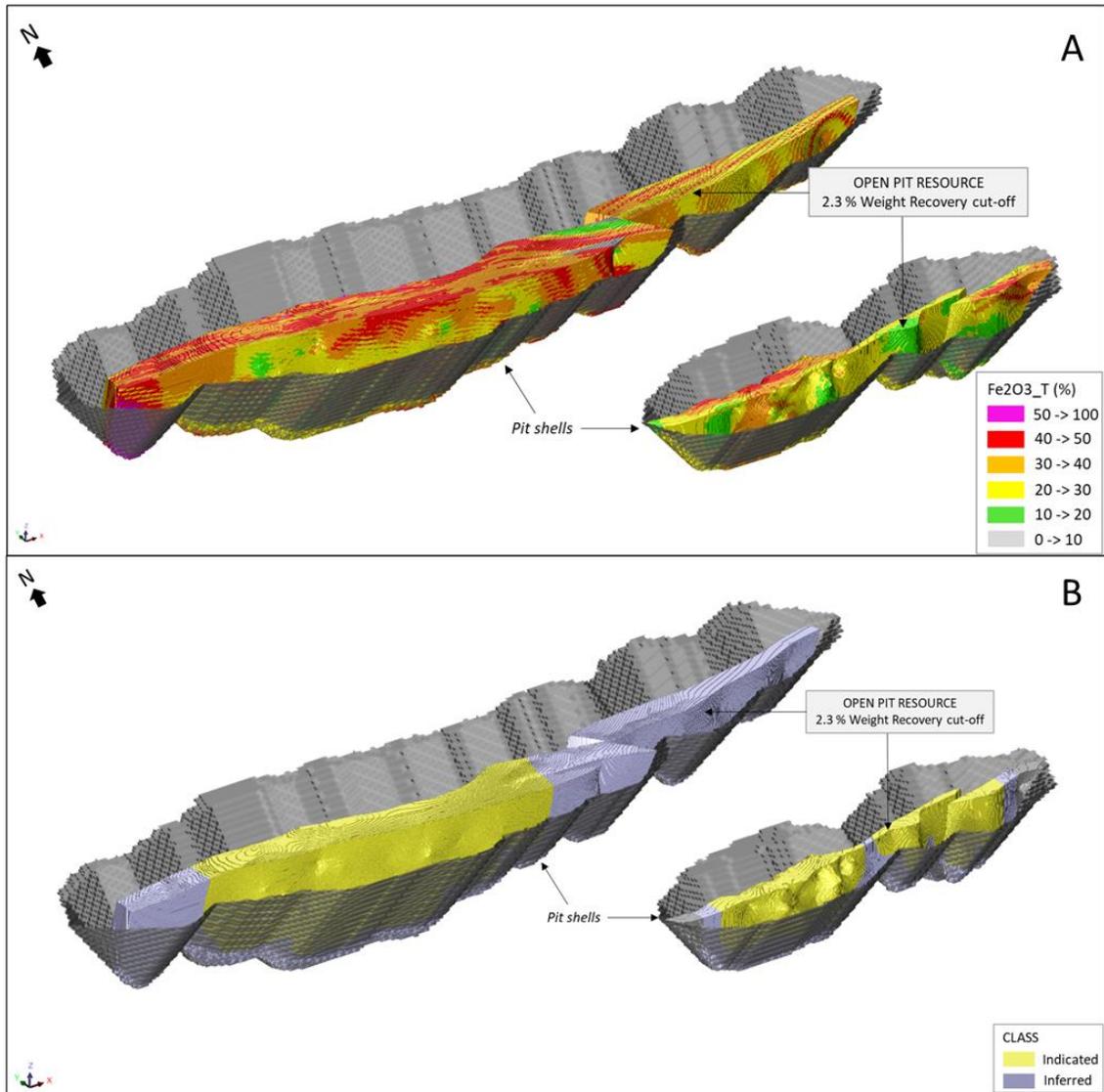
#### **14.12 Cut-off Grade for Mineral Resources**

Specific extraction methods are used only to establish a reasonable cut-off grade (“CoG”) for various parts of the Project. No PEA, PFS or FS studies have been completed for the current 2022 MRE to support the economic viability and technical feasibility of exploiting any part of the mineral resource by any particular mining method.

