# TECHNICAL REPORT FOR THE CHESTER PROPERTY, NORTHEAST NEW BRUNSWICK, CANADA



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# 1 Summary

This Technical Report has been prepared by APEX Geoscience Ltd. ("APEX") and Terrane Geoscience Inc. ("Terrane"), for the Issuer, Melius Metals Corp., ("Melius" or the "Company"), a Toronto, Ontario (ON), Canada, based privately owned, junior mineral exploration company. Melius recently signed an option agreement with Puma Exploration Inc. ("Puma") and its wholly-owned subsidiary Murray Brooks Minerals Inc. ("MBM"), who are collectively called the "Puma Parties" (Puma and MBM), that grants the Company sole and exclusive right and option to acquire an undivided 100 per cent (%) of their respective rights and interest in the Chester Property ("Chester Property") with the consent of Explor Resources Inc. ("Explor").

The Chester Property is located in north central New Brunswick (NB), 70 km southwest of the city of Bathurst, NB and 50 km west-northwest of the city of Miramichi, NB. The Property is in Northumberland County located in the south part of the Bathurst Mining Camp. The Chester Property comprises 6 contiguous Tenure Blocks that consist of 281 claim units covering a total area of 6,176 ha.

The intent and purpose of this Technical Report is to provide a geological introduction to the Chester Property, to summarize historical work conducted on the Property from 1955 to 2019, a small drill program conducted in 2021 and to provide recommendations for future exploration work programs. This Technical Report has been prepared in accordance with the Canadian Securities Administration's (CSA's) National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects and guidelines for technical reporting Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Best Practices and Reporting Guidelines" for disclosing mineral exploration. The effective date of this Technical Report is August 20, 2021.

The authors of this Technical Report are Mr. Michael B. Dufresne M.Sc., P. Geol., P. Geo., and Ms. Anetta Banas M.Sc., P.Geol., of APEX and Dr. Stefan Kruse Ph.D., P. Geo., of Terrane Geoscience Inc. The authors are fully independent of Melius and are Qualified Persons (QPs) as defined in NI 43-101. Mr. Dufresne takes responsibility for the preparation and publication of sections 1, 2, 9 to 11 and 13 to 19 of this Technical Report. Mr. Dufresne is a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA), a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia (EGBC). Dr. Kruse takes responsibility for Section 12 and contributed to Sections 1, 4.5, 6, 7, 17 and 18 of this Technical Report. Dr. Kruse is a Professional Geologist with the Association of Professional Engineers and Geoscientists of New Brunswick, Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL) and the Engineers and Geoscientists of British Columbia (EGBC). Ms. Banas is a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA). Ms. Banas takes responsibility for the preparation and publication of Sections 3 to 8. Ms. Banas contributed to Sections 1, 2, 9 to 11 and 13 to 19 of this Technical Report.



The Chester Property lies in a favorable geological setting within the Bathurst Mining Camp (BMC) in the northeastern part of the Appalachian Orogen. The Bathurst Mining Camp is host to over 45 volcanogenic massive sulphide (VMS) base metal deposits including the world-class Brunswick No. 12 (Difrancesco, 1996). The area is underlain by rocks of the Bathurst Super Group: a Middle Ordovician – Lower Silurian sequence of felsic volcanic, mafic volcanic and sedimentary rocks, which overlie the Miramichi Group: a Cambrian to Lower Ordovician sequence of sedimentary rocks. The east-west trending Moose Lake-Tomogonops fault system divides the BMC into northern and southern structural and stratigraphic domains. The Chester Deposit is located in the southern domain. The southern part of the Chester Property is underlain by the Miramichi Group while the northern and central part of the Property is underlain by the Sheephouse Brook Group of the Bathurst Super Group.

VMS deposits in the BMC occur at various stratigraphic positions and deposits are known to occur in the Tetagouche Group, California Lake Group and the Sheephouse Brook Group. The Chester Deposit, which is located on the Property, consists of massive, disseminated and stringer sulphide mineralization that lies within dacitic volcanic rocks of the Clearwater Stream Formation (Sheephouse Brook Group). Three mineralized zones have been delineated at the Chester Deposit: the Stringer Zone (West Zone), Central Zone and East Zone.

Historical exploration conducted on the Property has included geological mapping and prospecting, geophysical surveys, soil geochemical surveys, trenching and drilling by several companies from 1955 to 2019. The Chester Deposit was found in 1955 by Kennco Explorations (Canada) Ltd. ("Kennco"). Subsequently, various companies carried out exploration programs on the Property including Chesterville Mines Ltd., Newmont Mining Corp. of Canada, Sullivan Mining Group, Sullico Mines Ltd. ("Sullico"), Teck Resources Ltd. ("Teck"), First Narrows Resources Corp. ("FNR"), Brunswick Mining and Smelting ("BMS") and Explor. In the 1960-70's Sullico drilled more than 400 holes to delineate the massive sulphide zones as well as the Stringer Zone and attempted to bring the deposit into production. Development was postponed and later abandoned, reportedly due to low copper prices. Since that time exploration has focused on: the massive sulphide zones to locate high grade lenses, the overlying gossan for potential gold and silver enrichment, and the volcanic terrain beyond the deposit area. In 2004, FNR completed a Versatile Time Domain Electromagnetic ("VTEM") survey over the Property that delineated the Chester Deposit and identified further exploration targets on the Property. FNR additionally drilled 198 holes on the Property, of which 179 targeted the near-surface copper-rich Stringer Zone. Between 1955 and 2008, approximately 800 drill holes and in excess of 70,000 m were completed on the Chester Property.

The most recent historical mineral resource estimate ("MRE") was reported by Explor in 2014 for the Stringer (West) Zone (Table 1.1). The historical MRE did not include resources for the Central and Eastern massive sulphide zones. The historical MRE was based on sample assay results from 379 drill holes and the interpretation of a geological and mineralization model based upon the spatial distribution of copper and minor constituents: zinc and silver. An open pit cut-off grade of 0.5% copper and an





underground cut-off grade of 2% copper were used. The resource model was originally constructed in 2008 based upon an underground mining only for economic extraction. The 2014 historical MRE utilized different metal pricing. The MRE was constructed prior to latest Canadian Institute of Mining (CIM) Definition Standards for Mineral Resources and Mineral Reserves (May, 2014) and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (November, 2019). The 2014 MRE is considered historical in nature and is not being treated as a current mineral estimate. There is no current mineral resource estimate for the Chester Property.

Table 1.1 2014 Explor Resources Historical Mineral Estimate (Sim, 2014)

Class	Cut-off (Cu%)	Ktonnes	Cu (%)	Zn (%)	Ag (g/t)
		In-Pit			
Measured	0.5	101	1.87	0.14	6.7
Indicated	0.5	1,296	1.34	0.06	3.3
Measured and Indicated	0.5	1,397	1.38	0.06	3.5
Inferred	0.5	2,060	1.25	n/a	n/a
		Below Pit			
Inferred	2.0	29	2.33	n/a	n/a
		Combined			
Measured	0.5	101	1.87	0.14	6.7
Indicated	0.5	1,299	1.34	0.06	3.3
Measured and Indicated	0.5	1,400	1.38	0.06	3.5
Inferred	variable	2,089	1.26	n/a	n/a

The reader is cautioned that the authors of this Technical Report have not done sufficient work to classify this historical MRE as a current mineral resource. The authors are not treating it, or any part of it, as a current mineral resource. This historical estimate is included to demonstrate the mineral potential of the Stringer (West) Zone of the Chester Deposit. A thorough review of all historical data performed by a Qualified Person, along with additional exploration work to confirm results, would be required in order to produce a current mineral resource estimate for the Chester Property.

In Spring 2021, a diamond drill program was conducted on behalf of Puma Exploration Inc. the seller of the Project. The program consisted of seven (7) NQ-sized diamond drill holes totalling 1,785 m. The holes targeted Computer Aided Resources Detection System (CARDS) Artificial Intelligence (AI) anomalies, VTEM conductors, gossanous mineralization and the extension of known copper stringer mineralization. Three holes were drilled southwest of Clearwater Stream targeting VTEM anomalies (C21-01) and a CARDS anomaly (C21-02) and the continuity of the Stringer (West) Zone, (C21-07). All three holes intersected mineralization which explained the anomalies and extended the Stringer (West) Zone. Significant core length intersections include: 0.8 m at 1,510 ppm Zn with 530 ppm Cu in hole C21-01 and 0.65 m at 8,600 ppm Cu and 2,910 ppm Zn in hole C21-02. Hole C21-07 returned two intervals with significant average grades including 7.25 m from 356.75 m to 364.0 m averaging 0.46% Cu, and 12.5 m from 383.5 m to 396.0 m averaging 0.38% Cu. Four core drill holes were drilled east of Clearwater Stream targeting the historical CN-12 area (C21-03 and -04) and the potential of the gossan and



massive mineralization to host significant gold (C21-05 and 06). Hole C21-04 intersected several intervals of mineralization including 31.4 m from 43 m to 74.4 m averaging 0.63 ppm Ag, 1,313 ppm Pb and 1,720 ppm Zn. Holes C21-05 and -06 intersected notable gold in the gossan beneath the overburden including gold averaging 0.17 grams per tonne ("g/t") gold ("Au") over 3.95 m in hole C21-05, and gold values ranging from 0.013 g/t up to 0.955 g/t from 4 to 7.6 m in hole C21-06. The underlying massive to semi-massive mineralization returned expected values in Ag, Cu, Pb and Zn.

Dr. Kruse conducted a site inspection of the Chester Property for data verification purposes on June 5<sup>th</sup> to 6<sup>th</sup>, 2021. The objectives of the site visit included: 1) verification of selected drill hole collar locations; 2) observation and sampling of historical showings in outcrop; 3) examination of drill core and observation of mineralized intercepts; and 4) collection of verification samples.

During the Property visit, evidence for historical work including the underground access portal, historical drill collars and reclaimed trenches was observed. Extensive disturbed ground containing float and sub-crop with disseminated and massive sulphide was observed, consistent with the previously reported descriptions of the Property geology. Grab samples collected from disturbed surface material contained anomalous Ag, Cu, Pb and Zn consistent with the style and tenor of mineralization previously described on the Property.

Core from mineralized intervals in selected mineralized holes from the 2021 drill program contained massive to semi-massive pyrite, chalcopyrite, sphalerite and galena hosted in intermediate volcaniclastic and metasedimentary rocks, consistent with logged descriptions of the core. Verification sampling of core demonstrated reasonable agreement between the original assay results and verification sample results.

Some minor discrepancies between field-verified drill collars with database values were noted, suggesting that some database validation work is required. Based upon Dr. Kruse's site visit and the historical exploration work discussed in this Technical Report, it is the opinion of the authors of this Technical Report that the Chester Property is a "Property of Merit" warranting future exploration work.

The authors recommend a staged exploration program for the Chester Property. Warranted exploration for Phase 1 work includes drill hole database validation, along with delineation and confirmation drilling, geological studies, core and surface sampling, and metallurgical test work. Stage 2 work should include the construction of an NI-43-101 mineral resource estimate for the Chester Deposit for all zones of mineralization, ground geophysical surveys to follow-up on unexplained historical anomalies and follow-up exploration and expansion drilling. The estimated cost for the Phase 1 exploration is CDN\$500,000 based upon 2,000 m of core drilling and includes costs for certain geological studies, sampling and metallurgical test work. Phase 2 is dependent upon the results of the Phase 1 work and is estimated to cost CDN\$1,000,000.



Any future exploration work and/or subsequent technical reports should be prepared in accordance with guidelines established by the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (2019), CIM Definition Standards for Mineral Resources and Mineral Reserves (2014), and NI 43-101 Standards of Disclosure for Mineral Projects, Form 43-101F1 Technical Report. Future Technical Reports that capture any new exploration work conducted by Melius should discuss any significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information, mineral resource or mineral reserve estimates, or projected economic outcomes.



#### 2 Introduction

#### 2.1 Issuer and Purpose

This Technical Report has been prepared by APEX Geoscience Ltd. ("APEX") and Terrane Geoscience Inc. ("Terrane"), for the Issuer, Melius Metals Corp., ("Melius" or the "Company"), a Toronto, Ontario (ON), Canada, based, privately owned, junior mineral exploration company. Melius recently signed a purchase agreement with Puma Exploration Inc. ("Puma") and its wholly-owned subsidiary Murray Brooks Minerals Inc. ("MBM"), who are collectively called the "Puma Parties" (Puma and MBM), that grants the Company sole and exclusive right and option to acquire an undivided 100 per cent (%) of their respective rights and interest in the Chester Property ("Chester Property") with the consent of Explor Resources Inc. ("Explor").

The Chester Property is located in north-central New Brunswick (NB), 70 km southwest of the city of Bathurst, NB and 50 km west-northwest of the city of Miramichi, NB. The Property is in Northumberland County located in the south part of the Bathurst Mining Camp (Figure 2.1).

This Technical Report provides a geological introduction to the Chester Property, summarizes the historical and recent exploration work conducted on the Property and provides recommendations for future exploration work programs. Melius has only recently secured the right to acquire the Chester Property, and therefore, the Company has yet to conduct exploration work.

The Technical Report has been prepared in accordance with the Canadian Securities Administration's (CSA's) National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects and guidelines for technical reporting Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Best Practices and Reporting Guidelines" for disclosing mineral exploration. The effective date of this Technical Report is August 20, 2021.

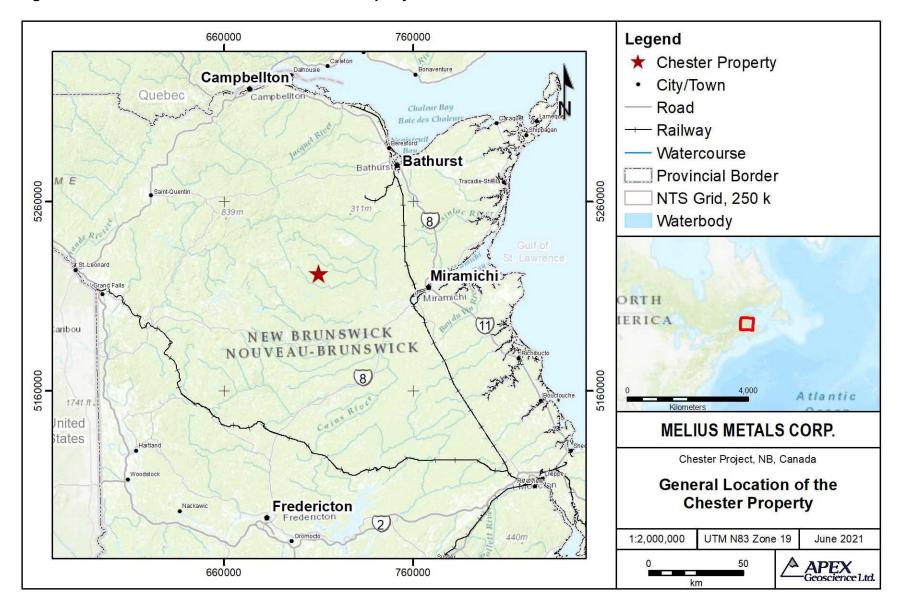
## 2.2 Authors and Site Inspection

The authors of this Technical Report are Mr. Michael B. Dufresne M.Sc. P. Geol., P. Geo., and Ms. Anetta Banas M.Sc., P.Geol., of APEX and Dr. Stefan Kruse Ph.D., P. Geo., of Terrane. The authors are fully independent of Melius and are Qualified Persons (QPs) as defined in NI 43-101. The CIM defines a QP as "an individual who is a geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; has experience relevant to the subject matter of the mineral project and the technical report; and is a member or licensee in good standing of a professional association." The authors have been involved in all aspects of mineral exploration and mineral resource estimations for precious and base metal mineral projects and deposits in Canada and internationally.





Figure 2.1 General location of Melius's Chester Property.







Mr. Dufresne takes responsibility for the preparation and publication of sections 1, 2, 9 to 11 and 13 to 19 of this Technical Report. Mr. Dufresne is a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA; Membership Number 48439), a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia (EGBC; Membership Number 37074) and has worked as a geologist for more than 35 years since his graduation from university. Mr. Dufresne is a QP, has been involved in all aspects and stages of mineral exploration in North America, including exploration for volcanogenic massive sulphide ("VMS") type base metal deposits in eastern and western Canada.

Ms. Banas is a Professional Geologist with APEGA (APEGA; Membership Number 70810) and has worked as a geologist for more than 15 years since her graduation from the University of Alberta. Ms. Banas is a QP and has experience with exploration for precious and base metal deposits of various deposit types in North America. Ms. Banas takes responsibility for the preparation and publication of sections 3 to 8 and contributed to Sections 1, 2, 9 to 11 and 13 to 19 of this Technical Report.

Dr. Kruse takes responsibility for Section 12 and contributed to Sections 1, 4.5, 6, 7, 17 and 18 of this Technical Report. Dr. Kruse has worked continuously as a geologist for more than 20 years since his graduation from university and has been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB; Membership Number M6806) since 2009, Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL; membership number 05330) and EGBC (EGBC; membership number 206205). Dr. Kruse P. Geo. is co-founder of Terrane, and a structural geologist specializing in structural and tectonic controls of orogenic and magmatic metal systems.

Dr. Kruse conducted a site inspection of the Chester Property for data verification purposes on June 5<sup>th</sup> to 6<sup>th</sup>, 2021. The objectives of the site visit included:

- Verification of selected drill hole collar locations.
- Observation and sampling of historic showings in outcrop.
- Examination of drill core and observation of mineralized intercepts.
- Collection of verification samples.

During the property tour, evidence for historical work including the underground access portal, historical drill collars and reclaimed trenches was observed. Extensive disturbed ground containing float and sub-crop with disseminated and massive sulphide was observed, consistent with the previously reported descriptions of the property geology. Grab samples collected from disturbed surface material contained anomalous Ag, Cu, Pb and Zn consistent with the style and tenor of mineralization previously described on the property.





Core from mineralized intervals in selected mineralized holes from the 2021 drill program contained massive to semi-massive pyrite, chalcopyrite, sphalerite and galena hosted in intermediate volcaniclastic and metasedimentary rocks, consistent with logged descriptions of the core. Verification sampling of core demonstrated reasonable agreement between the original assay results and verification sample results.

Some minor discrepancies between field-verified drill collars with database values were noted, suggesting that some database validation work is required.

#### 2.3 Sources of Information

A complete bibliography of all references cited in this Technical Report is included in Section 19. The authors reviewed soil and rock geochemistry, geophysical interpretations and drill results from numerous assessment reports filed as reports of work with the New Brunswick Department of Natural Resources and Energy Development, Mineral and Petroleum Branch. Government publications, journal manuscripts, news releases, and internal reports were used to corroborate background geological information regarding the geological setting and mineral deposit potential of the Chester Property and area.

The authors have reviewed all government and miscellaneous reports. The authors have deemed that these reports and information, to the best of their knowledge, are valid contributions. The information was used as background information to provide a geological introduction to the Chester Property. The authors take ownership of the ideas and values herein as they pertain to this current Technical Report.

#### 2.4 Units of Measure

With respect to units of measure, unless otherwise stated, this Technical Report uses:

- Abbreviated shorthand consistent with the International System of Units (International Bureau of Weights and Measures, 2006);
- 'Bulk' weight is presented in both United States short tons ("tons"; 2,000 lbs or 907.2 kg) and metric tonnes ("tonnes"; 1,000 kg or 2,204.6 lbs.);
- Geographic coordinates are projected in the Universal Transverse Mercator ("UTM") system relative to Zone 19 of the North American Datum ("NAD") 1983; and,
- Currency in Canadian dollars (CDN\$), unless otherwise specified (e.g., U.S. dollars, US\$; Euros, €).

# 3 Reliance on Other Experts

The authors are not qualified to provide an opinion or comment on issues related to legal agreements, royalties, permitting and environmental matters. Accordingly, the





authors of this Technical Report disclaim portions of the Technical Report particularly in Section 4, Property Description and Location. This limited disclaimer of responsibility includes the following:

 The QP relied entirely on background information and details regarding the nature and extent of Mineral Tenure (in Section 4.1) provided by Melius on June 1, 2021.
 On June 17, 2021, the authors confirmed the claims are active and in good standing as shown on the New Brunswick Department of Energy and Mines web site (https://nbeclaims.gnb.ca/nbeclaims/page/home.jsf).

# 4 Property Description and Location

## 4.1 Description and Location

The Chester Property is located in north-central NB, 70 km southwest of the city of Bathurst, NB and 50 km west-northwest of the city of Miramichi, NB. The Property lies in National Topographic System Map Sheet 21 O/01 within North American Datum 83, UTM Zone 19. The approximate centre of the property is located at 708861m E 5221606m N. The Chester Property comprises 6 Tenure Blocks: 1571, 6003, 7045, 9026, 9036, and 9886 covering a total area of 6,176 ha (Table 4.1; Figure 4.1). The claim units comprising each tenure block are listed in Table 4.2 and are shown on Figure 4.2.

Table 4.1. Mineral block tenures for Melius's Chester Property.

Block					
Claim	Owner	Issue Date	Exp. Date	# Units	Area (Ha)
1571	Explor Resources Inc. 100%	1987-03-23	2022-03-23	19	418
6003	Explor Resources Inc. 100%	2011-04-14	2022-04-14	95	2,088
7045	Explor Resources Inc. 100%	2014-02-04	2022-02-04	19	418
9026	Explor Resources Inc. 100% Murray Brooks Minerals Inc.	2014-02-04	2022-02-04	3	66
9036	100% Murray Brooks Minerals Inc.	2019-02-12	2022-02-12	139	3054
9886	100%	2021-02-22	2022-02-22	6	132
Total				281	6.176

Table 4.2. Claim Units per Claim Block of Melius's Chester Property.

