NI 43-101 Technical Report

PEA Report for the Uatnan Mining Project

Côte-Nord Administrative Region, Québec, Canada

Prepared for:

NOUVEAU MONDE GRAPHITE
MASON GRAPHITE

Prepared by the following Qualified Persons:

- André Allaire, P.Eng., M.Eng., PhD. — BBA Inc.
- Jeffrey Cassoff, P.Eng. — BBA Inc.
- Vera Gella, P.Eng. — BBA Inc.
- Merouane Rachidi, P. Geo., Ph.D. — GoldMinds Geoservices Inc.
- Claude Duplessis, P. Eng. — GoldMinds Geoservices Inc.

Effective Date: January 10, 2023
Signature Date: February 24, 2023

Date and Signature Page

This technical report is effective as of the 10th day of January 2023.

Original signed and sealed on file	February 24, 2023
André Allaire, P.Eng., M.Eng., PhD. BBA Inc.	Date

Original signed and sealed on file	February 24, 2023
Jeffrey Cassoff, P.Eng. BBA Inc.	Date

Original signed and sealed on file	February 24, 2023
Vera Gella, P.Eng. BBA Inc.	Date

Original signed and sealed on file	February 24, 2023
Merouane Rachidi, P.Geo., PhD. GoldMinds Geoservices Inc.	Date

Original signed and sealed on file	February 24, 2023
Claude Duplessis, P.Eng. GoldMinds Geoservices Inc.	Date

2020 Robert-Bourassa Blvd. Suite 300
Montréal, QC H3A 2A5
T +1 514.866.2111 F +1 514.866.2116

BBA.CA

CERTIFICATE OF QUALIFIED PERSON

André Allaire, P.Eng., M.Eng., PhD.

This certificate applies to the NI 43-101 Technical Report titled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada, (the "Technical Report"), prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., dated February 24, 2023, with an effective date of January 10, 2023.

I, André Allaire, P.Eng., PhD., as a co-author of the Technical Report, do hereby certify that:

1. I am a Senior Consultant, Metallurgy, Mining and Metal Processes with the consulting firm BBA Inc., located at 2020 Robert-Bourassa Blvd. Suite 300, Montréal, QC H3A 2A5.
2. I am a graduate from McGill University of Montreal with a B.Eng. in Metallurgy in 1982, and M. Eng. In 1986 and a PhD. in 1991.
3. I am a member in good standing of the Order of Engineers of Québec (# 38480) and a member of the Canadian Institute of Mining Metallurgy and Petroleum.
4. My relevant experience includes open pit mining operations, mineral processing and infrastructures design and multiple NI 43-101 studies.
5. I have read the definition of "Qualified Person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapters 2, 3, 18, 19, 20, 21, 22, 24. . I am also co-author and responsible for the relevant portions of Chapters 1, 25, 26, 27 of the Technical Report.
8. I have not visited the Uatnan Property that is the subject of the Technical Report, as it was not required for the purpose of this mandate.
9. I have no prior involvement with the Property that is the subject of the Technical Report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared following NI 43-101 rules and regulations.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 24th day of February 2023.

Original signed and sealed on file

André Allaire, P.Eng., M.Eng., PhD.
Senior Consultant, Metallurgy
Mining and Metal Processes

2020 Robert-Bourassa Blvd. Suite 300
Montréal, QC H3A 2A5
T +1 514.866.2111 F +1 514.866.2116

BBA.CA

CERTIFICATE OF QUALIFIED PERSON

Jeffrey Cassoff, P.Eng.

This certificate applies to the NI 43-101 Technical Report titled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada, (the "Technical Report"), prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., dated February 24, 2023, with an effective date of January 10, 2023.

I, Jeffrey Cassoff, P.Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a Senior Mining Engineer at the consulting firm BBA Inc. located at 2020 Robert-Bourassa Blvd., Suite 300, Montréal, Québec, Canada, H3A 2A5.
2. I am a graduate from McGill University of Montréal with a B. Eng. in Mining in 1999.
3. I am a member in good standing of the Order of Engineers of Québec (#5002252), the Professional Engineers and Geoscientists, Newfoundland and Labrador (#06205), and the Northwest Territories Association of Professional Engineers and Geoscientists (NAPEG Member No. L4142).
4. My relevant experience includes open pit mining operations and many NI 43-101 studies, including several for Graphite Projects.
5. I have read the definition of "Qualified Person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapters 15 and 16. I am also co-author and responsible for the relevant portions of Chapters 1, 21, 25, 26 and 27 of the Technical Report.
8. I have visited the Uatnan Property that is the subject of the Technical Report on December 1, 2014, as part of the 2013 Preliminary Economic Assessment.
9. I have had prior involvement with the Property that is the subject of the Technical Report as Qualified Person for the Mineral Reserves in the 2018 Feasibility Study.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible and have been prepared following NI 43-101 rules and regulations.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 24th day of February 2023.

Original signed and sealed on file

Jeffrey Cassoff, P.Eng.

2020 Robert-Bourassa Blvd. Suite 300
Montréal, QC H3A 2A5
T +1 514.866.2111 F +1 514.866.2116

BBA.CA

CERTIFICATE OF QUALIFIED PERSON

Vera Gella, P.Eng.

This certificate applies to the NI 43-101 Technical Report titled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada, (the "Technical Report"), prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., dated February 24, 2023, with an effective date of January 10, 2023.

I, Vera Gella, P.Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a Senior Process Engineer at the consulting firm BBA Inc. located at 2020 Robert-Bourassa Blvd., Suite 300, Montréal, Québec, Canada, H3A 2A5.
2. I am a graduate from McGill University of Montréal with a B.Eng. in Metallurgy in 2005, and M. Eng. in 2007.
3. I am a member in good standing of Order of Engineers of Québec (# 5031029)
4. My relevant experience includes 15 years working in the mining industry including 12 years at BBA Inc. working on studies from PEA to FS level.
5. I have read the definition of "Qualified Person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapters 13, 17. I am also co-author and responsible for the relevant portions of Chapters 25, 26 and 27 of the Technical Report.
8. I have not visited the Uatnan Property that is the subject of the Technical Report, as it was not required for the purpose of this mandate.
9. I have had no prior involvement with the Property that is the subject of the Technical Report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible and have been prepared following NI 43-101 rules and regulations.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 24th day of February 2023.

Original signed and sealed on file

Vera Gella, P.Eng.

2999 Chemin Ste-Foy, suite 200
Québec, QC G1X 1P7
T +1 418.653=9559

GoldMindsGeoservices.com

CERTIFICATE OF QUALIFIED PERSON

Merouane Rachidi, P.Geo., PhD.

This certificate applies to the NI 43-101 Technical Report titled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada, (the "Technical Report"), prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., dated February 24, 2023, with an effective date of January 10, 2023.

I, Merouane Rachidi, P.Geo., PhD., as a co-author of the Technical Report, do hereby certify that:

1. I am a Geologist and consultant with GoldMinds Geoservices Inc. with an office 1. at 2999 Chemin Ste-Foy, Suite 200, Québec, Québec, Canada, G1X 1P7.
2. I am a graduate from Laval University in Québec City (PhD., in Geology, 2012) and I have practised my profession continuously since that time.
3. I am a member in good standing of the Ordre des Géologues du Québec, registration #1792, member of APGO registered #2998 and American Institute of Professional Geologists #12120.
4. My relevant experience for the purpose of the Technical Report is over eight years of consulting in the field of exploration, mineral resource estimation, 3D orebody modelling, geology, mineral resource estimation and mine planning.
5. I have read the definition of "Qualified Person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am co-author and responsible for the preparation of Chapter 14. I am also co-author and responsible for the relevant portions of Chapters 1, 4 to 12, 23, 25 to 27 of the Technical Report.
8. I have not visited the Uatnan Property that is the subject of the Technical Report.
9. I have had no prior involvement with the Property that is the subject of the Technical Report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared following NI 43-101 rules and regulations.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 24th day of February 2023.

Original signed and sealed on file

Merouane Rachidi, P.Geo., PhD.

2999 Chemin Ste-Foy, suite 200
Québec, QC G1X 1P7
T +1 418.653.9559

GoldMindsGeoservices.com

CERTIFICATE OF QUALIFIED PERSON

Claude Duplessis, P.Eng.

This certificate applies to the NI 43-101 Technical Report titled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada, (the "Technical Report"), prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., dated February 24, 2023, with an effective date of January 10, 2023.

I, Claude Duplessis, P.Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a senior engineer and consultant with GoldMinds Geoservices Inc. with an office at 2999 Chemin Ste-Foy, Suite 200, Québec, Québec, Canada, G1X 1P7.
2. I am a graduate from the University of Québec in Chicoutimi, Québec in 1988 with a B.Sc. A in geological engineering and I have practised my profession continuously since that time. I have worked as an engineer for a total of 30 years since my graduation.
3. I am a registered member of the Order of Engineers of Québec, (#45523) as well as in Ontario, Alberta and Newfoundland & Labrador.
4. My relevant experience for the purpose of the Technical Report is: Over 25 years of consulting in the field of exploration, mineral resource estimation, orebody modelling, engineering geology, mineral resource auditing, geotechnical engineering, mine planning and project economic analysis.
5. I have read the definition of "Qualified Person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am responsible and co-author for the preparation of Chapters 1, 4 to 12, 14, 25 and 26 of the Technical Report.
8. I have visited twice the Uatnan Property that is the subject of the Technical Report, on August 2-3, 2016, in a past mandate and on September 29, 2022, as part of this current mandate.
9. I have had no prior involvement with the Property that is the subject of the Technical Report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible and have been prepared following NI 43-101 rules and regulations.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 24th day of February 2023.

Original signed and sealed on file

Claude Duplessis, P.Eng.

2020 Robert-Bourassa Blvd. Suite 300
Montréal, QC H3A 2A5
T +1 514.866.2111 F +1 514.866.2116

BBA.CA

SEDAR CONSENT OF QUALIFIED PERSON

TO: Nouveau Monde Graphite Inc. and Mason Graphite Inc.

AND TO: *Autorité des marchés financiers* (as principal regulator)
Nova Scotia Securities Commission
Office of the Superintendent of Securities, Prince Edward Island
Financial and Consumer Services Commission, New Brunswick
Office of the Superintendent of Securities, Service Newfoundland and Labrador
Ontario Securities Commission
Manitoba Securities Commission
Financial and Consumer Affairs Authority of Saskatchewan
Alberta Securities Commission
British Columbia Securities Commission
TSX Venture Exchange

I, André Allaire, P.Eng., M.Eng., PhD., employed with BBA Inc., do hereby consent to the public filing of the NI 43-101 Technical Report prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., entitled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada (the "Technical Report"), dated February 24, 2023, and effective as of January 10, 2023, with the securities regulatory authorities referred to above.

I also consent to the use of extracts from, or a summary of, the Technical Report contained in the News Release of Nouveau Monde Graphite dated January 10, 2023.

I confirm that I have read the written disclosure in the News Release and that is fairly and accurately represents the information contained in the sections of the Technical Report for which I am responsible.

Signed this 24th day of February 2023.

Original signed on file

André Allaire, P.Eng., M.Eng., PhD.
Senior Consultant, Metallurgy
Mining and Metal Processes

2020 Robert-Bourassa Blvd. Suite 300
Montréal, QC H3A 2A5
T +1 514.866.2111 F +1 514.866.2116

BBA.CA

SEDAR CONSENT OF QUALIFIED PERSON

TO: Nouveau Monde Graphite Inc. and Mason Graphite Inc.

AND TO: *Autorité des marchés financiers* (as principal regulator)
Nova Scotia Securities Commission
Office of the Superintendent of Securities, Prince Edward Island
Financial and Consumer Services Commission, New Brunswick
Office of the Superintendent of Securities, Service Newfoundland and Labrador
Ontario Securities Commission
Manitoba Securities Commission
Financial and Consumer Affairs Authority of Saskatchewan
Alberta Securities Commission
British Columbia Securities Commission
TSX Venture Exchange

I, Jeffrey Cassoff, P.Eng., employed with BBA Inc., do hereby consent to the public filing of the NI 43-101 Technical Report prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., entitled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada (the "Technical Report"), dated February 24, 2023, and effective as of January 10, 2023, with the securities regulatory authorities referred to above.

I also consent to the use of extracts from, or a summary of, the Technical Report contained in the News Release of Nouveau Monde Graphite dated January 10, 2023.

I confirm that I have read the written disclosure in the News Release and that is fairly and accurately represents the information contained in the sections of the Technical Report for which I am responsible.

Signed this 24th day of February 2023.

Original signed on file

Jeffrey Cassoff, P. Eng.

2020 Robert-Bourassa Blvd. Suite 300
Montréal, QC H3A 2A5
T +1 514.866.2111 F +1 514.866.2116

BBA.CA

SEDAR CONSENT OF QUALIFIED PERSON

TO: Nouveau Monde Graphite Inc. and Mason Graphite Inc.

AND TO: *Autorité des marchés financiers* (as principal regulator)
Nova Scotia Securities Commission
Office of the Superintendent of Securities, Prince Edward Island
Financial and Consumer Services Commission, New Brunswick
Office of the Superintendent of Securities, Service Newfoundland and Labrador
Ontario Securities Commission
Manitoba Securities Commission
Financial and Consumer Affairs Authority of Saskatchewan
Alberta Securities Commission
British Columbia Securities Commission
TSX Venture Exchange

I, Vera Gella, P.Eng., employed with BBA Inc., do hereby consent to the public filing of the NI 43-101 Technical Report prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., entitled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada (the "Technical Report"), dated February 24, 2023, and effective as of January 10, 2023, with the securities regulatory authorities referred to above.

I also consent to the use of extracts from, or a summary of, the Technical Report contained in the News Release of Nouveau Monde Graphite dated January 10, 2023.

I confirm that I have read the written disclosure in the News Release and that is fairly and accurately represents the information contained in the sections of the Technical Report for which I am responsible.

Signed this 24th day of February 2023.

Original signed on file

Vera Gella, P.Eng.

GOLDMINDS
GEOSERVICES

2999 Chemin Ste-Foy, suite 200
Québec, QC G1X 1P7
T +1 418.653=9559

GoldMindsGeoservices.com

SEDAR CONSENT OF QUALIFIED PERSON

TO: Nouveau Monde Graphite Inc. and Mason Graphite Inc.

AND TO: *Autorité des marchés financiers* (as principal regulator)
Nova Scotia Securities Commission
Office of the Superintendent of Securities, Prince Edward Island
Financial and Consumer Services Commission, New Brunswick
Office of the Superintendent of Securities, Service Newfoundland and Labrador
Ontario Securities Commission
Manitoba Securities Commission
Financial and Consumer Affairs Authority of Saskatchewan
Alberta Securities Commission
British Columbia Securities Commission
TSX Venture Exchange

I, Merouane Rachidi, P.Geo., PhD., employed with GoldMinds Geoservices Inc., do hereby consent to the public filing of the NI 43-101 Technical Report prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., entitled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada (the "Technical Report"), dated February 24, 2023, and effective as of January 10, 2023, with the securities regulatory authorities referred to above.

I also consent to the use of extracts from, or a summary of, the Technical Report contained in the News Release of Nouveau Monde Graphite dated January 10, 2023.

I confirm that I have read the written disclosure in the News Release and that is fairly and accurately represents the information contained in the sections of the Technical Report for which I am responsible.

Signed this 24th day of February 2023.

Original signed on file

Merouane Rachidi, P.Geo., PhD.

2999 Chemin Ste-Foy, suite 200
Québec, QC G1X 1P7
T +1 418.653.9559

GoldMindsGeoservices.com

SEDAR CONSENT OF QUALIFIED PERSON

TO: Nouveau Monde Graphite Inc. and Mason Graphite Inc.

AND TO: *Autorité des marchés financiers* (as principal regulator)
Nova Scotia Securities Commission
Office of the Superintendent of Securities, Prince Edward Island
Financial and Consumer Services Commission, New Brunswick
Office of the Superintendent of Securities, Service Newfoundland and Labrador
Ontario Securities Commission
Manitoba Securities Commission
Financial and Consumer Affairs Authority of Saskatchewan
Alberta Securities Commission
British Columbia Securities Commission
TSX Venture Exchange

I, Claude Duplessis, P.Eng., employed with GoldMinds Geoservices Inc., do hereby consent to the public filing of the NI 43-101 Technical Report prepared for Nouveau Monde Graphite Inc. and Mason Graphite Inc., entitled "Preliminary Economic Assessment Report for the Uatnan Mining Project", Côte-Nord Administrative Region, Québec, Canada (the "Technical Report"), dated February 24, 2023, and effective as of January 10, 2023, with the securities regulatory authorities referred to above.

I also consent to the use of extracts from, or a summary of, the Technical Report contained in the News Release of Nouveau Monde Graphite dated January 10, 2023.

I confirm that I have read the written disclosure in the News Release and that is fairly and accurately represents the information contained in the sections of the Technical Report for which I am responsible.

Signed this 24th day of February 2023.

Original signed on file

Claude Duplessis, P. Eng.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
3D	Three-dimensional
AACE	AACE International (Association for the Advancement of Cost Engineering)
ABA	Acid base accounting
ABT	Allochthonous Boundary Thrust
Accurassay	Accurassay Laboratories
AGAT	AGAT Laboratories
Ai	Abrasion index
ALS	ALS Minerals laboratories
Al_2O_3	Aluminum oxide
bank	Bank cubic metre (volume of material in situ)
BAPE	Bureau d'audience publique sur l'environnement du Québec
BBA	BBA Inc.
Benchmark Minerals	Benchmark Mineral Intelligence
BH	Borehole
BWi	Bond work index
C	Carbon
CAD or $	Canadian dollar
Cadoret	Groupe Cadoret
Ca	Calcium
CaO	Calcium oxide
CAPEX	Capital expenditure / capital cost estimate
CDC	Claim désignée sur carte
Cg	Graphitic carbon
% Cg	Graphitic carbon content
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CLM	Consolidated Thompson Iron Mines Ltd.
CO_2	Carbon Dioxide
COC	chain of custody
COG	Cut-off grade
COREM	COREM Labs
Cr_2O_3	Chromic oxide
Cr	Chromium
CSF	Co-disposal storage facility
CSPG	coated spheronized purified graphite
Ct	Total Carbon

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
C% Ct	Total Carbon content
Cu	Copper
DDH	Diamond drill hole
DFO	Fisheries and Oceans Canada
Directive 019	MELCC - *Directive 019 sur l'industrie minière* (Provincial guidelines for the mining industry)
DORS	Regulations Designating Physical Activities
DPU	delivered at place unloaded
DTH	Down-the-hole
DWT	Drop Weight Test
E	East
EDF	Environmental Design Flood
EM	Electromagnetic
EQA	Environmental Quality Act
ESG	Environmental, Social, and Governance
ESIA	Environmental and Social Impact Assessment
et al.	et alla (and others)
EV	Electric vehicle
Fe	Iron
Fe_2O_3	Iron oxide or ferric oxide
FIFO	Fly in fly out
Fm	Formation
FS	Feasibility Study
G&A	General and Administration
GEMS	Geovia GEMS software
GESTIM or GM	Gestion des titres miniers (GESTIM)
GMG	GoldMinds Geoservices
GPS	Global Positioning System
GR	Graphite Road
GSC	Geological Survey of Canada
HBG-GN	Hornblende-Biotite Garnet Gneiss
HCl	Hydrogen chloride
He	Helium
HQ	Hydro-Québec
I	Indicated

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
IAA	Impact Assessment Act
Inf	Inferred
IBA	Impact and Benefit Agreement
ICP	Inductively coupled plasma
ICP-MS	Inductively coupled plasma-mass spectrometry
ID	Identification
IPS	International Plasma Laboratory Ltd.
IRR	Internal rate of return
ISO	International Organization for Standardization
IT	Information Technology
K	Potassium
K_2O	Potassium oxide
Li	Lithium
LiDAR	Laser Imaging Detection and Ranging
Li-Ion	Lithium-Ion
LOM	Life of mine
M	Measured
Ma	mega-annum, a million years
Mag (mag)	Magnetic
Mason	Mason Graphite inc.
MDDELCC	Ministère du Développement Durable, de l'Environnement et de la Lutte contre les Changements climatiques
MDDEP	Ministère du Développement durable, de l'Environnement et des Parcs du Québec
MDMER	Metal and Diamond Mining Effluent Regulations
MELCC	Ministère de l'Environnement et de la Lutte contre les changements climatiques (Ministry of Environment, and Action against Climate Change) - formerly known as Ministère du Développement durable, de l'Environnement, et de la Lutte contre les Changements climatiques (MDDELCC),
MELCCFP	Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs
MFFP	Ministère des Forêts, de la Faune et des Parcs
Mg	Magnesium
MgO	Magnesium oxide
MI	Mineralized intervals
MRS	Mine rock stockpile
MMU	mobile manufacturing unit

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
Mn	Manganese
MnO	Manganese oxide
Mo	Molybdenum
MPSO	MinePlan Schedule Optimizer
MRC	Municipalité régionale de comté
MRE	Mineral Resource Estimate
MRNF	Ministère des ressources naturelles et des forêts (Ministry of Natural Resources and Forests) - formally known as Ministère de l'Énergie et Ressources naturelles (MERN).
MTO(s)	Material take-off(s)
N	North
n/a	Not available
Na_2O	Sodium oxide
NAD	North American Datum
NI	National Instrument
NL	Newfoundland and Labrador
NMG	Nouveau Monde Graphite
No. / #	Number
NPV	Net present value
NQ	Drill Core Size (4.8 cm diameter)
NSR	Net smelter return
NTS	National topographic system
OB	Overburden
O/F	Overflow
OJV	Option and Joint Venture Agreement dated July 20, 2022 (the "OJV Agreement")
OoM	Order of Magnitude
OPEX	Operational expenditure / operating cost estimates
P_{80}	80% passing – Product size
P_2O_5	Phosphorus Pentoxide
PAG	Potential-acid generating
PEA	Preliminary economic assessment
pH	Potential of hydrogen
PhD	Doctor of philosophy
PP	Pilot plant
PPM	Pore Pressure Model
PVC	Polyvinyl Chloride

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
Q1, Q2, Q3, Q4	First Quarter, Second Quarter, Third Quarter, Fourth Quarter
QA/QC	Quality Assurance/Quality Control
QCM	Québec Cartier Mining
Qualitas	Groupe Qualitas Inc.
QP	Qualified person
RF	Revenue Factor
RLRQ	Recueil des lois et des règlements du Québec
ROM	Run of mine
RQD	Rock quality designation
RTLS	Real Time Location Service
RWR	raw water reserve
S	South
S	Sulphur
S%	Sulphur content
SAG	Semi-autogenous grinding
SEBC	Société d'expansion de Hauterive and Gestion et intervention en développement urbain de Baie-Comeau
SEDAR	System for electronic document analysis and retrieval
SGS	SGS Lakefield Research Limited of Canada
SI	*Système international d'unités*
SIGÉOM	Système d'information géominière du Québec
SiO_2	Silicon dioxide
SLD	Single-line diagram
SO_2	Sulphur dioxide
Std	Standard
Ti	Titanium
TiO_2	Titanium dioxide
TSF	Tailings Storage Facility
U1	Low-Grade mineralization (5% < Cg < 10% Cg)
U2	Medium-grade mineralization (10% < Cg < 25%)
U3	High-grade mineralization (Cg > 25%)
U/F	Underflow
µm	Micrometre
U.S.	United States
USD	United States dollar

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
UTM	Universal Transverse Mercator
V_2O_5	Vanadium pentoxide
VOD	Video on demand
vs.	Versus
W	West
WBS	Work breakdown structure
WTP	Water treatment plant
X	X Coordinate (E-W)
XRD	X-Ray Diffraction
Y	Y coordinate (N-S)
Z	Z coordinate (depth or elevation)
Zn	Zinc

TABLE OF ABBREVIATIONS – UNITS OF MEASUREMENTS	
Unit	**Description**
\$ or CAD	Canadian dollar
\$/t	dollar per tonne
%	percent
°	degree
°C	degrees Celsius
a	annum
cm	centimetre
d	day (24 hours)
deg. or °	angular degree
ft	feet (12 inches)
g	gram
g/cm^3	Gram per cubic centimetre
h	hour (60 minutes)
ha	hectare
in	inch
J/g	Joule per grams
kg	kilogram
kg/t	kilogram per tonne
km	kilometre
kt	kilotonne
ktpa	Kiloton per year
kV	kilovolt
kW	kilowatt
kWh	Kilowatt-hour
L	litre
m	metre
m/h	metre per hour
m^2	square metre
m^3	cubic metre
Min	Minimum
ml	millilitre
mm	millimetre
Mm^3	million cubic metres
Mt	million tonnes
Mtpy	million tonnes per year

TABLE OF ABBREVIATIONS – UNITS OF MEASUREMENTS	
Unit	**Description**
MVA	megavolt ampere
MW	megawatt
t	tonne (1,000 kg) (metric ton)
t/m³	tonne per cubic metre
tpd	tonne per day
tpy	tonne per year
µm	microns, micrometre
W	watt
y	year (365 days)

1. Summary

1.1. Introduction

This Preliminary Economic Assessment ("PEA"), concerning the Uatnan Mining Project (the "Uatnan Project" or the "Project"), was commissioned by Nouveau Monde Graphite Inc. ("NMG") to satisfy one of the conditions relating to an Option and Joint Venture Agreement dated July 20, 2022 (the "OJV Agreement") with Mason Graphite Inc. ("Mason Graphite" or "Mason") (see NMG press releases dated May 16, 2022, and July 20, 2022). NMG has not conducted any work on the Uatnan Property which is 100% owned and operated by Mason Graphite. NMG and Mason Graphite are both issuers of this PEA.