The CoG must be re-evaluated in light of prevailing market conditions and other factors, such as iron ore price, exchange rate, mining method, related costs, etc.

Under CIM Definition Standards, mineral resources should have “reasonable prospects of eventual economic extraction”.

A Whittle pit shell was used to constrain the 2022 MRE on each zone for its near-surface potential. Resource-level optimized pit shells and the corresponding open-pit cut-off grade are used for the open pit resource statement. Figure 14-14 presents isometric views showing the optimized pit-shell designs of the classified mineral resources.



- A. Fe2O3\_T value;
- B. Classification value

**Figure 14-14 – Isometric views of the mineral resources and the Whittle optimized pit-shells (blocks selection: in pit-shells and above COG)**

Mineral resources were compiled using a minimum cut-off grade (“CoG”) for a potential open pit extraction scenario: 2.3% Weight Recovery.

The Weight Recovery parameter is based on the metallurgical studies described on item 13. The Weight Recovery is the percentage of the mass from the feed recovered in the concentrate, it’s calculated as following:

$$\text{Weight Recovery} = \text{Fe Recovery} \times \text{Feed Fe grade} / \text{Concentrate Fe grade}$$

With:

$$\text{Fe Recovery} = 73.87 \times (\text{Fe Mag} / \text{Feed Fe grade}) - 7$$

And:

$$\text{Concentrate Fe grade} = 65\%$$

The CoG parameters and assumptions are presented in Table 14-9.

**Table 14-9 – Input parameters used to estimate the cut-off grade**

Parameter	Unit	Value for open pit
Fe Conc. 62% price	US\$/t	134
Exchange rate	US:CA	1.30
Royalty	%	3%
Royalty	CA\$/t Fe conc. 65%	5.46
Transport	CA\$/t Fe conc. 65%	52.90
Cost of selling	CA\$/t Fe conc. 65%	58.36
Total processing cost	CA\$/t treated	190
Metallurgical recovery	%	100%
Concentrate grade	%	65%
Mining cost	CA\$/t treated	3.30
Mining overburden cost	CA\$/t treated	2.45
G&A	CA\$/t treated	0.75
Total based cost	CA\$/t treated	4.37
Cut-off grade	Weight Recovery %	2.30%

### 14.13 Mineral Resource Estimates

The authors have classified the current mineral resource estimate as Indicated and Inferred based on data density, search ellipse criteria, drill hole spacing and interpolation parameters. The authors also believe that the requirement of “reasonable prospects for eventual economic extraction” has been met by having:

- Resources constrained by a pit shell with a 50° angle in rock and a 30° angle in overburden; and
- Cut-off grades based on reasonable inputs amenable to a potential open-pit extraction scenario.

The 2022 MRE is considered reliable and based on quality data and geological knowledge. The estimate follows CIM Definition Standards.

Table 14-10 presents the results of the in-pit portions of the 2022 MRE at a cut-off grade of 2.3% Weight Recovery.

Table 14-11 presents the sensitivity of the in-pit at different cut-off grades. The reader should be cautioned that the figures provided in the sensitivity table should not be interpreted as a mineral resource statement. The sole purpose of reporting quantities and grade estimates at different cut-off grades is to demonstrate the resource model's sensitivity to the selection of a reporting cut-off grade.

Compared to the 2021 MRE (Longridge et al., 2021), the 2022 MRE converts approximately 40% of the whole rock tonnage from the Inferred category to Indicated, and adds 220 Mt of whole rock to the Indicated Resource in the North Zone. As only inferred resources were defined in the North Zone in the 2021 MRE, that conversion represents a new total Indicated Resource of 559 Mt whole rock at 28.2% Fe<sub>3</sub>O<sub>4</sub>, corresponding to 163 Mt of 65% Fe/0.55% V concentrate.