	1571 Claim Units							
622086K	1622086L	1622086M	1622086N	1622087C	1622087D	1622087E		
1622096I	1622096J	1622096K	1622096N	1622096O	1622096P	1622097A		
1622097B	1622097C	1622097F	1622097G	1622097H				

	6003 Claim Units							
1621006A	1621006B	1621006C	1621006D	1621006E	1621006F	1621006G		
1621006H	1621006I	1621006J	1621006K	1621006L	1621006M	1621006N		
1621006O	1621006P	1621007A	1621007B	1621007C	1621007D	1621007E		



1621007F	1621007G	1621007H	1621007I	1621007J	1621007K	1621007L
1621007M	1621007N	1621007O	1621007P	1621008A	1621008B	1621008C
1621008D	1621008E	1621008F	1621008G	1621008H	1621016P	1621017A
1621017H	1621017I	1621017J	1621017N	16210170	1621017P	1621018A
1621018B	1621018G	1621018H	1622086D	1622086E	1622086F	1622086G
1622086J	1622086O	1622087B	1622087F	1622087G	1622087J	1622087K
1622087L	1622095J	1622095K	1622095L	1622095M	1622095N	1622095O
1622096A	1622096B	1622096C	1622096D	1622096E	1622096F	1622096G
1622096H	1622096L	1622096M	1622097D	1622097E	1622097I	1622097J
1622097K	1622097L	1622097M	1622097N	16220970	1622097P	1622098B
1622098C	1622098D	1622098E	1622098F			

	7045 Claim Units								
1621017E	1621017F	1621017G	1621017K	1621017L	1621017M	1621018C			
1621018D	1621018E	1621018F	1621018J	1621018K	1621018L	1621027I			
1621027P	1621028A	1621028G	1621028H	16210281					

9026 Claim Units					
1621016M	1621016N	1621016O			

	9036 Claim Units							
1621008I	1621008J	1621008K	1621008L	1621008M	1621008N	1621008O		
1621008P	1621009A	1621009B	1621009C	1621009D	1621009E	1621009F		
1621009G	1621009H	1621009J	1621009K	1621009L	1621009O	1621016I		
1621016J	1621016K	1621016L	1621017B	1621017C	1621017D	1621018I		
1621018M	1621018N	1621018O	1621018P	1621019A	1621019B	1621019G		
1621019H	1621019I	1621026I	1621026J	16210260	1621026P	1621027A		
1621027B	1621027G	1621027H	1621027J	16210270	1621028B	1621028C		
1621028F	1621028J	1621028K	1621028N	1621028O	1621028P	1622076L		
1622076M	1622077D	1622077E	1622077L	1622077M	1622077N	16220770		
1622077P	1622078A	1622078B	1622078C	1622078D	1622078E	1622078F		
1622078G	1622078H	16220781	1622078J	1622078K	1622078L	1622078M		
1622078N	1622078O	1622078P	1622079A	1622079B	1622079C	1622079D		
1622079E	1622079F	1622079G	1622079H	16220791	1622079J	1622079K		
1622079L	1622079M	1622079N	16220790	1622079P	1622086I	1622086P		
1622087A	1622087H	1622087I	1622087M	1622087N	1622087O	1622087P		
1622088A	1622088B	1622088C	1622088D	1622088E	1622088F	1622088G		
1622088H	1622088I	1622088J	1622088O	1622088P	1622089A	1622089B		
1622089F	1622089G	1622089H	1622089I	1622089J	1622089K	1622089N		
1622089O	1622089P	1622098A	1622098G	1622098H	1622098I	1622098J		
1622098K	1622098L	1622098M	1622098N	1622099D	1622099E			

9886 Claim Units							
1621026K	1621026N	1621027C	1621027F	1621027K	1621027N		





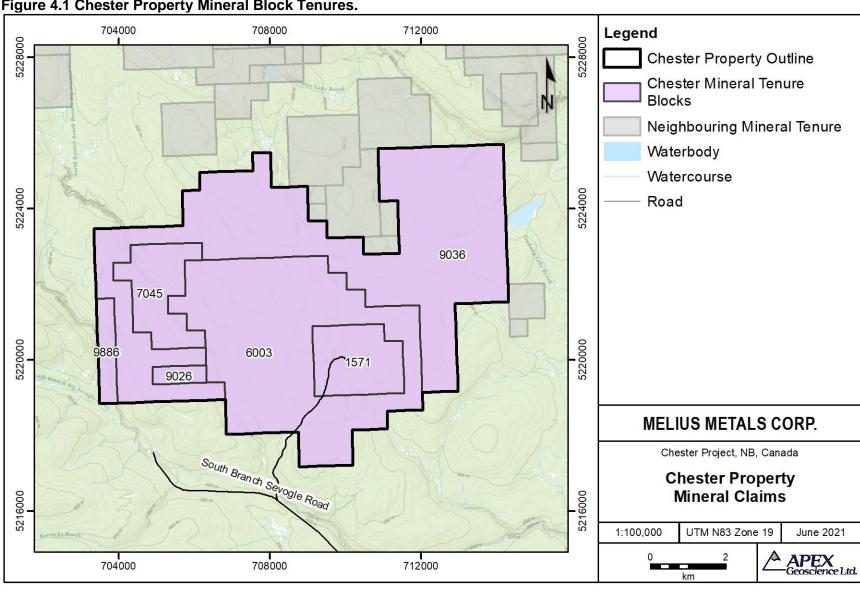


Figure 4.1 Chester Property Mineral Block Tenures.





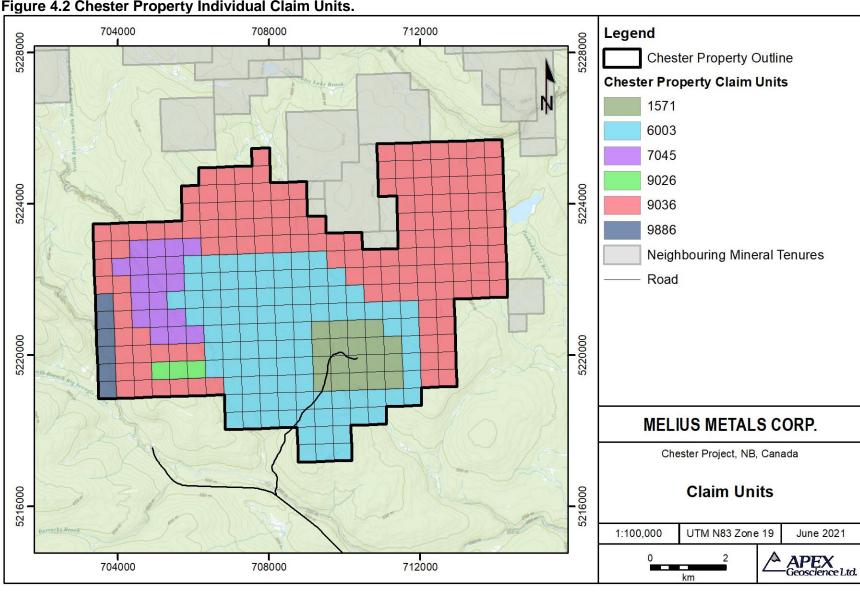


Figure 4.2 Chester Property Individual Claim Units.





#### 4.2 Royalties and Agreements

The registered owners of the Mineral Claims comprising the Chester Property are MBM and Explor. MBM is the 100% owner of 145 mineral claims comprising 2 claim blocks (9036 and 9886). Explor is the 100% owner of 136 mineral claims comprising 4 claim blocks (1571, 6003, 7045, and 9026). MBM is a wholly owned subsidiary of Puma. Puma and Explor have an option agreement ("Chester Option Agreement") regarding the 136 mineral claims that are 100% owned by Explor. Under the Chester Option Agreement, Puma can acquire 100% interest in the Chester Optioned Claims for \$100,000 in cash and incurring \$500,000 in exploration work by January 17, 2022. As stated in the Chester Option Agreement, Puma has to obtain the consent of Explor to assign the Chester optioned claims, therefore, the inclusion of the claims are subject to the approval of Explor.

Melius entered into an option agreement dated June 30, 2021 with the Puma Parties that grants Melius the sole and exclusive right and option to acquire 100% of their respective rights and interest in the Chester Property (with the consent of Explor) upon completion of the following terms:

- a) Melius will make the following payments to Puma:
  - (i) Issuance of 6,000,000 Melius Shares to Puma at a deemed price of \$0.10 per share on closing of the Proposed Transaction (the "Closing Shares");
  - (ii) Issuance of 6,000,000 Melius Shares to Puma at a deemed price of \$0.10 per share prior to the Listing (the "Listing Shares");
  - (iii) \$300,000 on or before the first (1st) anniversary of the listing;
  - (iv) \$1,000,000 on or before the second (2nd) anniversary of the listing; and
  - (v) \$1,000,000 on or before the third (3rd) anniversary of the listing.

The period between the execution of the Definitive Agreements and the third (3rd) anniversary requirements is hereinafter referred to as the "Option Period". Royalties pertaining to the Chester Property are as follows:

(9036) Chester West: Puma retains a 2% Net Smelter Returns ("NSR") royalty. Of the NSR royalty, 50% may be purchased by Melius for \$1,000,000.

(1571) Chester: Explor will retain a 2% NSR royalty on any saleable production from the property. Of the NSR royalty, 50% may be purchased by the Company for \$1,000,000.

(6003) Chester EAB: Explor will retain a 2% NSR royalty on any saleable production from the property. Of the NSR royalty, 50% may be purchased by the company for \$1,000,000.





(9026) Big Sevogle River: Explor will retain a 2-per-cent net smelter return (NSR) royalty on any saleable production from the property. Of the NSR royalty, 50 per cent may be purchased by the company for \$1,000,000.

(7045) Big Sevogle River: Explor will retain a 2-per-cent net smelter return (NSR) royalty on any saleable production from the property. Of the NSR royalty, 50 per cent may be purchased by the company for \$1,000,000.

Prior to the Option Agreement between Explor and Puma Exploration, the following existing NSR royalties were granted on specific areas of the Project and can be viewed on the option agreements between Explor and Puma and are summarised below:

The Existing Royalties on the Property areas described in the following:

- 1. A 2% NSR royalty payable to Frank Ross, Delbert Johnson and Anthony Johnston, pursuant to the attached agreement dated April 9, 2013 (the "Ross Agreement"). Such 2% NSR is on the 39 claims identified in the Ross Agreement and half of it can be bought back for a consideration of \$900,000. There is also a right of first refusal ("ROFR") for the second half.
- 2. A 1% NSR royalty payable to Earnest Brooks, pursuant to the attached agreement dated February 26, 2013 (the "Brooks Agreement"). Such 1% NSR is on the 75 claims identified in the Brooks Agreement and can be bought back in its entirety for a consideration of \$1,000,000.
- 3. A 1% NSR royalty payable to Northeast Exploration Services Inc. ("NES") pursuant to the attached agreement dated May 4, 2002 between NES, Bathurst Silver Mining Ltd. and Earnest Brooks (the "Northeast Agreement"). Such 1% NSR is on the mineral claims 000031 and 000032 of claim block 1571 and mineral claims 362129 and 362130 of claim block 2428 identified in the Northeast Agreement and half of it can be bought back for a consideration of \$500,000.
- 4. A 1% NSR royalty payable to Granges Inc. (as to 0.557%) and Outokumpu Mines Ltd. (as to 0.443%) pursuant to the agreement dated November 6, 1995 between Granges Inc., Outokumpu Mines Ltd. and NES (the "Granges Agreement") which is attached as Appendix E of the Northeast Agreement. Such 1% NSR is on the mineral claims 000031 and 00032 of claim block 1571 identified in the Granges Agreement.

#### 4.3 Tenure Maintenance

March 30th, 2022

In New Brunswick, the holder of the mineral claim has the right of free access by any reasonable means to/from the claim area, and the exclusive right to prospect for minerals and carry-on mining in or on the claim area and to remove minerals from the claim area for purposes of sampling and testing (Mining Act, SNB 1985, c M-14.1).





Retention of claims in good standing from year to year requires payment of a renewal fee for each claim plus submission of documentation to the government describing work programs and associated costs applicable to the Property during the reporting year. Table 4.3 summarizes the work commitments and renewal fees.

Reports of Work (mineral assessment reports) are received and processed by the New Brunswick Department of Natural Resources and Energy Development, Mineral and Petroleum Branch. The reports are kept for a confidential period of 2 years from the date of submission. The reports are made public once the confidential period is finished or once all claims in a report have lapsed or were surrendered. The work can be performed on any one or more claims. Mineral claims must be contiguous, are held in the name of one person or company and have the same recording date.

Table 4.3 Mineral assessment work requirements in New Brunswick.

Year of issue 1	Required work per claim (CDN\$)	Renewal period	Renewal fees per claim (CDN\$)
Year 1	\$100	1 to 5	\$10.00
Year 2	\$150	6 to 10	\$20.00
Year 3	\$200	11 to 15	\$30.00
Year 4	\$250	16 and more	\$50.00
Years 5 to 10	\$300		
Years 11 to 15	\$500		
Years 16 to 25	\$600		
Years 26 and over	\$800		

<sup>&</sup>lt;sup>1</sup> Per Mineral Claim unit and per year

#### 4.4 Permitting

The Company will be required to obtain the following permits and licences to conduct mineral exploration in New Brunswick:

- A prospecting licence is required to prospect or register mineral claims. Application is made through NB e-CLAIMS and is valid for a lifetime.
- Notification requirements prior to performing exploration work and general prospecting are that Company must notify private landowners; Department of Natural Resources; District Forest Ranger; Work Safe NB; and Offices of the Recorder (Bathurst in this case).
- Prior to commencing work that would cause actual damage to or interference with the use and enjoyment of Crown lands; the following procedures must be followed:
  - Submit to the Recorder the completed Notice of Planned Work on Crown Land-Form 18.1, listing the proposed work and enclosing a map showing the area of work and the claims.





- The Recorder will review the submitted form and give permission on behalf of the Department of Natural Resources for the work to proceed.
- o In some cases, the Recorder will advise the person planning the work that a reclamation plan and security are required before the work commences.
- Obtain the consent of the lessee if work is done on a Crown land lease.
- A lease or a right to occupy as issued under the *Crown Lands and Forests Act* is required to erect a permanent camp, building or other structure on Crown Land.
- Review the Mining Act for standard conditions for mineral exploration.
- Claim holders wishing to conduct advanced exploration on mineral claims may require additional approvals beyond a Form 18 under the *Mining Act* depending on the scope of work involved.

Anyone with a Mineral Claim in New Brunswick who has decided to produce minerals from the Mineral Claim can apply for a Mining Lease. A Mining Lease allows mineral production and requires an application fee, rent per hectare per of \$6.00 and a minimum dollar value of work required per hectare per year of \$60.00. Guides to the Mine Approval Process, and Development of a Mining and Reclamation Plan are provided by the Department of Natural Resources and Energy Development (https://welcomenb.ca/content/gnb/en/departments/erd/energy/content/minerals/content/Minerals\_exploration.html).

# 4.5 Environmental Liabilities and Significant Factors

Co-author, Dr. Kruse visited the Chester Property in order to assess mineralization and the surface conditions of the Property. In addition, the authors have performed a search of various reports and literature.

In 1993 the New Brunswick Department of Environment (NBDE) completed an inspection of the Chester Mine site to assess environmental liabilities (Hamilton, 2003). Their assessment reported that the site was reclaimed upon cessation of exploration activities and re-sloped such that erosion and safety were not a major concern. Two ponds that were part of the treatment plant were allowed to remain as well as a diversion ditch and a culvert. Signs of acid drainage (springs) were evident, however the clearwater creek was tested and was not affected. The audit concluded that there were no outstanding liabilities associated with the site at that time.

During the site visit Dr. Kruse observed the presence of un-remediated historical workings on the Property including historical drill holes leaking water, man-made settling ponds, unsecured historical infrastructure, an open unsecured portal, along with roadways and disturbed areas covered with sulphide-bearing rock. It is not clear if there are any potential liabilities that could be associated with the exploration completed before 1993 based upon the inspection by NBDE, or if there are any liabilities for work conducted after 1993 including drilling and trenching. However, an environmental baseline study is



March 30th, 2022



recommended to assess the current state of the property and any remediation and/or reclamation that might be required.

No other known significant factors or risks related to the Chester Property that may affect access, title or the right or ability to perform work on the Chester Property are known. If the Company were to advance the Chester Property to Pre-Feasibility Study or Feasibility Study, the Company would have to consider preparing a comprehensive Environmental Impact Study (EIS) to ensure the project is considered in a careful and precautionary manner such that the project does not cause significant adverse environmental effects.

# 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

# 5.1 Accessibility

March 30th, 2022

The Chester Property is located in Northumberland County, NB, 50 km west-northwest of Miramichi, NB and 70 km southwest of Bathurst, NB (Figure 5.1). The Property is readily accessible by car or truck in the summer months by road from Miramichi. Access to the western portion of the Property is gained by travelling west from Miramichi, along highway 425 to Sunny Corner, then north along the northwest road to the New Mullin Stream gravel road. The New Mullin Stream road provides access to the south central and south west corner of the Property. The eastern part of the Property is accessible by travelling north from Miramichi along highway 430 to Fraser Burchill gravel road. Driving west along Fraser Burchill gravel road for ~20 km leads to a logging road that provides access to the northeast part of the Property. Additional logging roads provide access throughout the Property. The main CN railroad line from Moncton to Quebec and Western Canada passes through Miramichi and Bathurst.

# 5.2 Site Topography, Elevation and Vegetation

Physiography at the Chester Property is characterized by high topographic relief with the lowest topographic relief defined by the cut valley of the Clearwater Stream valley. Topographic maps indicate that the stream valleys have very steep sides. The topography varies between 300 m at the Northeast Claims to 450 m above mean sea level. An active gravel pit, with a relief of 50 m, is located in the wester portion of the property and is actively used by local lumbering companies on an as-required basis.

The Property lies within the surface watershed of the South Branch of the Big Sevogle River, which is a tributary to the Northwest Miramichi River drainage system. The moderate-sized Clearwater Stream runs through the middle of the Property and drains into the Big Sevogle River that is located 7 km downstream from the centre of the Property.





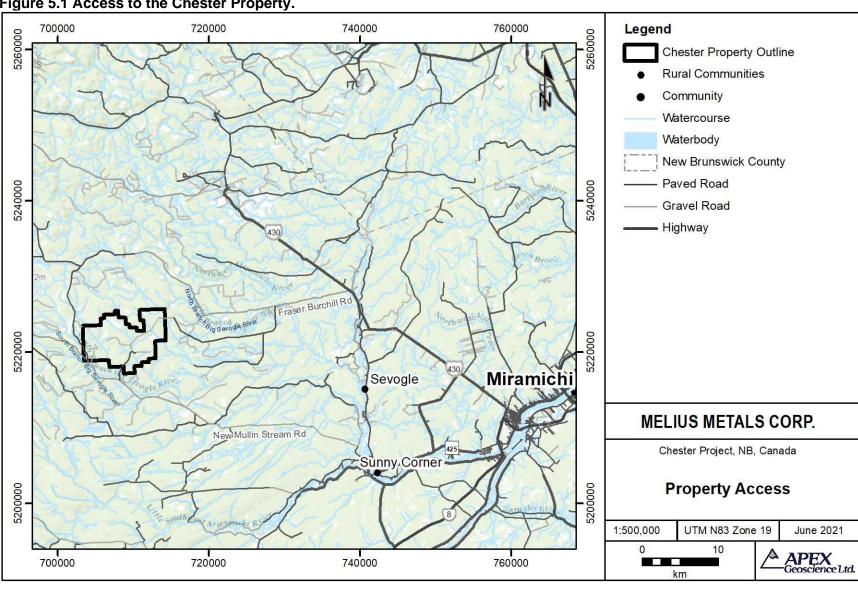


Figure 5.1 Access to the Chester Property.





Based on historical mapping and drilling, the Property is overlain by a glacial till that ranges between 0.5 m to 9 m in thickness. Recent mapping in the stream valleys and in the logging roads showed a lot of exposed bedrock indicating shallow depths of overburden in these areas. The vegetation of the Property is characterized by a diversity of habitats and forest class ages consistent with a boreal forest (e.g., spruce, balsam, fir, etc.). More than 35-60% of the forest has been clear cut since the 1980's but a large area has been replanted and/or thinned.

#### 5.3 Climate

March 30th, 2022

The climate in the area is cold and temperate. Winters are often cold, windy and snowy. Summers are warm and humid. Spring and fall bring chilly to warm temperatures. During winter, snow generally stays on the ground from November to April.

The warmest month with the highest average high and low temperature is July (24°C and 16°C. The month with the lowest average high and low temperature is January (-5°C and -14°C).

Throughout the year, there are 97 precipitation days with 1,139 mm of average precipitation accumulated. The wettest month occurs in December (109 mm). The driest month is February (82 mm). Precipitation is common throughout the year even in the driest months.

The majority of exploration, with the exception of geological mapping, prospecting, and trenching, can be carried out year-round. During spring melting, field work may be limited.

#### 5.4 Local Resources and Infrastructure

The Property is located in Northumberland County, which has population 44,952 (ca. 2016) and covers an area of 12, 869 km². Fishing, and forestry are the major industries in the County. The County is a mostly an English-speaking region in the otherwise Francophone northeastern New Brunswick. There are five First Nations reservations in Northumberland County. Three communities in the County are part of the Mi'kmaq Nation: Metepenagiag Mi'kmaq Nation, at the junction of the Northwest Miramichi River and the Little Southwest Miramichi River; Eel Ground First Nation, close to the junction of the Northwest and Southwest Miramichi Rivers near Newcastle; and Burnt Church First Nation on the northern shore of Miramichi Bay.

Miramichi is the largest municipality in the County with a population of 17,537 (ca. 2016). It is situated at the mouth of the Miramichi River where it enters Miramichi Bay. The Miramichi area's economy is primarily focused on mining, fishing and forestry. Other sectors include tourism, customer contact centres, manufacturing, and the provincial and federal government. The service sector is the city's largest employer. The Miramichi Regional Hospital is a full-service hospital located in Miramichi, providing services to the city and surrounding communities.