NMG is a Canadian company listed on the New York Stock Exchange (symbol NMG), the TSX Venture Exchange (symbol NOU) and the Frankfurt Stock Exchange (symbol NM9A). NMG is working towards developing a fully integrated source of carbon-neutral battery anode material in Québec, Canada for the growing lithium-ion and fuel cell markets. Their portfolio includes the Matawinie Graphite Mine Project located in Québec, Canada.

Mason is a Montréal based company listed on the TSX Venture Exchange under the symbol TSXV:LLG. The company was formed in 2012 for the acquisition and development of the Lac Guéret graphite deposit.

The Uatnan Project, one of the world's largest graphite projects in development, aims to develop the Lac Guéret graphite deposit located in the Côte-Nord Administrative Region approximately 285 km north of the city of Baie-Comeau, Québec, Canada. This Report presents the results of the PEA for the Uatnan Project which includes the mine and beneficiation plant for the production of approximately 500 ktpa of graphite concentrate.

This Technical Report (the "Technical Report" or "Report") follows the National Instrument 43-101 *Standards of Disclosure for Mineral Projects* ("NI 43-101") guidelines. The effective date of the present Technical Report for Uatnan Project is January 10, 2023. This Report replaces all previous versions issued.

The financial results of the study are based on market and economic conditions at the effective date. All costs are based on constant dollars, with no provision for escalation.

The costs considered for the Project are limited to the Project itself (mine, concentrator and directly related administration) and exclude the costs associated with the Head Office, Marketing and Sales, Research and Development, agreement with the First Nation, etc.

Unless otherwise stated:

- All units of measurement in the Report are in the metric system;
- Grid coordinates for the block model are given in the UTM NAD 83 Zone 19 and latitude/longitude;
- Systems maps are either in UTM coordinates or latitude/longitude system;
- All costs, revenues and commodity prices are expressed in terms of Canadian dollars with an exchange rate of CAD1.00 = USD0.784;
- Subtotals and totals may not add up due to rounding.

1.2. Changes Since the Last Issue of the Report

NMG and its consultants revisited all components of Mason Graphite's original mining project to align the development of the Lac Guéret graphite deposit with today's market opportunity and potential customers' requirements. The most recent technical report from Mason Graphite (SEDAR, Feasibility Study Update of the Lac Guéret Graphite Project issued on December 11, 2018) planned for a production of 51,900 tpa of graphite concentrate, with the concentrator and tailings facility located offsite in the town of Baie-Comeau, approximately 285 km to the south by road from the mining operations.

The PEA optimizes the Mineral Resources and aims to expand the original mining project tenfold by targeting the production of approximately 500,000 tpa of graphite, entirely destined for the anode material manufacturing market. The mine and concentrator will operate year-round. The concentrator has been relocated to be near the deposit with electrical needs that could be sourced from the Manic-5 hydroelectric power station, located 70 km away.

Considering the significant modifications to Mason's original project, NMG initiated a name change with the collaboration of the Innu First Nation of Pessamit. The deposit is located on the Nitassinan, the Innu of Pessamit's ancestral territory, in a sector referred to as "*Ka uatshinakanishkat*" meaning "where there is Tamarack". Hence, the name Uatnan meaning Tamarack, a conifer prominent in the area, was chosen to identify the Property and Project. The graphite deposit identified on the Property is still referred to as the Lac Guéret deposit.

1.3. Property Location

The Uatnan property (the "Uatnan Property" or "Property") lies on the southwestern shore of the Manicouagan Reservoir, within the Rivière-aux-Outardes municipality, located in the Côte-Nord Administrative Region, Québec, Canada, approximately 220 km as the crow flies, north-northwest of the town of Baie-Comeau. This town is the nearest accessible community of significant size.

The Uatnan Property is centred on 51°07'N and 69°05'W and consists of 74 CDC claims of which 71 are located on NTS topographic map sheet 22N03 and three on sheet 22K14.

The Uatnan Property covers an area of 3,999.52 ha, all of which are 100% in the interest of Mason Graphite with the claims (74 claims) in good standing until July 17, 2024. The claims have not had any legal surveys performed by a certified surveyor. All claims are map-staked claims and are registered in the Québec GESTIM database.

As of the date of this Report, a mining lease request from Mason Graphite for the future mine was being evaluated by the MRNF and the validity of three affected claims (CDC 1037522, CDC 1040768 and 1040769) was suspended as part of the normal evaluation procedure.

1.4. Project Interest and Risks

NMG entered into an investment agreement dated May 15, 2022, with Mason Graphite (the "Investment Agreement") and the OJV Agreement to explore the potential development of the Lac Guéret deposit. Those agreements align with NMG's growth strategy with a view to establishing a large and fully vertically integrated natural graphite production, from mineralized material to battery materials, at the western markets' doorstep.

The transaction, as approved by Mason Graphite's shareholders, entails, among others and subject to the terms and conditions of the Investment Agreement and OJV Agreement :

1) $5 million equity investment by NMG in Mason Graphite, in two instalments;
2) Project development through a preliminary economic assessment and bankable feasibility study following NI 43-101 rules and guidelines;
3) Upon completion of technical studies and a $10-million investment in related works (which includes technical studies work), and at the time of acceptance of such technical studies work by Mason Graphite, NMG shall be deemed to have acquired 51% participation in the Uatnan Property and will be appointed as operator. The joint venture would be funded by each party per its proportionate share of each of the approved work programs and budget and all other expenditures approved in accordance with the OJV Agreement.

Following the successful initial closing of the investment agreement with Mason Graphite on July 20, 2022, NMG and Mason Graphite initiated this PEA on the Uatnan Property.

The PEA is preliminary in nature and includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Mineral Resources that are not Mineral

Reserves have not demonstrated economic viability. Additional trenching and/or drilling will be required to convert Inferred Mineral Resources to Indicated or Measured Mineral Resources. There is no certainty that the resource development, production, and economic forecasts on which this PEA is based will be realized.

There are a number of risks and uncertainties identifiable to any new project and usually cover the mineralization, process, financial, environmental, engineering and permitting aspects. The Uatnan Project is no different and an evaluation of the possible risks was undertaken as part of the PEA. There are known significant risk factors such as graphite price, ability to fund the Project, fluctuation of oil, metals and other commodity prices, change in mining laws, environmental laws and permitting.

1.5. Accessibility, Climate, Local Resources, Infrastructure and Physiography

Access to the Property is via the paved all-weather Highway 389 from Baie-Comeau, Québec to Wabush, Labrador. At Km 202, south of the Manicouagan-5 /Daniel-Johnson hydroelectric dam, a Class 1, main haul gravel logging road turns northwest from the paved road. It continues about 85 km north-northwest from the highway towards the southwest shore of Lac Manicouagan where it enters the Uatnan Property.

The climate is typical boreal forest, with summer temperatures of 2 to 30 °C and winter temperatures down to -50°C. The spring and autumn are short with changeable weather. Precipitation occurs as rain in the summer and snow in the winter, while spring and autumn are often mixtures of both.

The closest town, Baie-Comeau, has a deep water port which accommodates shipping freighters and cruise ships with up to 9.0 m water draught. Vehicle and rail ferries allow crossing the St-Lawrence River to the city of Matane on the south shore, enabling easy access to the rest of the North American Continent. Baie-Comeau also hosts a regional airport with regular scheduled flights from Montréal and Québec City.

1.6. History

Historical work consists of exploration for iron in the late 1950s by Québec Cartier Mines Ltd. In 2001, Phil Boudrias of Esbec Exploration (Sept-Îles, Québec) acquired the core claims that cover the existing resources based on prospecting road cuts made by Kruger Forest Products. Quinto optioned the Property in 2002 and added claims to cover the potential graphite and iron stratigraphy. It conducted exploration programs since 2002 focusing on the zones under review.

No resource estimation has been published on either the graphite deposit or on the iron deposits prior to Mason Graphite's resource estimation published in 2012. Quinto focused on the graphite stratigraphy, since the iron deposits appear to be too small to be economic in this region.

Following the exploration results between 2002 and 2004, in 2006, Quinto conducted a drill program on the northeast part of the GC Graphite Zone to define a tonnage and grade of the graphite in order to continue studies towards initiating an open pit mine. Twenty-six NQ drillholes totalling 2,468 m were drilled. The 2006 exploration program included trenching two trenches northeast of TR68, named TR69 and TR70, and a diamond drill program of 24 NQ holes totalling 2,152.1 m.

The 2003-2006, 2012 and 2013-2014 drilling campaigns are detailed in sections 9 and 10 of this Report.

1.7. Geology and Mineralization

1.7.1. Geology

The regional geology is shown in compilation maps (see Chapter 7, Figure 7-1) by the Geological Survey of Canada (Davidson, 1996) and the Québec Ministry of Natural Resources (Marcoux and Avramtchev, 1990) and is summarized by Hocq (1994). The regional stratigraphy is shown in Table 7-1, in Chapter 7, with the Québec Government regional mapping codes.

The regional geology includes the most southwesterly of several elongate anticlinoria of Gagnon Group metasediments that include the traditional iron formation stratigraphy of the Wabush-Mont Reed iron district. These units are metamorphosed equivalents of the Labrador Trough (New Québec Orogen) sediments that occur around Schefferville, Québec and further north. The southwest Manicouagan Anticlinorium shows a core of Denault Fm dolomitic marble. The typical footwall to the Sokoman Fm, the Wishart Fm quartzite, appears not to be present as a mappable unit. The Sokoman Fm iron formation outcrops mainly in both the centre and edges, where they occur as linear, doubly folded (interference folds) anticlines and synclines on the scale of 0.5 to 2.5 km. Silicate facies of the Wabush were recognized in recently logged areas in the southern part of the anticlinorium but have not been mapped historically. The quartzite mapped near the graphite zones appears to be the upper, non-oxide, facies of the Sokoman Fm, not the Wishart quartzite, since it locally contains small amounts of magnetite, iron carbonates and iron silicates typical of the Sokoman Fm. The top of the Sokoman Fm has a diachronous, transitional contact with the overlying Menihek Fm pelitic sediments. The basal part of the Menihek unit, informally named the "Upper Gneiss" by Clarke (1977), forms the informal member, here named

Lac Guéret Member of the Menihek Fm. The Katsao Fm gneiss has significant potassium feldspar (high K_2O), whereas the paragneiss and schist of the Menihek Fm are deficient in K_2O.

Graphitic metasediments are concentrated in the Lac Guéret Member above the Sokoman Fm iron deposits. Graphite also occurs in minor amounts in the adjoining Sokoman Fm near the contact, but most of the potentially economic graphite lies within the Member. This relationship is common in the district with examples at Lac Knife (QC) and the Mart Lake graphite showing at the Kami iron deposit (Labrador City, NL). Graphite formed as beds within clastic sedimentary basinal deposition under anoxic conditions that preserved the organic carbon and precipitated primary sulphides, mainly pyrrhotite, which is intimately intermixed with the graphite. Sulphides are limited to this depositional regime and do not occur in the host rocks outside of the graphite deposits. Upper amphibolite (kyanite facies) metamorphism affected all the rocks.

The conformation of the formations, including the graphite and iron oxide deposits, was modified by upward of five periods of Grenville-related deformations. The second and third events most strongly control the placement of the deposits into belts aligned northeast and dipping moderately to steeply southeast. Gentle cross-folding created interference fold patterns that affected the foliation dips. The deposits are essentially foliation-parallel. Late extension caused local recrystallization of host rocks, but with no significant remobilization of minerals. At this time, pyrite was formed from some of the original pyrrhotite.

1.7.2. Mineralization

Graphite of Unit 1 (5-10% Cg) and Unit 2 (10-25% Cg) forms fine to coarse crystal flakes (<0.01 to >4 mm diameter) in quartz and quartzofeldspathic gneiss and schist. The in situ organic material was concentrated during late- or post-Labrador Trough deposition and recrystallized during the Grenville orogeny. It does not appear to have been enriched by tectonics or hydrothermal remobilization.

Unit 3 (>25% Cg) is characterized by a distinct pattern in flake distribution. The tendency is for clasts or non-re-crystallized centres of the original very fine to amorphous pre-metamorphic graphite schist to be enveloped by recrystallized very coarse (2 mm to 8 mm length) and pure graphite flakes as a result of ductile brecciation. This texture is more easily seen in outcrop than on core surfaces. The coarse flake graphite visually forms 7-12% of the total rock. For the purpose of resource estimation, units 1 and 2 were merged together and Unit 3 was kept differentiated at >25% Cg.

The depth of the mineralization is uncertain, and the deepest mineralized zone of the Lac Guéret Project is reached by the hole LG 455 (Z = 220 m). It seems that the folded graphite bands are constrained within a broad inclined envelope.

Interpretation of the sections for the Mineral Resource shows the effects of structure on localizing the graphite deposits. The general trend shows the ~35° SW plunge. The continuity of the structures between 50-metre sections shows rapid changes particularly in the Unit 3. This is interpreted as the result of the focusing of compression on the higher-grade graphite bands which have a high rheology leading to ductile folding and sliding. The graphite can glide readily with little fault brecciation. The U3 Unit observed to the SW in cleaned outcrops show intense isoclinal D_3 folds at shallowly dipping plunges with amplitudes often less than 5 m, where the adjacent lower-grade graphite schist (U1 and U2) and quartz-rich sediment bands are folded in the scale of 10-100 m amplitudes. This ductility makes interpreting the higher-grade units more difficult.

1.8. Drilling

1.8.1. Drilling Programs

The 2012 drilling campaign conducted by Mason Graphite had a total of 163 drillholes, with 146 drillholes over the GC zone totalling 24,346.3 m and 17 drilled over the GR zone totalling 2,201.1 m. The resulting 16,923 samples were analyzed by AGAT Laboratories.

In June 2013, the entire 2012 drill core was reviewed under the supervision of Daniel Turcotte, P. Geo. The purpose of the re-logging was to verify the database uniformity on the geological descriptions.

The 2013-2014 drilling campaign conducted by Mason Graphite over the GC Zone consisted of 86 drillholes totalling 13,418 m (Figure 10-2 and Table 10-1). A total of 7,567 samples were analyzed by AGAT and some samples were analyzed by COREM for external control.

1.8.2. Geotechnical drilling

Mason Graphite commissioned Groupe Qualitas Inc. ("Qualitas") to conduct a geotechnical investigation campaign to collect geological and geomechanical data for the adequate designing and construction of an open pit mine, and to conduct a preliminary investigation for the projected storage areas, crusher and silo locations.

A total of 11 boreholes were drilled. Nine boreholes (BH-14-01i, BH-14-02, BH-14-02B, BH-14-03i, BH-14-04, BH-14-05i BH-14-06 BH-14-07i and BH-14-08) along the open pit area were drilled to provide geomechanical information for design and engineering purpose of the open pit. Two boreholes (BH-14-09 and BH-14-10) were drilled to provide geotechnical information on the overburden and surface bedrock.

1.9. Mineral Processing and Metallurgical Testing

Testwork done as part of a previous Preliminary Economic Assessment ("PEA") issued in 2013, determined that the Uatnan Project mineralization can be successfully concentrated to an average blended concentrate grade of 93.7% without complex processing. High-grade flake material was produced in four size fractions: +50, +80, +150 and -150 mesh. The addition of polishing to the cleaning flotation steps ensures the final concentrate grade is maximized. In the years that followed, several testwork programs were undertaken including both comminution and concentration tests on a variety of different samples. The comminution testwork concluded that all samples are characterized with mild abrasivity, soft in impact grinding and varied from soft to very hard in attrition grinding.

The concentration testwork concluded that regular flotation via cells and columns yielded the best graphite grade and recovery. Once again, high concentrate grades were achieved, ranging from 92 to 98% carbon in individual size fractions with over 92% overall carbon recovery. Pilot scale testwork results confirmed that the use of three or four stages of polishing and cleaning are sufficient to maximize both graphite grade and recovery when maximizing the final concentrate flake size is required. Prolonged aging or weathering of the mineralized material before processing has been proven to have an impact on the graphite recovery.

While no new testwork was undertaken for the current study, the majority of the process design criteria was based on the available data and any changes to the flowsheet were considered to be a reasonable extrapolation of the previously observed metallurgical response. The metallurgical balance used for the PEA is presented in Table 1-1.

Table 1-1 – Metallurgical balance used for PEA

Stream	Weight Recovery (%)	Carbon Recovery (%)	Carbon Grade (%)
Feed	100.0	100	17.5
Combined concentrate	**15.4**	**85**	**94.2**
Tailings	84.6	15	3.1

1.10. Mineral Resource Estimate

Mineral Resource Estimates for the Uatnan Project presented in this Report are based on the Mason Graphite drilling campaigns (2012, 2013/2014) and Quinto exploration data (2003 and 2006 drilling campaigns) using a cut-off grade ("COG") of 5.75% Cg. The pit optimization was designed using the same block model used for the Mineral Resource Update issued on November 9, 2015, and updated with more recent parameters (Table 1-3).

Mineral intervals and geological interpretation on sections and plans of the mineralized bodies were done by Merouane Rachidi, P.Geo., Ph.D. and Claude Duplessis, P.Eng.

The current Measured and Indicated Mineral Pit-constrained Resources are 65.6 million tonnes at 17.2% Cg (Table 1-2 - Current Mineral Resources Estimate for Uatnan Project).

Mineral Reserves and Mineral Resources are as defined by CIM Definition Standards on Mineral Resources and Mineral Reserves. Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability.

Table 1-2 - Current Mineral Resources Estimate for Uatnan Project

In pit constrained Mineral Resources	Density	Tonnes (Mt)	Grade (% Cg)	Cg (Mt)
Measured 5.75% < Cg < 25%	2.9	15.65	15.2	2.38
Measured Cg > 25%	2.9	3.35	30.6	1.02
Total Measured	**2.9**	**19.02**	**17.9**	**3.40**
Indicated 5.75% < Cg < 25%	2.9	40.29	14.6	5.89
Indicated Cg > 25%	2.9	6.33	31.6	2.00
Total Indicated	**2.9**	**46.62**	**16.9**	**7.89**
Indicated + Measured 5.75% < Cg < 25%	2.9	55.94	14.8	8.27
Indicated + Measured Cg > 25%	2.9	9.70	31.2	3.03
Total Measured + Indicated	**2.9**	**65.64**	**17.2**	**11.30**
Inferred 5.75% < Cg < 25%	2.9	*15.35*	*14.9*	*2.28*
Inferred Cg > 25%	2.9	*2.47*	*31.8*	*0.79*
Total Inferred	**2.9**	***17.82***	***17.2***	***3.07***

Notes:

1. The Mineral Resources provided in this table were estimated by M. Rachidi P.Geo., and C. Duplessis, P.Eng., QP's of GoldMinds Geoservices Inc., using current Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Reserves, Definitions and Guidelines.
2. Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, market or

other relevant issues. The quantity and grade of reported Inferred Resources are uncertain in nature and there has not been sufficient work to define these Inferred Mineral Resources as Indicated or Measured Resources. There is no certainty that any part of a Mineral Resource will ever be converted into reserves.
3. The Mineral Resources presented here were estimated with a block size of 3mE x 3mN x 3mZ. The blocks were interpolated from equal length composites (3 m) calculated from the mineralized intervals.
4. The mineral estimation was completed using the inverse distance to the square methodology utilizing three runs. For run 1, the number of composites was limited to ten with a maximum of two composites from the same drillhole. For runs two and three the number of composites was limited to ten with a maximum of one composite from the same drillhole.
5. The Measured Mineral Resources classified using a minimum of four drillholes. Indicated Resources classified using a minimum of two drillholes. The Inferred Mineral Resources were classified by a minimum of one drillholes.
6. Tonnage estimates are based on a fix density of 2.9 t/m^3.
7. A pit optimized using new parameters detailed in Table 14-9. The effective date of the current Mineral Resources is January 10, 2023.
8. Mineral Resources are stated at a cut-off grade of 5.75% Cg.

There has not been additional exploration on the mineralized zone since the last Mineral Resources Estimate. A pit optimization with new parameters (Table 1-3) using the same block model as previously used has been done by GoldMinds Geoservices Inc.

Table 1-3 - The parameters used for the Mineral Resource pit optimization

Parameters	Unit	Value
Mining Cost Mineralized Material	$/t mined	4.00
Processing Cost	$/t milled	36.00
Tailing Management Cost	$/t milled	2.00
G&A Cost	$/t milled	5.00
Total Mineralized Material Based Cost	**$/t processed**	**43.00**
Mill Recovery	%	85.0%
Concentrate Grade	%	94.0%
Concentrate Price	CAD $/t	1500
Revenue Factor		1.00
Production Rate	Mtpy	3.4
Discount Rate	%	8%
Pit slope		50

There is a very small difference between the use of a cut-off grade of 5% Cg and 5.75% Cg. The table below show the difference in terms of the pit constrained mineral resources.