The variations are due to several factors: the addition of 42 new assayed holes on the North Zone since 2020, the adjustment of the economic parameters to reflect current economic conditions, and the adjustment of the metallurgical parameters to include the new Davis Tube test results.

The Inferred Resource tonnage in the South Zone is lower than the 2021 MRE even though it has not been drilled since then. The author felt it necessary to declassify some inferred resources in the South Zone. As a result, the whole rock resource decreased by 62 Mt. It should be noted that this material is supported by historical drilling from 1966 and could be upgraded in the future.

**Table 14-10 – Mont Sorcier Project 2022 Mineral Resource Estimate**

Zone	Category	Tonnage				Head grade								Conc.
		Rock (Mt)	Fe Rec (%)	W Rec (%)	Conc. (Mt)	Fe <sub>2</sub> O <sub>3</sub> (%)	Fe (%)	Fe <sub>3</sub> O <sub>4</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)	TiO <sub>2</sub> (%)	MgO (%)	SiO <sub>2</sub> (%)	S (%)	Fe (%)
North	Indicated	559.3	72.05	29.21	163.4	37.70	26.35	28.20	0.21	1.10	19.78	25.13	1.12	65.00
	Inferred	470.5	72.97	27.39	128.9	34.90	24.40	26.41	0.18	1.32	19.79	27.91	0.49	65.00
South	Indicated	119.2	82.04	26.85	32.0	30.43	21.27	25.64	0.17	1.49	24.09	24.43		65.00
	Inferred	76.2	81.38	25.23	19.2	28.83	20.15	24.11	0.13	1.46	22.39	23.14		65.00
Total	Indicated	<b>678.5</b>	<b>73.52</b>	<b>28.80</b>	<b>195.4</b>	<b>36.42</b>	<b>25.46</b>	<b>27.75</b>	<b>0.20</b>	<b>1.17</b>	<b>20.54</b>	<b>25.01</b>		<b>65.00</b>
	Inferred	<b>546.6</b>	<b>73.96</b>	<b>27.09</b>	<b>148.1</b>	<b>34.05</b>	<b>23.80</b>	<b>26.09</b>	<b>0.17</b>	<b>1.34</b>	<b>20.15</b>	<b>27.25</b>		<b>65.00</b>

Notes to accompany the Mineral Resource Estimate:

- 1) The independent and qualified persons for the mineral resource estimate, as defined by NI 43-101, are Marina lund, P.Geo., Carl Pelletier, P.Geo., Simon Boudreau, P.Eng. all from InnovExplo Inc. and Mathieu Girard P.Eng from Soutex. The effective date is June 6th, 2022
- 2) These mineral resources are not mineral reserves, as they do not have demonstrated economic viability. The mineral resource estimate follows current CIM Definition Standards.
- 3) The results are presented undiluted and are considered to have reasonable prospects for eventual economic extraction by having constraining volumes applied to any blocks using Whittle software and by the application of cut-off grades for potential open-pit extraction method.
- 4) The estimate encompasses two (2) zones (North and South), subdivided into 8 individual zones (7 for North, 1 for South).
- 5) No high-grade capping was applied.
- 6) The estimate was completed using sub-block models in GEOVIA Surpac 2021.
- 7) Grade interpolation was performed with the ID2 method on 4 m composites for the North zone and on 10 m composites for the South zone.
- 8) The density of the mineralized zones was interpolated with the ID2 method. When no density analysis was available, the density value was estimated using linear regression with Fe<sub>2</sub>O<sub>3</sub> analysis. For the unmineralized material, a density value of 2.8 g/cm<sup>3</sup> (anorthosite and volcanics), 3.5 g/cm<sup>3</sup> (Massive sulfide formation) and 2.00 g/cm<sup>3</sup> (overburden) was assign.
- 9) The mineral resource estimate is classified as Indicated and Inferred. The Inferred category is defined with a minimum of two (2) drill holes for areas where the drill spacing is less than 400 m, and reasonable geological and grade continuity have been shown. The Indicated category is defined with a minimum of three (3) drill holes within the areas where the drill spacing is less than 200 m, and reasonable geological and grade continuity have been shown. Clipping boundaries were used for classification based on those criteria.
- 10) The mineral resource estimate is locally pit-constrained for potential open-pit extraction method with a bedrock slope angle of 50° and an overburden slope angle of 30°. It is reported at a rounded cut-off grade of 2.30% Weight Recovery. The cut-off grade was calculated for the concentrate using the following parameters: royalty = 3%; mining cost = CA\$3.30; mining overburden cost = CA\$2.45; processing cost = CA\$3.62; G&A = CA\$0.75; selling costs = CA\$58.36; Fe price = CA\$190/t; USD:CAD exchange rate = 1.3; and mill recovery = 100% (concentrate). The cut-off grades should be re-evaluated considering future prevailing market conditions (metal prices, exchange rates, mining costs etc.).
- 11) The number of metric tonnes was rounded to the nearest thousand, following the recommendations in NI 43-101 and any discrepancies in the totals are due to rounding effects.
- 12) The authors are not aware of any known environmental, permitting, legal, title-related, taxation, socio-political, or marketing issues, or any other relevant issue not reported in the Technical Report, that could materially affect the Mineral Resource Estimate.
- 13) Note that the figures in the current table are slightly different from those disclosed on June 9th, 2022. In the course of writing this technical report, some adjustments were made to some deep inferred blocks in the block model resulting in a small decrease of the inferred MRE. The lost is transferred to exploration potential.

**Table 14-11 – Cut-off grade sensitivity for the in-pit portion of the Mont Sorcier Project**

Category	Cut-off (%)	Tonnage				Head grade						
		Rock (Mt)	Fe Rec (%)	W Rec (%)	Conc. (Mt)	Fe <sub>2</sub> O <sub>3</sub> (%)	Fe (%)	Fe <sub>3</sub> O <sub>4</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)	TiO <sub>2</sub> (%)	MgO (%)	SiO <sub>2</sub> (%)
Indicated	3.26	677.4	73.51	28.82	195.2	36.45	25.48	27.77	0.21	1.16	20.56	25.03
	2.69	678.4	73.50	28.79	195.4	36.43	25.46	27.75	0.20	1.17	20.54	25.01
	2.30	678.6	73.52	28.79	195.3	36.41	25.45	27.74	0.20	1.16	20.54	25.01
	2.00	678.5	73.52	28.80	195.4	36.42	25.46	27.75	0.20	1.17	20.54	25.01
	1.78	678.5	73.52	28.80	195.4	36.42	25.46	27.75	0.20	1.17	20.54	25.01
Inferred	3.26	491	74.37	27.47	134.9	34.35	24.01	26.45	0.18	1.33	20.21	27.33
	2.69	529	74.13	27.22	144.0	34.14	23.86	26.21	0.18	1.34	20.21	27.29
	2.30	546.6	73.95	27.09	148.0	34.06	23.81	26.09	0.18	1.34	20.15	27.25
	2.00	557.5	73.83	27.01	150.6	34.02	23.78	26.02	0.17	1.34	20.11	27.20
	1.78	563.9	73.80	26.97	152.1	33.98	23.75	25.98	0.17	1.34	20.07	27.16

**15. MINERAL RESERVE ESTIMATES**

Not applicable at the current stage of the Project.

**16. MINING METHODS**

Not applicable at the current stage of the Project.

**17. RECOVERY METHODS**

Not applicable at the current stage of the Project.

**18. PROJECT INFRASTRUCTURE**

Not applicable at the current stage of the Project.