The nearest international airports with scheduled domestic and international flights are located within a 90-minute drive of Miramichi in Fredericton and Moncton. A regional airport with regular scheduled domestic flights is located in Bathurst, 50 minutes north of Miramichi. In addition, the Miramichi Airport is located 3 km south of Miramichi on the former site of CFB Chatham. The airport is maintained year-round but has no regular schedule flights.

Since the mid-1960s, mining has been a major industry in the cities of Bathurst and Miramichi and locals are experienced personnel. Approximately 24 km northeast of the Chester Property is the Heath Steele Mine that operated from 1957 to 1999 (with occasional shut-down periods). The mine processed approximately 25 million tonnes of VMS ore at its on-site concentrator.

The Bathurst Mining Camp (BMC) provided jobs to the regional economy for nearly 50-years. Lead, zinc, and copper production in the Bathurst area includes:

- The Brunswick 6 Mine operated by the Brunswick Mining and Smelting Company between 1966 and 1983.
- The Brunswick 12 Mine was operated by Xstrata between 1964 and 2013.

As a result of the Xstrata mine closure, unemployment in the Bathurst area soared to over 20% in northern New Brunswick in March 2013.

The BMC is centred in the Nepisiguit River valley near Bathurst. The camp hosts approximately 45 known volcanogenic massive sulphide (VMS) deposits. Although the primary commodity is zinc, the massive-sulphide mineralized bodies produced lead, zinc, copper, silver, gold, bismuth, antimony, and cadmium. Some of the mineralized material was smelted at a facility in Belledune, which is now owned by Glencore Zinc. In the 2010s, the smelter was used to extract silver from its imported silver-lead concentrates, and in 2011 produced 400 mt of pure silver valued at \$448M. In 2019, Glencore Zinc announced the closure of the Brunswick Smelter due to changing global markets and the completion of mining at the Brunswick Mine six years earlier (Glencore Zinc, 2019).

To conclude, the Chester Property area has a rich history of exploration and metallic mineral mining. The region has experience in delegating sufficiency of surface rights for mining operations, the availability and sources of all kinds of infrastructure critical for mining including power, water, roads, rail, ports and skilled mining personnel.



# 6 History

# 6.1 Historical Exploration

Historical exploration conducted on the Property has included geological mapping and prospecting, geophysical surveys, soil geochemical surveys, trenching and drilling by several companies from 1955 to 2019. The Chester Deposit was found in 1955 by Kennco Explorations (Canada) Ltd. ("Kennco") during ground follow-up of an airborne electromagnetic ("EM") survey anomaly that resulted in the discovery of disseminated copper and related massive pyrite with zinc-lead-copper east of the Clearwater stream (von der Poll, 1963). Subsequent drilling by Kennco defined a massive lens of pyrite containing lesser amounts of sphalerite and chalcolpyrite, which returned average grades of 3.4% zinc (Zn), 1.62% lead (Pb), 0.92% copper (Cu) and 0.308 troy ounce per ton (oz/t) (10.56 g/t) silver (Ag). The lens was approximately 650 feet (198.1 m) in diameter, averaging 35 feet (10.7 m) thick. A zone of disseminated chalcopyrite and pyrrhotite extended east and west from the lens (Black, 1956 AR 470716 interim; von der Poll, 1963).

Following the discovery of the Chester Deposit, various companies carried out exploration programs on the Property including Chesterville Mines Ltd., Newmont Mining Corp. of Canada, Sullivan Mining Group, Sullico Mines Ltd. ("Sullico"), Brunswick Mining and Smelting ("BMS"), Granges Exploration Ltd., Teck Resources Ltd. ("Teck"), Bathurst Silver Mines Ltd., Black Bull Resources Ltd., First Narrows Resources Corp. ("FNR"), Noranda Exploration, Earnest Brooks, Explor and Brunswick Resources Inc. and Puma.

A summary of the Chester Property exploration history is presented in Table 6.1. A summary of the historical drilling conducted on the Property is illustrated in Figures 6.1 to 6.3, and the mineralized zones of the Chester deposit are shown in Figure 6.4.



Table 6.1. Summary of historical exploration completed at the Chester Property (1955 to 2016).

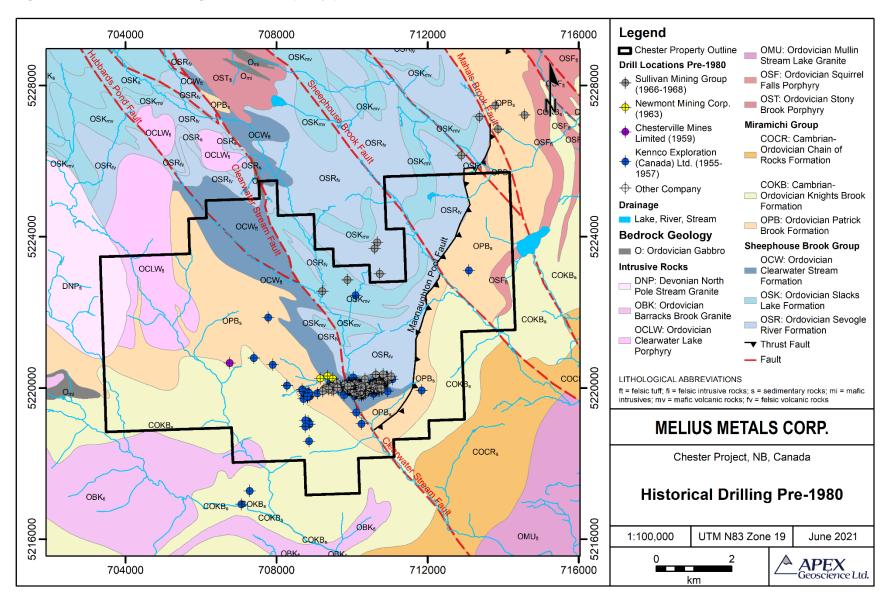
Year	Operator	Surface Exploration and Development	Results of Exploration	References
1955-1957	Kennco	Drilling, airborne EM geophysical survey	Discovery of disseminated copper and related massive pyrite with zinc-lead-copper east of the Clearwater stream. Drilling defined a massive lens of pyrite containing lesser amounts of sphalerite and chalcolpyrite, which returned average grades of 3.4% Zn, 1.62% Pb, 0.92% Cu and 0.308 oz/t (10.56 g/t) Ag.	Black, 1956; von de Poll, 1963
1959	Chesterville Mines Ltd.	Drilling		
1963	Newmont Mining Corp.	Drilling		
1966-1975	Sullico/Sullivan Mining Group	Drilling, geochemical sampling, ground EM geophysical survey. Initiated development of the Copper Feeder Zone and constructed 470 m decline into the Chester deposit (Stringer West Zone)	Over 400 diamond drill holes (S-series) exceeding 110,000 feet in total length, were completed to delineate the deposit and further explore the Property. The decline was intended to test the disseminated and Stringer Zone (Figure 6.4), confirm diamond drill indicated grade and tonnage and check water flows for a potential underground mining operation. The grade of the underground material was reported as 2.05% Cu versus the grade of 1.58% Cu estimated by the historical resource estimate. Drill core from the pre-1980's was analysed almost exclusively for copper, with the exception of 2 holes (S-138 and S-436). None of the pre-1980's drill core was preserved.	Sullico, 1968; Hamilton, 2003; Hamilton and Brooks, 2004
1981-1994	BMS	Drilling, stream sediment geochemical surveys.	The drill program was planned to test the precious and base metal content of the gossan cap. Results were considered disappointing.	Frankland, 1987
1988-1995	Granges Exploration Ltd.	Soil geochemical sampling	The soil program identified mildly anomalous areas down slope from the Central Zone (Figure 6.4).	O'Donnell, 1988
1992-1997	Teck	Drilling, trenching, stream and lithogeochemical sampling, Very Low Frequency Electromagnetic (VLF-EM), magnetometer, Time Domain Electromagnetic (TDEM) surveying and geological mapping.	Magnetic anomalies were interpreted to be associated with mafic volcanic rocks or magnetite-bearing sedimentary rocks of the Miramichi Group and a magnetic anomaly was associated with the Chester Deposit. Conductive zones identified by the VLF-EM surveys were common in the Miramichi Group sedimentary rocks, but the mafic and felsic rocks were found to be poorly conductive. The Chester Deposit was associated with a conductive anomaly; weakly conductive zones which were detected in the vicinity, and along strike, of the deposit were interpreted to represent weak mineralization along the Chester horizon. Two drill holes targeting geophysical anomalies outside of the area of VMS and Copper zones intersected thin zones of massive sulphides. Two drill holes completed to the north of the Central Zone intersected disseminated sulphides and anomalous base metals. Drill hole CH-97-01 and trench TR-97-01A targeted a moderately strong chargeability and coincident apparent resistivity anomaly, located to the northwest of the Chester Deposit. No significant mineralization was found in the drill hole but a 15-metre-wide zone of 5% disseminated pyrite/pyrrhotite with grab samples assaying up to 958 ppb Pb and 1,014	Moore, 1995; Clark, 1996; 1997

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Year	Year Operator Surface Exploration and Development Results of Exploration		Results of Exploration	References
			ppb Zn was found in the trench. A second hole (CH-97-02) was drilled to test for a possible repetition of the Chester Deposit beneath the East Zone of the deposit and had negative results (Figure 6.3)	
1994-1999	Bathurst Silver Mines Ltd.	Drilling, Max-Min I EM survey, VLF and Magnetometer survey, and a gravity geophysical survey.	The objective was to outline a small high-grade lead zinc zone within the known deposit for potential mill feed for the Heath Steele Mine, located 24 km to the north. The drilling outlined a lens of massive sulphide mineralization, which was significantly higher grade than the overall grade of the Central massive sulphide zone. The most significant intersection was in BSM-3 that returned 7.8 metres averaging 8.37% Zn, 5.05% Pb, 0.25% Cu, 38.9 g/t Ag and 0.28 g/t Au, which included 4.0 metres averaging 10.21% Zn, 6.88% Pb, 0.33% Cu, 50.0 g/t Ag and 0.28 g/t Au. The geophysical surveys identified anomalies associated with the Chester Deposit.	Hamilton and Brooks, 2004; Mersereau, 1995; 1999A
1998-2000	Black Bull Resources Ltd.	Drilling, geochemical sampling, VLF- EM, gravity and IP geophysical surveys	Several IP anomalies were identified. Two drill holes tested an anomaly extending northwest from the Chester Deposit: CH-99-1 encountered very poorly mineralized felsic tuffs, which were not considered to be the source of the IP anomaly. Hole CH-99-2, drilled 100 metres north of CH-99-1, intersected minor mineralization, locally up to 25% pyrite-pyrrhotite with maximum copper values of 819 ppm and maximum zinc of 1838 ppm.	Mersereau, 1999B
2002-2008	First Narrows	Drilling, geochemical sampling, geological mapping, airborne (VTEM) and ground geophysical surveys.	Interpretation of the VTEM data identified 13 target areas. The results of the exploration completed by FNR are presented in Section 6.1.1.	Brooks, 2005; 2006
2004	Noranda Exploration	Airborne MegaTEM II survey over the entire Bathurst camp	The data for the Chester block was provided to FNR and defined several anomalies.	Brooks, 2005
2012-2014	Earnest Brooks	Line cutting, soil, rock and stream sampling, geological mapping and ground geophysical surveying (Mag and VLF)	Geological mapping discovered significant outcrops of Clearwater Stream Formation rocks that were not previously documented.	Brooks, 2013
2013-2016	Explor and Brunswick Resources Inc.	Drilling, geological mapping, ground magnetics and VLF surveys were conducted east of the East Zone	The results of exploration completed by Explor and Brunswick Resources Inc. are presented in Section 6.1.2.	Sim, 2014; Brooks, 2015
2019	Puma	Reprocessing of the 2004 MegaTEM and VTEM geophysical surveys, Computer Aided Resources Detection System (CARDS) evaluation sampling, prospecting, trenching.	The geophysical data reprocessing aided in target identification. The CARDS evaluation generated 29 exploration targets. The results of exploration conducted by Puma are presented in Section 6.1.3.	Hupé and Gagné, 2020



Figure 6.1 Historical drilling Chester Property pre-1980.



GEOSCIENCE INC.



Figure 6.2. Historical drilling Chester Property post-1980.

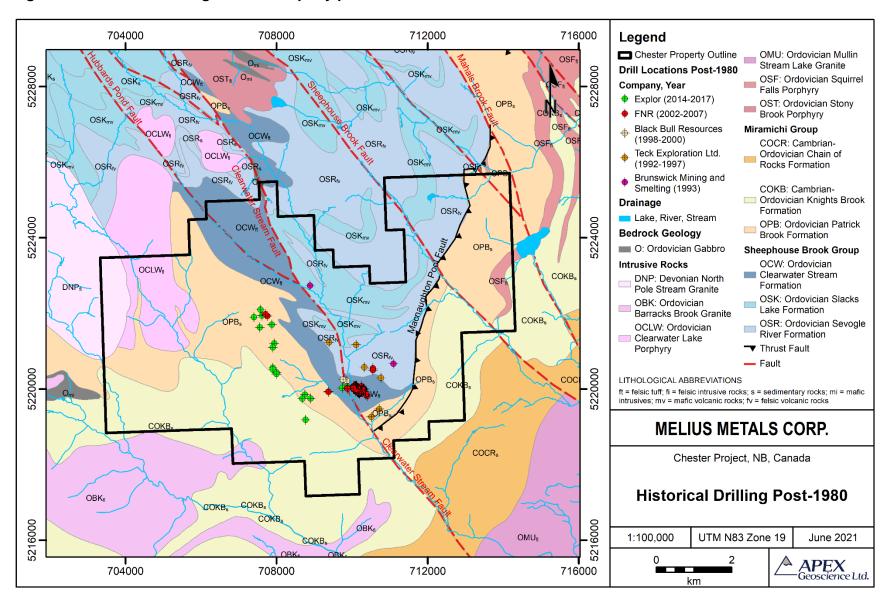
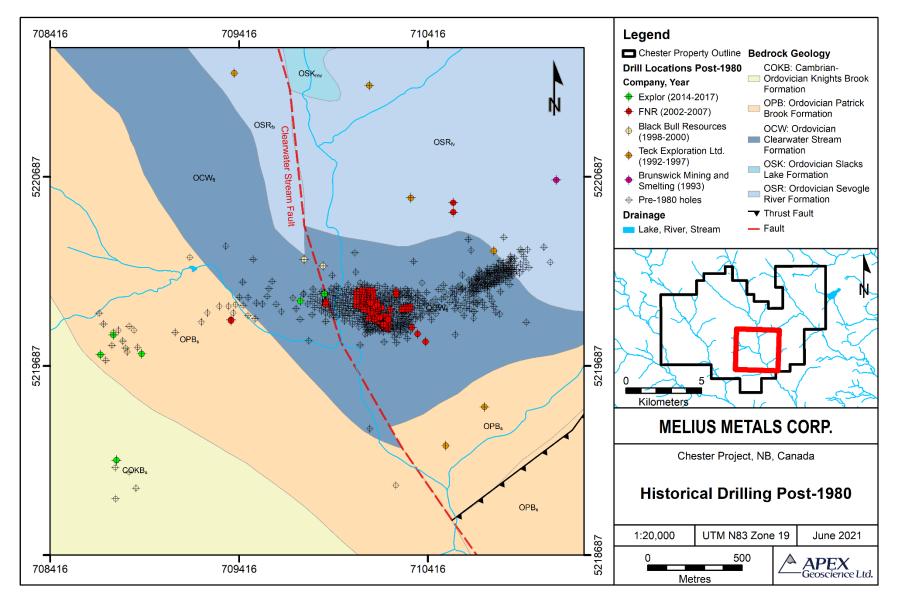




Figure 6.3 Historical drilling post-1980 – Chester Deposit.



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30 Stringer Zone Extension DD-14-102 About 550 Drill-holes 0/1B-54(X) Geological Legend Ref. map: MP2014 17-18-21-22 Gabbro Granite or Granodiorite RN 1276 ester | uthwest) Granite or Porphyry Sheephouse Brook Group Explor Resources DDH First Narrow Res. DDH Previous DDH Slacks lake Fm 15 Sevogle River Fm Undergroud Galeries Clearwater Stream Fm Massive Sulphide Zone Miramichi Group Patrick Brook Fm Stringer Zone Coord.: UTM Nad 83, zone 19 Knights Brook Fm Stringer Zone Extension Chain of Rocks Fm Road Access Thrust Échelle : 1:10 000 ✓✓ Fault Stream and River

Figure 6.4 Mineralized zones of the Chester Deposit.

Source: Hupé and Gagné, 2020





### 6.1.1 First Narrows Exploration History (2003 to 2008)

In 2003, First Narrow Resources Corp. ("FNR") optioned four claims within claim blocks 1571 and 2428 from NES and Bathurst Silver, as well as an additional claim from Teck. Between 2002 and 2008, FNR completed geochemical sampling, geological mapping, airborne and ground geophysical surveys and drilling. In 2004, Noranda Exploration flew a MegaTEM II survey over the entire Bathurst camp and provided the data over the Chester block to FNR. FNR subsequently commissioned a Geotech Versatile Time Domain Electromagnetics ("VTEM") helicopter-borne survey to follow up on several unexplained geophysical anomalies from the Noranda MegaTEM II survey. The survey included 675.2-line kilometres covering an area of 31 km² (Figure 6.5; Brooks, 2005).

FNR then contracted Condor Consulting ("Condor") to complete processing, analysis and interpretation of the VTEM data (Brooks, 2006). Interpretation of the VTEM survey data identified 13 target zones for follow-up.

The data delineated a gently dipping semi horizontal conductive horizon from outcrop depth to greater than 500 m, interpreted by Condor (2005) to be in part preserved sea floor sulphide depositional layers, or related to graphite zones. The dominant pattern in the magnetic data is an elevated magnetic shelf in the southwestern portion of the Property. The magnetic grain for Chester trends to the east-west. Elsewhere in the shelf the magnetic grain varies to northwest-southeast to semi-arcuate. The Chester Deposit itself is characterized by coincident strong EM and magnetic responses (Figures 6.5 and 6.6). However, other strong EM zones only partially overlap with magnetic highs (Condor, 2005).

The EM features with the greatest conductivity are highlighted in the AdTau image in Figure 6.6. Condor (2005) reports that the these features typically contain the greatest amounts of metallic sulphides. All major EM features also show anomalous AdTau response, with the exception of targets that are too deep for proper assessment of the conductivity (Condor, 2005).

A re-interpretation of the VTEM data by Brooks (2006) concluded:

- The Clearwater Stream Formation dips shallowly to the west and is likely over thrusted by weakly mineralized or weakly graphitic sediments.
- Lines to the east of the Western Deeps area indicate that the Chester Horizon, or the Clearwater Stream Formation, dips to the south, up to 40-45° of an eastwest line (fiducial line T9020), with the Chester VMS zone at the crest of an anticlinal fold with the north limb dipping to the north.
- The Chester Deposit is on the crest, and the Copper Stringer zone lies along the west, of an east-west trending, westerly plunging, open anticlinal fold structure. The east-west trending hinge line lies along fiducial line T9020.





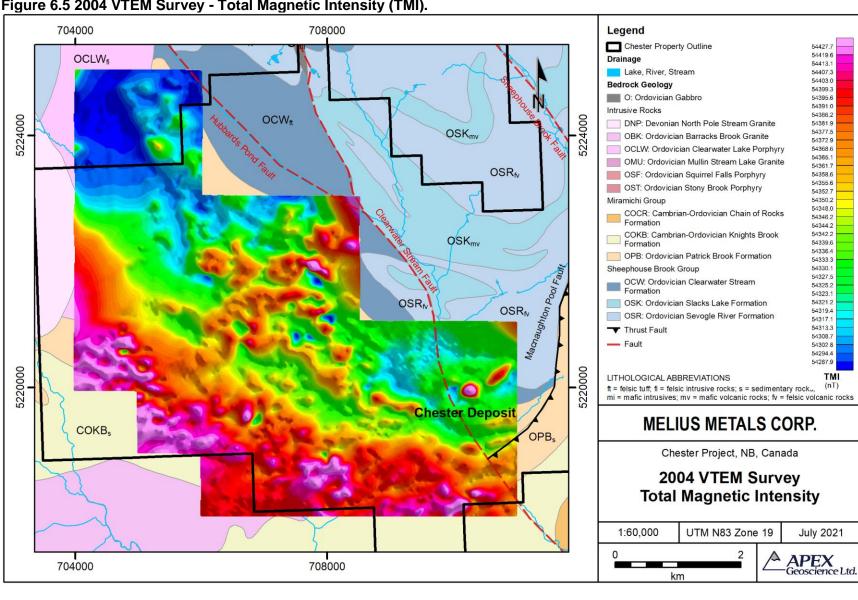


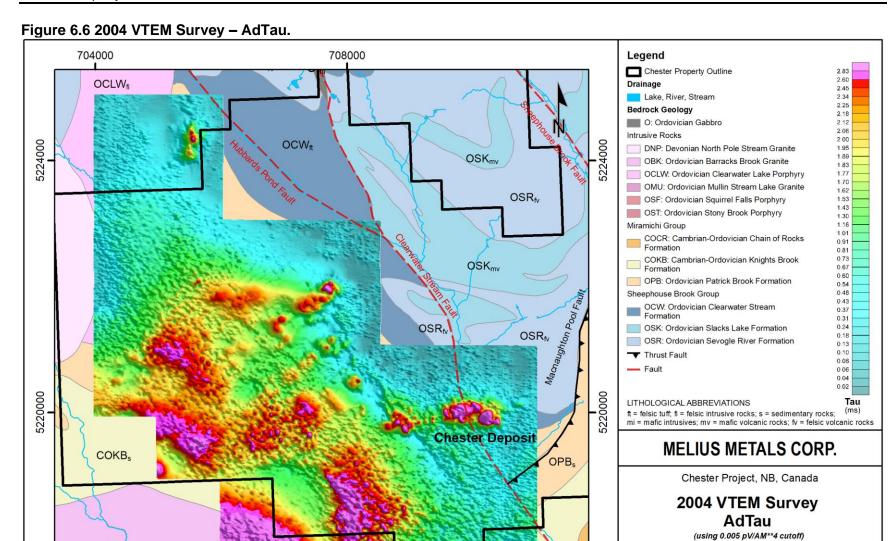
Figure 6.5 2004 VTEM Survey - Total Magnetic Intensity (TMI).