Table 1-4 - Comparison of 2014, 2018 and 2022 Mineral Resources Estimates

Mineral Resources Estimates Lac Guéret	Mineral Resources Estimate updated, December 2014 by GMG (In Whittle 40 COG 5% Cg)		Mineral Resource Estimates November 2018 by GMG (In Pit COG 5.75% Cg)		Mineral Resource Estimates December 2022 by GMG (In Pit COG 5.75% Cg)	
	% Cg	Tonnes	% Cg	Tonnes	% Cg	Tonnes
Indicated	16.9	46,589,000	16.9	46,519,000	16.91	46,623,000
Measured	17.9	19,105,000	17.9	19,021,000	17.94	19,021,000
Meas + Indicated	17.2	65,693,000	17.2	65,540,000	17.21	65,644,000
Inferred	*17.2*	*17,651,000*	*17.3*	*17,613,000*	*17.22*	*17,820,000*

The graphite mineralization at Uatnan Property is extensive in terms of size and grade. There is a significant amount of resources and the graphite mineralization extends to the northeast as well as to the southeast around the iron formation anticlinorium core and at depth.

1.11. Mining Methods

The mining method selected for the Project is a conventional open pit, truck and shovel, drill and blast operation. Vegetation, topsoil and overburden will be stripped and stockpiled for future reclamation use. The mineralized material and waste rock will be mined with 9 m high benches, drilled, blasted and loaded into articulated haul trucks with a hydraulic excavator. The mine will be operated by an owner fleet, seven days per week, 24 hours per day and be comprised of a four-crew system working with the hypothesis of a 2-week in, 2-week out rotation.

To minimize the environmental footprint of the Project and select a waste rock and tailings management strategy to enhance closure performance, waste rock will be hauled to a mine rock stockpiles ("MRS") and will be managed in the same area as the tailings storage facility ("TSF"). Also, when possible, waste rock will be backfilled into the mined out open pit. The ex-pit pile is located near and at the northwest of the open pit and location will be validated in further engineering phases according to environmental considerations and baselines as discussed in Chapter 20.

The subset of Mineral Resource contained with the open pit design considers a cut-off grade of 5.75% Cg and include 62.2 Mt of Measured and Indicated Resources at an average diluted grade of 17.3% Cg, and 14.2 Mt of Inferred Resources at an average diluted grade of 18.0% Cg. A total of 102.6 Mt of overburden and waste rock are included in the pit resulting in a strip ratio of 1.3.

The Uatnan Project has a 24-year mine life plus a six-month period of pre-production development. The purpose of the pre-production period is for the mine to provide waste rock for construction material and to prepare the pit for mining operations. A total of 500 kt of material is planned to be mined during preproduction.

During the mining operation, the total material mined from the open pit peaks at 10.8 Mt during Years 15 to 17 and averages 7.6 Mtpy. The average diluted Cg grade ranges from 14.2% to 24.9%, and averages 22.4% during the first five years. The average concentrate production over the life of mine averages 503,000 tpy.

The fleet of mining equipment includes twelve articulated haul trucks with 60-tonne payloads, two hydraulic excavator, and four production drill.

To manage water that collects in the open pit, sumps will be developed on the pit floor as mining progresses, and a series of pumps will be used to pump the water to settling ponds located at surface. BBA has assumed that in general, a total five pumps should be adequate to serve the needs of the open pit.

The mine workforce requirements have been calculated to reach 193 during peak production. The mine operations team will work on a 4-crew system, to provide 24 hours per day year-round coverage. The mine management and technical team will work on a 2-week in, 2-week out rotation.

1.12. Recovery Methods

Given that the target market for the Uatnan Project concentrate is the battery market, the main focus of the flowsheet has shifted from preserving flake size to overall graphite recovery and grade. No additional testwork was performed since the 2018 NI 43-101 Technical Report Feasibility Study Update. However, the extensive historical metallurgical testwork was used to select the updated process flowsheet. Both mining and processing will take place at the Uatnan Project site. The run of mine ("ROM") will be trucked from the mine to the crushing area where it will undergo a first size reduction using a mineral sizer. The crushed material is stockpiled before being conveyed to the concentrator where the size is further reduced via primary grinding in a semi-autogenous ("SAG") mill and secondary grinding in a ball mill. Following comminution, the mineralized material is concentrated through rougher and scavenger flotation. The concentrates generated from rougher and scavenger flotation are polished and cleaned in two stages before reporting to the concentrate thickener. The thickened concentrated is pressure filtered and dried to produce a final graphite concentrate that is stored in a bulk silo and transported offsite. Any sulphur dioxide generated from the drying of the graphite concentrate will be captured in a wet scrubber where it will be neutralized with caustic soda. The flotation tailings are thickened in a tailings thickener before being pressure-filtered and subsequently trucked to the Tailings Storage Facility ("TSF") for management with the mine waste rock stockpiles ("MRS"). Overflow water from the concentrate, tailings and process water thickeners reports to a process water tank.

1.13. Project Infrastructure

The Uatnan Site is located in a remote location (285 km from Baie-Comeau, the nearest city) and does not have access to public services, requiring it to be autonomous. A mining camp with a capacity for 360 workers will be built next to the Lac Des Torchons, less than 3 km from the mine site.

Access roads to the deposit already exist but will have to be improved for the final 85 km to support industrial use.

The concentrator has been located to be near the deposit to minimize transport between the mine and processing facilities. The electrical needs of the Project will be sourced from the Manic-5 hydroelectric power station, located 70 km away.

A two-door garage at the mine site will be used for maintenance on the mining equipment.

The main industrial installations will comprise a mineralized material storage area with a crusher, concentrator buildings (wet and dry areas).

An office building will house the administrative offices, the lunchroom and the changing room.

A tailings filtration plant will be built to manage the tailings. They will be thickened then filtered to finally be trucked to a tailings storage facility ("TSF"), and managed with the mine rock stockpile ("MRS"). The bottom of the TSF and MRS will be lined to collect seepage water. Contact water will be collected in a collection basin for recycling to the plant or to be treated before being released to the environment.

1.14. Market Studies

The target market for Uatnan Project natural graphite concentrate is for use in lithium-ion batteries. According to market studies conducted by Benchmark Minerals Intelligence, the demand for graphite to satisfy the global lithium-ion cell/Gigafactory capacity is projected to increase six-fold by 2031. The supply of natural graphite is expected to fall into deficit in 2022-2023, with continued steep decline in the following years. Based on the Benchmark forecasts and considering the 94% Cg of the blended Uatnan concentrate, two selling prices were considered:

- Conservative price = USD1,100;
- Average price = USD1,450.

The conservative price of USD1,100 (DPU Baie-Comeau) was considered for the financial analysis presented in this PEA.

1.15. Environmental Studies

The former Lac Guéret Project was granted a decree in 2018 from the Government of Québec. The Uatnan Project will request a modification of the actual decree or a new one. Baseline studies (Hatch, 2015) will have to be updated based on the new study area to identify any environmental issues like protected areas, species at risk, waterbodies, fish habitats, biophysical environment, etc. The results of those studies will have to be considered to identify project alternatives.

After having a decree, licenses and authorizations from various governmental authorities such as the MELCC will be needed to build and operate the mine.

Geochemical testing carried out on the Mason Graphite project tailings and mine rocks shows that the tailings and waste rock are potentially acid generating ("PAG"). Geochemical characterization results will be included in the next engineering phase to select appropriate tailings and waste rock management methods that will limit sulphide oxidation during the years of operation and at closure.

Through design and operation choices, NMG is planning to adopt high standard for tailings and waste rocks management, optimize mining infrastructure through progressive backfill of the proposed open pit, progressively rehabilitate the site, develop a transition to electrify the mining fleet and maintain NMG's carbon neutrality status.

1.16. Capital and Operating Costs

The CAPEX summarized in Table 1-5, covers the development of the mine, processing facilities, and infrastructure required for the Uatnan Project. It is based on the application of standard costing methods of achieving a PEA which provides a level of accuracy ranging between -30% and +50%. The operating costs covers mining, processing, concentrate haulage, tailings and water management, general and administration fees, as well as infrastructure and services.

Table 1-5 - Capital cost summary

Sector	COST ($M)
Direct Costs	
Mining	61
Site infrastructure	55
Offsite Infrastructure	184
Water treatment and tailings	118
Crushing and process plant	548
Indirect Costs (40%)	319
Contingency (25%)	279
TOTAL CAPEX	**1,564**
Initial CAPEX	1,417
Sustaining CAPEX	147

1.16.1. Operating Costs

The operating costs ("OPEX") over the Project life are estimated at $3,236M for an average of $268/tonne of concentrate. Operating costs are made up from the following costs mining and tailings, Processing, Water Management, General and Administration ("G&A"). A summary of the operating costs over the LOM is presented in Table 1-6.

Table 1-6 - Operating cost summary

Description	LOM Opex Cost ($M)	Cost per tonne ($/t concentrate)	Fraction of Cost (%)
Mining and tailing (average over life)	917	76	28
Mineralized Material Processing	1,620	134	50
Water Management	134	11	4
General and Administration	565	47	18
Total OPEX	**3,236**	**268**	**100**

1.17. Economic Analysis

The results of the assessment confirm that the Project is economically robust with an after-tax IRR of 25.9% and an 8% discount rate NPV of $2,173M based on current pricing projections of USD1,100 for flake concentrate. The complete results of the economic analysis, before and after tax are presented in Table 1-7.

Table 1-7 -Results of the economic analysis of the Uatnan Project

Economic Indicator	Pre-Tax	After-Tax
NPV (8% discount rate)	$3,613M	$2,173
IRR	32.6%	25.9%
Payback period	2.8 years	3.2 years

A sensitivity analysis on the Project economics was completed between the range of -50% to +50% applied to the capital costs, operating costs and selling price, in turn. The results of the pre-tax analysis are illustrated in Figure 1-1 and Figure 1-2, and in Figure 1-3 and Figure 1-4 for the after-tax case. The figures demonstrate that the selling price has the greatest impact on the financial outcome.

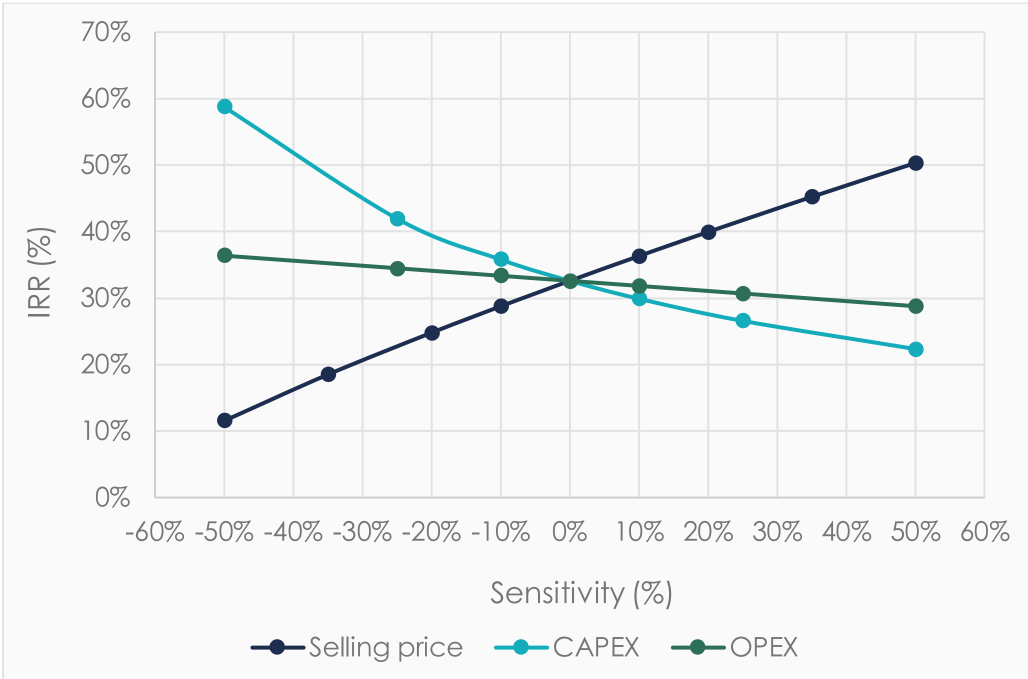


Figure 1-1 - Before-tax sensitivity analysis for IRR

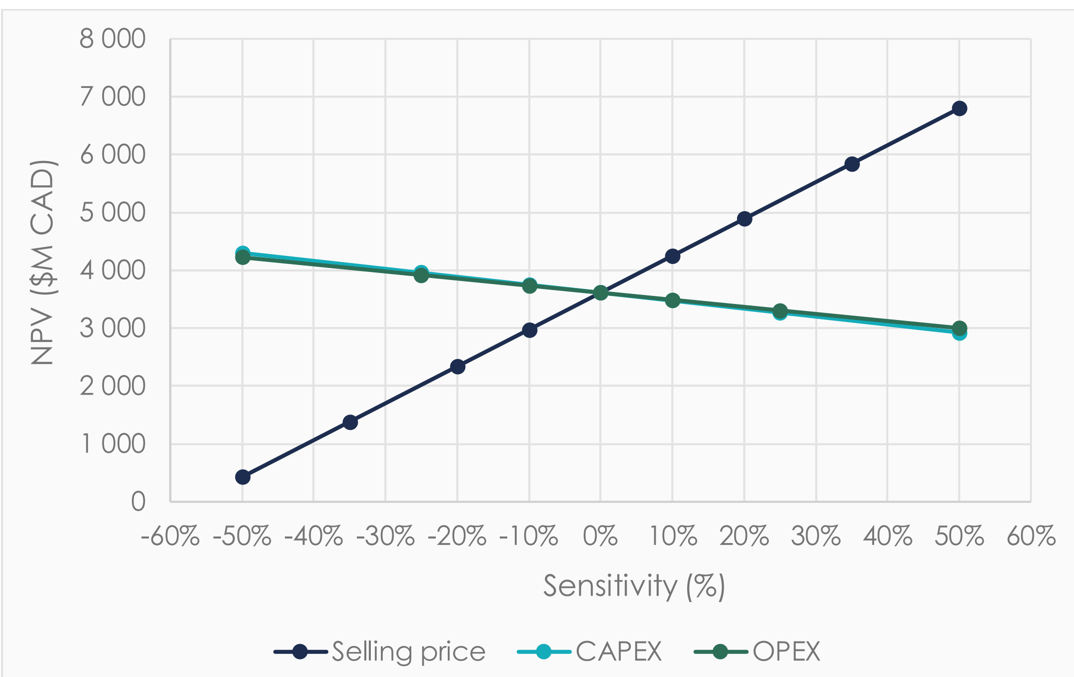


Figure 1-2 - Before-tax sensitivity analysis for NPV

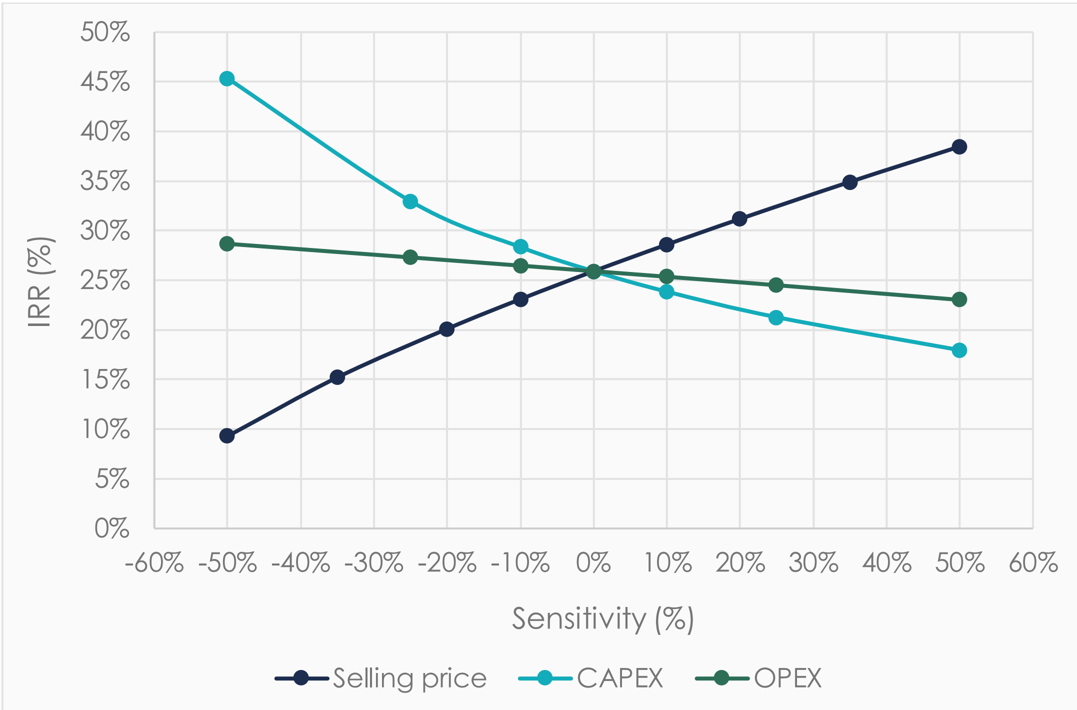


Figure 1-3 - After-tax sensitivity analysis for IRR

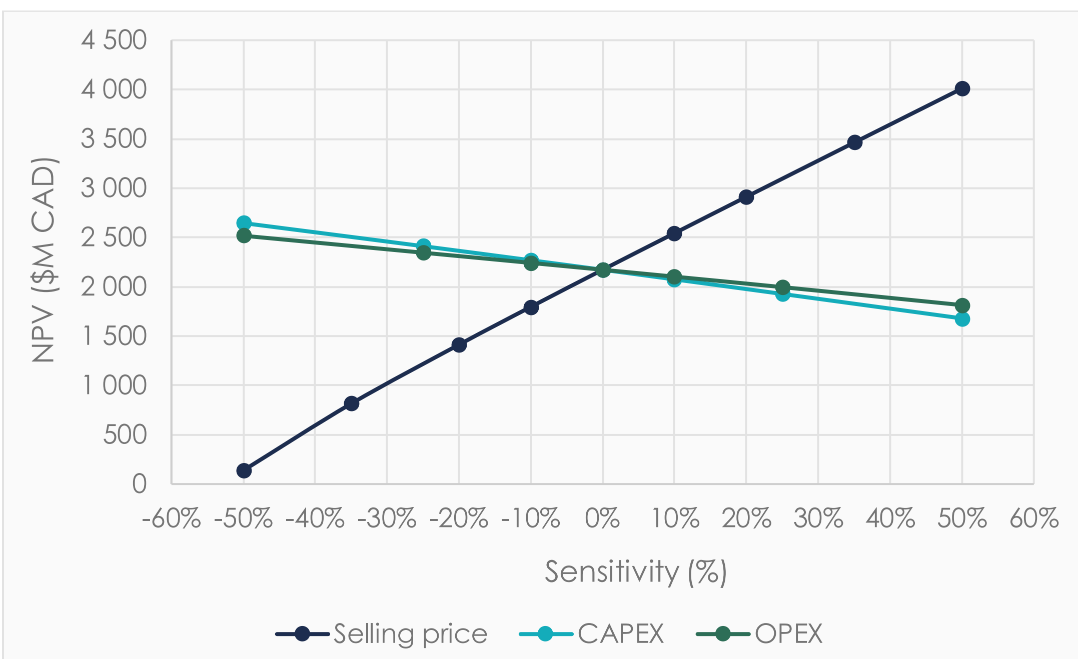


Figure 1-4 - After-tax sensitivity analysis for NPV

1.18. Adjacent Properties

With the current interest in graphite, the Uatnan Property is surrounded by new claimholders (see Figure 23-1 in Chapter 23). The main ones are Focus Graphite Inc. to the north and south and Green Battery Minerals Inc. with Ressources E-Power Inc. to the south. Various independent claims-owners are also nearby but have not reported significant exploration work to date.

1.19. Conclusions and Recommendations

The results of the PEA demonstrate that the Uatnan Project is financially viable. The authors of this Report recommend that the Project be advanced to the next stage of development, which based on the agreement between NMG and Mason Graphite, is a Feasibility Study to be completed within the timeframe of the OJV Agreement.

A summary of the next critical steps and an approximate budget required to advance the Project and complete an FS is presented in Table 1-8. The items are detailed further in the sections that follow.

Table 1-8 - Uatnan Project budget for next phase

Activity/Milestone	Budget
Drilling (10,000 metres)	$3.3M
Environmental studies	$2.3M
Pit slopes	$0.4M
Metallurgical testwork	$0.5M
Feasibility Study	$3.5M
TOTAL	**$10.0M**

1.19.1. Geology and Mineral Resources

The interpretation of the zones is mainly based on the percentage of carbon graphite and follows structural tendencies of the deposit. Three envelopes were produced by connecting the defined mineralized prisms using a cut-off grade of 5% Cg.

- Density determinations should be continued for both mineralized and non-mineralized rock types;
- To carry all necessary work to maintain the claims in good standing during the development process;
- To map the geology of the deposit during mining operations in order to detect any discrepancy in the deposit geometry thus allowing ongoing adjustment of the mining plan;
- It is recommended to modify the wireframes to include the mineralized intervals between 3% Cg and 5% Cg. The integration of zones with low-grade may affect the sensitivity of the Mineral Resources estimation;
- It is recommended additional drilling work to transform all or a part of the Inferred mineral resources to either Indicated or Measured. A total of 10,000 m of core drilling should suffice to increase confidence in the current Inferred Resources;
- It is also recommended that the potential resources of the GR mineralized zone, located north of the Lac Guéret proposed pit, be included in the current Mineral Resource Estimate of the Property. Information from 22 drill holes covering this zone is not included in the current Mineral Resource Estimate.

1.19.2. Mining

The following activities are recommended for the next phase of the Project development during the FS:

- Perform feasibility-level geomechanical and hydrogeological studies for the Uatnan pit footprint to better define pit slope angles and determine water inflows into the future pit;
- Engage with local contractors for production labour;
- Review rotation schedule to promote local employment;
- Study the possibility of an all-electric carbon-neutral mining fleet;
- Condemnation drilling for permanent infrastructures placement.

1.19.3. Process

The following activities are recommended for the next phase of the Project development:

- Metallurgical testwork to confirm the proposed process flowsheet including grinding, flotation, thickening and filtration;
- Confirmation of the concentrate grade and recovery on variability samples;
- Environmental characterization of the tailings;
- Testing with vendors for equipment sizing.

1.19.4. Environment

The following activities are recommended for the next phase of Project development:

- Continue the collaborative work with the Innu First Nation of Pessamit and local stakeholders in the Baie-Comeau community and Manicouagan region;
- Sign a pre-development agreement with the Innu First Nation of Pessamit according to their priorities and the Uatnan Project's projected impacts and attenuation;
- Continue holding stakeholder engagement activities in order to properly inform and take into account the local communities' and stakeholders' concerns regarding the Project;
- Validation with MELCCFP if a new decree is required for the Uatnan Project, or a decree modification. For a new decree a Project Notice needs to be submitted to the MELCCFP to initiate the process;
- Perform feasibility-level geotechnical and hydrogeological studies for the Uatnan pit footprint to localized infrastructure footprint;
- From updated data including geochemistry and ongoing tests-cells results and baselines studies, perform technologies trade-off studies to address the Project design refinements for tailings and waste rocks management;
- A closure plan will have to be filed and approved by the *Ministère des Ressources naturelles et des Forêts* ("MRNF"), French for Ministry of Natural Resources and Forests, to get the mining lease. As the development of the project will advance, the closure activities will need to be described. More tests should be performed on the possibility to use the overburden as a neutral material for final reclamation.