**19. MARKET STUDIES AND CONTRACTS**

Not applicable at the current stage of the Project.

**20. ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

Not applicable at the current stage of the Project.

**21. CAPITAL AND OPERATING COSTS**

Not applicable at the current stage of the Project.

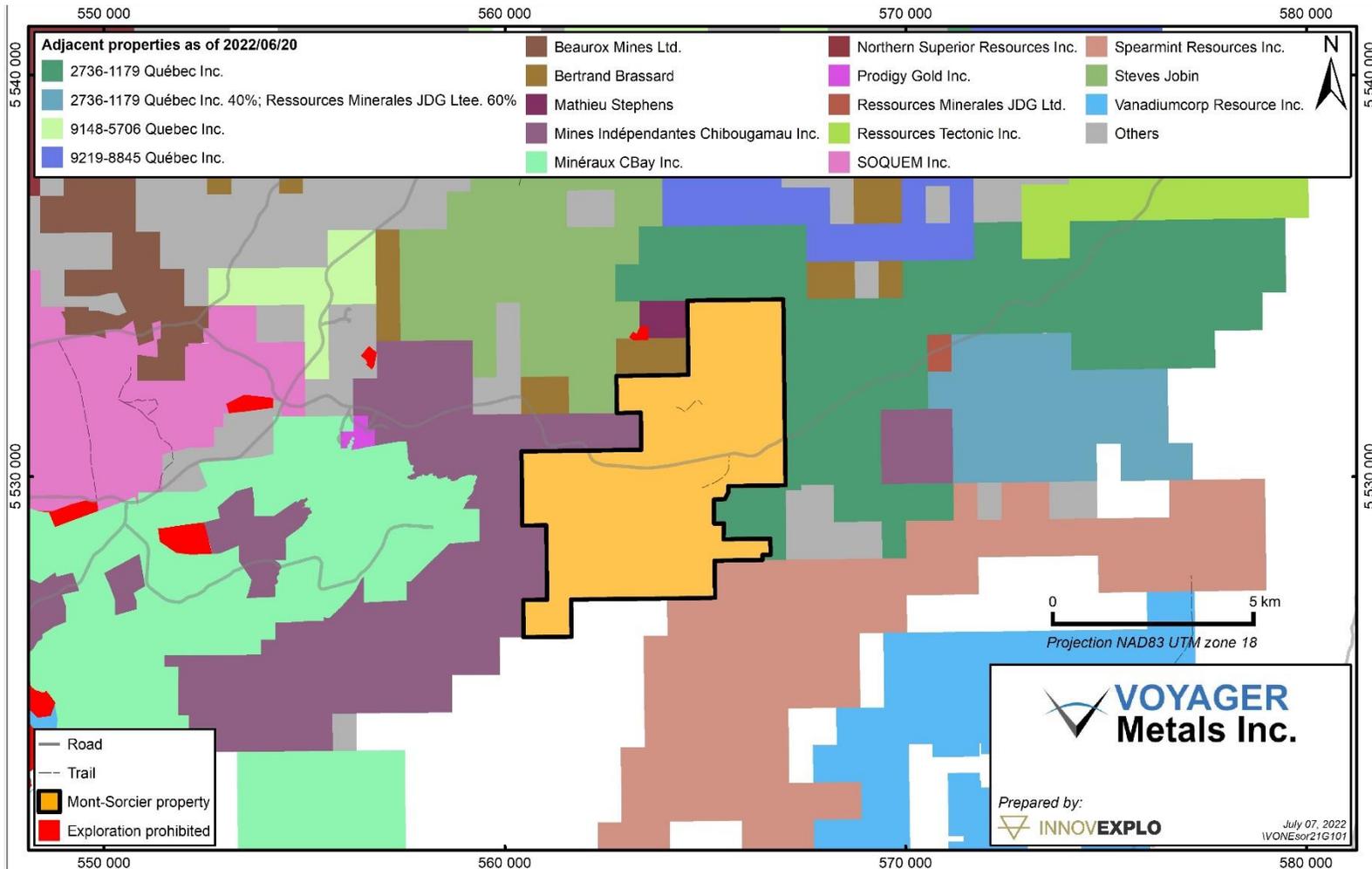
**22. ECONOMIC ANALYSIS**

Not applicable at the current stage of the Project.