704000

March 30th, 2022





708000



1:60,000

km

0

UTM N83 Zone 19

July 2021

APEX Geoscience Ltd.

- Geological information from drill holes C-04-014 and C-04-015 confirm the south dip of the structure, using the rhyolite unit that is the footwall of the chloritic altered copper stringer mineralized zone (the Western Deeps), and the mineralized chloritic altered feeder zone. The north limb is interpreted to dip to the north.
- The vertical slices highlight several separate layers of conductive material dipping roughly to the southwest. The deepest is situated in the Main Zone (Main Chester VMS and Copper Stringer zones).
- Three stacked layers, including the Main Chester VMS and the Copper String zones, are shown on fiducial line T9020. The stacked layers are interpreted as the result of numerous layers of felsic rocks, Clearwater Stream Fm., being overthrust in a series of thrust faults. Drill hole CNW-04001 intersected the annealed quartz vein at the contact between the sediments and lower felsic volcanic unit at 176 m depth. The felsic unit is the same age as the Clearwater Stream Fm. at the base of drill hole S-040015, which is the same age as the Nepisiguit Falls Fm., host of the BMS 6 and BMS 12 VMS deposits (Brooks, 2006).

FNR drilled a total of 198 core holes on the Property. A total of 179 holes targeted the near-surface Copper Stringer (West) Zone (Figure 6.4), the remaining 19 holes targeted the Central VMS zone and other targets away from the main deposit (Figures 6.3 and 6.4). FNR completed methodical confirmation and delineation drilling on the deposit with drill holes variably spaced at 6.25-metre spacing (and locally 3.25 m) in the upper part of the Stringer zone to an average of 12.5-metre spacing throughout most of the drilled area and expanding to 25-metre spacing at the western limits of the program. The vast majority of both FNR and pre-FNR drill holes are oriented vertically which result in favourable pierce angles with the shallow-dipping mineralized zone.

Validated FNR drill results were compared with the pre-FNR drilling data over a restricted "test" area. Sim and Davis (2008) report that the test involved an interpretation of +0.5% Cu in Stringer Zones 2 and 3 derived from each data set and then comparisons of de-clustered sample data within each domain. The results showed similar grades in each zone but the pre-FNR drilling generated a higher volume of lower-grade material. It should be noted that the pre-FNR drill holes average 25-metre spacing through the test area compared to <12.5-metre spaced FNR holes. It was concluded that the results between the two vintages of drilling were sufficiently similar and the pre-FNR drilling could be considered reliable for use in estimating mineral resources (Sim and Davis, 2008).

The FNR diamond drilling was completed by Maritime Diamond Drilling Ltd. of Truro, Nova Scotia using a Longyear Model 38. All FNR holes used NQ-sized drill core. The core from pre-FNR drilling is a combination of AXT, BQ and NQ sizes. Logging and sampling procedures along with a discussion of QA/QC protocols and results for the FNR program are described in detail in technical reports by Sim and Davis (2008) and Sim (2014). Following the insolvency of FNR in 2011, some of the FNR core was moved to





the government facility in Madran, (located northwest of Bathurst). Additionally, approximately 40 trays were stored on Mr. Brooks' property in Bathurst. The remainder of the core was dumped in the Bathurst No. 12 Mine tailings pond (Sim, 2014).

Drilling by FNR in 2003 targeted the upper part of the Stringer Zone and select portions of the VMS zone with the results of the drilling confirming the mineralization intersected in the pre-FNR drilling data and resulting in the discovery of new zones of copper-polymetallic mineralization (Sim and Davis, 2008). Select results of the FNR drilling completed in 2003 are presented in Table 6.2.

Exploration drilling by FNR in 2004 included two holes (C-04-014 and C-04-015) drilled 600 m to the west of the known limit of the Stringer Zone historical resource and mineralized area. The two drill holes targeted mineralization intersected in pre-FNR drill hole S-436, which reported 0.91 m of 2.30% Cu, 1.40% Pb and 1.11% Zn from 315.15 m and 23.16 m of 1.53% Cu, 1.64% Pb and 0.94% Zn from 324.6 m. Drill hole C-04-014 intersected 1.3 m of 2.23% Cu from 325.5 m depth and 2.75 m of 1.84% Cu from 336.5 m. The results did not exactly replicate the intersections reported in S-436; however, they confirmed the presence of Stringer Zone mineralization over a total strike length of 800 m.

Additional exploration drilling on the Property in 2004 included 3 holes testing the upper part of the Stringer Zone and 2 holes targeting a VTEM/soil geochemical anomaly situated approximately 3.5 km to the northwest of the underground portal. Felsic volcanic rocks with local disseminated to massive pyrrhotite-pyrite and local chalcopyrite were observed in both drill holes (CNW-04-001 and CNW-04-002) testing the geophysical/soil anomaly. Drill hole CNW-04-001 returned 0.9 m of 0.31% Cu from 3.0 m depth and CNW-04-002 returned 5.2 m of 0.28% Cu from 3.0 m depth (Sim and Davis, 2008).

Table 6.2. FNR 2003 Drilling Highlights.

	Mineralized											
<b>Drill Hole</b>	Zone	From (m)	To (m)	Length (m)	Cu (%)	Ag (g/t)	Au (g/t)	Co (g/t)	Bi (g/t)	Ga (g/t)	In (g/t)	Sc (g/t)
C-03-06	Upper Zone	84.28	89.70	5.42	1.17	5.60	0.086	108	29	17.60	0.4	trace
Including	Upper Zone	86.00	88.80	2.80	1.95	7.80	0.131	127	40	23.70	0.7	trace
C-03-10	Upper Zone	72.54	78.02	5.48	1.56	2.30	0.300	92	131	18.70	8.8	11.6
Including	Upper Zone	73.00	74.06	1.06	4.09	7.20	1.250	117	315	11.30	20.8	6.6
C-03-10	Lower Zone	92.96	101.80	8.84	1.56	2.10	0.117	111	100	24.60	11.2	14.7
Including	Lower Zone	98.20	101.60	3.40	2.51	3.30	0.194	153	187	27.80	15.8	15.3
C-03-11	Lower Zone	95.90	107.40	11.50	0.76	1.00	0.054	72	62	20.20	4.7	14.8
C-03-13	Upper Zone	131.80	141.20	9.40	0.39	trace	0.012	40	20	33.60	3.7	21.6

(Modified from First Narrows Resource Corp., 2004)

Age dating using the Pb/Zr method was completed by Activation Laboratories Ltd. Of Ancaster, ON on core samples collected from felsic volcanic rocks near the bottom of holes C-04-015 and CNW-04-001. The age dating analysis resulted in an age of 469 +/-0.3 Ma for both core samples, which correlates to the age obtained from a Clearwater Stream Formation surface sample collected to the west of Chester. The results of the age





dating analysis indicate that greater than 580 m of Clearwater Stream Formation lies within the Chester Property. The Clearwater Stream Formation is known to host significant mineral deposits of the Bathurst Mining Camp (Sims and Davis, 2008).

FNR also completed a soil geochemical survey over the property in 2004. The results were consistent with the known mineralization at Chester and identified several anomalous areas west and northwest of the Chester Deposit (Sim and Davis, 2008).

Most of the drilling completed by FNR in 2006 and 2007 focused on near-surface Stringer Zone mineralization of the Chester Deposit. Exploration drilling by FNR in 2007 was completed in proximity to, and north of, the underground portal. Felsic volcanic rocks with rare traces of sulphides were observed in the drill core. Felsic tuffaceous and rhyolitic rocks of the Clearwater Stream Formation with local zones of sericite and/or chlorite alteration was observed in drill hole C-07-P1X, collared next to the underground portal (Sims and Davis, 2008).

# 6.1.2 Explor Exploration History (2013 to 2016)

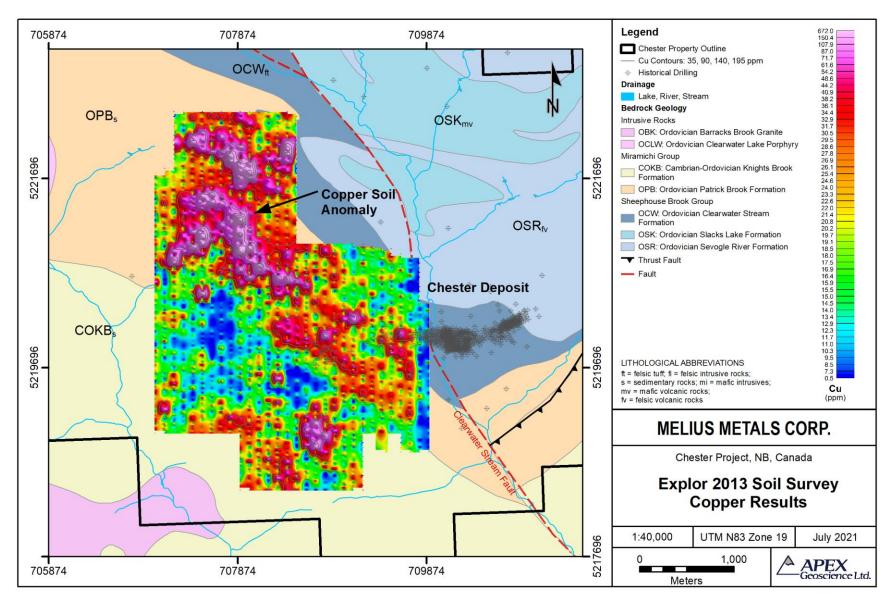
In 2013-2014, the northwestern part of the Chester Property was explored by Explor and Brunswick Resources Inc. ("Brunswick Resources"). Explor concentrated their exploration program on the west side of Clearwater Stream in an area that had seen little exploration since the 1950s. Ten short diamond drill holes totalling 1,103 m were drilled and intersected copper mineralization associated with disseminated chalcopyrite in a layer of altered felsic volcanics that were interpreted to be of the Clearwater Stream Formation (Figures 6.2 and 6.3). Additionally, geological mapping, ground magnetics and VLF surveys were conducted east of the East Zone (Figure 6.4). The geophysical results identified a fairly large magnetic source associated with a VLF anomaly in the centre of the south grid. A preliminary field examination of the area showed that the magnetic anomaly is associated with a fairly flat-lying bed of black sediments, probably of the Miramichi Group. (Brooks, 2015). Several anomalous areas with elevated Cu, Zn and Pb levels were identified including an area located about 1 km northwest of the current Chester Deposit (Figure 6.7). The anomalous area (labeled "Anomalous Soil Copper Anomaly" in Figure 6.7 is coincident with anomalous magnetometer and VLF results. Geological mapping indicated the potential presence of sericite-altered volcanic host rocks in the area (Sim, 2014).

In 2016, Explor targeted the westward continuity of the Copper Stringer Zone under Clearwater stream with 4 drill holes (Figure 6.3). Three holes were drilled in a fan pattern and intersected five zones of significant mineralization. Significant intersections from hole 1571-15-1 included 3.55 m averaging at 7.97% Cu, 113 ppb Au, 6.65 ppm Ag, 932 ppm Zn and 86 ppm Pb and 1.31 m averaging at 13.81% Cu, 416 ppb Au, 9.55 ppm Ag, 710 ppm Zn and 91 ppm Pb. The fourth hole (1571-16-004) was collared 139 m to the west and 30 m south. It also intersected mineralization with 11.5 m averaging at 2.36% Cu including 3.7 m at 3.88% Cu or 7.6 m at 3.06% Cu. The drilling confirmed the continuity of the Copper Stringer Zone to the west of Clearwater Stream. Based on the drill data, the Copper Stringer Zone was interpreted to be on the stratigraphic horizon between the





Figure 6.7 Explor 2013 Soil Samples - Copper in soil geochemistry.





lower Clearwater Stream Formation and the overlying Sevogle River Formation (as described by Brooks, 2017a). This interpretation is in discrepancy with the previous overturned recumbent syncline model (Hupé and Gagné, 2020).

In fall 2016, an additional 8 holes totalling 1,320 m, were drilled. Three holes (6003-16-012, 013 and 016) targeted a near surface soil geochemical anomaly and a coincident VTEM anomaly (from the 2004 survey). The three holes intersected a thin mineralized layer within a thicker zone of sediments consisting of various siltstones, shaley sediments and possibly resedimented felsic tuffs and sediments. Foliation fabrics in the Clearwater Stream Formation intersected in 2 of the holes seem to support the existence of a recumbent isoclinal fold structure (Hupé and Gagné, 2020). Two additional holes (6003-16-014, 015) were drilled to test the continuity of the mineralized zone eastward. Both holes intersected mineralization. Hole 6003-15-017 was drilled 2.5 km north of hole 6003-16-012 and intersected scattered sulphide mineralization. Holes 6005-16-01 and 02 targeted a copper-in-soil geochemical anomaly in an area of historical drilling that returned significant copper mineralization located approximately 500 m south of the above holes. These 2 holes failed to intersect mineralization, further exploration in the area was recommended (Brooks, 2017b).

# 6.1.3 Puma Exploration History (2019)

In 2019, Puma optioned the Chester Property from Explor. Puma commissioned the reprocessing of the 2004 MegaTEM and VTEM surveys which resulted in a 3D geophysical model of the Chester Deposit (Figures 6.8 and 6.9) and aided in target identification. A Computer Aided Resources Detection System (CARDS) evaluation was completed that generated 29 exploration targets. Targets in poorly explored areas were followed up by prospecting, sampling and excavation of 22 trenches totalling 3,940 m (Figure 6.10). The geology in the trenches did not explain the CARDS anomalies. Further trenching, sampling and channel sampling was recommended (Hupé and Gagné, 2020).

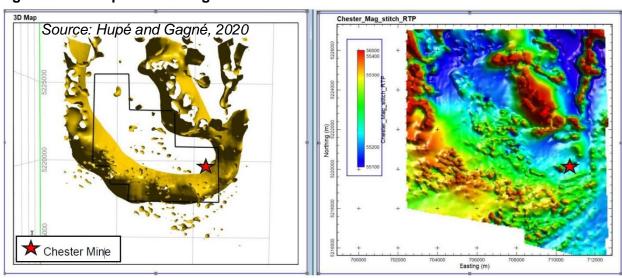


Figure 6.8 Example of the Magnetic 3D Inversion.

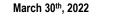
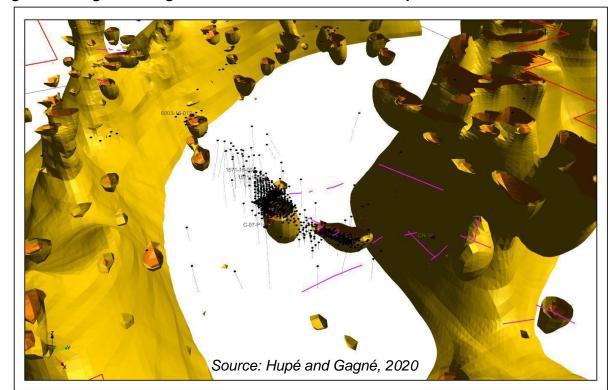






Figure 6.9 MegaTEM-Magnetic 3D inversion for Chester Deposit.





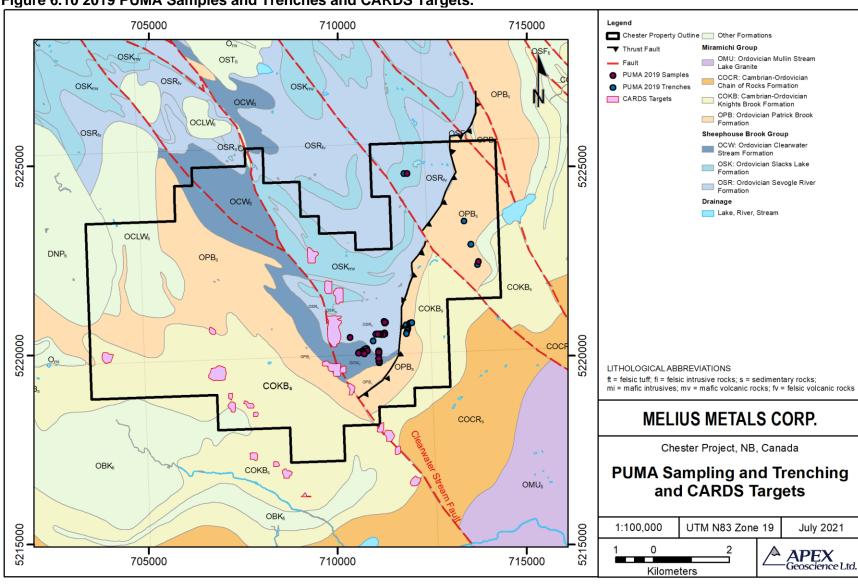


Figure 6.10 2019 PUMA Samples and Trenches and CARDS Targets.





March 30th, 2022

# 6.2 Historical Drilling and Mineral Resources

# 6.2.1 Historical Drilling Summary

Historical drilling on the Property has been conducted by several companies from 1956 to 2016 as discussed in Section 6.1. The current drill hole database contains information for 804 drill holes, totalling 70,803 m, located within the confines of the current Chester Property. The majority of these drill holes, 761 drill holes totalling 64,690 m, targeted the Chester Deposit and possible extensions of the deposit. A summary of the historical drilling conducted at the Chester Property is presented in Table 6.3. Table 6.4 provides a summary of the holes targeting the Chester Deposit. Select historical highlights showing core length intercepts from the Feeder Zone and Massive Sulphide Zone of the Chester deposit are listed in Table 6.5.

Table 6.3 Summary of historical drilling at the Chester Property.

		Total drill	Dip	Orientation	Total length
Company	Year(s)	holes	(degrees)	(azimuth)	(m)
Kennco Explorations Ltd.	1955-1957	134	-45 to -90	0 to 285	12,675
Chesterville Mines Ltd.	1959	1	-90	0	91
Newmont Mining Corp.	1963	3	-60 to -90	0 to 23	712
Sullivan Mining Group/Sullico	1966-1968	430	-90	0	32,659
Teck Exploration Ltd.	1995-1997	6	-70 to -90	19 to 247.5	2,160
Brunswick Mining and					
Smelting	1993	2	-50 to -90	113 to 218	532
Black Bull Resources	1999	2	-88 to -90	144 to 278	583
Unknown operator (pre-FNR)		7	-90	0	111
First Narrows Resources	2002-2007	197	-45 to -90	0 to 355	18,023
Explor	2014-2016	22	-45 to -90	0 to 180	3,257
TOTALS		804			70,804

Table 6.4 Summary of historical drilling targeting the Chester Deposit.

Company	Year(s)	Total drill holes	Dip (degrees)	Orientation (azimuth)	Total length (m)
Kennco Explorations Ltd.	1955-1957	120	-45 to -90	0 to 218	11,878
Chesterville Mines Ltd.	1959	1	-90	0	91
Sullivan Mining Group/Sullico	1966-1968	428	-90	0	32,490
Teck Exploration Ltd.	1992-1997	1	-70 to -70	145 to 145	389
Black Bull Resources	1999	2	-88 to -90	144 to 278	583
Unknown operator (pre-FNR)		7	-90	0	111
First Narrows Resources	2002-2007	193	-45 to -90	0 to 355	17,324
Explor	2014-2016	9	-45 to -90	0 to 180	1,824
TOTALS		761			64,690



Table 6.5 Chester Deposit Historical Drilling Highlights.

Feeder Zone (Surface to 50 m)	Massive Sulphide Zone (Surface to 50 m)
4.8% Cu over 20.3 m	10.8% Zn and 4.5% Pb over 5.6 m
3.4% Cu over 25.0 m	7.4% Zn + 2.3% Pb over 6.1 m
6.0% Cu over 13.1 m	8.0% Zn + 3.9% Pb over 7 m
8.0% Cu over 5.2 m	8.5% Zn + 4.0% Pb over 7.9 m
4.9% Cu over 14.2 m	7.0% Zn + 2.6% Pb over 15.6 m

Source: Puma Exploration Inc., 2019

Several of the historical mineral resource estimates ("MRE's") discussed in this section were calculated prior to the implementation of the standards set forth in NI 43-101 and Canadian Institute of Mining ("CIM") Definition Standards for Mineral Resources and Mineral Reserves (May, 2014) and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (November, 2019). The authors of this Technical Report have not done sufficient work to classify these historical estimates as a current mineral reserves or mineral resources. The authors have referred to these estimates as "historical resources" and the reader is cautioned not to treat them, or any part of them, as current mineral resources. There is insufficient information available to properly assess the data quality, estimation parameters and standards by which the estimates were categorized. The historical resources summarized below have been included simply to demonstrate the mineral potential of the main target area of the Chester Property. A thorough review of all historical data performed by a Qualified Person, along with additional exploration work to confirm results, would be required in order to produce a current mineral resource estimate for the Chester Deposit.

The following text summarizes historical MRE's for the Chester Property completed by previous operators. The authors of this Technical Report have reviewed the information in this section, as well as that within the cited references, and have determined that it is suitable for disclosure.

## 6.2.2 1973 Sullivan Mining Group Historical Mineral Resource

Historical resource estimates for the Chester Deposit have been documented in various published papers (Irrinki, 1986; Fyffe, 1995; Wilson and Fyffe, 1996), New Brunswick Mineral Occurrence Database Chester Deposit (reference number 71), a report by Montreal Engineering Company Ltd. (1970), and various documents by Sullivan Mining Group Ltd. (or subsidiary Sullico) that are now in the archives of New Brunswick Department of Natural Resources and Energy Development (NBDNRED). These previously reported estimates were either identical or quite similar. Historical mineral resources were reported by the Sullivan Mining Group Ltd. in 1973 and were included in more recent Technical Reports (Hamilton, 2003; Sim and Davis 2008; Sim, 2014):

 East Zone – 0.5 million tonnes of massive and disseminated sulphide grading 0.78% Cu, 0.36% Pb, and 1.14% Zn;





- Central Zone 1.1 million tonnes of massive sulphide grading 0.47% Cu, 0.90% Pb, and 2.22% Zn; and
- West Zone (Copper Stringer Zone) 15.2 million tonnes of disseminated and stringer sulphides grading 0.78% Cu, including 3.4 million tonnes grading 1.58% Cu.