2. Introduction

BBA Inc. and GoldMinds Geoservices Inc. were commissioned by NMG to prepare a technical report on the Uatnan Project. The firms and consultants who are responsible for the content of this Report are, in alphabetical order, André Allaire, (BBA), Jeffrey Cassoff (BBA), Vera Gella (BBA), Claude Duplessis (Goldminds Geoservices) and Merouane Rachidi (Goldminds Geoservices).

2.1. Effective Dates and Declaration

This Technical Report is issued in support of the press release dated January 10, 2023, entitled "NMG Issues Positive Results of its Preliminary Economic Assessment for the Uatnan Project". The effective date of this Technical Report, completed following NI 43-101 guidelines, is January 10, 2023, and the issue date is **February 24, 2023**.

2.2. Report Responsibility and Qualified Persons

The following individuals, by virtue of their education, experience and professional association, are considered qualified persons ("QPs") as defined in the NI 43-101 and are members in good standing of appropriate professional institutions.

- André Allaire BBA
- Jeffrey Cassoff BBA
- Vera Gella BBA
- Claude Duplessis GMG
- Merouane Rachidi GMG

The preceding QPs have contributed to the writing of this Report and have provided QP certificates, included at the beginning of this Report. The information contained in the certificates outlines the sections in this Report for which each QP is responsible. Each QP has also contributed figures, tables and portions of Chapters 1 (Summary), 25 (Interpretation and Conclusions), 26 (Recommendations), and 27 (References). Table 2-1 outlines the responsibilities for the various sections of the Report and the name of the corresponding Qualified Person.

Table 2-1 below presents the responsibilities of the QPs for each chapter of this Technical Report.

Table 2-1 - Technical Report chapter list of responsibility

Chapter Number	Chapter Title	QP Responsibility	Comments and Exceptions
1	Summary	BBA & GMG	Contributions by GMG and NMG
2	Introduction	BBA	
3	Reliance on Other Experts	BBA	
4	Property Description and Location	GMG	Mason provided information on the Property description and ownership
5	Accessibility, Climate, Local Resources, Infrastructure and Physiography	GMG	
6	History	GMG	
7	Geological Setting and Mineralization	GMG	
8	Deposit Type	GMG	
9	Exploration	GMG	
10	Drilling	GMG	
11	Sample Preparation, Assaying and Security	GMG	
12	Data Verification	GMG	
13	Mineral Processing and Metallurgical Testing	BBA	
14	Mineral Resource Estimate	GMG	
15	Mineral Reserve Estimate	n/a	
16	Mining Methods	BBA	
17	Recovery Methods	BBA	
18	Project Infrastructure	BBA	
19	Market Studies and Contracts	BBA	NMG provided market studies
20	Environmental Studies, Permitting and Social or Community Impact	BBA	NMG
21	Capital and Operating Costs	BBA	
22	Economic Analysis	BBA	After-tax calculation by NMG
23	Adjacent Properties	GMG	
24	Other Relevant Data and Information	BBA	
25	Interpretation and Conclusions	BBA & GMG	Contributions by GMG and NMG
26	Recommendations	BBA & GMG	Contributions by GMG and NMG
27	References	BBA & GMG	Contributions by GMG and NMG

2.3. Qualified Persons and Inspection of the Property

Table 2-2 below presents the site visits by representatives from the companies involved in the Project.

Table 2-2 - Site visits

Date	Name	Location	Event
Sep 29, 2022	Claude Duplessis, P.Eng., GMG	Uatnan	Site inspection and independent samples
Aug 2-3, 2016	Claude Duplessis, P.Eng., GMG	Uatnan	Sites inspection, mining and infrastructure
Dec 1-2, 2014	Jeffrey Cassoff, P.Eng., BBA	Uatnan	Sites inspection, mining

The visits are still considered current as there has been no material change to the Uatnan Property.

2.4. Sources of Information

For the preparation of this Report, the authors have relied on the reference documents listed in Chapter 27 which include:

- Laboratory testwork reports;
- The previous Feasibility Study NI 43-101 issued in 2018 along with all of its supporting documents;
- Environmental impact studies;
- Geological reference documents.

2.5. Previous Technical Reports

The following is a list of reports previously issued by Mason Graphite for the Lac Guéret Project and available on SEDAR:

- NI 43-101 Technical Report: Feasibility Study Update of the Lac Guéret Graphite Project, Issued December 11, 2018;
- NI 43-101 Technical Report: Resources Update and Feasibility Study, Lac Guéret Graphite Project, Initially Issued November 9, 2015, Reissued February 29, 2016;
- NI 43-101 Technical Report: Resources Update and Feasibility Study, Lac Guéret Graphite Project, Issued November 9, 2015;

- NI 43-101 Technical Report on the Mineral Resources Estimation Update 2013 Lac Guéret Graphite Project, Issued January 17, 2014;
- NI 43-101 Technical Report on the Preliminary Economic Assessment, Lac Guéret Graphite Project, Issued June 6, 2013;
- NI 43-101 Technical Report on the Lac Guéret Graphite Project, Issued July 3, 2012.

2.6. Units and Currency

In this Report, all currency amounts are in Canadian Dollars ("CAD" or "$") unless otherwise stated, with commodity prices typically expressed in U.S. dollars ("USD"). Units of measurement are generally stated in the *Système international d'unités* ("SI") metric units, the standard Canadian and international practices, including metric tons ("tonnes", "t") for weight, and kilometres ("km") or metres ("m") for distance.

3. Reliance on Other Experts

In this Report the Qualified Persons relied on the following external inputs:

- GESTIM (MRNF online claims management system (Chapter 4));
- Graphite pricing by NMG based on market studies commissioned from Benchmark Mineral Intelligence in 2022 (Chapter 19);
- Development of the site layout to address environmental constraints was done in conjunction with Martine Paradis (VP Environment and Engineering at NMG) and NMG's external consultant Ann Lamontagne, and considered appropriate by BBA;
- Environmental permitting considerations were provided by Martine Paradis, NMG, and considered appropriate by BBA;
- Tax information used in the after-tax financial analysis was provided by NMG (Chapter 22) and considered appropriate by BBA.

4. Property Description and Location

4.1. Introduction

The Uatnan Property is located in the Côte-Nord Administrative Region, in northeastern Québec, Canada, on the southwestern shore of the Manicouagan Reservoir. The graphite deposit is centred on 51°07'N and 69°05'W and consists of 74 CDC claims of which 71 are located on NTS topographic map sheet 22N03, and three on sheet 22K14.

4.2. Location

The Uatnan Property lies on the southwestern shore of the Manicouagan Reservoir, within the Rivière-aux-Outardes municipality, located in the Côte-Nord Administrative Region, Québec, Canada, approximately 220 km as the crow flies, north northwest of the town of Baie-Comeau. This town is the nearest accessible community of significant size. Considering the significant modifications to Mason's original project, NMG initiated a name change with the collaboration of the Innu First Nation of Pessamit. The deposit is located on the Nitassinan, the Innu of Pessamit's ancestral territory, in a sector referred to as Ka uatshinakanishkat meaning "where there is Tamarack". Hence, the name Uatnan meaning Tamarack, a conifer prominent in the area, was chosen to identify the Property and Project. The graphite deposit identified on the Property is still referred to as the Lac Guéret deposit. The Uatnan Property is centred on 51°07'N and 69°05'W and consists of 74 CDC claims of which 71 are located on NTS topographic map sheet 22N03 and three on sheet 22K14. Three CDC claims (CDC 1037522, CDC 1040768 and 1040769), intersecting the Lac Guéret deposit, are currently suspended awaiting their partial conversion for a mining lease following a request by Mason. Figure 4-1 and Figure 4-2 below present the location of the Uatnan site.

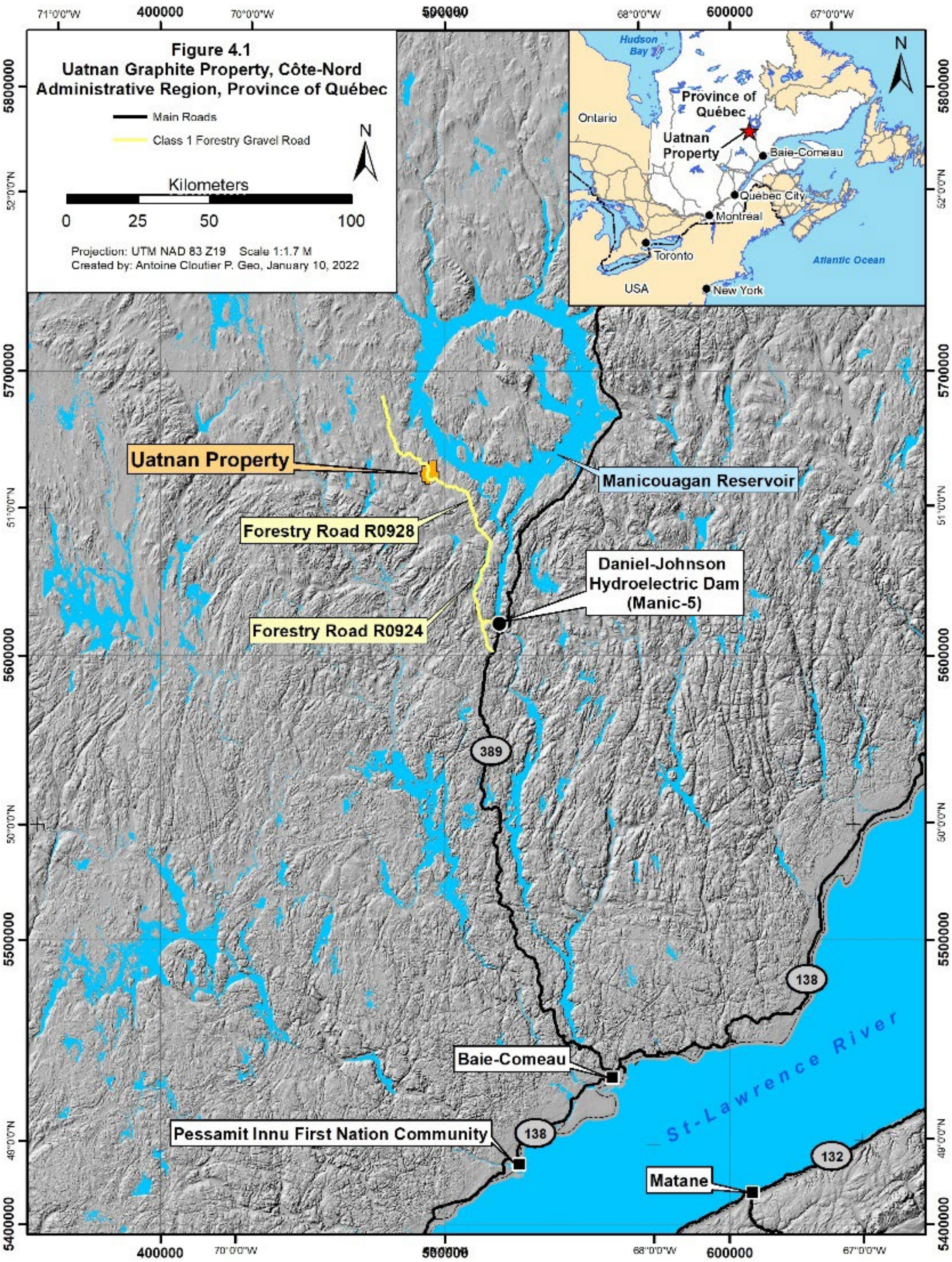


Figure 4-1 - Location of the Uatnan Property

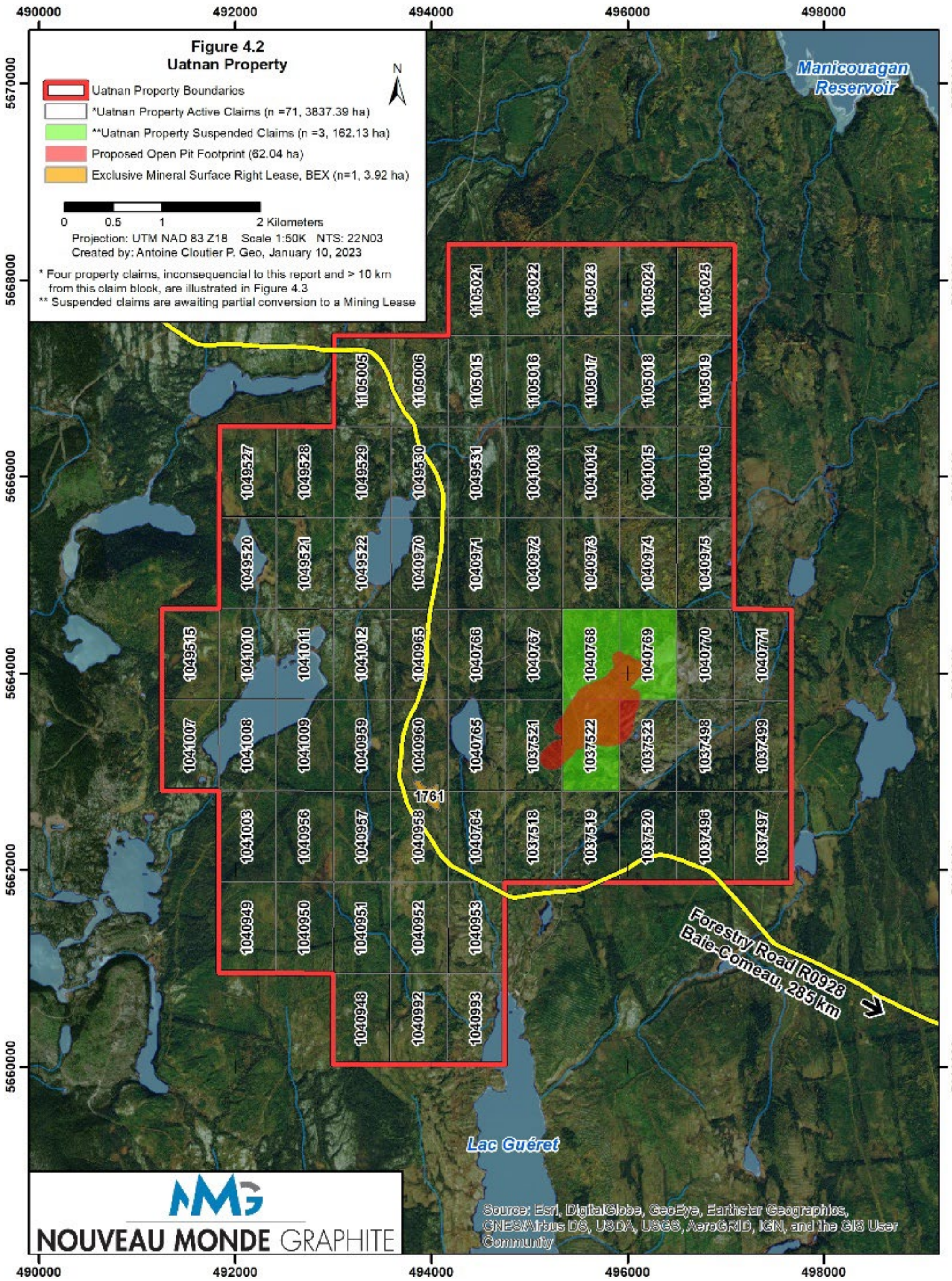


Figure 4-2 - The Uatnan Property and the claims location

4.3. Mineral Title Status

The Uatnan Property covers an area of 3,999.52 ha, all of which are 100% in the interest of Mason Graphite with the claims (74 claims) in good standing until July 17, 2024 (Figure 4-3). One mining lease is in demand (BM pending application 1694757) by Mason Graphite intersecting three CDC claims (CDC 1037522, CDC 1040768 and 1040769), (Figure 4-3).

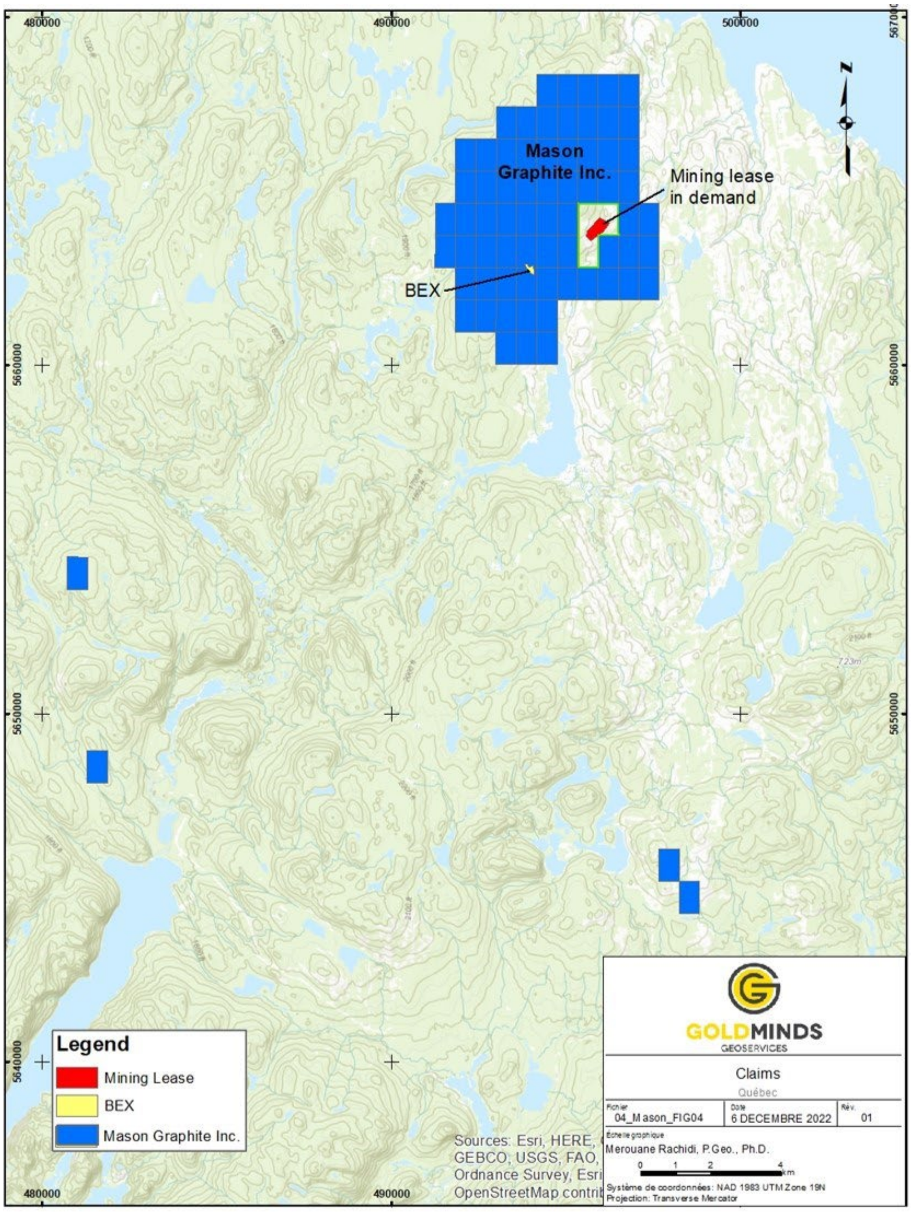


Figure 4-3 - Claims location

Table 4-1 below lists the details of the registered active claims, and the three suspended claims awaiting conversion to a mining lease, based on information from the MRNF's GESTIM website updated as of December 14, 2022.

Figure 4-3, above shows the location of individual claims within the registered claim group. The claims were consolidated into groups with common anniversary dates.

At the 2017 renewal, Mason Graphite did not renew all the claims. The remaining 74 claims are in good standing.