## 23. ADJACENT PROPERTIES

As at the effective date of the Technical Report, the online GESTIM claims database shows several properties under different ownership adjacent to the Property (Figure 23-1). This public information has not been verified by InnovExplo. As at the time of writing, the authors are not aware of any active exploration work in the immediate area of the Property that would be considered relevant to the 2022 MRE.

The Lac Doré deposit, 100% owned by VanadiumCorp Resource Inc., lies approximately 7 km to the south-east of the Property. The mafic Lac Doré complex hosts total measured and indicated mineral resources of 214.93 Mt at 0.4%  $V_2O_5$ , 27.1% Fe, 7.1%  $TiO_2$  and 24.6% magnetite, and total inferred mineral resources of 86.91 Mt at 0.4%  $V_2O_5$ , 28% Fe, 7.6%  $TiO_2$  and 25.9% magnetite (Longridge et al, 2020). The information presented above about mineralization on adjacent properties is not necessarily indicative of mineralization on the Property. The author has not verified any mineral resource estimates or published geological information pertaining to the adjacent properties.



**Figure 23-1 – Adjacent properties**

## **24. OTHER RELEVANT DATA AND INFORMATION**

The authors are unaware of other relevant data and information that could significantly impact the interpretation and conclusions presented in this report.

## 25. INTERPRETATION AND CONCLUSIONS

The objective of InnovExplo's mandate was to provide an updated mineral resource estimate for the Mont Sorcier Project (the "2022 MRE"). The mandate covers the South and North zones. This Technical Report and the 2022 MRE herein meet this objective.

The authors conclude the following:

- The database supporting the 2022 MRE is complete, valid and up to date.
- Geological and magnetite-grade continuity has been demonstrated for both mineralized zones.
- The key parameters of the 2022 MRE (density, capping, compositing, interpolation, search ellipsoid, etc.) are supported by data and statistical and/or geostatistical analysis.
- The 2022 MRE includes indicated and inferred resources for an open pit mining scenario. The 2022 MRE complies with CIM Definition Standards and CIM Guidelines.
- A cut-off grade of 2.3% Weight Recovery was used, corresponding to the potential open pit mining scenario.
- The cut-off grade was calculated at a 62% Fe concentrate price of US\$ 134 per tonne and an exchange rate of 1.30 USD/CAD, using reasonable mining, processing and G&A costs.
- In a pit mining scenario, the Project contains an estimated Indicated Resources of 678,497,000 t at 27.7% Fe<sub>3</sub>O<sub>4</sub> and 0.2% V<sub>2</sub>O<sub>5</sub> for 195,376,000 t of 65% Fe/0.55% V concentrate and Inferred Resources of 546,608,000 t at 26.1% Fe<sub>3</sub>O<sub>4</sub> and 0.17% V<sub>2</sub>O<sub>5</sub> for 148,056,000 t of 65% Fe/0.55% V concentrate.
- Compared to the 2021 MRE, the results of the 2022 MRE convert approximately 40% of the whole rock tonnage from the Inferred category to Indicated and add 220 Mt of whole rock to the Indicated Resource in the North Zone. As only inferred resources were defined in the North Zone in the 2021 MRE, that conversion represents a new total Indicated Resource of 559 Mt whole rock at 28.2% Fe<sub>3</sub>O<sub>4</sub>, corresponding to 163 Mt of 65% Fe/0.55% V concentrate. The variations are due to several factors: the addition of 42 new assayed holes on the North Zone since 2020, the adjustment of the economic parameters to reflect current economic conditions, and the adjustment of the metallurgical parameters to include the new Davis Tube test results.
- The Inferred Resource tonnage in the South Zone is lower than in the 2021 MRE even though it has not been drilled since then. The author felt it necessary to declassify some inferred resources in the South Zone. As a result, the whole rock resource decreased by 62 Mt. It should be noted that this material is supported by historical drilling from 1966 and could be upgraded in the future.
- Based on the currently available metallurgical test results, mineralized material from the Project could produce an iron concentrate grading 65% Fe and 0.55% V<sub>2</sub>O<sub>5</sub> with good magnetite recovery using a conventional magnetic process. The required grinding size could be as fine as 80% passing 38 microns.
- Additional diamond drilling would likely upgrade some of the Inferred Resource to the Indicated category and/or add to the Inferred Resource since most mineralized zones have not been fully explored at depth. Based on magnetic surveys, only the east part