No information regarding the methods or parameters used to calculate these historical MRE's is available. The cut-off grade is not reported. The methods of estimation nor any statistical data are provided. The historical MRE's presented above were calculated prior to the implementation of the standards set forth in NI 43-101 and current CIM standards for mineral resource estimation.

#### 6.2.3 2008 First Narrows Resources Historical Mineral Resource

FNR released a historical MRE for the Stringer Zone portion of the Chester Deposit in 2008 (Sim and Davis, 2008). The historical MRE was prepared based on a potential underground mining scenario. The historical MRE was prepared in accordance with NI 43-101 and CIM standards at that time (CIM, 2005). The historical resource estimate for the base cut-off grade of 2.0% Cu is presented in Table 6.6.

Table 6.6 2008 FNR Historical Mineral Resource Estimate for the Stringer Zone (cut-off 2% Cu).

					SG
Category	ktonnes	Cu (%)	Zn (%)	Ag (g/t)	(t/m3)
Measured	44	3.05	0.22	10.2	3.17
Indicated	240	2.73	0.11	6.8	3.09
Inferred	298	2.51	*	*	3.07

<sup>\*</sup>Note: Inferred resources are based primarily on older drilling results which do not have sufficient zinc and silver analysis to generate resource grades for these elements.

The historical MRE was generated from drill hole sample assay results and the interpretation of a geological model which relates to the spatial distribution of copper, zinc and silver at the Chester Deposit. The historical MRE included only the copper rich West "Stringer" Zone and did not include resources for the Central and Eastern massive sulphide zones.

## 6.2.4 2014 Explor Resources Historical Mineral Resource

In 2014, Explor released an updated historical MRE based on the 2008 FNR historical mineral resource to reflect 2014 metal prices and re-evaluation using combinations of open pit and underground extraction options in order to demonstrate a reasonable prospect for economic extraction (Sim, 2014). Between 2008 and 2014 no work or drilling that affected the 2008 resource estimate was completed, therefore, the 2008 model was considered valid for the 2014 Chester MRE. The dataset and parameters used in the 2014 resource remained the same as in 2008 with a change in lower cutoffs. The resource was prepared





in accordance with NI 43-101 and CIM standards at that time (CIM, 2005). The 2014 historical MRE is presented in Table 6.7.

Table 6.7 2014 Explor Historical Mineral Resource Estimate for the Stringer Zone.

Class	Cut-off (Cu%)	Ktonnes	Cu (%)	Zn (%)	Ag (g/t)						
In-Pit											
Measured	0.5	101	1.87	0.14	6.7						
Indicated	0.5	1,296	1.34	0.06	3.3						
Measured and Indicated	0.5	1,397	1.38	0.06	3.5						
Inferred	0.5	2,060	1.25	n/a	n/a						
		Below Pit									
Inferred	2.0	29	2.33	n/a	n/a						
	Combined										
Measured	0.5	101	1.87	0.14	6.7						
Indicated	0.5	1,299	1.34	0.06	3.3						
Measured and Indicated	0.5	1,400	1.38	0.06	3.5						
Inferred	variable	2,089	1.26	n/a	n/a						

Source: Sim, 2014

The 2014 historical mineral resource was calculated to include a combination of openpit and underground extraction options. An open pit cut-off grade of 0.5% Cu and an underground cut-off grade of 2% Cu were considered appropriate based on assumptions derived from operations with similar characteristics, scale and location at that time. The historical MRE included only the copper rich West "Stringer" Zone and did not include resources for the Central and Eastern massive sulphide zones.

### 6.2.5 Historical Metallurgical Studies

FNR submitted several sets of drill core samples from the Chester deposit to RPC (Research and Productivity Council) Laboratory in Fredericton, NB for metallurgical test work. These metallurgical studies indicated that the Stringer Zone material is amenable to standard grinding and floatation segregation with recoveries averaging more than 97% and final concentrate grades of 27% Cu (Hupé and Gagné, 2020). No metallurgy has been completed to assess Zn or Pb recoveries.

Results of the metallurgical test work completed on samples from the Stringer Zone mineralization are summarized from Sim and Davis (2008), as follows:

 Initial test work was conducted on samples from drill holes C03-001, 010 and 013, with samples containing VMS and Stringer Zone mineralization. The test results from these samples were likely compromised due to oxidation of the core in storage over a period of 3 years.



- In January 2007, fresh core samples were submitted from drill holes C-07-042, 043, 044 from near surface Stringer Zone mineralization (middle and lower Stringer Zone domains with copper grades ranging from 1.20 to 17.11% Cu).
  - A blended sample (200 kg) averaged 3.5% Cu, 19% Fe, 0.03% Pb, 0.36% Zn, 15g/t Ag and 21 ppm In.
  - $_{\odot}$  Two floatation tests were conducted using different grind sizes (P80 <74.2µm and P80 <89.9µm). Bulk sulphide concentrates from both tests contained 10% Cu with copper recoveries over 99%, with a total bulk sulphur level of 0.06% S of the rougher tails.
- In September 2007, fresh core samples were submitted from drill holes C-07-180, 181, 182 from upper and middle Stringer Zone mineralization with copper grades ranging from 1.65 to 8.50% Cu (located approximately 100 m down dip of the previous metallurgical samples).
  - o Individual bulk sulphide floatation tests were completed on the 4 samples. Recoveries were unaffected by the range of head grades, averaging over 99%. The rougher concentrate grades ranged from 10.4% from the low head grades to as high as 24% Cu from the higher-grade samples. Bulk sulphur levels of the rougher tails averaged 2.1% S.
- In October 2007, fresh core samples from drill holes C-07-186, 187, 188, completed in the upper Stringer Zone with copper grades ranging from 2.46 to 10.85% Cu, were combined with samples from the September 2007 metallurgical drill holes to produce a composite sample for locked cycle and concentrate cleaning tests.
  - The combined sample (58 kg) averaged 2.41% Cu, 15.9% Fe, 0.04% Pb, 0.35% Zn, 12g/t Ag and 11 ppm In.
  - Rougher and cleaner testing showed that regrinding is not required (P80 <76.8µm) and that one stage of cleaning was necessary to produce saleable concentrates. The rougher concentrate grade was 12.1% Cu (99.4% recovery) using 3418A and PAX as rougher reagents and 18.0% Cu (98.4% second stage increased the grade to 27-28% Cu (96-97% recoveries).</p>
- Locked cycle tests were completed on a series of 10 (1,760 gm) samples split from the 58kg composite sample. The results of the testing showed that the batch floatation tests achieved the best performance (27% Cu concentration with 97% recovery) as compared to the locked cycle tests (25% Cu concentration with 100% recovery). The increased residential time in the locked cycle tests resulted in higher recoveries but a lower concentrate grade due to dilution (floating) of low-grade intermediate products.

# 7 Geological Setting and Mineralization

# 7.1 Northern Appalachian Orogen: Geological Framework

The Chester Property lies within the Bathurst Mining Camp (BMC) in the northeastern part of the Appalachian Orogen. The Northern Appalachian Orogen in eastern Canada records the complex Late Cambrian to Late Silurian closure of the lapetus Ocean that is associated with significant outboard growth of the Laurentian margin. The geological framework of the Northern Appalachians consists of broad tectonic zones that include, from northwest to southeast, the Humber, Gander–Dunnage, Avalon, and Meguma tectonic zones (Figure 7.1).

The Humber Zone represents the remnants of a passive margin built upon the leading edge of Laurentia during the Cambrian and Early-Middle Ordovician, whereas the Gander, Avalon and Meguma zones represent micro-continental slivers derived from Gondwana (Figure 7.2). The Dunnage zone preserves the remnants of predominantly suprasubduction zone terranes that developed in the Cambro-Ordovician lapetus Ocean, and accordingly, is comprised of fragments of forearc, arc, back-arc, and rare seamount crust and mantle.

Chester
Property

Quebec

Newfoundland

New Brunswick

PEI

Atlantic Ocean

Tectonic Zones

Grenville
Humber
Gander and Dunnage
Avalon
Meguma
Zone boundary

Figure 7.1 Tectonic zones of Atlantic Canada.

Source: Zagorevski and van Staal (2011) after Williams (1995a), and Barr and White (1996).





**GONDWANA** LAURENTIA GANDERIA BASIN LLOYDS RIVER MARGINAL B. SEAWA CANDERIA A VALONIA . Grenville basement Laurentian passive margin Notre DameArc, Baie 300-Verte and Lush's Bight 1000 OceanicTracts 300-550 Annieopsquotch km accretionary tract 1000. 1500 Popelogan-Victoria Arc 100 km Ganderian basement

Figure 7.2 Expanded tectono-stratigraphic subdivisions of the northern Appalachians.

Source: Zagorevski and van Staal (2011) after Williams (1995b).

In northeastern New Brunswick, Ordovician outboard growth was achieved through the progressive accretion of peri-Laurentian and peri-Gondwanan arc, rifted arc, and suprasubduction zone ophiolite terranes. To the east of the main lapetus Ocean tract, the Ordovician Popelogan-Victoria Arc-Tetagouche-Exploits back-arc system was built on a Cambrian to Early Ordovician Penobscot arc founded on peri-Gondwanan Neoproterozoic basement (Figure 7.2; e.g., Colman-Sadd et al., 1992; van Staal et al., 1996). The Popelogan-Victoria Arc is the first peri-Gondwanan terrane to dock at the Laurentian margin following the closure of the main tract of the lapetus Ocean. Accretion of the Popelogan-Victoria Arc marks the end of the peri-Laurentian Taconic Orogeny (e.g., van Staal et al., 2009).

Paleozoic rocks in northeastern New Brunswick belong to major tectonostratigraphic zones that include from east to west, the Aroostook-Percé Anticlinorium, the Chaleur Bay Synclinorium, the Miramichi Inlier and the Elmtree-Belledune Inlier (Wilson et al., 2015). Volcanic and sedimentary rocks of the Middle to Upper Ordovician Tetagouche back-arc basin are exposed in the Miramichi Highlands and Elmtree-Belledune inlier, whereas dominantly volcanic rocks of the Popelogan Arc are exposed in the Lower to Upper Ordovician Popelogan arc rocks. The Chester Property lies within the Sheephouse Brook block south of the Moose Lake-Tomogonops fault system (Figure 7.3).



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**LEGEND** MEG: Mount Elizabeth Granite PG: Pabineau Granite SILURIAN AND YOUNGER Granite and Gabbro Sedimentary rocks **ORDOVICIAN** Felsic intrusions FOURNIER GROUP Undivided **TETAGOUCHE GROUP** Tomogonops Formation Little River Formation Flat Landing Brook Formation Nepisiguit Falls Formation CALIFORNIA LAKE GROUP **Boucher Brook Formation** Spruce Lake Formation Mount Brittain Formation Canoe Landing Lake Formation SHEEPHOUSE BROOK GROUP Slacks Lake Formation Sevogle River Formation New Clearwater Stream Formation Brunswic **CAMBRIAN - ORDOVICIAN** 10 MIRAMICHI GROUP Undivided Opposite included in this atlas: PRE-CAMBRIAN 1) Restigouche Nepisiguit A 11) Heath Steele B 16) Flat Landing Brook Gabbro 2) Murray Brook Brunswick No. 6 12) Stratmat Boundary 17) Camel Back 3) Caribou Brunswick No.12 13) Chester 18) Taylor Brook unconformity 4) Wedge Key Anacon 14) Halfmile Lake 19) Armstrong B 5) Canoe Landing Lake 10) Captain North 15) Devils Elbow 20) Orvan Brook normal fault Extension (CNE) thrust fault

Figure 7.3 Geological map showing the location of the Chester Property within the Sheephouse Brook Block.

Source: Thomas et al., 2000

# 7.2 Regional Geology

The regional geology of the area is summarized from Thomas et al. (2000).

The Bathurst Mining Camp stratigraphy comprises an Ordovician sequence of felsic and mafic volcanic rocks and sedimentary rocks (Figure 7.4). The volcanic rocks were erupted onto an older sequence of Cambrian-Ordovician clastic sedimentary rocks (Miramichi Group) on the Gondwanan continental margin. Sedimentary rocks are intercalated with the volcanic rocks, and there is a distinctive post-volcanic sedimentary succession (Tomogonops Formation). The Moose Lake-Tomogonops fault system is a major high-strain zone, trending east-west, that divides the Bathurst mining camp into



northern and southern structural and stratigraphic domains (Wilson and Fyffe, 1996). The Chester deposit is located in the southern domain. The tectonostratigraphic framework of the Bathurst Mining Camp is illustrated in Figure 7.5.

The Cambrian-Ordovician Miramichi Group is divided into 3 formations: Chain of Rocks, Knights Brook, and Patrick Brook; and comprises a thick sequence of quartz wacke and shale of unknown thickness. These rocks have been interpreted as a flysch apron on the Avalon continental margin (Rast and Stringer, 1974; van Staal and Fyffe, 1991).

The Miramichi Group is conformably to disconformably overlain by the Tetagouche Group which is divided into four formations: Nepisiguit Falls, Flat Landing Brook, Little River and Tomogonops. The Tetagouche Group hosts most of the Bathurst Mining Camp base metal massive sulphide deposits. The Nepisiguit Falls Formation consists of massive, quartz-feldspar porphyritic (2-15 mm) tuff lava, and medium- to coarse-grained, granular, quartz-feldspar-rich volcaniclastic rocks with minor intercalated ash tuff. The Flat Landing Brook Formation consists of feldspar-phyric (+/- quartz) rhyolite flows, hyaloclastic, pyroclastic rocks and minor sedimentary rocks, including some iron formation. The Little River Formation conformably overlies the Flat Landing Brook Formation and comprises mafic volcanic and associated sedimentary rocks. The Tomogonops Formation consists of light grey, thinly bedded, commonly calcareous siltstone (+/- limestone) and fine-grained sandstone.

South of the Moose Lake-Tomogonops fault system the Miramichi Group sedimentary rocks are overlain by volcanic and associated sedimentary rocks of the Sheephouse Brook Group. Ordovician and Devonian felsic intrusives are common in this area. The Moose Lake - Tomogonops Fault and the Mountain Brook Fault separate the Sheephouse Brook Group from the Tetagouche Group to the north. According to Wilson et al., (1999), the petrographic and geochemical diversity of the Tetagouche and Sheephouse Brook groups suggests that the formations were emplaced in separate basins and derived from separate magma sources. The Sheephouse Brook Group consists of the Clearwater Stream, Sevogle River, and Slacks Lake formations in ascending stratigraphic order.

The Clearwater Stream Formation consists of medium to dark green, strongly foliated plagioclase-phyric volcanic rocks of dominantly dacitic composition that overlie the Patrick Brook Formation (Miramichi Group). Muscovite and biotite (partially altered to chlorite) define the schistosity, and porphyroblasts of carbonate are characteristic of the unit. Primary volcanic structures and textures have generally been destroyed by structural and metamorphic overprinting (i.e. up to biotite grade), however the high abundance of plagioclase crystals and crystal fragments (10 to 45%), and local rare bedding indicate pyroclastic emplacement (Wilson and Fyffe, 1996). In the past, the contact of the Clearwater Stream Formation with the underlying Patrick Brook Formation had been interpreted as highly strained or as a thrust fault (MacNaughton Pool; Wilson and Fyffe, 1996). As well, local subordinate rhyolites were also noted to be present in the Clearwater Stream Formation.



The Clearwater Stream Formation is overlain by the Sevogle River Formation, which consists of light greenish grey to greyish pink, massive to well-foliated, potassium-feldsparphyric rhyolite (Wilson and Fyffe, 1996). Feldspar phenocrysts range from 0.2 to 2.0 mm and may constitute up to 15% of the rock. Local intercalated sedimentary rocks occur within the Sevogle River Formation, including dark grey siltstones and shales, minor carbonaceous shale and rare lenses of crystalline limestone. The Sevogle River Formation is conformably overlain by the Slacks Lake Formation, which consists of basalt with interbedded sedimentary rocks and minor comendite. Sedimentary rocks include dark grey, locally graphitic, shale, and red and green chert. Chemical similarities between felsic volcanic rocks and felsic intrusive rocks in the Chester area suggests that rocks of the Clearwater Stream and Sevogle River formations may be the volcanic counterparts of the Squirrel Falls Porphyry and the Clearwater Lake Porphyry, respectively.

# 7.2.1 Regional Structure

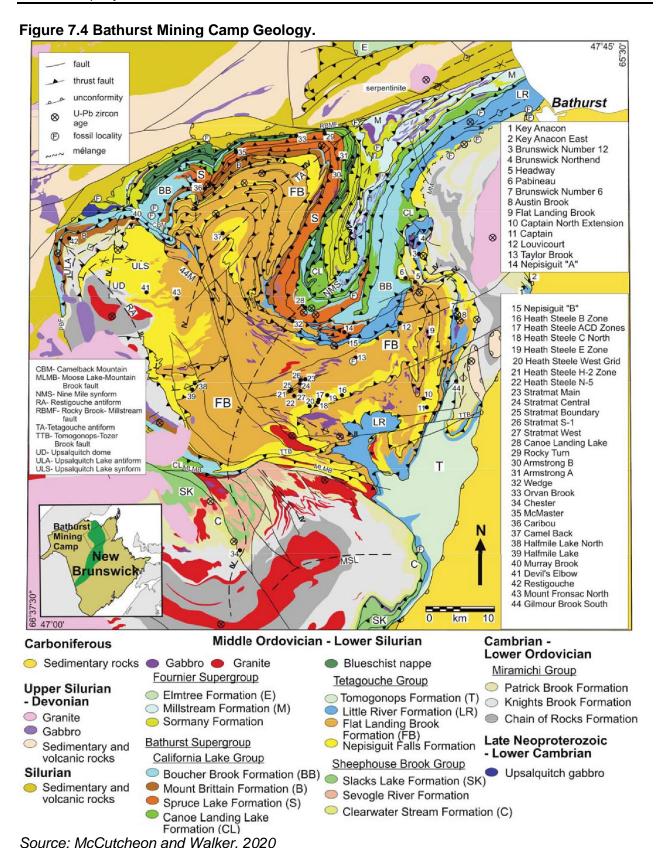
The structural geometry of the Bathurst Camp reflects an interference pattern produced by polyphase deformation. Four, locally five, phases of deformation are recognised:

- Late Ordovician-Early Silurian D1 deformation resulted in major thrust faults, narrow ductile high strain zones, and steeply inclined to recumbent, noncylindrical folds.
- **2.** Early Silurian D2 deformation is characterized by tight to isoclinal folds with generally shallow plunge, and out-of-sequence thrusts, which are commonly marked by zones of tectonic melange.
- **3.** Late Silurian D3 deformation resulted in the refolding of D1 and D2 structures by recumbent folds related to extensional collapse.
- **4.** Middle Devonian F4 and F5 folds refolded all earlier structures but rarely have overprinting relationships. These folds range in scale from millimetres to kilometres and produce dome and basin structures. They are interpreted to have resulted from dextral transpression in the northern Appalachians.



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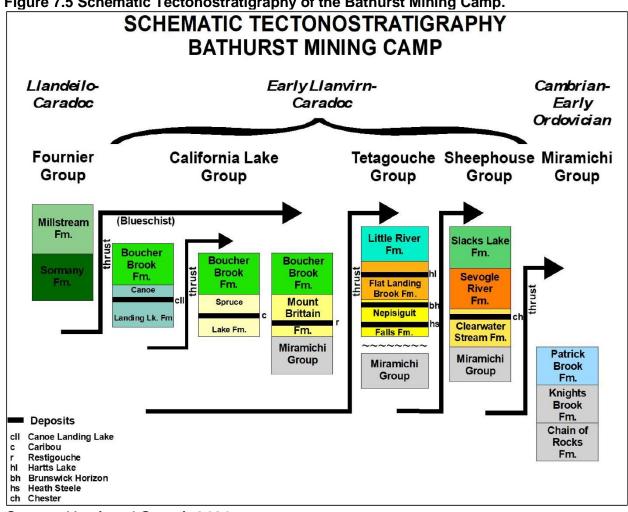


Figure 7.5 Schematic Tectonostratigraphy of the Bathurst Mining Camp.

Source: Hupé and Gagné, 2020

# 7.3 Property Geology

The following text on the Property geology and mineralization of the Chester Property has been largely sourced from reports written on the Property area by Sim (2014) and Hupé and Gagné (2020).

The Chester Property is located south of the east-west trending Moose Lake -Tomogonops fault system. The southern part of the Chester Property is underlain by the Miramichi Group while the northern and central parts of the Property are underlain by the Sheephouse Brook Group of the Bathurst Super group (Figure 7.6). All rock types display mineralogy that is consistent with greenschist facies metamorphism.





## 7.3.1 The Miramichi Group

The Miramichi Group consists of the Knights Brook and Patrick Brook formations. The Knights Brook Formation comprises moderately to strongly foliated, interbedded dark grey shale and greyish sandstone. This formation conformably underlies the Patrick Brook Formation.

Within the Patrick Brook Formation, felsic volcanic rocks similar to those of the overlying Clearwater Stream and Sevogle River Formations have been observed on the west side of Clearwater Stream; these rocks have been referred to as 'volcanic outliers'. West of the Clearwater stream, the contact between the Patrick Brook Formation and the overlying rocks of the Clearwater Stream Formation appears to be conformable. This is also the contact between the Miramichi Group and overlying Sheephouse Brook Group.