Table 4-1 - List of claims

	# Title	Status	Registration Date	Expiration Date	Renewal	Area (ha)	Over ($)	Work Required ($)
BEX	1761	Active	2019-04-18	2029-04-17	0	3.92	0	
CDC	1037496	Active	2001-11-14	2024-07-17	10	54.06	0	2500
CDC	1037497	Active	2001-11-14	2024-07-17	10	54.06	0	2500
CDC	1037498	Active	2001-11-14	2024-07-17	10	54.05	0	2500
CDC	1037499	Active	2001-11-14	2024-07-17	10	54.05	0	2500
CDC	1037518	Active	2001-11-14	2024-07-17	10	54.06	0	2500
CDC	1037519	Active	2001-11-14	2024-07-17	10	54.06	0	2500
CDC	1037520	Active	2001-11-14	2024-07-17	10	54.06	0	2500
CDC	1037521	Active	2001-11-14	2024-07-17	10	54.05	0	2500
CDC	1037523	Active	2001-11-14	2024-07-17	10	54.05	760,781.63	2500
CDC	1040764	Active	2001-12-01	2024-07-17	11	54.06	0	2500
CDC	1040765	Active	2001-12-01	2024-07-17	11	54.05	0	2500
CDC	1040766	Active	2001-12-01	2024-07-17	11	54.04	0	2500
CDC	1040767	Active	2001-12-01	2024-07-17	11	54.04	0	2500
CDC	1040770	Active	2001-12-01	2024-07-17	11	54.04	0	2500
CDC	1040771	Active	2001-12-01	2024-07-17	11	54.04	0	2500
CDC	1040948	Active	2001-12-03	2024-07-17	10	54.08	0	2500
CDC	1040949	Active	2001-12-03	2024-07-17	10	54.07	0	2500
CDC	1040950	Active	2001-12-03	2024-07-17	10	54.07	0	2500
CDC	1040951	Active	2001-12-03	2024-07-17	10	54.07	0	2500
CDC	1040952	Active	2001-12-03	2024-07-17	10	54.07	0	2500
CDC	1040953	Active	2001-12-03	2024-07-17	10	54.07	0	2500
CDC	1040956	Active	2001-12-03	2024-07-17	10	54.06	0	2500
CDC	1040957	Active	2001-12-03	2024-07-17	10	54.06	0	2500

	# Title	Status	Registration Date	Expiration Date	Renewal	Area (ha)	Over ($)	Work Required ($)
CDC	1040958	Active	2001-12-03	2024-07-17	10	54.06	0	2500
CDC	1040959	Active	2001-12-03	2024-07-17	10	54.05	0	2500
CDC	1040960	Active	2001-12-03	2024-07-17	10	54.05	0	2500
CDC	1040965	Active	2001-12-03	2024-07-17	10	54.04	0	2500
CDC	1040970	Active	2001-12-03	2024-07-17	10	54.03	0	2500
CDC	1040971	Active	2001-12-03	2024-07-17	10	54.03	0	2500
CDC	1040972	Active	2001-12-03	2024-07-17	10	54.03	0	2500
CDC	1040973	Active	2001-12-03	2024-07-17	10	54.03	0	2500
CDC	1040974	Active	2001-12-03	2024-07-17	10	54.03	0	2500
CDC	1040975	Active	2001-12-03	2024-07-17	10	54.03	0	2500
CDC	1040992	Active	2001-12-03	2024-07-17	10	54.08	0	2500
CDC	1040993	Active	2001-12-03	2024-07-17	10	54.08	0	2500
CDC	1041003	Active	2001-12-03	2024-07-17	10	54.06	0	2500
CDC	1041007	Active	2001-12-03	2024-07-17	10	54.05	0	2500
CDC	1041008	Active	2001-12-03	2024-07-17	10	54.05	0	2500
CDC	1041009	Active	2001-12-03	2024-07-17	10	54.05	0	2500
CDC	1041010	Active	2001-12-03	2024-07-17	10	54.04	0	2500
CDC	1041011	Active	2001-12-03	2024-07-17	10	54.04	0	2500
CDC	1041012	Active	2001-12-03	2024-07-17	10	54.04	0	2500
CDC	1041013	Active	2001-12-03	2024-07-17	10	54.02	0	2500
CDC	1041014	Active	2001-12-03	2024-07-17	10	54.02	0	2500
CDC	1041015	Active	2001-12-03	2024-07-17	10	54.02	0	2500
CDC	1041016	Active	2001-12-03	2024-07-17	10	54.02	0	2500
CDC	1049515	Active	2002-02-11	2024-07-17	10	54.04	0	2500
CDC	1049520	Active	2002-02-11	2024-07-17	10	54.03	0	2500
CDC	1049521	Active	2002-02-11	2024-07-17	10	54.03	0	2500
CDC	1049522	Active	2002-02-11	2024-07-17	10	54.03	0	2500
CDC	1049527	Active	2002-02-11	2024-07-17	10	54.02	0	2500
CDC	1049528	Active	2002-02-11	2024-07-17	10	54.02	0	2500
CDC	1049529	Active	2002-02-11	2024-07-17	10	54.02	0	2500
CDC	1049530	Active	2002-02-11	2024-07-17	10	54.02	0	2500
CDC	1049531	Active	2002-02-11	2024-07-17	10	54.02	0	2500
CDC	1105005	Active	2002-11-12	2024-07-17	9	54.01	0	2500
CDC	1105006	Active	2002-11-12	2024-07-17	9	54.01	0	2500

	# Title	Status	Registration Date	Expiration Date	Renewal	Area (ha)	Over ($)	Work Required ($)
CDC	1105015	Active	2002-11-12	2024-07-17	9	54.01	0	2500
CDC	1105016	Active	2002-11-12	2024-07-17	9	54.01	0	2500
CDC	1105017	Active	2002-11-12	2024-07-17	9	54.01	0	2500
CDC	1105018	Active	2002-11-12	2024-07-17	9	54.01	0	2500
CDC	1105019	Active	2002-11-12	2024-07-17	9	54.01	0	2500
CDC	1105021	Active	2002-11-12	2024-07-17	9	54	0	2500
CDC	1105022	Active	2002-11-12	2024-07-17	9	54	0	2500
CDC	1105023	Active	2002-11-12	2024-07-17	9	54	0	2500
CDC	1105024	Active	2002-11-12	2024-07-17	9	54	0	2500
CDC	1105025	Active	2002-11-12	2024-07-17	9	54	0	2500
CDC	1118348	Active	2003-02-19	2024-07-17	9	54.15	4,394.38	2500
CDC	1106112	Active	2002-12-04	2024-07-17	9	54.2	4,151.47	2500
CDC	1118449	Active	2003-02-20	2024-07-17	9	54.23	7,423.88	2500
CDC	1118548	Active	2003-02-20	2024-07-17	9	54.24	9,407.88	2500
CDC	1037522	Suspended	2001-11-14	2023-07-17	10	54.05	2,857,616.72	2500
CDC	1040768	Suspended	2001-12-01	2023-07-17	11	54.04	1,295,223.12	2500
CDC	1040769	Suspended	2001-12-01	2023-07-17	11	54.04	1,259,514.22	2500

4.4. Issuer's Interest

As of December 2016, Mason Graphite paid to Quinto an amount of USD4.0M to complete the acquisition of the claims. Mason Graphite has received a release of all the securities from Quinto, thus fully completing the acquisition process from Quinto. There are effectively no securities left on the claims.

The claims have not had any legal surveys performed by a certified surveyor. All claims are map-staked claims and are registered in the Québec GESTIM database.

NMG entered into the Investment Agreement and the OJV Agreement to explore the potential development of the Lac Guéret deposit.

Those agreements align with NMG's growth strategy with a view to establishing a large and fully vertically integrated natural graphite production, from mill feed to battery materials, at the western markets' doorstep.

The transaction, as approved by Mason Graphite's shareholders, entails, among others and subject to the terms and conditions of the Investment Agreement and OJV Agreement:

1) $5 million equity investment by NMG in Mason Graphite, in two instalments;
2) Project development through a Preliminary Economic Assessment and bankable Feasibility Study following NI 43-101 rules and guidelines;
3) Upon completion of technical studies and a $10-million investment in related works (which includes technical studies work) and at the time of acceptance of such technical studies work by Mason Graphite, NMG shall be deemed to have acquired 51% participation in the Uatnan Property and will be appointed as operator. The joint venture would be funded by each party per its proportionate share of each of the approved work programs and budget and all other expenditures approved in accordance with the OJV Agreement.

Following the successful initial closing of the investment agreement with Mason Graphite on July 20, 2022, NMG and Mason Graphite initiated this PEA on the Uatnan Property.

4.5. Mineral Royalties

No registered encumbrances or royalties are known on the Uatnan Property.

4.6. Permits and environmental liabilities

In June 2017 Mason Graphite and the Innu First Nation of Pessamit signed an Impact and Benefits Agreement concerning the Lac Guéret Project.

During the summer of 2017, as part of the environmental evaluation process, public consultations on the Project were held by the provincial government (by the *Bureau d'Audiences Publiques en Environnement* – "*BAPE*") at the end of which no public hearing was requested by the population.

All permits needed to complete the work to date have been obtained such as tree clearing permits for exploration work.

Although a ministerial decree authorizing the Lac Guéret Mine Project (Decree #608-2018) was granted by the MELCC on May 16, 2018, the substantial changes to the Project presented in this Report could necessitate the application for a new authorization or modification of such decree. Additional information on the work needed to obtain this authorization is further discussed in Chapter 20.

There are no known legal or title risks which may affect access, or the right or ability to perform work on the Property. For more details on social, environmental, and permitting issues and risks, see Chapter 20.

4.7. Significant Factors and Risks

The Project is part of an industry that contains various risks and uncertainties. The risks and uncertainties listed below are not the only ones to which the Project is subject. Additional risks and uncertainties not presently known by NMG and Mason, or which NMG and Mason deem to be currently insignificant, may impede the schedule and performance of the Project. The materialization of risks could harm the activities of the Project and have significant negative impacts on the financial situation and the operating results of the Project.

The PEA is preliminary in nature and includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Mineral Resources that are not Mineral Reserves have not demonstrated economic viability. Additional trenching and/or drilling will be required to convert Inferred Mineral Resources to Indicated or Measured Mineral Resources. There is no certainty that the resource development, production, and economic forecasts on which this PEA is based will be realized.

4.7.1. Socio-economic Risks

A socio-economic risk exists which may affect the access or the right or the ability to perform work on the land in the form of social acceptability of the Project by the Innu First Nation of Pessamit and local users of the land.

4.7.2. Risk of New Mining Operations

The Uatnan Project does not have an operating history. Whether income will result from any of the Project's activities will depend on the successful establishment of new mining operations. As a result, NMG and Mason are subject to all of the risks associated with establishing or expanding new mining operations and business enterprises, including the timing and cost, which can be considerable, of the construction of mining and processing facilities and related infrastructure; the availability and cost of skilled labour and mining equipment; the need to obtain necessary environmental and other governmental approval and permits and the timing of the receipt of those approvals and permits; the availability of funds to finance construction and development activities; potential opposition from non-governmental organizations, environmental groups or local groups which may delay or prevent development activities; and potential increases in construction and operating costs due to changes in the cost of fuel, power, materials and supplies.

Various factors, including the successful construction, commissioning and ramp-up of the Uatnan Project, costs, actual mineralization, consistency and reliability of graphite grades, commodity prices, future cash flow and profitability can affect successful project development, and there can be no assurance that current or future estimates of these factors will reflect actual results and performance. The design and construction of efficient processing facilities, the cost and availability of suitable machinery, supplies, mining equipment and skilled labour, the existence of competent operational management and prudent financial administration, as well as the availability and reliability of appropriately skilled and experienced consultants can also affect successful project development. It is common in new mining operations to experience unexpected problems and delays during construction, development, mine start-up and commissioning activities. Such factors can add to the cost of mine development, production and operation and/or impair production and mining activities, thereby affecting the Project's profitability. Accordingly, there is no assurance that the Uatnan Project will ever be brought into a state of commercial production or that the Project's activities will result in profitable mining operations.

4.7.3. Risks Related to the Mining Property

The Project's footprint has no accessibility restrictions known to NMG and Mason and is solely located on crown land. There are no known significant factors and risks other than as disclosed herein that may affect access, title, or the right or ability to perform work on the Uatnan Property.

For more details on the Project risks, see Chapter 25.

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

5.1. Accessibility

Access to the Property is via the paved all-weather Highway 389 from Baie-Comeau, Québec to Wabush, Labrador. At Km 202, south of the Manicouagan-5 /Daniel-Johnson hydroelectric dam, a Class 1, main haul-gravel logging road turns northwest from the paved road. It continues about 85 km north-northwest from the highway toward the southwest shore of Lac Manicouagan where it enters the Uatnan Property. The Uatnan Property is located in a system of former logging roads that are sporadically maintained by logging companies and were in sound condition as of 2022. Numerous logging roads run cross and around the Property and give good access to the claim block (Figure 5-1).

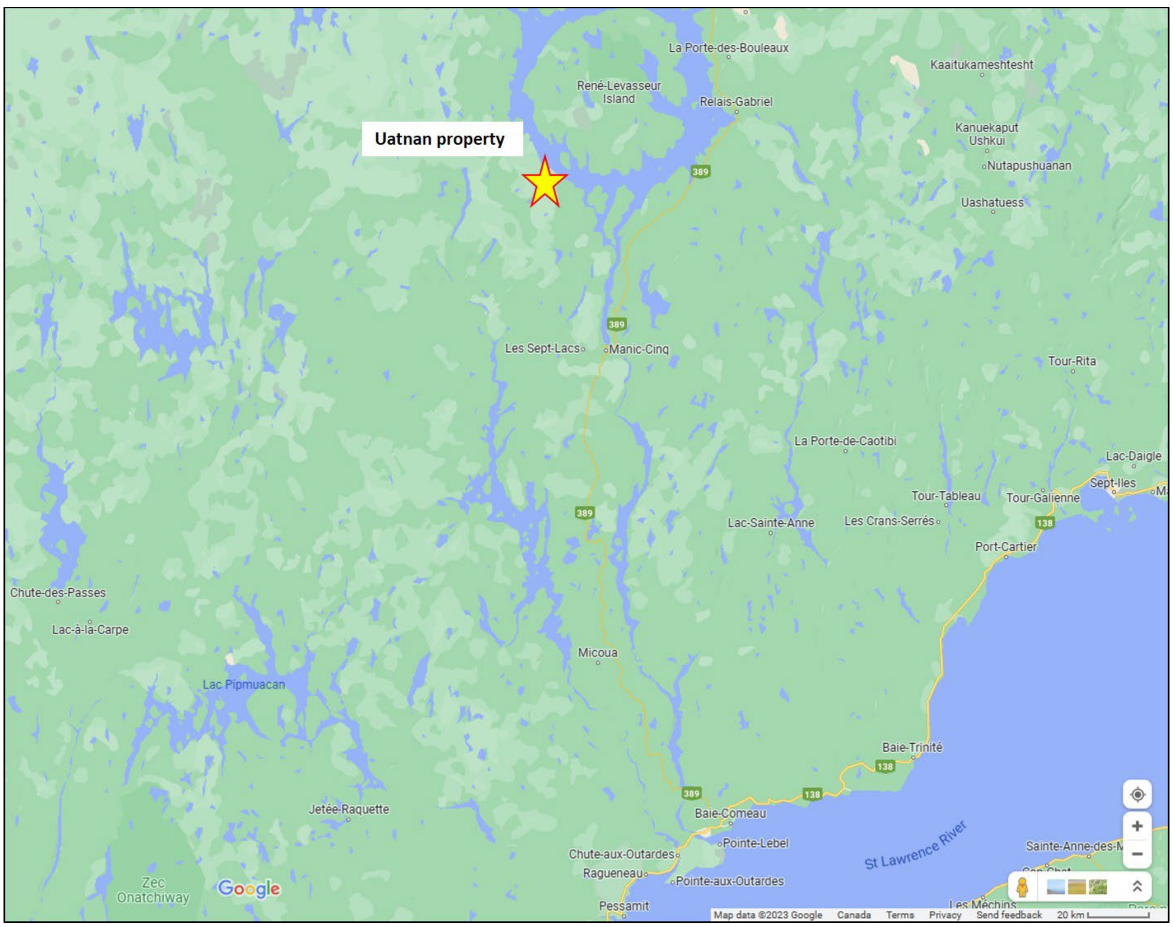


Figure 5-1 - Map showing the Uatnan Property and access roads

The closest town, Baie-Comeau, has a deep-water port which accommodates shipping freighters and cruise ships with up to 9.0 m water draught. Vehicle and rail ferries allow crossing the St-Lawrence River to the city of Matane on the south shore enabling easy access to the rest of the North American Continent.

Baie-Comeau also hosts a regional airport with regular scheduled flights from Montréal and Québec City.

5.2. Climate

The northern boreal forest region receives an extreme range of weather conditions throughout the year. Summers are short, from June to September with variably dry to wet conditions with local storms, which may give heavy rainfall. Humidity ranges from very dry to quite humid. Lightning from thunderstorms is a frequent cause of forest fires, which are a normal hazard in any 10-year period. Autumn is quite changeable with abrupt shifts from almost summery conditions to frost and back in 48 hours. As the autumn progresses, colder days are more frequent, and snow may start as early as late September, but more commonly, snow stays on the ground after mid-November. Winter is cold with very short days and temperatures to -40°C (Table 5-1). Snow may come in storms with 30 cm snowfalls. Spring is the opposite of autumn in the variability of daily temperatures and precipitation. It lasts from April to June. However, frost may occur in any month of the year as well as above freezing temperatures. Except for the occasional heavy snow fall, mining operations are not affected by the climate.

Table 5-1 - Monthly temperatures (in °C) at Manouane Est (2022, Environment Canada).

Month	1	2	3	4	5	6	7	8	9	10	11	12
Max Temp. (°C)	-3.4	-0.2	2.8	8.2	21.1	27.2	25.0	27.2	25.5	18.9	16.4	2.9
Min Temp. (°C)	-44.7	-44.9	-38.4	-20.4	-8.7	-1.5	4.2	0.1	-2.0	-2.7	-23.9	-32.9
Average Temp. (°C)	-27	-23.5	-12.5	-2.3	5.8	13.1	15.0	15.0	10.7	6.0	-4.5	-12.0

5.3. Physiography

Elevations range from 1,175 m on the reservoir to just over 2,150 m on a ridge some 10.5 km southwest of the lakeshore. The topography is mainly undulating glacial landforms, which thinly cover the outcrop surface. Glacial outwash plains and kame deposits are common. The glaciers moved from the north and scoured the pre-existing north- and northeast-trending structures to create linear valleys now filled with streams, lakes, bogs, and glacial materials. Locally, linear low rounded cliffs occur (Figure 5-2).

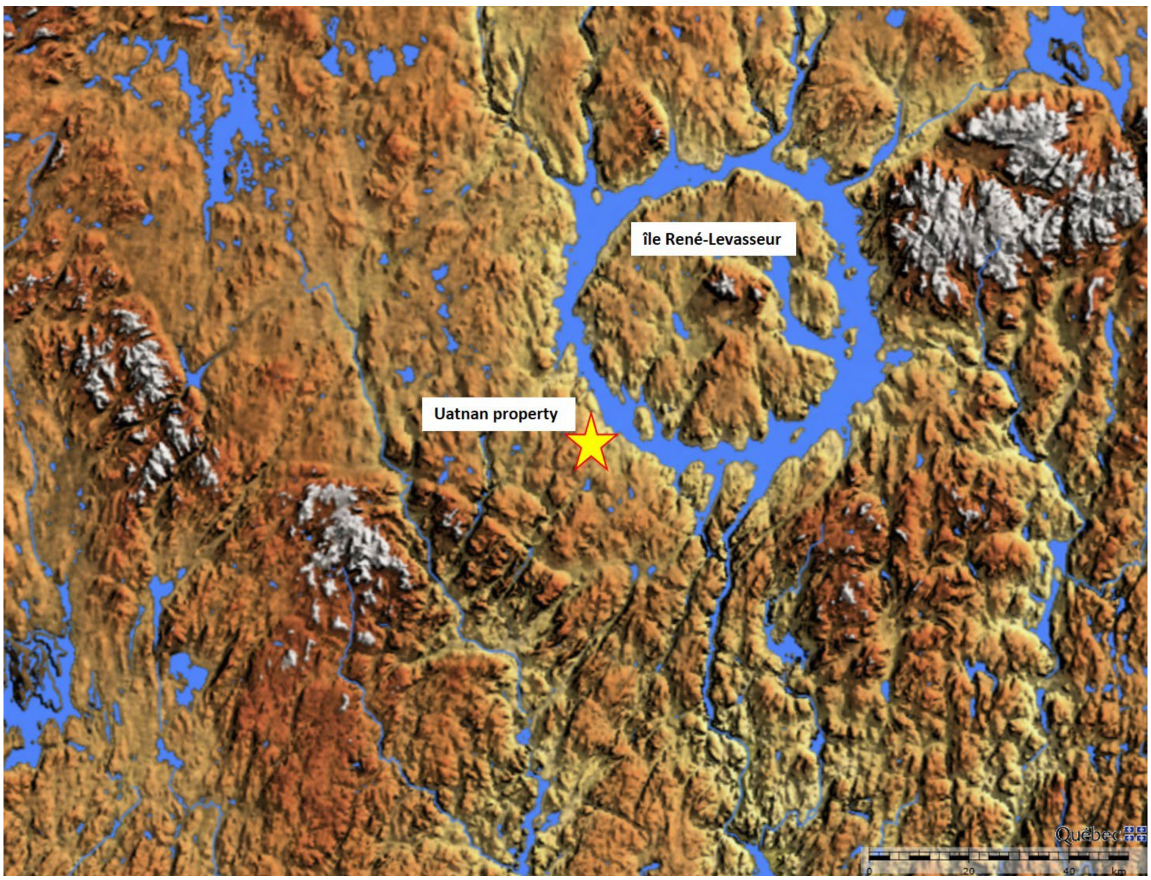


Figure 5-2 - Topography of the Uatnan Property

The boreal forest covers the area. The two dominant plant communities, typified by the black spruce – fir and white birch – larch association, are common through the region. The understory plants for both communities are several rhododendron species called Labrador tea, tag alder, ash, pin cherry, and various types of berry bushes, of which blueberry is ubiquitous. Forest fire is part of the boreal forest ecology. In the early 1990s, a particularly dry summer led to numerous natural fires. About 30% of the forest on the Property was burned in various degrees.

5.4. Local Resources and Infrastructure

The Property is located about 285 km by road north-northwest of Baie-Comeau, Québec, the nearest major population and service centre. The northeast corner of the claim block lies on the southwestern shore of Reservoir Manicouagan, a large circular lake impounded by Barrage Daniel Johnson, more commonly known as the Manic-5 Dam, owned by Hydro-Québec. The hydroelectric dam is about 85 km by road southeast of the centre of the Property and is the main power supply source planned for the Project.

Logging operations between 1998 and 2006 created access into the area. The resulting logging roads, designed for 100 t off-highway logging haul trucks, unearthed new outcrops and give good access throughout the claims. Following a site visit on September 29, 2022, it was confirmed that the main logging road accessing the Property is in overall good condition.

Water is abundant in the Project area. The remoteness of the Project necessitates on-site accommodations to host personnel. The mine infrastructure and layout are discussed in Chapter 18.

6. History

6.1. Prior Ownership

Prior to the access developed in the late 1990s by logging companies in the region, the geographical isolation of this area has hindered exploration. Lyons researched the Québec MERN (now "MRNF") website for assessment files in 2009. The only assessment reports on claims situated near or on the Uatnan claims were filed by Québec Cartier Mining Co. in 1962. They had two claim blocks totalling 100 quarter-mile claims in the area of the Property from 1959 until at least 1971. It is unknown when these claims expired. They were acquired based on regional airborne magnetometer mapping that picked up anomalies indicating significant iron formation in geology similar to the Mt. Reed – Mt. Wright iron deposits about 150 km to the northeast. Québec Cartier maintained their interest to at least 1971. The Uatnan claim group covers their former holdings. No other assessment reports filed with the MERN Québec are available for the Property area since at least 1935 until the Québec Cartier reports in 1962.

In late 2001, Phil Boudrias of Exploration Esbec (Sept-Îles, QC) located graphite in road-cut outcrops along recent logging roads at what is now the west end of the GR ("Graphite Road") Zone. He staked a claim block and optioned it to Quinto of Delta, B.C. in 2002. Ed Lyons did the original technical site visit in August 2002 as part of the agreement completion on behalf of Quinto. Quinto conducted exploration works between 2002 and 2007, including drilling an initial resource (published in-house in 2009). In 2008, Consolidated Thompson Iron Mines Ltd. ("CLM") purchased 100% of Quinto shares and continued to maintain the Company privately. In 2011, Cliffs Natural Resources Inc. bought 100% of the CLM shares and continued to maintain Quinto as a private company. Mason Graphite optioned the Uatnan Property from Quinto as described under Issuer's Interest in Section 4.4.

6.2. Historical Exploration Work

Québec Cartier conducted their major work in 1962 (Ferreira 1962a, 1962b). Baselines were cut on three grids-cutting with lines turned at 300 ft intervals for a total of 61 miles (98.5 km). Geological mapping and dip-needle magnetometer surveys were carried out at 1:2,400 scale on the grids. Six inclined AX-size diamond drillholes were drilled for a total of 2,301 ft (701.3 m). Most of the footage (1,820 ft or 554.7 m) was drilled in five holes around "Iron" and "Barrage" Lakes. Québec Cartier reported a global average of all samples at 36% Fe. The individual samples range from 12.9% to 40.5% Fe mainly in magnetite and lesser specular hematite iron oxide facies formation. Intervals range from 138 ft (42.1 m) to 420 ft (128.0 m). No further work appears to have been done after 1962.

Following the discovery of graphite at the GR Zone showing on a logging road by Phil Boudrias of Sept-Îles, QC in 2001, Quinto optioned a block of claims that forms the core of the present Uatnan Property from Exploration Esbec (Sept-Îles, QC) in 2002 and added claims on its own account to cover the favourable stratigraphy around the iron formation as well as the iron formation core itself.

Table 6-1 presents a short summary of various exploration works and reports on the Uatnan Property since 2002.