of the South Zone has any potential for lateral extension, with undrilled continuity of the magnetic layer detected.

At this stage, it is reasonable to believe that an open pit mining activity is amenable to the expectation of “reasonable prospects of eventual economic extraction”, as stated in the CIM Guidelines. The best potential for adding new resources in the open pit is to continue exploring the deep eastern part of the North Zone and the east extension of the South Zone, as those areas have not yet been drilled or only sparsely. The favourable geology hosting the Project’s mineralization is constrained to the west of the North and South Zones and the east of the North Zone. Both zones remain open at depth, but the geological interpretation of the South Zone as a fold hinge could imply a limited vertical extent that drilling has not yet proven. There is potential to add material at depth below the existing mineralized model that could still be accessed with an open-pit operation. The reader is cautioned that this exploration targets are conceptual in nature. There has been insufficient exploration to define it as a mineral resource, and it is uncertain if further exploration will delineate the exploration target as a mineral resource.

Drilling to tighten the drill spacing in the inferred resources should allow for conversion from inferred to indicated by adding confidence to the estimate. The reader is cautioned that this conversion targets are conceptual in nature.

The authors consider the 2022 MRE reliable, thorough, and based on quality data, reasonable hypotheses, and parameters compliant with NI 43-101 requirements, CIM Definition Standards and CIM Guideline.

## 25.1 Mineral Resource Estimates

Table 25-1 compares the mineral resource statement of June 6, 2022, to the statement from 2021 (2022 MRE vs 2021 MRE).

**Table 25-1– Comparison between 2022 and 2021 Indicated and Inferred Mineral Resources**

Year	Category	Tonnage	Head grade Fe <sub>3</sub> O <sub>4</sub> (%)	65% Fe Concentrate (Mt)
2022	IND	678.6	27.75	195.4
	INF	546.6	26.09	148.1
2021	IND	113.5	30.9	35
	INF	953.7	32.8	313.1

Several factors may affect the mineral resource estimate, including metal prices, the exchange rate, engineering assumptions based on data that prove faulty, or environmental and socioeconomics considerations.

## 25.2 Risks and Opportunities

Table 25-2 identifies the significant internal risks, potential impacts and possible risk mitigation measures that could affect the future economic outcome of the Project. The list does not include the external risks that apply to all mining projects (e.g., changes in metal prices, exchange rates, availability of investment capital, government regulations, etc.).

Significant opportunities that could improve the economics, timing and permitting are identified in Table 25-3. Further information and study are required before these opportunities can be included in the project economics.

**Table 25-2 – Risks for the Project**

<b>Risk</b>	<b>Potential impact</b>	<b>Possible risk mitigation</b>
Metallurgical recoveries	Metallurgical tests are preliminary. Recovery could be worse than what is currently assumed	Additional metallurgical testwork.
Environmental, hydrogeological and geotechnical considerations	Environmental, hydrogeological and geotechnical considerations may affect the project but have not yet been assessed (e.g., proximity to the lake and hydrogeology).	Environmental, hydrogeological and geotechnical studies.
Social acceptability	The Mont Sorcier and surrounding lakes are a place of recreation for the inhabitants of Chibougamau.	Maintain a pro-active and transparent strategy and communication plan with local communities.
Difficulty in attracting experienced professionals	The ability to attract and retain competent, experienced professionals is a key success factor	The early search for professionals will help identify and attract critical people.