### 7.3.2 The Sheephouse Brook Group

The Sheephouse Brook Group consists of the Clearwater Stream, Sevogle River, and Slacks Lake formations in ascending stratigraphic order.

The Clearwater Stream Formation consists of moderately to strongly foliated, dark grey-green, plagioclase-phyric dacitic tufts. Samples contain ~10% subhedral to euhedral plagioclase phenocrysts. These phenocrysts often show sigma-type phenocryst geometry that is consistent with sinistral shear. The plagioclase phenocrysts are set in a fine-grained recrystallized matrix of quartz, muscovite/sericite, plagioclase and chlorite with minor traces of biotite, accessory zircon and opaque minerals. The penetrative foliation is defined by the muscovite and chlorite. The Clearwater Stream Formation conformably underlies the Sevogle River Formation (Wilson and Kamo, 2007).

The Sevogle River Formation consists of weakly to moderately foliated, light grey to grey-pink rhyolites. Samples contain alkali and plagioclase feldspar phenocrysts (0-5%) showing evidence for sinistral rotation, within a fine-grained recrystallized matrix of 60-80% quartz, 5-40% muscovite/sericite (typically 15-30%), 0-5% biotite, minor chlorite and accessory zircon, and opaque minerals. The Sevogle River Formation conformably underlies the Slacks Lake Formation.

The Slacks Lake Formation consists of moderately to strongly foliated dark green, metamorphosed mafic volcanic rocks.

Historically, substantial differences in ages were reported for the Sevogle River (466  $\pm$  2 Ma) and Clearwater Stream (478 +3/-1 Ma) formations. This was interpreted to suggest that a depositional hiatus or tectonic break existed between the formations (Wilson et al., 1999). However, age dating completed by FNR on core samples from the Clearwater Stream Formation yielded an age of 469 +/- 0.3 Ma for each sample. Subsequently, the GSC dated another sample from their type section for Clearwater Stream and that sample confirmed the results of FNR of 469+/- 0.3 Ma. These age dates indicate that the Clearwater Stream Formation is the same age as the Nepisiguit Falls Formation and





therefore the same age as the stratigraphic unit that hosts the majority of the massive sulphide deposits in the Bathurst Mining Camp. This places the Chester VMS deposit in the same time frame as the biggest VMS deposits in the camp. Age dating indicates that the Sevogle River Formation is coeval with the Flat Landing Brook Formation (465 +2/-1 Ma) of the Tetagouche Group (Sim, 2014).

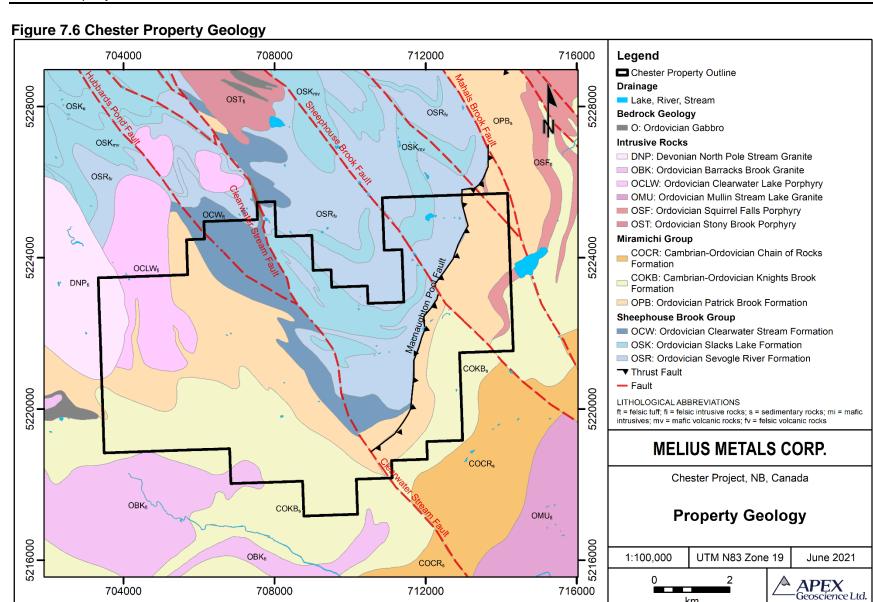
## 7.3.3 Pleistocene Geology

Evidence of glaciation including kames, eskers, glacial striae and glacial erratic's has been reported in the area (Petruk, 1959). Stratified sands and gravels are present but generally not thick enough to produce visible topographic features. The most prominent feature is a hill of stratified gravel just west of the Main Zone of the Chester Deposit but on the west side of Clearwater Stream. More recent mapping in the area has not reported much on the glaciation of the area, with the exception of Black Bull Resources who reported problems with the gravity survey data due to terrain effects caused by local eskers.

# 7.3.4 Structural Setting

The regional structure of the Property is interpreted as a large scale, overturned, recumbent syncline (Wilson and Fyffe, 1996; Irrinki, 1986). Multiple drill holes from the Property showed repeated stratigraphy down hole and no obvious faulting which is consistent with an overturned recumbent syncline model (Figure 7.7). This interpretation is supported by the map pattern west of Clearwater Stream, where a syncline cored by the Slacks Lake Formation is observed northwest of the Chester deposit. During 2014 to 2017, this interpretation of the regional structure was questioned by First Narrows Resources and E. Brooks from Explor Resources. Drill holes from the Sevogle River and Clearwater Stream produced lithological descriptions of the felsic rock that led to diverging interpretations. It was suggested that the Chester Property may not be a recumbent fold structure. The presence of potentially mineralized Clearwater Stream formation rocks, located above the Patrick Brooks sediments in the western part of the property has alternatively been interpreted to be the result of thrust faulting. Notwithstanding, rocks interpreted to be part of the Clearwater Formation have been intersected in several deep drill holes (Hupé and Gagné, 2020).





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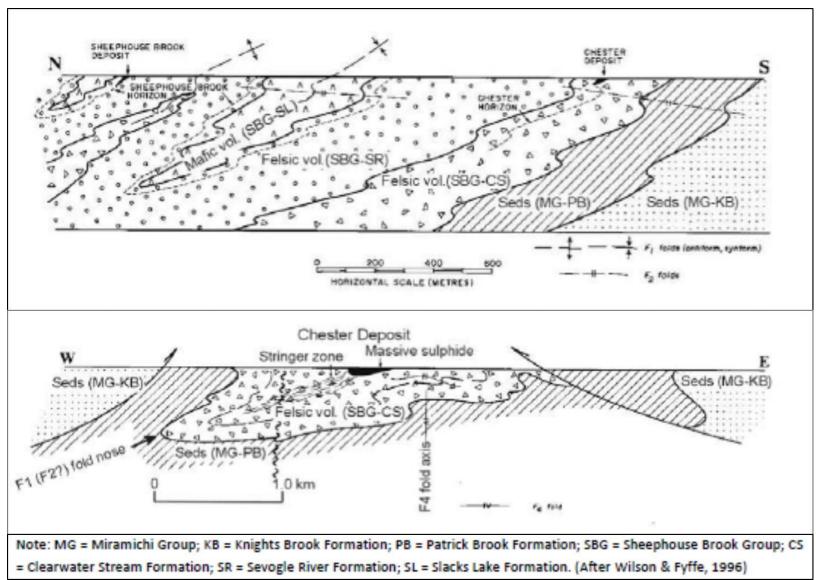




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km

Figure 7.7 Interpreted Cross Section of the Chester Property.



Source: Wilson and Fyffe, 1996





#### 7.4 Mineralization

The mineralization at the Chester Deposit is interpreted to be feeder or stringer-zone sulphide mineralization that is associated with a volcanogenic massive sulphide (VMS) deposit. Three mineralized zones have been delineated at the Chester Deposit: Stringer Zone (West Zone), Central Zone and East Zone (Figure 6.3; Sim, 2014).

The Stringer Zone (West Zone) is the most extensive and has been traced through drilling over an area measuring almost 300 m by 1000 m. Vein and disseminated chalcopyrite-pyrrhotite-pyrite mineralization is concentrated in at least three sub-parallel zones that dip 15-20° to the west. The individual zones range from less than 1 m thick to greater than 20 m thick and are separated by 10 m to 15 m of patchy mineralized chlorite-altered rhyolite. The zone is characterized by 5% to 10% stringer and disseminated sulphides, in order of relative abundance: chalcopyrite, pyrrhotite, pyrite, with minor amounts of galena and sphalerite occurring in a host rock of quartz chlorite schist.

The Central Zone is exposed at the surface and overlain by 1 m to 15 m of gossan and overburden. It is 130 m wide and 200 m long with disseminated mineralization covering an area of up to 350 m. The Central Zone consists of 4 m to 13 m thick, massive sulphide (mostly pyrite) and disseminated sulphide mineralization that plunges gently to the west. Pyrite, pyrrhotite, sphalerite, chalcopyrite, and galena are the major minerals in the massive sulphide zones (Irrinki, 1986). The zonation in the massive sulphide lenses are denoted with copper-rich, lead/zinc-rich, lead/zinc/copper-rich zones, and pyrite or pyrrhotite zones with minor base metal mineralization.

The East Zone is mostly flat lying and measures 60 m wide and 300 m long. The disseminated mineralization of this zone covers an area approximating 220 m wide and 450 m long. The massive sulphide zone is exposed at the surface and is overlain by up to 7.5 m of gossan and glacial sediments. The East Zone consists of 3 m to 15 m thick, intermixed and disseminated sulphides (mostly pyrite).

# 8 Deposit Types

March 30th, 2022

The Chester Deposit is a mafic-type Cu-Zn VMS deposit with associated feeder or stringer-zone sulphide mineralization. Volcanogenic massive sulphide deposits are discussed in the following subsections.

### 8.1 Volcanogenic Massive Sulphide

VMS deposits typically occur as lenses of polymetallic massive sulphides forming at or near the seafloor in a submarine volcanic setting. VMS deposits are classified as "exhalative" and are syn-genetic stratabound deposits formed through the focused discharge of hydrothermal fluids and precipitation of sulphide minerals in predominately stratiform accumulations (Barrie and Hannington, 1999; Galley et al., 2007). Typical characteristics of VMS deposits are listed as follows (adapted from Galley et al., 2007):





- Typical VMS deposit is a stratabound body, mound to tabular in shape, composed
  of predominately massive (>40%) sulphide, quartz and lesser phyllosilicates, iron
  oxide minerals and altered silicate wall rock.
- The stratabound body is commonly underlain by discordant to semi-discordant stockwork veins and disseminated sulphides.
- The stockwork vein systems are enveloped in distinct alteration halos. The alteration halos may extend into the hanging-wall strata above the deposit.
- Deposits often form in clusters or stacked lenses.

Feeder zones associated with VMS deposits are characterized by intense alteration and disseminated and stringer sulphide mineralization. The Copper Stringer Zone of the Chester Deposit is considered to be a feeder zone associated with the volcanogenic massive sulphide lenses of the Chester Deposit. This is supported by the occurrence of talc, sericite, silicification, intense chlorite alteration, and disseminated and stringer chalcopyrite, pyrrhotite (+/- pyrite) in the Copper Stringer Zone (Sim, 2014).

# 9 Exploration

No exploration has been completed by the Company; however, Puma completed a drill program on the Chester Property in 2021, which is described in Section 10.

# 10 Drilling

Although no drilling has been performed by the Company, a 2021 drill program conducted on behalf of Puma was completed between February 8<sup>th</sup> to March 30<sup>th</sup>, 2021. The program consisted of seven (7) NQ-sized core drill holes totalling 1,785 m (Figure 10.1; Table 10.1). Geominex Inc., of Rimouski, Quebec (QC) managed the drill program and Logan Drilling Ltd, of Moncton, NB, conducted the drilling. The 2021 drill holes targeted CARDS Artificial Intelligence (AI) anomalies, VTEM EM conductors, gossanous mineralization and the extension of known copper stringer mineralization.

Holes C-21-01 and 02 were drilled southwest of the Clearwater Stream targeting VTEM anomalies and a CARDS anomaly, respectively. Mineralization consisted of disseminated pyrite, pyrrhotite with rare sphalerite and chalcopyrite. The majority of mineralization occurred in sediments with minor occurrences of mineralization intersected in the felsic tuff of the Clearwater Stream Formation. Significant intersections include: 0.6 m at 775 ppm Cu and 0.8 m at 1,510 ppm Zn and 530 ppm Cu in hole C21-01; and 0.65 m at 8,600 ppm Cu and 2,910 ppm Zn in hole C21-02 (Table 10.2). The occurrence of this mineralization is interpreted to explain the targeted VTEM and CARDS anomalies.







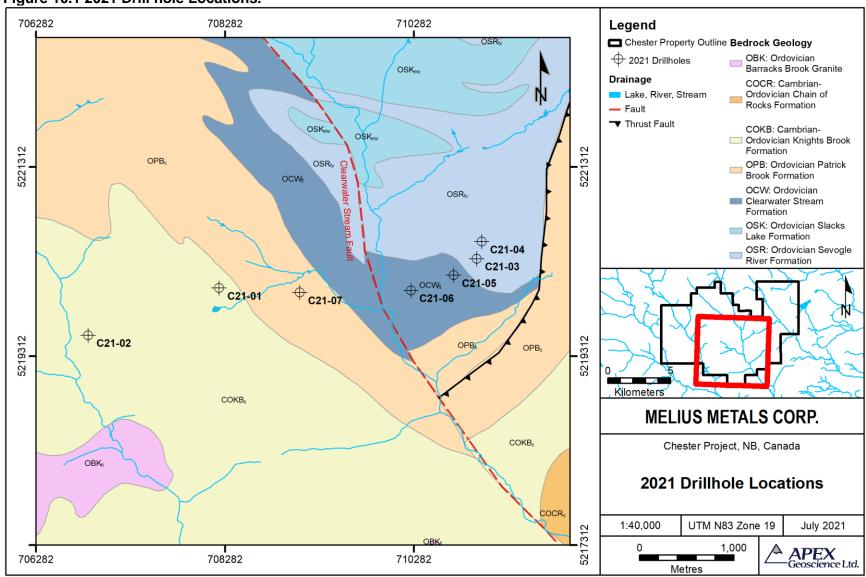




Table 10.1 Summary of the 2021 drill program.

DDH#	Easting	Northing	Azimuth	Dip	Length (m)	Target
C21-01	708220	5220030	360	-90	233	VTEM (L1850) 40 m and 250 m
C21-02	706834	5219531	360	-90	289	Cards T-1 (706834/5219531)
C21-03	710945	5220340	360	-60	257	CN-12 area
C21-04	711000	5220520	360	-45	251	CN-12 area
C21-05	710700	5220165	360	-90	86	Massive sulphides-East
C21-06	710250	5220005	360	-90	137	Massive sulphides-Centre
C21-07	709072	5219982	90	-80	532	Stringer mineralization style
				Total	1,785	

Four core holes were drilled east of the Clearwater Stream. Two holes (C21-03 and 04) targeted the area southwest of the historical CN-12 drill hole as well as the 2019 trenched area. Holes C21-03 and 04 intersected mostly rhyolite of the Sevogle River Formation followed by mafic tuff and mafic volcanics of the Slack Lake Formation. Hole C21-04 intersected several intervals of disseminated pyrite-sphalerite and galena returning anomalous zinc, lead and silver over significant intervals. Highlights include 31.4 m from 43 m to 74.4 m averaging 0.63 ppm Ag, 1,313 ppm Pb and 1,720 ppm Zn in hole C21-04 (Table 10.2).

Two holes (C21-05 and C21-06) targeted the gossan and massive mineralization. C21-05 and C21-06 were drilled to test for anomalous gold in the gossan. Under the overburden from 5.5 m to 9.45 m, hole C21-05 intersected gold values ranging from 0.139 g/t up to 0.193 g/t Au, averaging 0.17 g/t gold over 3.95 m (Table 10.2). Hole C21-06 intersected gold values ranging from 0.013 g/t up to 0.955 g/t Au from 4 to 7.6 m. Massive to semi-massive mineralization returned expected values in Ag-Cu-Pb-Zn (Table 10.2).

C21-07 tested the continuity of the Stringer Zone in an area southwest of the Clearwater Stream that had not been tested previously. The stringer zone was intersected between 344 m to 431 m hosted in chloritized Clearwater Stream felsic volcaniclastics. Mineralization consisted of disseminated to semi-massive pyrite, pyrrhotite, chalcopyrite and minorly sphalerite. Two intervals returned the most significant average Cu grades: 7.25 m from 356.75 m to 364 m grading at 0.46% Cu and 12.5 m from 383.5 m to 396 m grading at 0.38% Cu (Table 10.2).



Table 10.2 Assay highlights from the 2021 drill program.

	From	То	Length	Cu	Zn	Pb	Ag	Au
DDH#	(m)	(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
C21-01	25.5	26.1	0.6	775	118	31	0.33	0.026
C21-01	37.8	38.6	0.8	530	1510	34	0.13	
C21-02	60.6	61	0.4	720	898	11	0.51	
C21-02	124.6	125.25	0.65	8,600	2,910	653	11.75	
C21-03	180.5	181.25	0.75	53	6,390	338	0.54	
C21-04	43	74.4	31.4	86	1,720	1,313	0.63	
incl.	60	74.4	14.4	115	1,956	1,578	0.83	
C21-04	145	147	2	257	6,490	3,594	2.60	
C21-04	154	164	10	103	2,351	370	0.34	
C21-05	5.5	9.45	3.95	936	356	3,044	7.56	0.17
C21-05	9.45	28	18.55	9,500	11,300	2,501	4.54	0.06
incl.	15.5	20.75	5.25	11,600	16,600	2,440	4.99	0.05
C21-06	4	8	4	1,718	422	1,040	2.14	0.28
C21-06	12	25	13	8,357	38,000	15,176	17.79	0.11
incl.	17	24.5	7.5	3,525	59,000	24,092	21.71	0.13
C21-06	25	32.6	7.6	2,784	991	229	1.58	0.02
C21-06	57.9	70	12.1	3,968	198	23	1.05	0.03
incl.	61	70	9	4,522	199	20	0.96	0.03
C21-06	107.4	110	2.6	7,107	201	39	2.05	0.07
C21-06	126.6	129.2	2.6	83	2,037	1,294	0.66	
C21-07	301.3	304.15	2.85	127	3,133	686	0.45	
C21-07	323	325.2	2.2	250	4,527	2,180	0.95	
C21-07	344.1	347.7	3.6	2,940	111	9	0.63	0.013
C21-07	356.75	364	7.25	4,630	158	17	0.94	
incl.	360	362.95	2.95	5,290	164	22	1.09	
C21-07	371	377.75	6.75	3,385	101	4	0.56	
C21-07	383.5	396	12.5	3,799	176	9	0.75	
incl.	385.1	387.75	2.65	13,100	267	7	2.61	
C21-07	415	422.3	7.3	1,965	116	5	0.34	
C21-07	426.3	428	1.7	832	1,920	80	0.28	0.006

# 11 Sample Preparation, Analyses and Security 2021 Drilling

# 11.1 Sample Collection, Preparation and Security

At the drilling site, core samples were placed in wooden core boxes and securely tied before transportation to the core logging trailer located at the Miramichi Motel at every shift change or twice per day. Once the core was received, a Geominex technician verified the hole and box numbers marked on the core boxes and organised the boxes in order





on the logging tables. Once opened, the wood marker blocks at 3-meter intervals were verified to ensure they were correctly located in the boxes. The technician measured the core box intervals and recorded the information. A labeled aluminum tag was stapled on the left side of each core boxes with the project number, hole name, and box numbers. Subsequently all core boxes were photographed.

Preliminary logging included recovery and RQD measurements as well as detailed core logging including descriptions of lithology, sub-lithology, mineralogy, structure, vein, alteration and mineralization. All core logging data was entered into Geotic® Software. Sample preparation consisted of selecting core samples based on visual identification of the mineralization, (i.e., based on the presence of sulphides). A geologist selected and marked the sample interval with a core marker on the core and stapled a sample tag at the beginning of each sample. Subsequently, the core was moved to Bathurst, NB, by a Geominex employee. In Bathurst, NB, systematic magnetic susceptibility (mpp probe), and portable XRF analysis were conducted, and the samples were collected.

Core samples were sawn in half along their long axis using a hydraulic core saw. One half of the core was retained and placed back into the core box in the original orientation and position with the accompanying sample tag stapled in the core box at the beginning of each sample interval. The other half was placed in a plastic sample bag together with the sample tag. The individual sample bags were sealed with an industrial adhesive tape and placed in a numbered rice bags which were sealed with cable-ties. The rice bags were shipped by Armour Courier Service (ACS) to ALS Geochemistry Laboratory in Moncton, NB, for sample preparation. No issues were reported by the lab with respect to sample shipments.

## 11.2 Analytical procedures

The 2021 core samples were prepared for analysis at the ALS 'sample prep' facility in Moncton, NB, where the samples were logged into the ALS computer-based tracking system, weighed and dried. The 2021 core samples were crushed to 70% passing -2mm, homogenized, and the sample was riffle split. A 1,000 g split sample was pulverised to to better than 85% passing 75 microns ( $\mu$ m). An aliquot of the resulting pulp from each sample was then shipped for analysis to ALS' main (analytical) laboratory in North Vancouver, BC.

The 2021 core samples were submitted for multi-element (48 element) geochemical analysis (ALS laboratory code: ME-MS61) using ICP-MS analysis following a near-total, four acid, digestion of a 0.25 g sample aliquot. Multielement "overlimit" results were analysed by a follow-up, "ore grade" ICP technique (OG62) for copper, Ni, Zn and other elements as required. The "ore grade" analyses also involved a 4-acid digestion on a 0.4 g sample aliquot with a ICP finish. The samples were also analyzed for gold by a standard fire assay (ALS laboratory code: Au-AA24), which involved the fusion of a 50 g sample aliquot and analysis by Atomic Absorption spectroscopy.