Table 6-1 - Summary of exploration work and reports on the Uatnan Property[1]

Year	Works
2002	Initial evaluation: discovery of GR and GC Zones, prospecting and geological mapping, 17 line-km grid; 12 line-km VLF-mag ground survey. Seven trenches totalling 643 metres with 181 saw-cut channel samples. NI 43-101 Technical Report by E. Lyons, 12 Oct 2002 (Lyons, 2002).
2003	Trench mapping, property exploration, drilling campaign (GC Zone: 2 holes totalling 316 m and GR Zone: 8 holes totalling 890.9 m) with 421 saw-cut core samples; exploration trenches (50 trenches totalling 4,409 metres) with 1,023 saw-cut channel samples; definition of three mineralized material types by grade and visual characteristics; initial met testwork. Joint venture with SOQUEM agreement in principle; Airborne EM-mag survey (Geotech, 2003); NI-43-101 Technical Report by E. Lyons, 28 Feb 2004 (Lyons, 2004a, 2005b).
2004	Field verification of airborne anomalies across Property; detailed groundwork focused on GC Zone; detailed stripping and trenching with detailed 1:1,000 scale geological mapping; 31 trenches totalling 2,087 metres with 407 saw-cut channel samples representing 1,584 m of sampled trenches.; SOQUEM conducted trenching and drilling on four anomalies to the north and west of the Lac Guéret claims (Roy, 2004). Structural geology review (Daigneault, 2004). NI-43-101 Technical Report by E. Lyons, 15 Dec 2004 (Lyons, 2004b).
2005	Property mapping (assessment work), (Lyons, 2005a).
2006	Drilling campaign (GC Zone: 24 holes totalling 2,152.1 m), airborne geophysics.
2007	Technical studies: 2006 drill core relogged by Lyons, metallurgical testwork, started resource model; in-house studies incomplete.
2009	Drilling and Mineral Resource Estimation Report (not NI 43-101 compliant) internal report for Quinto Mining, 17 Dec 2009 by E. Lyons (Lyons, 2009).
2012	NI 43-101 Technical Report on the Lac Guéret Graphite Project: initial mineral resource estimation based on a 2006 diamond drilling and Lyons 2009 report.
2012	Drilling campaign (GC Zone: 146 holes totalling 24,346.3 m and GR Zone: 17 holes totalling 2,201.1 m).

[1] Since 2002

Year	Works
2013	NI 43-101 Preliminary Economic Assessment, Lac Guéret Graphite Project (Lyons, et al., 2013; Summer relogging of 2012 drill core.
2013	Synthèse géologique de la région du réservoir Daniel-Johnson (Manicouagan), (SIGEOM : MM 2017-01-C0001).
2014	NI 43-101 Mineral Resource Estimation Update 2013, Lac Guéret Graphite Project (Lyons, et al., 2014); (updated resource estimation and PEA).
2015	NI 43-101 Technical Report: Resource Update and Feasibility Study, Lac Guéret Graphite Project (Duplessis, Lyons, Cassoff, Gauthier and Roy, 2015, reissued 2016).
2018	NI 43-101 Technical Report: FEASIBILITY STUDY UPDATE of the LAC GUÉRET GRAPHITE PROJECT, Québec, Canada (J, Cassoff, A. Grandillo, L. Piciacchia, S. Fortier, C. Duplessis and M. Rachidi, issued December 11, 2016).

After the initial Property evaluation in 2002 by Lyons, the majority of the exploration work was focused on the known graphite occurrences. In 2003, the first drilling campaign in that area totalling 1,206.9 m was completed. Exploration drilling was also done on selected targets by Quinto's JV partner at the time, SOQUEM on distant targets on the Property in order to assess other anomalies and meet assessment work requirements. It was then followed in 2004 and 2005 by an exploration program targeted at airborne geophysical anomalies and other graphite occurrences as well as by extensive clearing and trenching, channel sampling, and detailed mapping of the GC Zone by Lyons in order to better understand the geology of the known deposit.

The 2006 exploration program included trenching two trenches northeast of TR68, named TR69 and TR70, and a diamond drill program of 24 NQ holes totalling 2,152.1 m. Three holes totalling 235.8 m were also drilled in the graphite stratigraphy outside of the GC-GR area for assessment purposes but are not discussed herein. The trenches were channel sampled using a concrete saw, but the original record of results appear not to have been completely transferred to Mason Graphite after Quinto was purchased by Cliffs Natural Resources in 2011. These included the number of samples, where they were taken and the analytical results. Lyons authored the NI 43-101 reports for the 2002, 2003, and 2004 exploration works for Quinto, which included almost all the channel sampling. Lyons observed the trenches in May 2007 and noted that they extended the TR68 geology to the NE some 80 m.

The 2003-2006, 2012 and 2013-2014 drilling campaigns are detailed in sections 9 and 10 of this Report.

6.2.1. Historical Mineral Resources

There are no historical Mineral Resources.

7. Geological Setting and Mineralization

7.1 Regional Geology

The results of the 2004 field campaign (Lyons 2004b) and the 2006 drilling improved the understanding of the regional, as well as Property geology. In addition, the lithotectonic synthesis of the Labrador Trough by Clark and Wares (2005) revised the standard stratigraphy of the Labrador Trough, which is the protolith of the Gagnon Group on the Property. The synthesis also changes some fundamental perspectives and interpretations applicable to the subject Property.

The regional geology is shown in compilation maps (Figure 7-1) by the Geological Survey of Canada (Davidson, 1996) and the Québec Ministry of Natural Resources (Marcoux and Avramtchev, 1990) and is summarized by Hocq (1994). The regional stratigraphy is shown in Table 7-1 with the Québec Government regional mapping codes (from youngest to oldest).

Table 7-1 - Regional stratigraphy

CENOZOIC		
Quaternary		
Q	Pleistocene glacial deposits, unconsolidated	
MESOZOIC		
Triassic		
Mcc	Manicouagan impact crater complex (monzonite, latite, breccia)	
MIDDLE PROTEROZOIC		
G16	Shabogamo mafic intrusives	
G15	Monzonite – granodiorite intrusives (? klippes)	
G14	Gabbro (nappe – klippes?)	
PALEOPROTEROZOIC – ARCHEAN		
Gagnon Group		
HBG_GN	Hornblende-garnet gneiss – basalt sill-dyke complex coeval with Menihek Fm (small scale)	
G12	Menihek Fm. (quartzofeldspathic gneiss) also called Upper Paragneiss (Clarke, 1977)	
G12a	Lac Guéret Member (informal) of Menihek Fm (graphite-quartz schist and graphite-quartz-feldspar-biotite-(garnet) gneiss)	
	------------------ diachronous contact ------------------------------	
G11a	Sokoman Fm. non-Fe oxide member (quartzite-rich sediments)	
G11	Sokoman Fm. (iron formation)	Age 1885 – 1878 Ma
	------------------ unconformity ---------------------------------------	
G9	Denault Fm. (dolomitic marble with calcsilicates + quartz)	Age < 2060 Ma
	------------------ unconformity ---------------------------------------	
G8	Katsao Fm. (granite gneiss, minor amphibolite)	Age 2170 - 2140 Ma

The Grenville Province rocks characteristically have been subjected to medium to high metamorphism and multiple periods of deformation. Metamorphism in the region is the upper amphibolite facies (kyanite subfacies).

Pre-Grenville and possibly early-Grenville deformation appears to have been destroyed by intense middle-Grenville orogenies. Dr. Réal Daigneault (Daigneault, 2004) made a structural field study on the graphite area on the Property while Edward Lyons was mapping the area. He noted that the central two periods of deformation (D_2 and D_3) control the present distribution of the lithology, but there is evidence for one prior and at least two later deformation events, as well.

The Property covers most of the southwesterly exposures of the Ferriman Group stratigraphy related to the Sokoman iron formation in the Gagnon Terrane. The Gagnon Terrane on the Property includes most of the broad anticlinorium elongated north-northeast. The oval-shaped structure is compressed generally from the southeast to its present form. The west limit of the late Grenville eclogite thrust emplacement of the Manicouagan Imbricate Zone lies about 30 km east of the Gagnon anticlinorium and trends north-northwest (Hynes and St-Jean, 1997) through what is now the Manicouagan Impact Crater and Reservoir Manicouagan, where it was affected by the 214 Ma astrobleme event.

The core of the anticlinorium is mainly Denault Fm crystalline dolomitic marble. The typical footwall to the Sokoman Fm, the Wishart Fm quartzite, appears not to be present as a mappable unit. The Sokoman Fm iron formation outcrops mainly in both the centre and edges, where they occur as linear, doubly folded (interference folds) anticlines and synclines on the scale of 0.5 to 2.5 km. Silicate facies of the Wabush were recognized in recently logged areas in the southern part of the anticlinorium but have not been mapped historically. The quartzite mapped near the graphite zones appears to be the upper, non-oxide, facies of the Sokoman Fm, not the Wishart quartzite, since it locally contains small amounts of magnetite, iron carbonates and iron silicates typical of the Sokoman Fm.

The Sokoman Fm quartzite and the overlying Menihek Fm contact can be traced around the margins of the anticlinorium by airborne EM conductors with variable magnetic signatures. Little mapping has been done in the northwest. Foliations are steep SE-dipping to vertical in the northwest, while on the southeastern margin, foliations dip from steep to more commonly moderate to shallow towards the SE. The major D_2 deformation was caused by collision from the southeast, as is common throughout the Gagnon Terrane, leading to overturned folds and thrust faults dipping SE. The anticlinorium generally occupies a low plateau delimited by steep flanks to the SE and NW in particular.

The Uatnan Property covers most of the outlier of iron formation Gagnon Group as a plateau described above. Work by SOQUEM Inc. in 2003-2004 on the southern block of the Uatnan Property shows folded bands of silicate-rich iron formation with minor Fe-oxide and sulphide facies probably interbedded with other non-iron formation metasediments, but not the dolomitic marble. The graphitic horizon is present as linear bands to 10-m wide overlying the Sokoman Fm. The folds are dominantly strike E-W to WNW with steep south dips. The two zones, distinct in regional detailed aeromagnetic survey conducted in 2004 by SOQUEM, appear to be the most southwesterly outlier of Gagnon Group. It appears to be separated by erosion from the core Gagnon Group package on the Uatnan Nord Property. The southern units mark the south limit of the Gagnon Terrane where the Allochthonous Boundary Thrust Fault ("ABT") that marks the Parautochthon – Polycyclic Allochthon boundary.

Post-Grenville folding and extensional brittle faulting occurred with mainly modest vertical offsets. This pattern has been noticed by Lyons in the iron belt between Mont-Reed and Wabush as well. These are shown as thrust faults in Figure 7-1.

The Middle Proterozoic units in the region are shown by Marcoux and Avramtchev (1990) as a group of basic to intermediate intrusives. However, Hocq (1994) shows them as regional scale (tens of kilometres) klippes transported by subhorizontal nappe folding and thrust displacement on detachment plans.

The most significant known geological event in the area since the end of the Grenville event was the impact of a large (~10-km diameter) bolide 214 ± 1 million years ago in the Triassic Period (see O'dale, 2015 for a recent review). The impact created the Manicouagan Impact Crater with a floor diameter of 55 km and final rim diameter of ~95 km (Grieve, 1983). Part of the now eroded annular shatter ring of collapsed impact crater walls is now filled by the Reservoir Manicouagan. The base of the impacted centre underlies Île René-Levasseur. The current floor is estimated at 230 m deep by 55 km diameter. The shock ring extends outside the crater about 25 km. The original impact is estimated to have been about 1 km higher than the present elevation and would have overlain the graphite geology. This would affect much of the rocks underlying the Uatnan Property, including the graphite zone, although no shocked quartz has been noted in the graphite zones in thin section. This transient, high-speed event likely did not affect the graphite flake size, since the high temperature was likely active for a few thousand years, but the shock wave could have caused types of in-situ brecciation. Evidence for multiple impacts from one dismembered bolide (comet or meteorite) has been presented by John Spray (Spray et al., 1998) citing the Shoemaker-Levy comet impact on Jupiter in 1994 as a model. The seven impacts occurred on 214 Ma paleogeography where the impacts were about 10 or less crater diameters apart. The combined impacts could have led to unknown large scale geological and proposed extinction events.

The last geological event was the Pleistocene glaciation and deglaciation. Where outcrops of softer graphite-biotite schist trend north to northeast, the glaciers cut cliffs and cross-cut the schistosity. The melting of the ice formed sandy outwash plains with isolated large erratics, kames, drumlins, and a few eskers. Moraine development in the area of the Property seems minor.

The economic geology in the Gagnon Group historically lies in the Gagnon Group metasediments. They host the Sokoman iron formation mined at Mt. Reed – Lac Jeannine – Fire Lake – Mt. Wright belt through Fermont and continuing northeast to include the deposits at Wabush. The graphite deposits occur in the basal part of the Menihek Fm pelitic schist and gneiss overlying the Sokoman Fm and can be considered as marking the final deposition in the Sokoman. This stratigraphy also hosts the Lac Knife graphite deposit as well as graphitic paragneiss units south and west of the Fire Lake iron mine; the basal graphite lenses also occur above the Kami iron deposit in Labrador City, NL, as the Mart Lake showing.

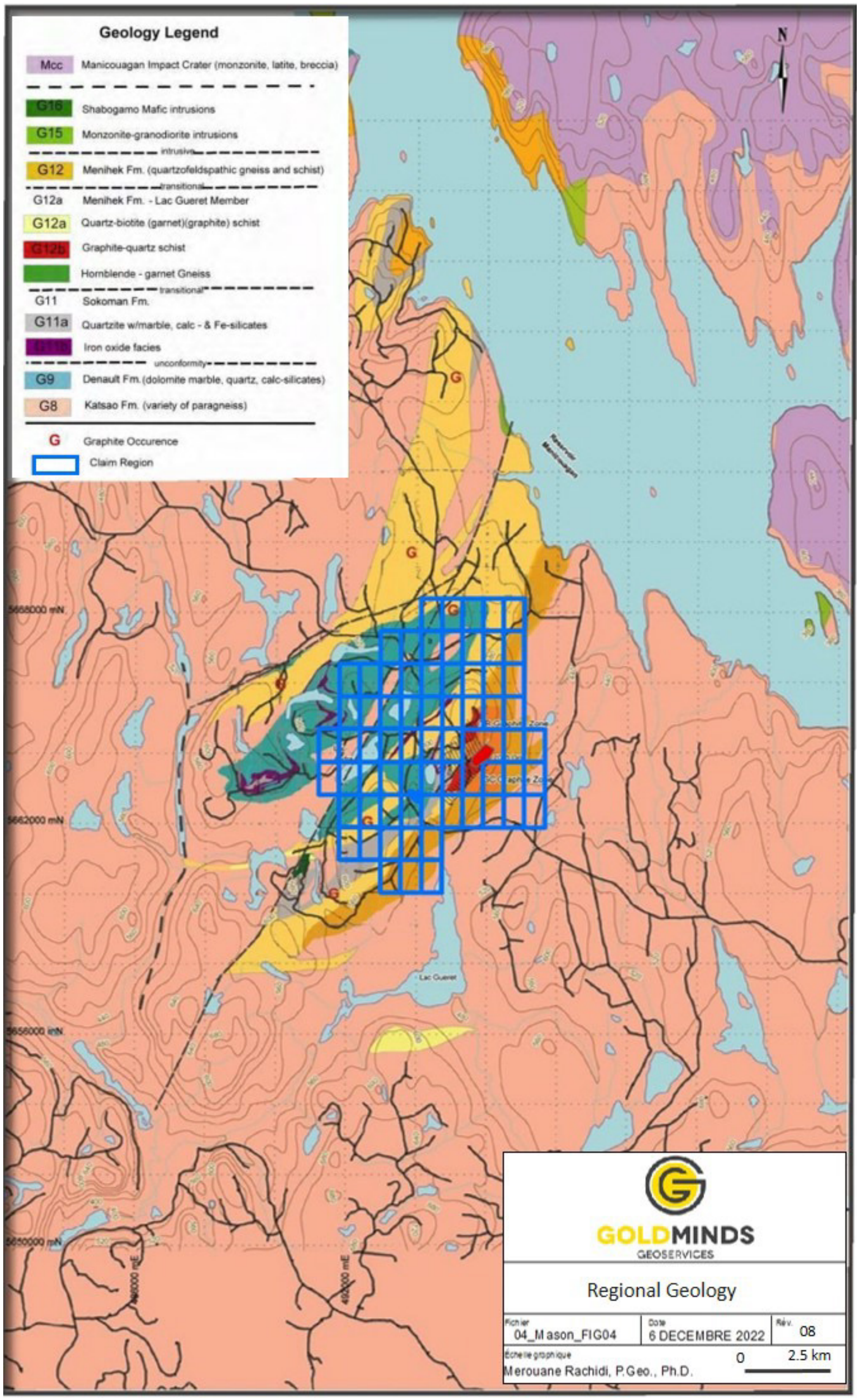


Figure 7-1 - Simplified regional geology map of the Uatnan property

7.2 Property Geology

7.2.1 Stratigraphy

The stratigraphy of the GC and GR graphite zones is shown schematically in Figure 7-2

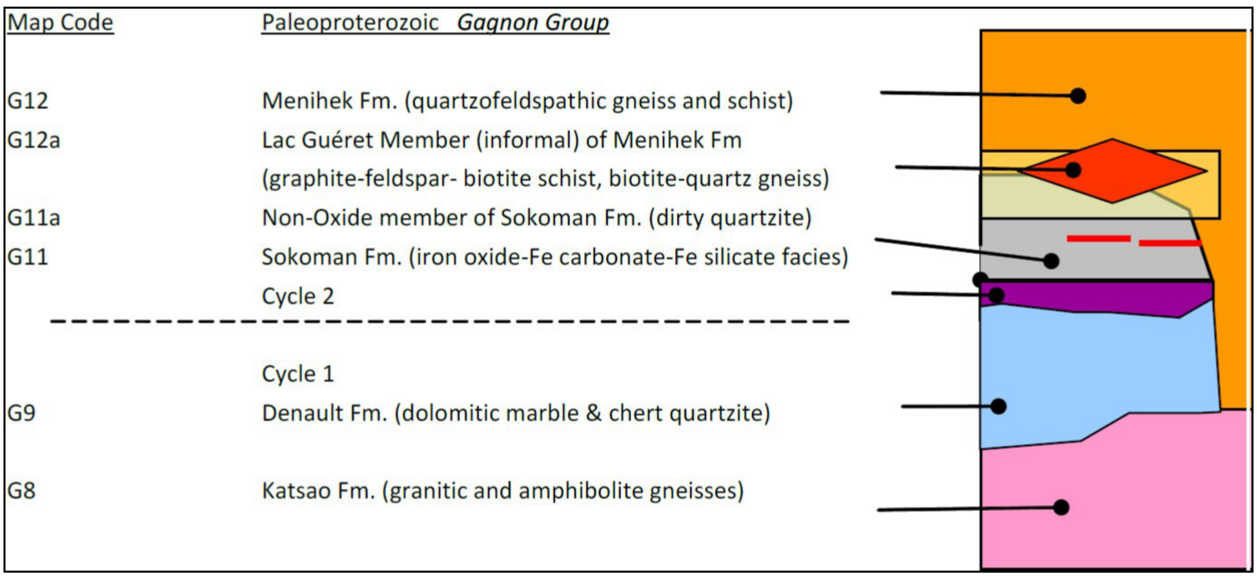


Figure 7-2 - Property stratigraphic column (youngest to oldest)

The Denault and Sokoman Formations in the core of the synclinorium are overlain by the non-oxide facies of the Sokoman noted elsewhere in the Gagnon Terrane near the iron mines. The quartzite is thin to thick bedded with locally well-preserved bedding features, including rare-graded beds. Thin beds also include 1-10% magnetite crystals at a stratigraphic level only slightly below the start of the major graphite deposition. The quartzite locally has interbeds of white coarsely crystalline diopside (calc-silicate) and white tremolite as well as pale green amphibole and red-brown garnet (species unknown). Diopside, identified by MRN geologists in 2004, occurs in monomineralic lenses to two metres thick. Graphite occurs as rare-isolated flakes and thin beds in quartzite (not in the marble) near the top of the unit. The quartzite is up to 140 m true thickness but is often less, especially with the iron formations near the core of the synclinorium. The non-oxide facies are much thicker here than is observed near the major iron deposits in the region, suggesting that the local basin may have been relatively deficient in iron and carbonate. The Sokoman quartzite complex forms the footwall of the major graphite intervals in the GC and GR zones.

The informally named Lac Guéret Member (G12a) of the Menihek Fm is the basal facies of the Menihek Fm paragneiss (the Upper Paragneiss of Clarke (1977)). The Member is quartz-rich towards the base and gradually increases in plagioclase, biotite, muscovite, and garnet up section. Clarke (1977) reported graphite occurring sporadically through the Menihek (Upper Paragneiss). On the Property, it is concentrated towards the base, although graphite also occurs in minor amounts (<1% Cg) throughout the Menihek. In the Lac Guéret Member, graphite more typically occurs as beds and bands of 4% to 54% Cg over widths of 2 to 200 metres. This is discussed in more detail under mineralization. Graphite can also occur as isolated narrow beds in the quartzite proper. Overall, the Member appears to represent a transitional depositional environment from dominantly chemical sediment Sokoman Fm to dominantly clastic Menihek Fm sediments. The diachronous contact shows the interlayering of quartzite-rich and micaceous rocks typical of a contemporaneous change in deposition styles. Figure 7-1 shows a geological map of the Property geology.

Hornblende-garnet-amphibole coronitic gneiss is another distinct rock type that is located in the Lac Guéret Member. Clarke (1977) noted this unit, named Hornblende-Biotite Garnet Gneiss (HBG-GN) as occurring at the base of his Upper Paragneiss unit and remarks that it appears to be formational at the transition from quartzite to paragneiss near Mont-Reed and Mount Wright iron mines. At Uatnan Property, it forms thin continuous sills in the GC graphite zone. In core, the mafic and sedimentary beds at interbanded on the decimetre scale locally; the mafic contains no graphite. The lateral extent is usually several hundred metres. Lyons interprets these as metamorphosed basalt or andesite sill-dyke complexes that intruded the metasediments. The same pattern is common over and around the Kami iron deposit at Labrador City, NL and in the Peppler and Lamêlée iron deposits near Fire Lake, QC. Clark and Wares (2005), notes the same feature near Schefferville where the mafic rocks eventually dominate to the east, deeper in the basin; age-dating yielded similar albeit slightly younger ages to those of the Sokoman Fm.

The Menihek Fm paragneiss hanging wall is variable with leucosomic and melanosomic bands that typically contain medium to coarse quartz, plagioclase, cinnamon-coloured biotite (phlogopite), muscovite, garnet, and dark green amphibole. Occasionally, sillimanite needles were noted, marking the upper amphibolite facies. The coarse banding and cinnamon biotite colour are typical in the examples shown by Clarke (1977) for his Upper Paragneiss near Gagnon, QC. The unit also includes minor bands of bright dark to medium green amphibolite with dark cinnamon garnet and/or black-brown biotite. Minor graphite + biotite-rich bands occur throughout the unit. Other units observed but not specifically mapped include light-coloured, iron-deficient quartzofeldspathic gneiss with muscovite and pale rose garnets, and hornblende-biotite amphibolite bands.