**Table 25-3 – Opportunities for the Project**

<b>Opportunities</b>	<b>Explanation</b>	<b>Potential benefit</b>
Experienced workforce	An experienced workforce is already present in the Chibougamau region	Creation of a team-building environment.
Resource development potential	Potential to convert inferred mineral resources to a higher level of confidence.	Adding indicated and inferred mineral resources increases the economic value of the mining project.
Surface exploration drilling	Potential for adding inferred mineral resources by drilling targets in the known extensions of the mineralized zones.	Adding inferred mineral resources increases the economic value of the mining project.
Metallurgical recovery optimization	Metallurgical tests are preliminary, and recoveries could be different than currently assumed	Recovery could be optimized and be better than what is currently assumed.
Cost adjustment by adding vanadium to the CoG calculation	Only the iron concentrate price was used to evaluate the CoG.	CoG could be lower than expected.

## **26. RECOMMENDATIONS**

### **26.1 Geology**

The QPs recommends further exploration drilling using a regularly-spaced drill grid that satisfies inferred resource category criteria to potentially increase resources and the confidence level of the geological model. The exploration drilling should be targeted in the extensions of the mineralized zones and in the resource block model to test the potential of the depth extension mainly, but also the lateral extensions which are still open (mainly the East extension of the South Zone).

Further definition drilling is recommended along strike and at depth to upgrade the Inferred resources to the Indicated category and address the underground potential for all zones.

### **26.2 Metallurgy**

Metallurgical testwork is required to develop the process at a feasibility study level. Furthermore, this test work should look at:

- Preconcentration size and methods to reduce the grinding requirement;
- Final concentrate alternative cleaning process;
- Reduction of the sulphur concentrate grade through flotation;
- Production of a high-iron concentrate grade through flotation.

### **26.3 Mining**

Environmental, geotechnical and hydrogeological studies should be undertaken to support the project's advancement. These would involve confirming the structural data over the proposed footprint of the open pit. Ideally, this would involve a geotechnical drilling program with a minimum of one (1) hole oriented perpendicular to each of the four pit walls (north, south, east and west).

To support the work above, the authors recommend a feasibility study.

The authors also recommend that the issuer maintain its proactive and transparent strategy and communication plan with local communities and First Nations.

### **26.4 Costs Estimate for Recommended Work**

The budget for the proposed program is presented in Table 26-1. Expenditures are estimated at C\$5,461,000 (incl. 15% for contingencies). The budget amount of \$5,461,000 represents current commitments toward the project for about a year. It should be increased as work progress in the next few months toward the making of a Feasibility Study.

The author believes that the recommended work program and proposed expenditures are appropriate and well thought out and the proposed budget reasonably reflects the type and amount of contemplated activities.

**Table 26-1 – Estimated Costs for the Recommended Work Program**

	<b>Work Program</b>	<b>Budget Cost</b>
A	Environmental baseline study	\$2,733,000
B	Community relations and communication plan	\$240,000
C	Feasibility study	\$2,488,000
C1	<i>Tailing, waste and water management</i>	<i>\$875,000</i>
C2	<i>Environmental study</i>	<i>\$300,000</i>
C3	<i>Metallurgical test work and density program</i>	<i>\$165,000</i>
C4	<i>Geotechnical and hydrogeological studies</i>	<i>\$650,000</i>
C5	<i>MRE up-date and feasibility study report</i>	<i>\$479, 000</i>
C6	<i>Railway alignment</i>	<i>\$19, 000</i>
	<b>TOTAL</b>	<b>\$5,461,000</b>

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