Additionally, whole rock analyses were completed on a 0.7g sample (ALS laboratory code: ME-XRF26) using whole rock fusion followed by XRF (X-Ray Fluorescence) analysis. As well as Loss-on-Ignition (LOI) analyses on a 1 g sample (ALS laboratory code: OA-GRA05x). LOI samples were pre-dried at 105°C with LOI completed at 500°C.

# 11.3 Quality Assurance – Quality Control

For the 2021 drilling program data verification included the insertion of blanks, standards and field duplicates into the sample stream at a rate of 10%. The Quality Assurance – Quality Control (QA/QC) results are described below.

## 11.3.1 Blank Samples

A total of 28 blank samples were inserted into the sample stream to assess the laboratory's cleaning procedures. The standard material was a decorative white stone (DWS) bought in a local hardware store that consisted of white marble. Analyses of the material by ALS returned no significant zinc, copper, silver, or gold results. The majority of the samples (n=23) returned Cu assays below 5 ppm, well below ore grade Cu contents. Five samples returned assays between 8.2 and 87.4 ppm (Figure 11.1).

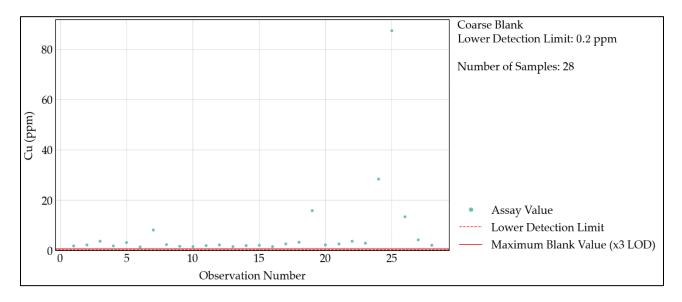


Figure 11.1 Copper assays for blank samples

### 11.3.2 Duplicate Samples

A total of 16 duplicate core samples were collected to assess sample preparation bias. Figure 11.2 shows the copper assays for original samples vs. field duplicates. The comparison returned a slope of 0.98352 and a correlation coefficient of 0.9987 were obtained indicating the there was no bias in the sample preparation procedures.





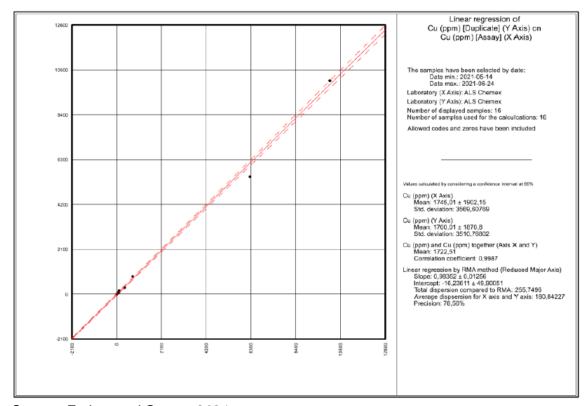


Figure 11.2 Copper assays of duplicate samples vs. original samples.

Source: Forbes and Gagne, 2021

#### 11.3.3 Standards

Three different standards materials were inserted into the sample stream during the 2021 program to assess different grades in Au, Ag, Cu, Pb and Zn. The standards used for the 2021 drill program included: CDN-ME-1208, CDN-ME-1410 and CDN-ME-1706. Each standard is discussed individually below.

#### 11.3.3.1 Standard CDN-ME-1208

Standard CDN-ME-1208 was used to assess the medium grade assays. The reported value and 3SD (3 standard deviations) for this standard are: 0.246 ppm Au  $\pm$  0.072 ppm Au, 3.8 ppm Ag  $\pm$ 1.0 ppm Ag and 1.635% Cu  $\pm$  0.126% Cu. Figure 11.3 and 11.4 show assays for silver and copper for this reference material. All of the assay results for this standard during the 2021 drill program fell within 3 standard deviations from the certified value based on the standard deviation reported by the manufacturer. Silver assays returned values of 3.81 and 4.28 ppm Ag which is within the acceptable limits for this standard (Figure 11.3). Copper assays returned values of 1.595% Cu and 1.617% Cu which is within the acceptable limits for this standard (Figure 11.4).





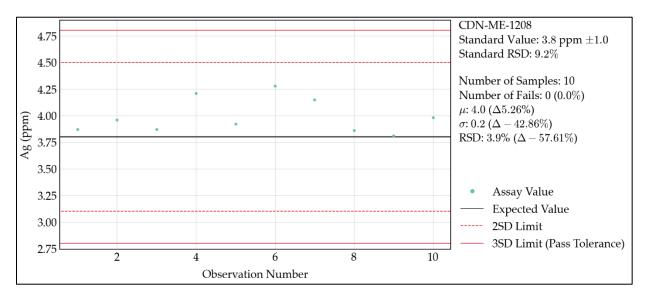
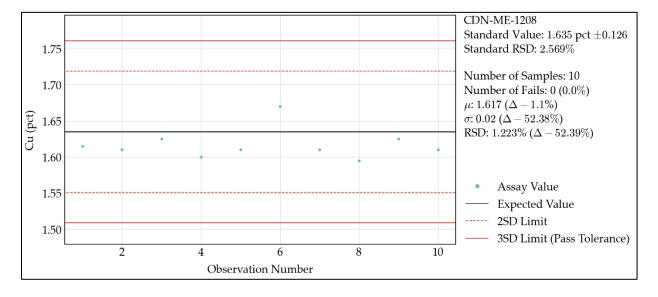


Figure 11.3 Standard CDN-ME-1208 Ag assays.





# 11.3.3.2 Standard CDN-ME-1410

Standard CDN-ME-1410 was used assess the high-grade copper, zinc and silver assays. The reported value and 3SD (3 standard deviations) for this standard are: 3.8% Cu  $\pm$  0.26% Cu, 3.682% Zn  $\pm$  0.126% Zn and 69.0 ppm Ag  $\pm$  5.7 ppm Ag. Figure 11.5 and 11.6 show assays for copper and zinc, respectively. The majority of assay results for this standard during the 2021 drill program fell within 3 standard deviations from the certified value based on the standard deviation reported by the manufacturer. Copper assays returned values between 3.36% Cu and 3.99% Cu with 7 out of the 8 samples falling within the recommended range of 3.54% Cu and 4.06% Cu. One sample returned an assay below the expected range (Figure 11.5). Zinc assays returned values between





3.44% Zn and 3.87% Zn with 4 of the 8 samples falling within the recommended range of 3.554% Zn and 3.806% Zn. Four samples returned assay outside of the expected range (Figure 11.6).

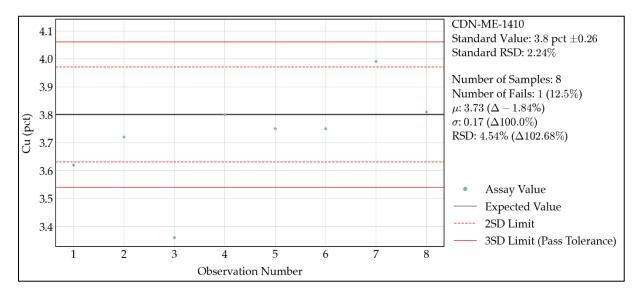
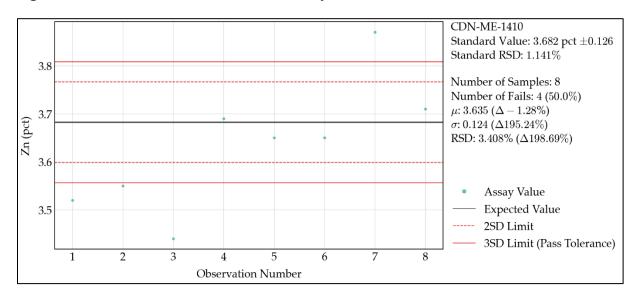


Figure 11.5 Standard CDN-ME-1410 Cu assays.





### 11.3.3.3 Standard CDN-ME-1706

Standard CDN-ME-1706 was used to assess the low-grade assay for copper, zinc and lead. This reported values for this standard are 0.831% Cu  $\pm$  0.036% Cu, 0.291% Zn  $\pm$  0.01% Zn and 630 ppm Pb  $\pm$  60 ppm Pb. The majority of assay results for this standard during the 2021 drill program fell within 3 standard deviations from the certified value





based on the standard deviation reported by the manufacturer. Figures 11.7 and 11.8 show the assay results for copper and zinc. Copper assays returned values ranging between 0.787% and 0.856% Cu with 6 out of the 8 samples falling within the recommended range of 0.795% and 0.867% Cu. 3.54% Cu and 4.06% Cu. Two samples returned assays below the expected range (Figure 11.7). Zinc assays returned values ranging between 0.269% and 0.302% Zn with 6 out of the 11 samples falling within the recommended range of 0.795% and 0.301% Zn. Four samples returned assays below the accepted value and one sample returned an assay above the accepted value (Figure 11.8).

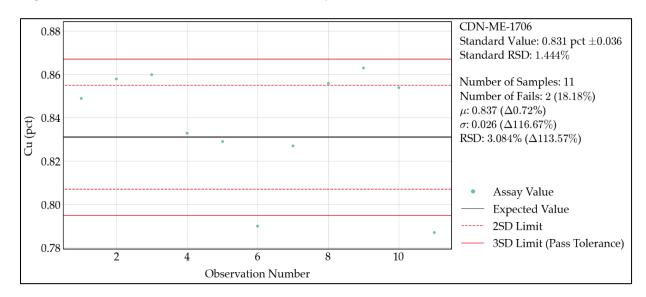
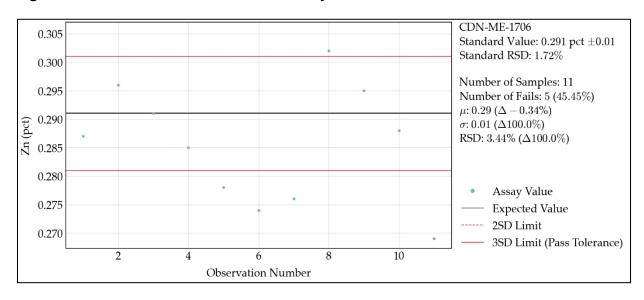


Figure 11.7 Standard CDN-ME-1706 Cu assays.









Although some failures were reported for the standards the failure rate is not considered excessive. For future infill and delineation drilling programs it is recommended that a comprehensive follow-up QA/QC program be employed. The QA/QC program should include the re-analysis of failures outside of the accepted ranges for standards that are within anomalous mineralized zones. The re-runs should include 10 samples above the failed standard, the standard, and 10 samples below the failed standard.

# 12 Data Verification

#### 12.1 Data Verification Procedures

Stefan Kruse, Ph.D., P. Geo., a co-author, conducted a site inspection of the Chester Property for data verification purposes on June 5<sup>th</sup> to 6<sup>th</sup>, 2021. Verification samples were collected from float and selected 2021 core holes. Drill hole verification sample results were compared with database values for the commodities of interest.

Selected drill collar locations and orientations were verified and cross-checked against the exploration database. The general geology, mineralization style and alteration were observed and compared with published interpretations.

Core handling, sampling and QA/QC procedures were discussed with Mr. Forbes, the project geologist in charge of the 2021 drill program.

Verification of the drill hole database included a review of the various digital drill hole tables provided by Puma which were compared against scans of hard copy logs, surveys and collar files. This was possible for the FNR drill holes completed between 2006 and 2007 drill holes. Drill logs for pre-FNR holes are not available. Original assay certificates were provided for a wider range of drilling, however, tables relating sample number to drill hole were scarce. A more thorough review is required to verify the assays and ascertain the validity and availability of data.

#### 12.2 Validation Limitations

No pre-2021 drill holes were available at the time of the site visit for inspection.

## 12.3 Adequacy of the Data

March 30th, 2022

The QPs reviewed the adequacy of the exploration information and the visual, physical, and geological characteristics of the Property and found no significant issues or inconsistencies that would cause one to question the validity of the data.

The authors are satisfied, and take responsibility, to include the exploration data including geochemical surveys and drill information as background information for this geological introduction and qualifying Technical Report.





In the future, the authors recommend that the sample collection, preparation, security, analytical procedures and QA/QC procedures of any Chester exploration program is current with CIM definition standards and guidelines and robust enough to develop confidence for any future mineral resource/reserve modelling and estimations.

Currently the project data are captured in a mix of data formats including MapInfo<sup>TM</sup> TAB files, Excel<sup>TM</sup> spreadsheets and CSV files. It is recommended, going forward, that the project database be upgraded to a relational database system with built-in data verification and QA/QC functionality.

Data verification was completed on select historical data, including the First Narrows drill hole data. The data verification was completed to ensure the validity of the historical data contained in the Issuer's database and subsequently reported in Section 6 of this Technical Report. The Issuer intends to use the FNR drill hole data to assist in the geological understanding of the Property, in future exploration targeting, to guide future drill programs and possibly for use in future mineral resource estimate calculations.

Drill logs were provided for the majority of First Narrows Resources drill holes. Twenty out of 173 holes were spot checked for collar location accuracy. Minor discrepancies in the location were noted for 2 holes and 1 error in the dip. Some drill logs incorrectly state the coordinates are in Z20, whereas the Chester Project lies in NAD 83 Zone 19. The zone was correctly entered in the database and was left as such.

Spot checks of assay values for Cu%, Pb% and Zn% from original lab certificates against drill logs and drill tables were conducted for the FNR drill holes. A total of 167 assays were checked and only minor discrepancies were noted. The errors were partially due to rounding on the 2<sup>nd</sup> decimal place or entry in low assay samples (i.e., 0.01 entered instead of 0.001). A total of 5 rounding errors were identified, and 10 minor typographical errors were identified. Two sets of assays were entered incorrectly. Additional assay certificates are available for review however tables relating sample number to drill hole were scarce. A more thorough review of the assays data is recommended.

A total of 804 historical drillholes totalling 70,804 m have been completed at the Property from 1955 to 2016. In order to use the historical drill data in possible future mineral resource estimate calculations, a more thorough review by a Qualified Person is required to verify the historical assays and ascertain the validity and availability of the historical data. Following a thorough review and compilation of the historical data, the authors recommend a concise check program to compare the historical data to available original drill logs, assay certificates, collar coordinates and location maps. Any resulting issues should be investigated. In addition, the authors recommend importing the data into an exploration and mining software (e.g., Micromine) to create a drill hole database (DHBD) and utilize the verification tools of the software to assist in the data verification. The historical data should be evaluated for bias using modern drillholes, and to confirm historical mineralized intercepts and geological information reported by previous operators.



# 12.4 Qualified Person Site Inspection

Stefan Kruse, Ph.D., P. Geo., a co-author, conducted a site inspection of the Chester Property for data verification purposes on June 5<sup>th</sup> to 6<sup>th</sup>, 2021. The site visit included a Property tour facilitated by Étienne Forbes, a geologist with GeoMinEx Consulting Inc., and former project geologist on the Chester Project. Additionally, time was spent at the Puma core library in Bathurst, NB, observing the historical core stored at that facility, and collecting verification samples. Access to the site was via secondary highways and logging roads.

The objectives of the site visit included:

- Verification of selected drill hole collar locations.
- Observation and sampling of historical showings in outcrop.
- Examination of drill core and observation of mineralized intercepts.
- Collection of verification samples.

All verification samples were submitted for analysis to ALS Limited's (ALS) facility in Moncton, NB. ALS is an International Standard ISO/IEC 17025:2005 certified laboratory and is independent of the Company and the authors of this Technical Report. Samples were analysed using ALS's ME-MS61 48 element, four-acid ICP-MS package. Cu and Zn overlimit samples were processed using the OG662 four-acid ICP package.

The Property site visit included stops at the West Stringer Zone, Central Zone and East Zone. The historical portal and remnants of development infrastructure were also observed (Figure 12.1). Numerous historical drill collars are present, marked with cemented drill rods. Areas of disturbed ground due to trenching, drilling or road building are characterized by significant amounts of massive or disseminated sulphide bearing rock and gossanous material. Pyrite, pyrrhotite, chalcopyrite and sphalerite were observed in sub-crop and float.



Figure 12.1 Historical portal to underground workings.



Grab samples collected from massive sulphide horizons contained anomalous Ag, Cu, Pb and Zn consistent with the style and tenor of mineralization previously described on the Property (Figure 12.2). Verification grab sample results are shown in Table 12.1.

Table 12.1 Verification grab sample results from the Chester Property.

	Easting	Northing	Ag	Cu	Pb	Zn	
Sample	N83Z20	N83Z20	ppm	ppm	ppm	ppm	Comments
							Gossanous float from an area of
986488	710700	5220165	1.03	1110	358	333	reclaimed trenches
							Massive sulphide in waste rock
986489	710435	5219862	58.6	123000	218	5870	pile near main portal

Verification samples were collected from 2021 core stored at the core storage and logging facility in Bathurst, NB. Core from mineralized intervals from holes C21-05 and C21-07 contained massive to semi-massive pyrite, chalcopyrite, sphalerite and galena hosted in intermediate volcaniclastic or metasedimentary rock, consistent with logged descriptions of the core. No core from pre-2021 holes was available for inspection.

In general, there is reasonable agreement between the original assay results and verification sample results (Table 12.2), despite difference in sample size (half-core vs. quarter core). Additionally, the location of original assay tags and run blocks was likely disturbed for some of the sampled intervals.

In the opinion of the Qualified Person, visual inspection and verification sampling confirm the presence and style of historically reported mineralization.





Figure 12.2 2021 Site visit locations and verified collar locations.

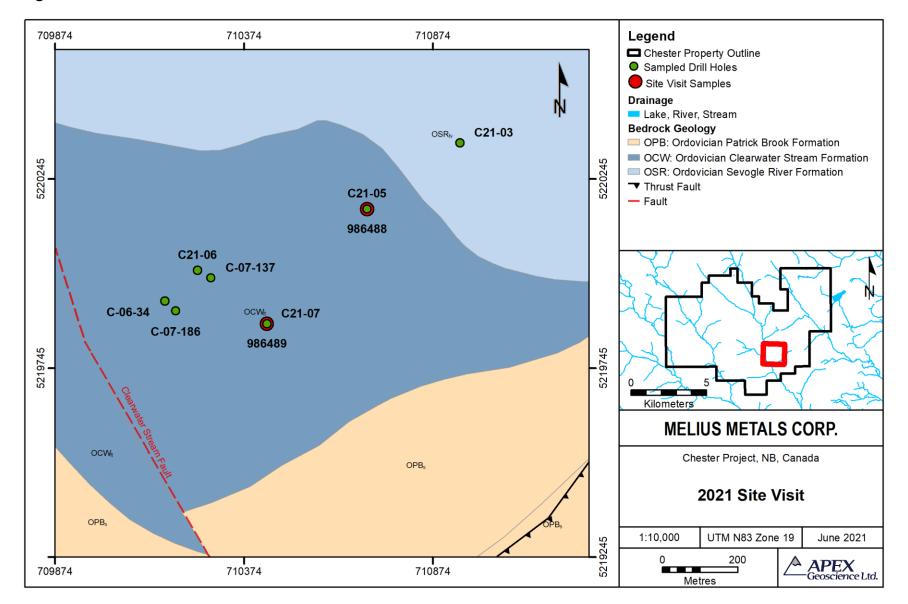




Table 12.2 Drill hole verification samples.

Drill Hole	From	То	Sample (orig)	Sample (ver)	Cu_ppm (orig)	Cu_ppm (ver)	Zn_ppm (orig)	Zn_ppm (ver)	Pb_ppm (orig)	Pb_ppm (ver)
C21-07	386	386.75	C098867	986490	35500	36700	553	583	14	13.9
C21-07	325	325.2	C098810	986491	580	754	7870	9130	4530	6010
C21-07	398	398.55	C098882	986492	627	2310	121	145	<0.5	12.5
C21-05	7	8	C098444	986493	907	1040	333	357	692	755
C21-05	14.5	15.5	C098449	986494	10350	9990	468	444	175	182.5
C21-05	23	24.9	C098613	986495	3690	4260	1850	1330	278	157

Drill collars encountered during the site visit were located using a hand-held GPS and casing dip and azimuth measured using a standard geological compass. Some minor discrepancies were noted (i.e. hole C-07-186; see Table 12.3). Historical drill collars are marked with cemented drill rods (Figure 12.3), most of which are in good condition. 2021 drill holes are marked with temporary wooden stakes and in some cases labeled with planned drill hole numbers rather than with the permanent drill hole ID. A full database validation and selected re-surveying of collar locations is recommended.

Table 12.3 Drill hole collar verification locations.

	Site Visit Observations				Database Values				
HOLE ID	EAST NAD83Z20	NORTH NADZ20	Azimuth	Dip	EAST NAD83Z20	NORTH NADZ20	Azimuth	Dip	
C-07-186	710194	5219896	310	-45	Not in DB				
C-06-34	710165	5219922	N/A	N/A	710168	5219920	0.00	-90	
C21-06	710251	5220003	N/A	N/A	710250	5220005	360	-90	
C-07-137	710287	5219983	N/A	N/A	710287.5	5219987.5	0.00	-90	
C21-05	710700	5220165	360	-90	710700	5220165	360	-90	
C21-03	710945	5220340	360	-60	710945	5220340	360	-60	



Figure 12.3 Historical drill hole collar in the West Stringer Zone.



# 13 Mineral Processing and Metallurgical Testing

No Current Mineral Processing or Metallurgical Testing has been completed on the Chester Property. Historical Metallurgical Testing is discussed in Section 6.2.5.

### 14 Mineral Resource Estimates

No Current Mineral Resources have been completed on the Chester Property. Historical Mineral resources are discussed in Section 6.2.

# 15 Adjacent Properties

With respect to adjacent properties, the authors have reviewed the Government of New Brunswick electronic mineral claim administration program (NB e-CLAIMS), Natural Resources and Energy Development Mineral Reports of Work, and various company websites.

Figure 15.1 shows the mineral Tenure Blocks that occur adjacent to the Chester Property. The adjacent properties are discussed below. The QPs have been unable to verify the adjacent properties information and therefore the information is not necessarily indicative of or related to the mineralization on the Chester Property that is the subject of this Technical Report.