7.2.2 Structure

7.2.2.1 Folding

The Labrador Trough protolith had two and possibly three tectonic events before the Grenville deformation (Clark and Wares, 2005), (Figure 7-3 and Figure 7-4). These were probably destroyed or severely modified beyond recognition during the Grenville orogeny. Locally, some remnant features may persist in isolated outcrops. At least four periods of deformation during the Grenville affected the Property. The first deformation, D1 with rare examples of preserved as tubular folds in calcsilicate-quartz bands west of the GR showing (Daigneault, 2004); this deformation does not appear to affect the main graphite geometry.

The second deformation, D2 which resulted in the formation of the foliation F1 is the most prominent and likely earliest folding related to the Grenville Orogeny. The regional lineation axis is oriented 055°. Plunges are variable from flat to shallow (< 40°) to the southwest. The plunges change in several domains of approximately 400-m length. From the northeast to southwest, the graphite zone plunges shallowly SW.

D3 deformation folded the F1 schistosity into tight sub-vertical to moderately dipping isoclinal folds striking northeast to east-northeast and dipping southeast. This is the major control of the conformation of the graphite beds. A number of late, small-scale pegmatite dykes, previously thought to be migmatite, in graphite schist have been folded and transposed by this event.

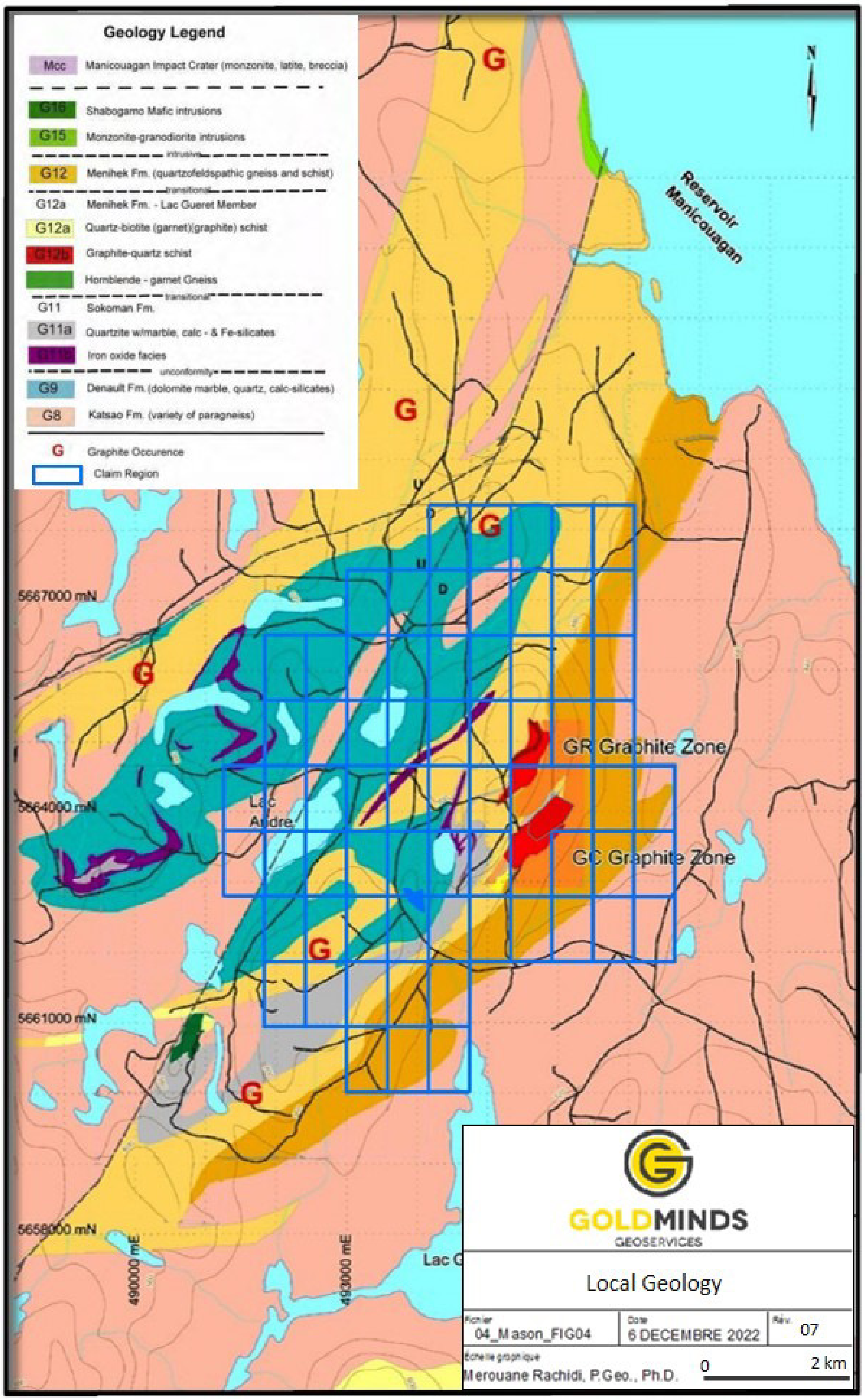


Figure 7-3 – The Uatnan Property geology

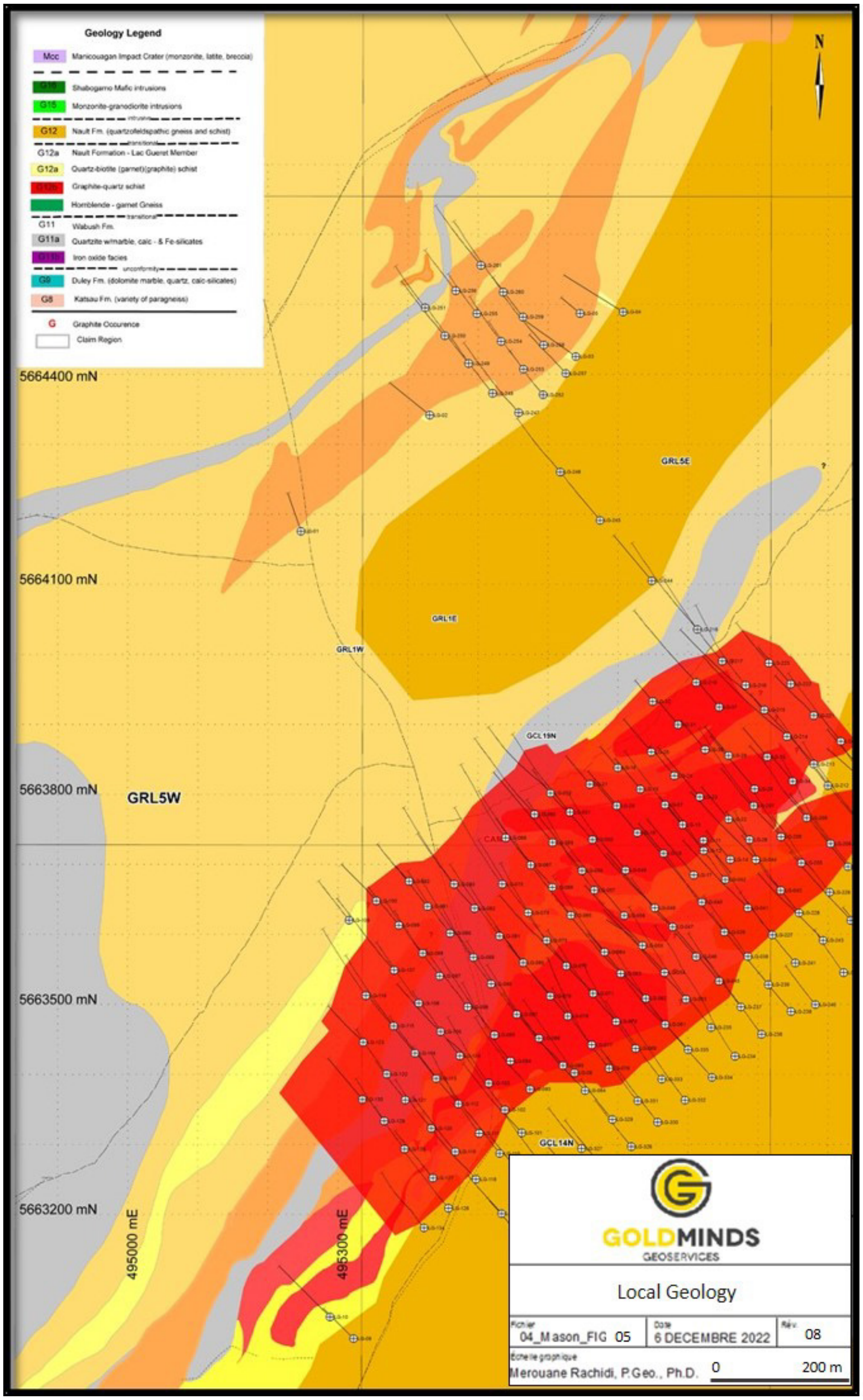


Figure 7-4 - GC-GR Graphite zones compilation

Within the graphite zones, the "high-grade" beds (U3 type in previous reports) with >25% graphite locally appears to form crushed or cataclastic breccias in local bands in outcrops. The texture is difficult to discern in core, however. Fragments of the host generally form 80-90% of the unit with rotation of foliated clasts subparallel with the main trend. The "matrix" is recrystallized graphite flakes up to 8-mm length approximately perpendicular to the clast margins with no associated minerals. It also shows an unusual deformation, here called D_3. The foliation strikes parallel with F_1, but shows a steep plunge to the southwest. Lyons interprets this feature as the result of rheologically weak ductile high-grade graphite bands that absorbed most of the compression and transpression associated with the D_2 and D_3 events. This deformation is restricted to the U3 graphite bands in the GC and GR zones.

The fourth major deformation, D_4, folded of the D_3 structures. It is aligned around a ~308° axis with a steep southeast plunge. It is expressed as shallow crenulations on tight D_3 folds, as a kink of the quartzite-graphite contact that changes the trend of the GC graphite zone form NE to ENE across the 2006 drill grid. It also accounts for the more northerly flexure on the GR Zone. It forms the interference folds of the Sokoman Fm package in the centre of the synclinorium on the scale of 1 km.

A key element of the anticlinorium model is that it is relatively shallow, probably less than 450 metres. The exact depth is unknown. Drilling by QCM (Ferreira 1962a) showed that the anticline tested by drillholes on both flanks changed from tight to open folding in 120-m depth. The 2012 drilling program was able to restrict the graphite beds above the interpreted anticlinorium depth. Maximum vertical depths of 200 m to 220 m were achieved from that drilling, although the information at depth is not conclusive to fully limit the extension at depth of the deposit. See Figure 7-1 showing the graphitic zones compilation.

GMG made a geological model based on drilling database. On this model we interpreted several folds, oriented NE-SW and NW-SE (Figure 7-5). A sketch was made by GMG that describes the chronology interpretations of the three-fold generations (Figure 7-6). Using the geological model done by GMG three phases of folding were interpreted. The fold axis of the first and the second generation are oriented NE-SW and the fold axis of the third generation is oriented NW-SE.

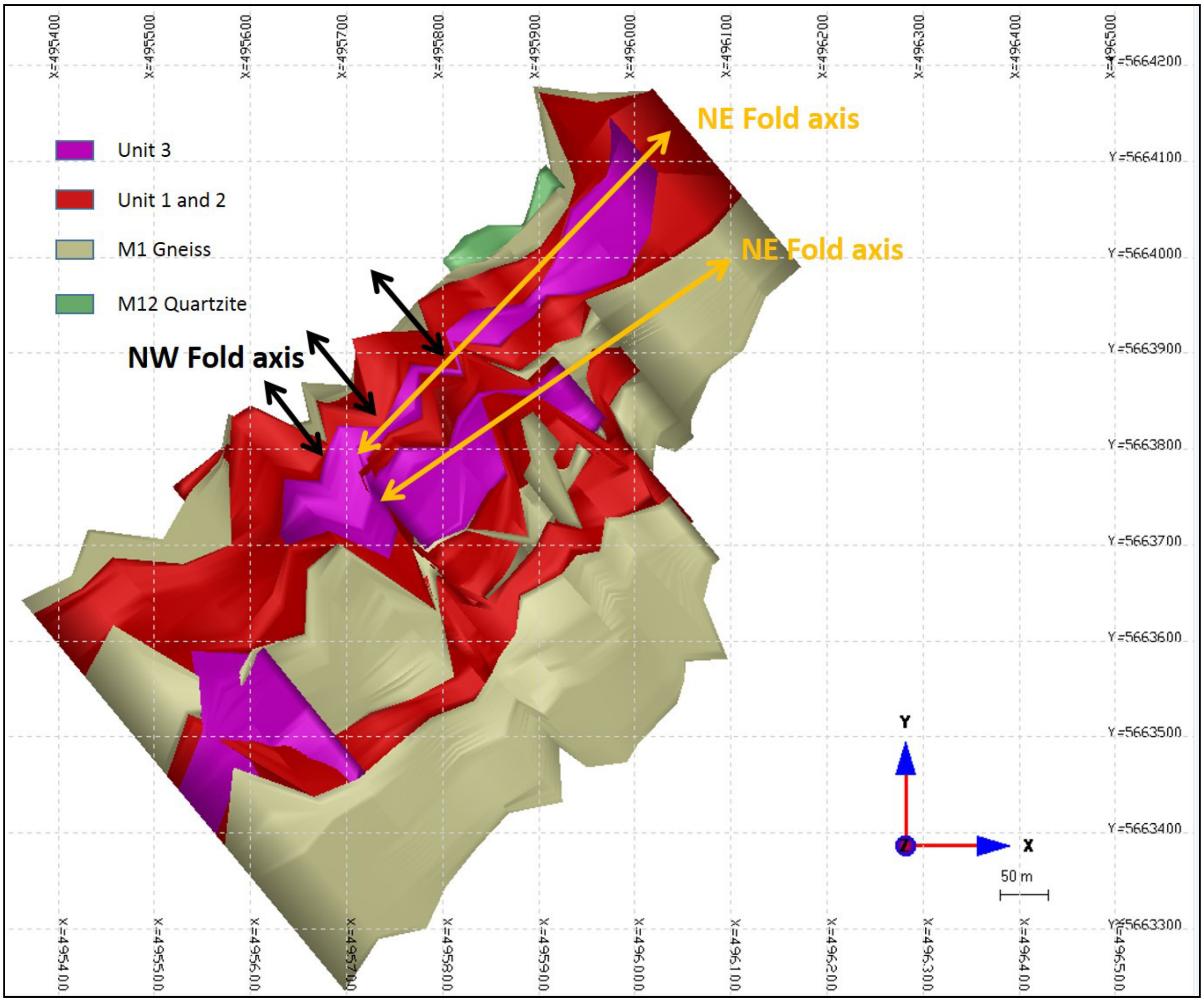


Figure 7-5 - Geological model made by GMG based on the lithology and drillholes data

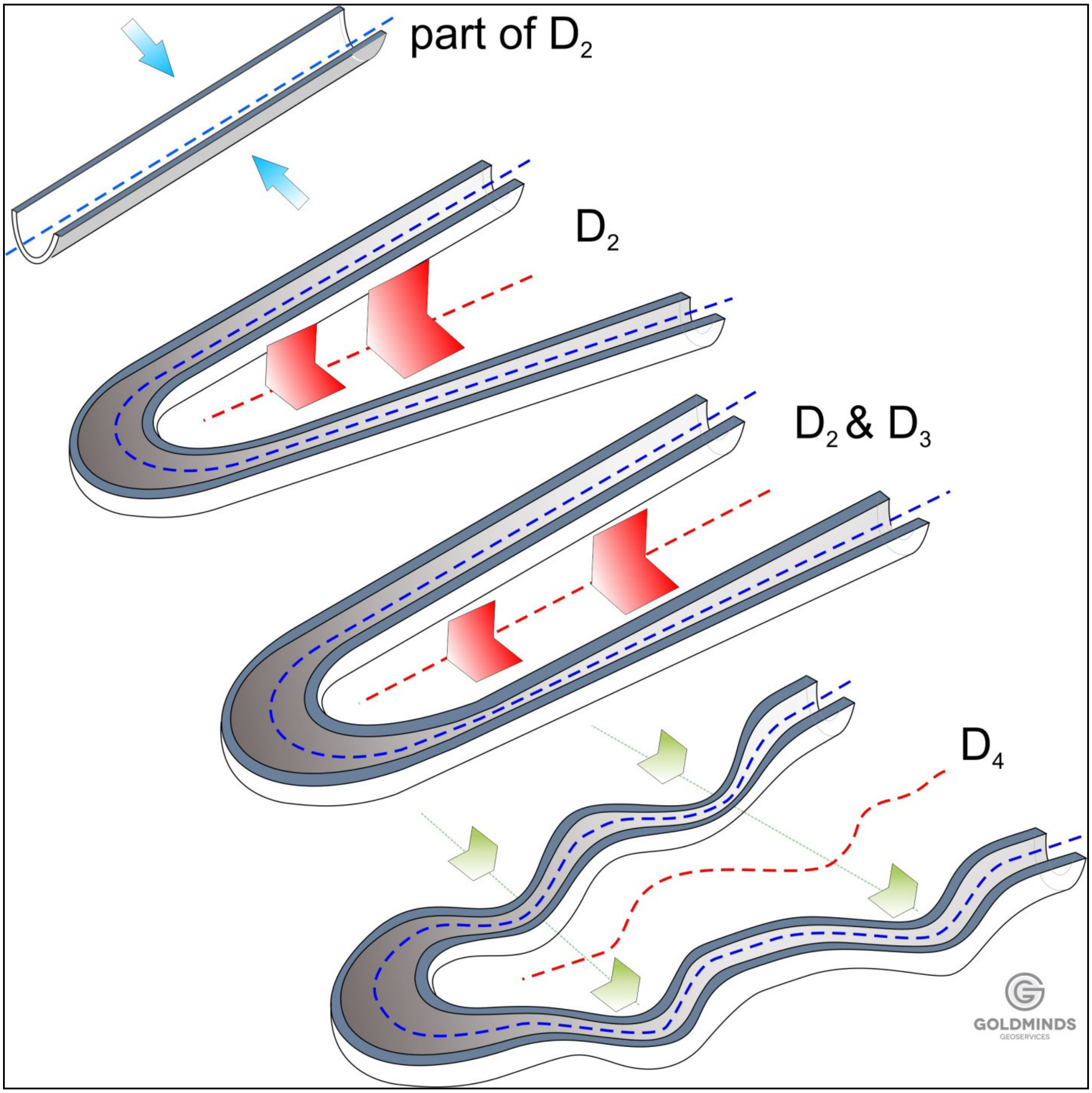


Figure 7-6 - Sketch interpreting the chronology of different generations of folds[1]

[1] Affecting the Lac Guéret Property

7.2.2.2 Faults

Property-scale faulting was interpreted in 2003-04 by Lyons, based on outcrops and stratigraphy, showed several NNE-trending structures believed to be steep-angled thrust faults from the ESE (Figure 7-3). In 2007, Lyons discovered a younger, post-Grenville, brittle fault gouge in the bottom of a 2004 trench across the southwest extension of the GC Zone, near the original Graphite Cliff outcrops. The orientation is ~345° with a steep east dip and shows a crushed graphite schist gouge over 37-cm width with no oxidized weathering at the surface. The direction parallels a zone of deep overburden that lies east of the proposed open pit in this Report. Recent detailed topographic plans show the possible extensions of these and several parallel zones. Subsequent work on iron formation projects northwest of Lac Guéret from the Peppler & Lamêlée iron deposits (QC) to western Labrador shows the persistence of this fault group with local offsets from 20 m to 125 m vertically. The fault direction parallels the direction of the drill azimuths, and thus, remains "invisible" in the data except as small offsets in the model interpretation.

7.3 Deposit and Mineralization

Graphite of Unit 1 (5-10% Cg) and Unit 2 (10-25% Cg) forms fine to coarse crystal flakes (<0.01 to >4 mm diameter) in quartz and quartzofeldspathic gneiss and schist. The in situ organic material was concentrated during late- or post-Labrador Trough deposition and recrystallized during the Grenville orogeny. It does not appear to have been enriched by tectonics or hydrothermal remobilization and was likely a local scale feature associated with later Grenville orogenic forces.

Unit 3 (+25% Cg) is characterized by a distinct pattern in flake distribution. The tendency is for clasts or non-re-crystallized centres of the original very fine to amorphous pre-metamorphic graphite schist to be enveloped by recrystallized very coarse (2 mm to 8 mm length) and pure graphite flakes as a result of ductile brecciation. This texture is more easily seen in outcrop than on core surfaces. The coarse flake graphite visually forms 7-12% of the total rock. For the purpose of resource estimation, units 1 and 2 were merged together and Unit 3 was kept differentiated at +25% Cg.

The grade limits used in this Report are based on the statistical distribution of carbon presented in a study by Denis Marcotte, which suggests that the deposit comprises three distinct populations with threshold values of 5%, 10%, and 24.5% (Marcotte, 2013).

Sulphides are present mainly as pyrrhotite and less frequently as pyrite (Figure 7-7). Pyrrhotite occurs commonly with graphite, especially at grades greater than 10% Cg, as 3-5% fine-grained, disseminated to blebs and crystalline patches 0.3- to 4-mm long aligned parallel with the schistosity. It is visible in drill core, but less so in outcrop. Outcrops rarely show significant iron oxidation when trenched and show minor white ferric sulfate efflorescence on fresh surfaces. Pyrite occurs locally as coarse euhedral recrystallization associated with late northwesterly striking extensional gashes seen in several trenches and in drill core in the GC Zone, interpreted by Lyons as associated with the D4 deformation. The coronitic mafic unit also shows recrystallization to much coarser minerals within the GC Zone area. It is not associated with other hydrothermal minerals such as quartz or calcite in the late open-space veinlets. In core, pyrite crystals occur adjacent to finer-grained pyrrhotite blebs with sharply defined crystal margins for the pyrite and no local change in crystallinity in the pyrrhotite. Chalcopyrite, sphalerite, and molybdenite have been observed in thin section (Rioux, 2008) and in drill core in 2012. The first two occur as late and fairly clean coarse sulphide grains interstitial to pyrrhotite and pyrite. Molybdenite occurs locally within graphite flakes with the lamellae aligned with the basal planes of both minerals; the molybdenite was formed during the genesis of graphite and predates micro-folding of graphite. No other sulphide minerals have been noted. ICP chemical analyses of 120 samples in 2004 showed no geochemically significant amounts of metals associated with the graphite, including Cu, Mo, or Zn, in spite of the occasional mineral grains.

Optical observations under reflected light microscopy show that the Uatnan samples contain four types of graphite (Grondin et al., 2015, Figure 7-7).

- Type1: Graphite as flakes of varying sizes, automorphic, often elongated and sometimes associated with sulphides;
- Type 2: Graphite as imbricated flakes, intimately associated with sulphides;
- Type 3: Graphite with no regular form, sometimes associated with sulphides;
- Type 4: Graphite of micrometric form in inclusions within the mineral gangue associated with sulphides (pyrite and pyrrhotite, Figure 7-7).