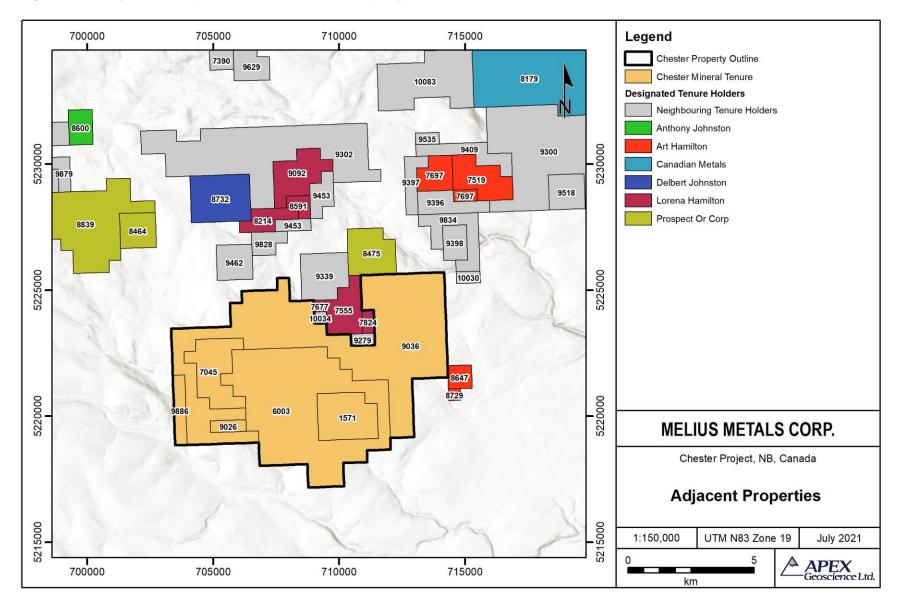
There are several tenure holders that hold claims in the vicinity of the Chester Property. For the majority of claims either no assessment reports have been filed or assessment reports are still held in confidentiality. In New Brunswick, assessment reports remain confidential for two years after they have been electronically submitted. Properties which have recently reported work are described below.

## 15.1 Active Adjacent Properties

Claim blocks 8647 (Peabody Lake Brook Property) and 8729 (Peabody Lake Brook South Property) are owned by Art Hamilton 100%. The claims are underlain by sedimentary rocks of the Knights Brook Formation and Chain of Rocks Formation from the Miramichi Group. The Peabody Brook mineral occurrence is located on claim 8647. The occurrence is a silicified zone measuring 27 m wide, 100 m long and open to the north. The zone cuts quartzites and phyllites from the Knights Brook Formation. Silicified boulders are also evident in this zone. The sedimentary rocks in the formation are limonitic and have Mn coating on fractures, as well as specks of chalcopyrite and galena in the rubble. The felsic dykes observed in the zone are spatially related to north-south trending felsic dykes of the NW-SE trending Sheephouse Brook and Peabody Lake faults. These structures are thought to be related to D4-sinistral extensional deformation observed in the area. In 2018, a soil geochemical survey was carried out to follow up anomalous soil identified in reconnaissance soil sampling by a previous claim holder. In 2018, a significant arsenic and gold anomaly, with up to 770 ppm As and 40.9 ppm Au, was identified by a soil sampling survey. The survey indicated the mineralized zone continued to the south and the soil anomaly remained open to the south (Hamilton, 2019a, c).



Figure 15.1 Adjacent Properties to the Chester Property.



GEOSCIENCE INC.

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Claims 7824 (Sheephouse Brook Southeast Property) and 7555 (Sheephouse Brook Property) are owned by Lorena Hamilton 100%. The claims are underlain by the volcanic rocks of the Sevogle River Formation (felsic) and the Slacks Lake Formation (mafic). The Sheephouse Brook Group mineral occurrence is located on claims 7824 and 7555. Sheephouse Brook Group mineral occurrence consists of disseminated Zn-Pb-Cu sulphide of disseminations and stringers of Zn-Pb-Cu sulphides hosted by silicified and sericitized felsic lavas, fragmentals, and minor dark grey sedimentary rocks of the Sevogle River Formation. The Sheephouse Brook mineral occurrence includes a 7.6 m (25-foot) intersection grading 1.54% Pb, 3.95% Zn, 0.32% Cu and 20.57 g/t Ag reported in the Upper Horizon and a 6 m (20-foot) intersection grading 0.47% Pb, 1.45% Zn and 6.86 g/t Ag in the Lower Horizon (Hamilton, 2017, 2018).

Claim 7519 (Sevogle Air Strip Property) is owned by Art Hamilton. Claim 7519 is largely underlain by sedimentary rocks of the Patrick Brook Formation of the Miramichi group and felsic volcanic rocks of the Sevogle River of the Sheephouse Brook Group. Historical Ag soil geochemical anomalies from silicified, altered rock and quartz veins were tested in this claim in 2015 and resulted in up to 10ppm Ag. However, the mineral occurrences discovered during the 2015 work program did not sufficiently explain the soil anomalies. The mineral occurrence, Sevogle Strip Silver, is located in claim 7697 (400 m west of the Chester Property) and has returned grades up to 24.8 oz/t Ag. The occurrence consists of Ag-bearing quartz veins that are massive, vuggy, and contains pyrite, arsenopyrite, and native silver (Hamilton, 2019d).

Claim 8179 (Mountain Brook Property) is owned by Canadian Metals Inc. 100%. The claim is mostly underlain by metamorphosed quartz-feldspar crystal tuff, metasedimentary rocks, iron formation and mafic volcanic rocks of the Ordovician Tetagouche Group. An Ordovician deformed granitic intrusion is exposed in the northwestern area of the claim. In the southwestern area of the property, the stratigraphy steeply dips to the south and is folded into a northwest plunging F1 antiform. Major eastwest trending shear zones, displaying minimal evidence of lateral movement, truncate the geology in the northern area of the property and cut two parallel northwest striking faults. A helicopter magnetic and TDEM survey was completed over the Property in 2018. Processing and interpretation of the survey identified nine anomalous zones. Follow-up using IP surveying and trenching was recommended (Lavoie, 2019).

### 16 Other Relevant Data and Information

The Company has only recently acquired the Chester Property and there is no other relevant data and information to report at this time.

# 17 Interpretation and Conclusions

This Technical Report on the Chester Property has been prepared by APEX Geoscience Ltd. of Edmonton, Alberta, Canada, and Terrane Geoscience Inc. of





Fredericton, New Brunswick, Canada. The intent and purpose of this Technical Report is to provide a geological introduction to the Chester Property, to summarize historical work conducted on the Property from 1955 to 2019 and to provide recommendations for future exploration work programs.

The Chester Property is located in north central New Brunswick, 70 km southwest of the city of Bathurst, NB and 50 km west-northwest of the city of Miramichi, NB. The Property is in Northumberland County located in the south part of the Bathurst Mining Camp (BMC). The Chester Property comprises 6 contiguous Tenure Blocks that consist of 281 claim units covering a total area of 6,176 ha.

The Chester Property lies in a favorable geological setting within the BMC in the northeastern part of the Appalachian orogen. The BMC is host to over 45 VMS deposits including the world-class Brunswick No. 12. The area is underlain by rocks of the Bathurst Super Group: a Middle Ordovician – Lower Silurian sequence of felsic volcanic, mafic volcanic and sedimentary rocks, which overlie the Miramichi Group: a Cambrian to Lower Ordovician sequence of sedimentary rocks. The east-west trending Moose Lake - Tomogonops Fault system divides the BMC into northern and southern structural and stratigraphic domains. The Chester Deposit is located in the southern domain. The southern part of the Chester Property is underlain by the Miramichi Group while the northern and central part of the Property is underlain by the Sheephouse Brook Group of the Bathurst Super Group.

VMS deposits in the BMC occur at various stratigraphic positions and are known to occur in the Tetagouche, California Lake and the Sheephouse Brook groups. The Chester Deposit, which is located on the Property, consists of massive, disseminated and stringer sulphide mineralization that lies within dacitic volcanic rocks of the Clearwater Stream Formation (Sheephouse Brook Group). Three mineralized zones have been delineated at the Chester Deposit: Stringer (West) Zone, Central Zone and East Zone.

Historical exploration conducted on the Property has included geological mapping, prospecting, geophysical surveys, soil geochemical surveys, trenching and drilling by several companies from 1955 to 2019. The Chester Deposit was found in 1955 by Kennco. Subsequently, various companies carried out exploration programs on the Property including Chesterville Mines Ltd., Newmont, Sullivan Mining Group, Sullico, Teck, FNR, BMS and Explor. In the 1960-70's Sullico drilled more than 400 holes to delineate the massive sulphide zones as well as the Stringer Zone and constructed a decline into the deposit. Development was postponed and later abandoned, reportedly due to low copper prices. Since that time, exploration has focused on: the massive sulphide zones to locate high grade lenses, the overlying gossan for potential gold and silver enrichment, and the volcanic terrain beyond the deposit area. In 2004, FNR completed a VTEM survey over the Property that delineated the Chester Deposit and identified further exploration targets on the Property. FNR additionally drilled 198 holes on the Property, of which 179 targeted the near-surface Stringer Zone. From 1955 to 2008, approximately over 800 drill holes and in excess of 70,000 m were completed on the Chester Property.





The most recent historical MRE was reported by Explor in 2014 for the Stringer (West) Zone (Table 17.1). The historical MRE did not include resources for the Central and Eastern massive sulphide zones. The historical MRE was based on sample assay results from 379 drill holes and the construction of a geological model which related the spatial distribution of copper and minor constituents: zinc and silver. The historical MRE was generated for a scenario encompassing a combination of open pit and underground extraction options. An open pit cut-off grade of 0.5% copper and an underground cut-off grade of 2% copper were used.

The reader is cautioned that this MRE is historical in nature and the authors of this Technical Report have not done sufficient work to classify this historical estimate as a current mineral resource. The authors are not treating it, or any part of it, as a current mineral resource. This historical estimate is included to demonstrate the mineral potential of the Stringer (West) Zone of the Chester Deposit. A thorough review of all historical data performed by a Qualified Person, along with additional exploration work to confirm results, would be required in order to produce a current MRE for the Chester Property. There is no current mineral resource estimate for the Chester Property.

In Spring 2021, a diamond drill program was conducted on behalf of Puma. The program consisted of seven (7) NQ-sized core holes totalling 1,785 m. The holes targeted CARDS AI anomalies, VTEM EM conductors, gossanous mineralization and the extension of known copper stringer mineralization. Three holes were drilled southwest of Clearwater Stream targeting VTEM anomalies (C21-01) and a CARDS anomaly (C21-02) and the continuity of the Stringer Zone (C21-07). All three holes intersected mineralization which explained the anomalies and extended the Stringer Zone mineralization. Significant core length intersections include: 0.8 m at 1,510 ppm Zn and 530 ppm Cu in hole C21-01 and 0.65 m at 8,600 ppm Cu and 2,910 ppm Zn in hole C21-02. Hole C21-07 returned two intervals with significant average Cu grades: 7.25 m from 356.75 m to 364 m at 0.46% Cu and 12.5 m from 383.5 m to 396 m at 0.38% Cu. Four core holes were drilled east of the Clearwater Stream targeting the historical CN-12 area (C21-03 and 04) and the potential of the gossan and massive mineralization to host significant gold (C21-05 and 06). Hole C21-04 intersected several intervals of mineralization including 31.4 m from 43 m to 74.4 m averaging 0.63 ppm Ag, 1,313 ppm Pb and 1,720 ppm Zn. Holes C21-05 and -06 intersected notable gold in the gossan beneath the overburden including from 0.139 g/t up to 0.193 g/t Au averaging 0.17 g/t Au over 3.95 m (C21-05) and gold ranging from 0.013 g/t up to 0.955 g/t Au from 4 to 7.6 m in hole C21-06. The underlying massive to semi-massive mineralization returned expected values in Ag-Cu-Pb-Zn.



Table 17.1 2014 Explor Resources Historical Mineral Estimate (Sim, 2014)

Class	Cut-off (Cu%)	Ktonnes	Cu (%)	Zn (%)	Ag (g/t)					
In-Pit										
Measured	0.5	101	1.87	0.14	6.7					
Indicated	0.5	1,296	1.34	0.06	3.3					
Measured and Indicated	0.5	1,397	1.38	0.06	3.5					
Inferred	0.5	2,060	1.25	n/a	n/a					
Below Pit										
Inferred	2.0	29	2.33	n/a	n/a					
Combined										
Measured	0.5	101	1.87	0.14	6.7					
Indicated	0.5	1,299	1.34	0.06	3.3					
Measured and Indicated	0.5	1,400	1.38	0.06	3.5					
Inferred	variable	2,089	1.26	n/a	n/a					

Based upon co-author Dr. Kruse's site visit and the historical exploration work discussed in this Technical Report, it is the opinion of the authors and QPs that the Chester Property is a "Property of Merit" warranting future exploration work.

A 1993 environmental audit completed by the New Brunswick Department of Environment (NBDE) concluded that there were no outstanding liabilities associated with the Chester site at that time. During the site visit Dr. Kruse observed the presence of unremediated historical workings on the Property including historical drill holes leaking water, man-made settling ponds, unsecured historical infrastructure, an open unsecured portal, along with roadways and disturbed areas covered with sulphide-bearing rock. It is not clear if there are any potential liabilities that could be associated with the exploration completed before 1993 based upon the inspection by NBDE, or if there are any liabilities for work conducted after 1993 including drilling and trenching. However, an environmental baseline study is recommended to assess the current state of the property and any remediation and/or reclamation that might be required.

No other known significant factors or risks related to the Chester Property that may affect access, title or the right or ability to perform work on the Chester Property are known.

#### 17.1 Risks and Uncertainties

With respect to risks and uncertainties, the authors have not done sufficient work to classify the historical 2008 and 2014 MRE's presented in Section 6, as a current MRE. Therefore, the authors and QPs are treating the MRE's as historical in nature. In addition, the metallurgical test work information presented in Section 6 is considered dated and is historical information only. Modern metallurgical work is required to test the recoverability of Cu, Pb, Zn, Ag and Au (where present) with modern processing techniques. The QPs have not verified the results of the metallurgical test work, and therefore, the QPs and the issuer do not view the metallurgical test work as current or relevant going forward. A full drill hole database review is recommended to verify and validate historical drill data.





Any future exploration work and/or subsequent technical reports should be prepared in accordance with guidelines established by the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (2019), CIM Definition Standards for Mineral Resources and Mineral Reserves (2014), and NI 43-101 Standards of Disclosure for Mineral Projects, Form 43-101F1 Technical Report and related consequential amendments. Future Technical Reports that capture any new exploration work conducted by Melius should discuss any significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information, mineral resource or mineral reserve estimates, or projected economic outcomes.

#### 18 Recommendations

Based upon co-author Dr. Kruse's site visit and the historical exploration work discussed in this Technical Report, it is the opinion of the authors of this Technical Report that the Chester Property is a "Property of Merit" warranting future exploration work.

The authors recommend a staged exploration program for the Chester Property. Warranted exploration for Phase 1 work includes drill hole database validation, along with delineation, confirmation drilling, geological studies, sampling and metallurgical test work. Stage 2 work should include the construction of an NI 43-101 MRE for the entire Chester Deposit, ground geophysical surveys to follow-up on unexplained historical anomalies and follow-up exploration and expansion drilling. The estimated cost for the Phase 1 exploration is CDN\$500,000 based upon 2,000 m of core drilling and includes costs for certain geological studies and sampling along with metallurgical test work (Table 18.1). Phase 2 is dependent upon the results of the Phase 1 work and is estimated to cost \$1,000,000.



Table 18.1. Proposed budget for the recommended exploration.

Activity Type						
Phase 1						
Activity Type	Total (m)	Estimated Cost per metre				
Data Compilation/Verification			\$5,000			
Diamond Drilling	2,000	\$200	\$400,000			
Geological and Metallurgical Studies			\$85,000			
		Contingency	\$10,000			
	Phase 1 Total Ac	tivities Subtotal	\$500,000			
Phase 2						
Diamond Drilling	3,500	\$250	\$875,000			
Geophysical Surveys			\$40,000			
Mineral Resource Estimation			\$35,000			
		Contingency	\$50,000			
Phase 2 Activities Subtotal						
		Grand Total	\$1,500,000			

### **APEX Geoscience Ltd.**

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

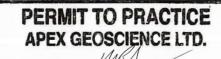


Anetta Banas, M.Sc., P.Geo.

Edmonton, Alberta, Canada Effective Date: August 20th, 2021 Signing Date: March 30th, 2022

## **Terrane Geoscience Inc.**





RM SIGNATURE:

48439

RM APEGA ID #:.

August 20, 2021

The Association of Professional Engineers and Geoscientists of Alberta (APEGA)



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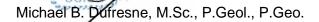




### 20 Certificate of Author

- I, Michael Dufresne, M. Sc., P. Geol., P.Geo. do hereby certify that:
- 1. I am President and a Principal of APEX Geoscience Ltd., 11450 160 St NW #100, Edmonton, AB, Canada, T5M 3Y7.
- 2. I graduated with a B.Sc. Degree in Geology from the University of North Carolina at Wilmington in 1983 and a M.Sc. Degree in Economic Geology from the University of Alberta in 1987.
- 3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists ("APEGA") of Alberta since 1989 and a Professional Geoscientist with the Association of Professional Engineers and Geoscientists ("APEGBC") of British Columbia since 2012.
- 4. I have worked as a geologist for more than 35 years since my graduation from University and have extensive experience with exploration for, and the evaluation of, base and precious metal deposits of various types, including volcanogenic massive sulphide deposits.
- 5. I have read the definition of "Qualified Person" set out in 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 "Qualified Person" for the purposes of NI 43-101.
- 6. I am responsible for Sections 1, 2, 9 to 11 and 13 to 19 of the Technical Report titled "Technical Report for the Chester Property, Northeast New Brunswick, Canada", with an effective date of August 20, 2021 (the "Technical Report"). I have not visited the Chester Property.
- 7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific and technical information that is required to be disclosed, to make the Technical Report not misleading.
- 8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 9. I am independent of the issuer, the vendor and the Property applying all of the tests in section 1.5 of both NI 43-101 and 43-101CP.
- 10. I have not had any prior involvement with the Property that is the subject of the Technical Report.
- 11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective Date: August 20<sup>th</sup>, 2021 Signing Date: March 30<sup>th</sup>, 2022 Edmonton, Alberta, Canada







#### I, **Stefan Kruse**, P. Geo., do hereby certify that:

- 1. I am a Principal and Senior Structural Geologist of Terrane Geoscience Inc., Suite 207 390 King St. Fredericton, NB E3B 1E3 Canada.
- 2. I graduated with a B.Sc. Honors, Cum Laude Geology from the University of Ottawa in 1999, and a Ph.D. in Geology from the University of New Brunswick in 2007.
- 3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB; Member Number: M6806) since 2009; Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL; membership number 05330) and the Engineers and Geoscientists of British Colombia (APEGBC; membership number 206205).
- 4. I have worked as a geologist for more than 20 years since my graduation from University and have been involved in structural and tectonic characterization of tectonically modified, orogenic, magmatic and epithermal gold systems and porphyry and volcanogenic massive sulphide systems.
- 5. I have read the definition of "Qualified Person" set out in 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 "Qualified Person" for the purposes of NI 43-101. My technical experience includes structural geological evaluation of gold deposits and underground and open pit structural characterization for mining optimization and geotechnical purposes.
- 6. I am responsible for Section 12 and contributed to Sections 1, 4.5, 6, 7, 17 and 18 of the Technical Report titled "Technical Report for the Chester Property, Northeast New Brunswick, Canada", with an effective date of 20 August 2021 (the "Technical Report"). I visited the Chester Property on June 5 and 6, 2021 and can verify the mineral tenure, mineralization and the infrastructure at the Chester Property.
- 7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific and technical information that is required to be disclosed, to make the Technical Report not misleading.
- 8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- I am independent of Melius Metals Corp., the vendors of the Chester Property, and the Chester Property applying all the tests in section 1.5 of NI 43-101 and Companion Policy 43-101CP.
- 10. I have not had any prior involvement with the Chester Property that is the subject of the Technical Report.
- 11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective Date: August 20<sup>th</sup>, 2021 Signing Date: March 30<sup>th</sup>, 2022

Fredericton, NB, Canada

Stefan Kruse, Ph.D., P. Geo.







- I, Anetta Banas, M.Sc., P.Geol., do hereby certify that:
- 1. I am a Senior Staff Geologist with APEX Geoscience Ltd. Suite 100, 11450 160th Street, Edmonton, AB, Canada, T5M 3Y7.
- 2. I graduated with a B.Sc. Degree in Geology from the University of Alberta in 2002 and with a M.Sc. Degree in Geology from the University of Alberta in 2005.
- 3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta since 2009 (Licence# 70810).
- 4. I have worked as a geologist for more than 15 years since my graduation from university and have extensive experience with the exploration for, and the evaluation of, base and precious metals deposits of various types, including volcanogenic massive sulphide deposits.
- 5. I have read the definition of "Qualified Person" set out in 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 "Qualified Person" for the purposes of NI 43-101.
- 6. I am responsible for Sections 3 to 8 and I contributed to Sections 1, 2, 9 to 11 and 13 to 19 of the Technical Report titled "Technical Report for the Chester Property, Northeast New Brunswick, Canada", with an effective date of August 20th, 2021 (the "Technical Report"). I have not visited the Chester Property.
- 7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific and technical information that is required to be disclosed, to make the Technical Report not misleading.
- 8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 9. I am independent of the issuer, the vendor and the Property applying all of the tests in section 1.5 of both NI 43-101 and 43-101CP.
- 10. I have not had any prior involvement with the Property that is the subject of the Technical Report.
- 11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective Date: August 20<sup>th</sup>, 2021 Signing Date: March 30<sup>th</sup>, 2022 Edmonton, Alberta, Canada