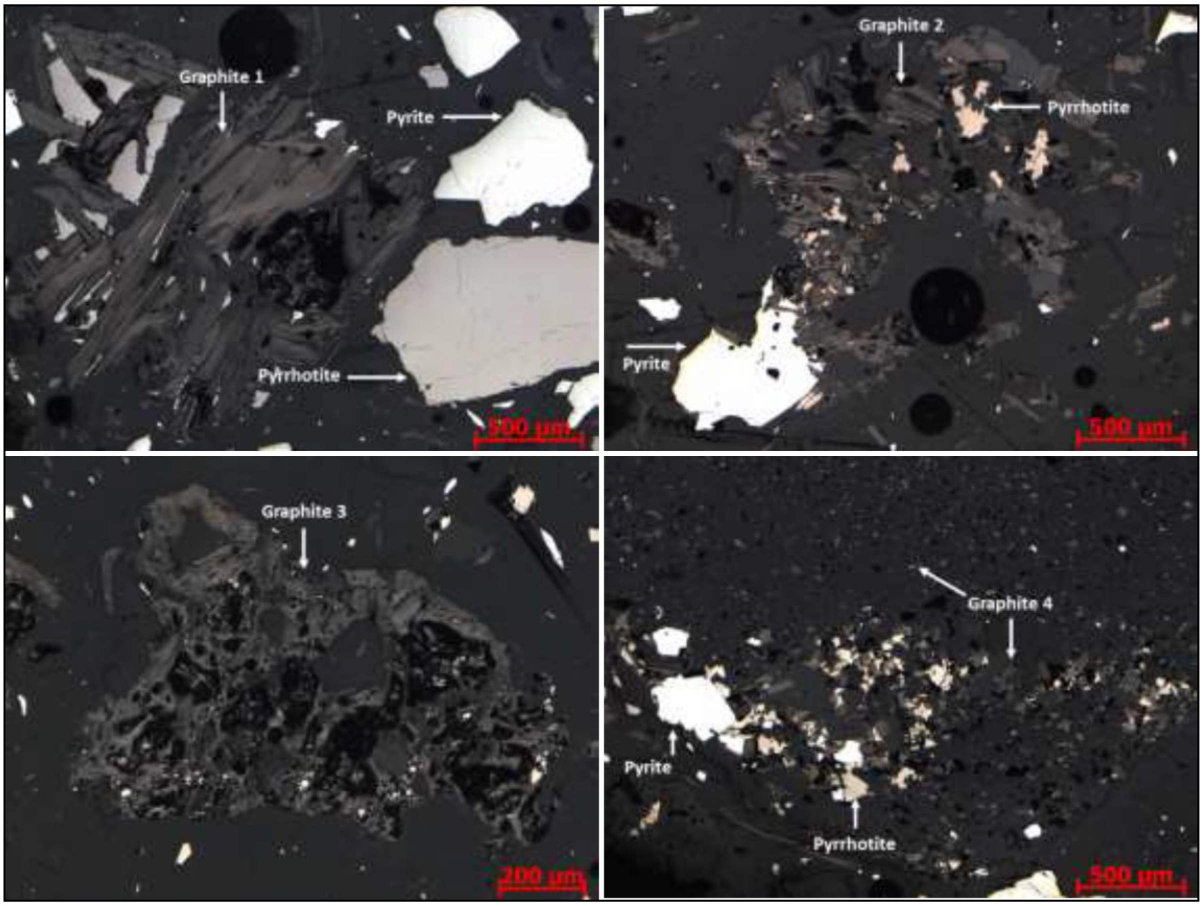


Figure 7-7 - Graphite observed under optical reflected light microscopy

The depth of the mineralization is uncertain, and the deepest mineralized zone of the Uatnan Project is reached by the hole LG 455 (Z = 220 metres). It seems that the folded graphite bands are constrained within a broad vertical envelope. This envelope is the actual outline of the deposit.

Interpretation of the sections for the Mineral Resource shows the effects of structure on localizing the graphite deposits. The general trend shows the ~35° SW plunge. The continuity of the structures between 50 m sections show rapid changes particularly in the Unit 3. This is interpreted as the result of the focusing of compression on the higher-grade graphite bands which have a high rheology leading to ductile folding and sliding. The graphite can glide readily with little fault brecciation. The U3 Unit observed to the SW in cleaned outcrops show intense isoclinal D3 folds at shallowly dipping plunges with amplitudes often less than five metres, where the adjacent lower-grade graphite schist (U1 and U2) and quartz-rich sediment bands are folded in the scale of 10-100 m amplitudes. This ductility makes interpreting the higher-grade units more difficult.

8. Deposit Types

Crystalline flake graphite mineralization has been the focus of exploration by Mason Graphite on its Property.

The deposit type described in this section is used as an indication of what could be found on the Property, which contains similar geological environments and settings. The reader should also note that resources of this type of deposit may not reflect the mineralization and/or results that might occur on the Uatnan Property.

8.1. Crystalline Flake Graphite Deposit Type

Crystalline flake graphite deposits are usually sedimentary in origin. They occur when carbon-rich organic material, accumulated during sedimentation, is transformed into graphitic carbon crystals, or flakes, during metamorphism. This process is due to the burial of the sediments which are eventually subject to high heat and temperatures in the earth's crust. Crystalline graphite deposits are commonly stratabound and hosted by porphyroblastic and granoblastic paragneiss, or pelitic gneiss, marbles, and quartzites (Harben and Kuzvart, 1996). Alumina-rich paragneiss and marble units in upper amphibolite or granulite grade metamorphic terranes are the most favourable host rocks. When present, flake graphite usually occurs in thin, centimetres to metre wide bands. In favourable conditions, wider coalescing bands in fold crests can provide sufficient volume needed for an economic deposit.

Economically significant deposits are several metres to tens of metres thick and hundreds of metres in strike length. The economic quantifiers in flake graphite deposits are mostly graphite flake size, quantity and purity. According to Simandl, G.J. and Kenan, W.M. (1997), "Grade and tonnage of producing mines and developed prospects varies substantially. The median grade and size are 9.0% Cg and 2.4 Mt respectively (Bliss and Sutphin, 1992). Depending on market conditions, large deposits containing high proportions of coarse flakes, which can be easily liberated, may be economic with grades as low as 4%".

The Lac-des-Îles mine, owned by Northern Graphite and located near the town of Lac-des-Îles, Québec, is the only presently active crystalline flake graphite producer in Québec. Focus Graphite's Lac Knife deposit and NMG's West Zone deposit, both located in Québec, as well as Northern Graphite's Bissett Creek deposit in Ontario, are three other known significant crystalline graphite flake deposits found in eastern Canada and within the Grenville geological Province (Ref. Figure 8-1).

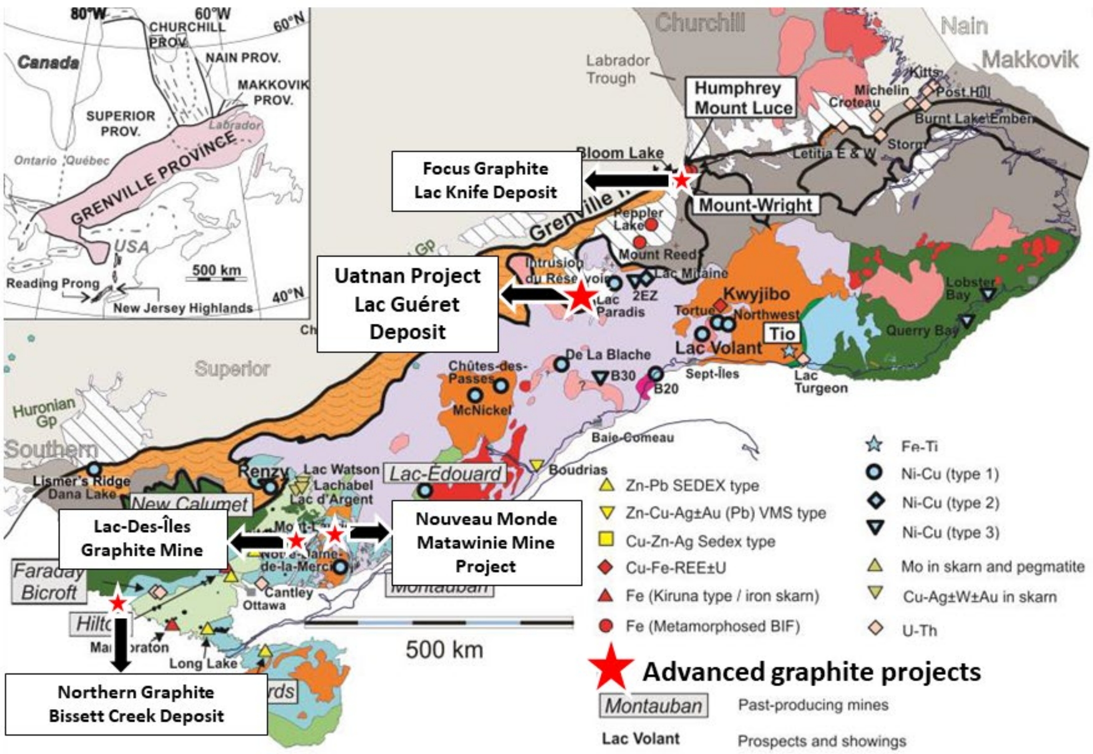


Figure 8-1 - Geology and major mineral deposits of the Grenville Province (Modified from Corriveau et al., 2007)

8.2. The Lac Guéret Deposit

The graphite beds form an integral part of the sediments of the informally named Lac Guéret Member of the Menihek Formation. The graphite is believed to have originated in the basal Menihek Fm as carbon-rich sediments in arenaceous and pelitic turbidite beds that were part of a marine basin of increasing depth relative to earlier chemical basinal deposition of the Sokoman Fm deposition. The protolith in the Labrador Trough generally contains low levels of kerogen (sedimentary carbon) associated with a variety of lithologies, but none are nearly as high in carbon as even the medium-grade graphite ("U2") at Lac Guéret (T. Clark, pers. comm., with Lyons, 2004). The localized graphite deposits known in the Gagnon Terrane show rapid thickening of carbon with thin lateral horizons; this is well shown at the Mart Lake graphite showing overlying the Kami iron deposit in Labrador City, NL.

Graphite is chemically stable over a wide range of pressure and temperature conditions and is only very poorly reactive with other common hydrothermal solutes. The potential for concentration of grade by plastic flow is minimal since dry minerals do not flow plastically under the metamorphic high pressures and temperatures. Remobilization of sulphides during metamorphism is facilitated by local-scale hydrothermal solution and re-deposition (Marshall, et al., 2000). Thus, the most probable carbon concentration mechanisms occurred before the first level of metamorphism sealed the rock porosity. Two possibilities may account for the graphite. One could be the result of exceptionally high initial organic deposition concurrent with sedimentation. The second model derives the carbon from the movement of hydrocarbons during diagenesis when the rocks were being compressed and lithified. However, the origin of the beds of abnormally rich graphite (locally over 50% Cg) cannot be derived from simple bio-organic sediments, even if they are 100% biological materials. It is possible that a paleo-petroleum process during diagenesis may have upgraded the carbon content. One model that was proposed involved reduction of carbonate to graphite. Dolomite and calcite contain 13% and 12% carbon, so they could be potential carbon sources for deposits generally 12% Cg or less assuming total carbon transformation of a fixed amount to carbonate. However, most of the Lac Guéret graphite grades tend to exceed that limit and there is typically no carbonate associated with any of the known graphite deposits in the Gagnon Terrane, even at very low C grades as shown in detail at the Mart Lake graphite deposit.

The anoxic deposition conditions that controlled the carbon deposit also controlled sedimentary or diagenetic iron sulphide deposition. The original sulphide was probably unstable iron sulphide precursors to pyrrhotite deposited as fine grains with the carbon and in lenses with quartz and negligible carbon. Both occur in the same horizon but probably in a semi-independent relationship. Sulphides known to date on the Property are located within the graphite horizons, not isolated in hanging wall/footwall stratigraphy. One area on the horizon several kilometres north of the GC-GR drill grids shows pyrrhotite and pyrite >20% in high-quartz gneiss lenses with only minor graphite. Thus, the reductive sedimentary basin environment appears to show a range of sulphur-carbon relationships.

9. Exploration

All exploration works performed before 2012 are described under Section 6 (see Table 6-5). All exploration works from 2012 onwards have only been drilling which are described in Section 10.

10. Drilling

10.1 2012 Drilling Campaign

In 2012 Mason Graphite conducted a drilling campaign totalling 163 drillholes. During this campaign, 146 drillholes were drilled over the GC Zone totalling 24,346.3 m and 17 holes were drilled over the GR Zone (Caron, Y. 2015, Figure 10-1). Drillholes length varied from 101 m to 303 m. The planned orientation of the drillholes was 320 degrees at an inclination of 45 degrees to the northwest.

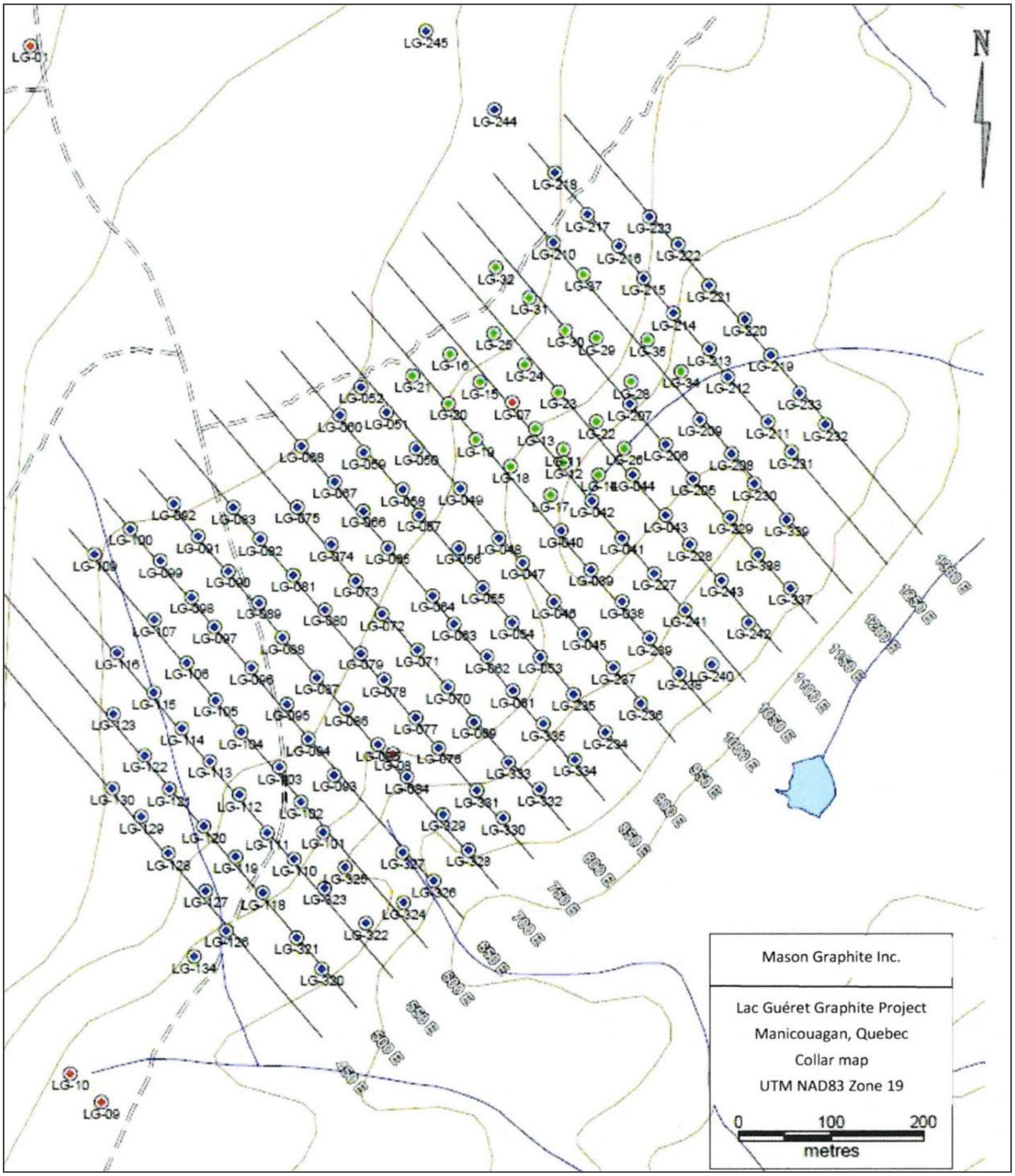


Figure 10-1 - Hole collars drilled between 2003 and 2012

From the 2012 drilling campaign (Figure 10-1, Table 10-1), 16,923 samples were analyzed by AGAT and from these, 6,011 samples were reanalyzed by AGAT to control some erroneous graphitic carbon results noticed and reported to the lab (referred to AGAT Action Report July 4, 2013).

The drilling contractor for the 2012 drilling campaign was G4 Drilling from Val-d'Or. Two diamond drills, using NQ core diameter were used during the drilling phase.

10.2 2013-2014 Drilling Campaign

The 2013-2014 drilling campaign conducted by Mason Graphite over the GC Zone consisted of 86 drillholes totalling 13,418 m (Figure 10-2 and Table 10-1). A total of 7,567 samples were analyzed by AGAT and some samples were analyzed by COREM for external control.

The drilling contractor for the 2013-2014 drilling campaign was Foramex from Rouyn-Noranda (Foramex company was bought in January 2015 by Forage Rouillier).

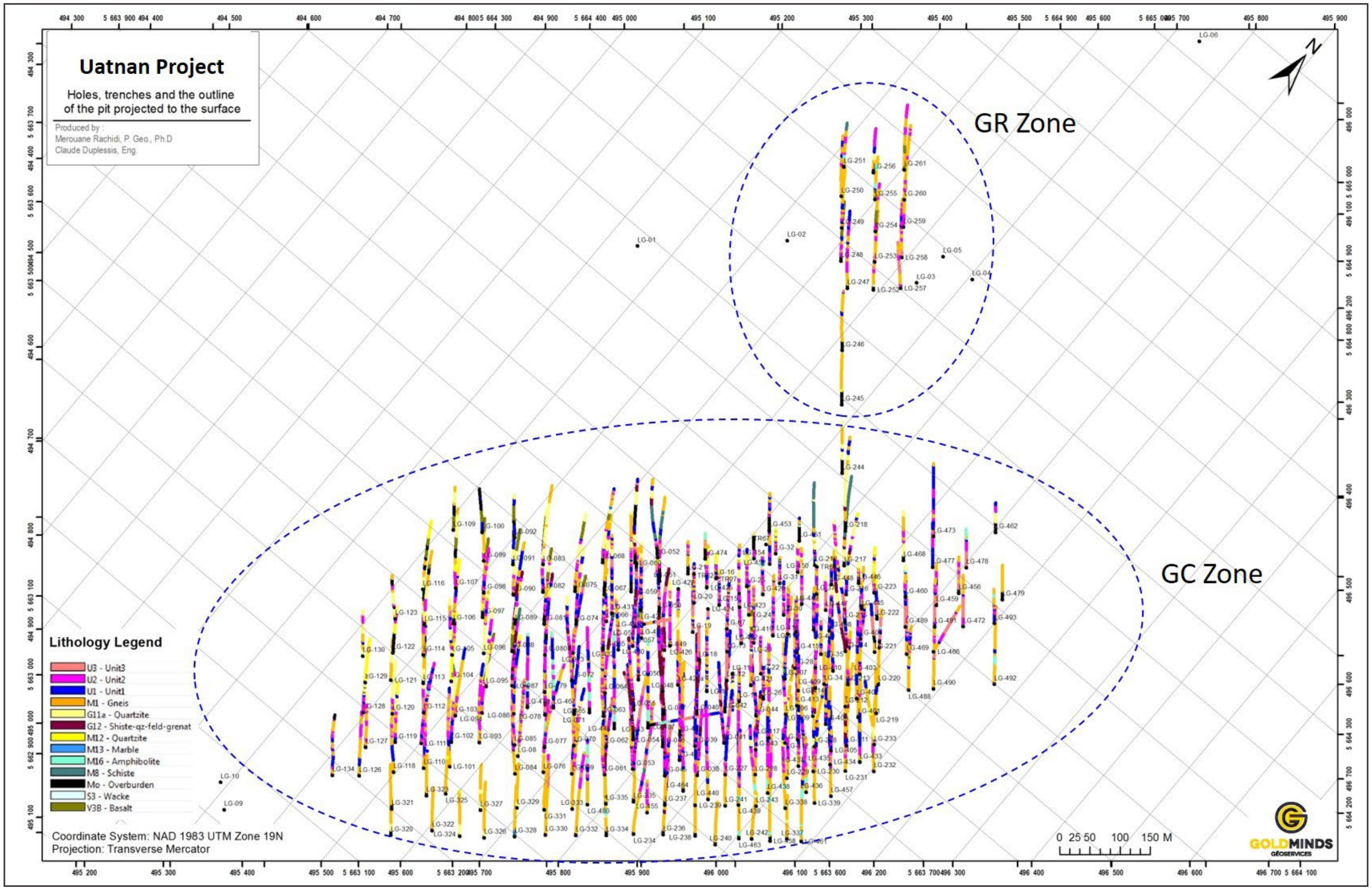


Figure 10-2 – Drillhole collars (2003 to 2014) on the GC and GR Zones

Table 10-1 - Drillhole details (2003 to 2014)

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GR Zone	LG-01	495247.10	5664176.20	580.50	341	-50	90	2003
	LG-02	495430.80	5664342.00	586.50	309	-45	105	2003
	LG-03	495639.70	5664425.80	579.20	305	-50	145	2003
	LG-04	495707.00	5664489.50	568.70	302	-45	141	2003
	LG-05	495645.60	5664487.40	583.40	310	-60	72	2003
	LG-06	495741.40	5665032.60	601.40	110	-45	108	2003
	LG-245	495674.20	5664191.80	554.40	320	-45	120	2012
	LG-246	495617.20	5664260.90	566.20	320	-45	140	2012
	LG-247	495558.00	5664345.40	579.10	320	-45	186	2012
	LG-248	495520.70	5664373.10	584.60	320	-45	138	2012
	LG-249	495486.60	5664415.80	591.40	320	-45	141	2012
	LG-250	495452.50	5664455.50	595.20	320	-45	141	2012
	LG-251	495424.60	5664495.50	599.60	320	-45	102	2012
	LG-252	495592.80	5664371.20	580.20	320	-45	111	2012
	LG-253	495564.60	5664407.70	587.20	320	-45	120	2012
	LG-254	495533.00	5664447.50	590.00	320	-45	111	2012
	LG-255	495498.40	5664487.00	596.40	320	-45	102	2012
	LG-256	495468.10	5664519.80	602.60	320	-45	105	2012
	LG-257	495625.40	5664401.60	579.50	320	-45	111	2012
	LG-258	495593.80	5664442.40	587.60	320	-45	138	2012
	LG-259	495564.00	5664482.40	593.00	320	-45	102	2012
	LG-260	495536.00	5664518.00	598.00	320	-45	180	2012
	LG-261	495504.00	5664556.00	603.00	320	-45	153	2012

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-07	495766.90	5663785.40	530.90	323	-45	136	2003
	LG-08	495637.50	5663402.40	522.60	325	-45	180	2003
	LG-09	495322.20	5663022.50	514.80	315	-45	87	2003
	LG-10	495288.60	5663053.40	516.50	315	-44	143	2003
	LG-11	495821.90	5663734.40	513.70	140	-60	120	2006
	LG-12	495822.00	5663720.00	512.20	320	-45	129	2006
	LG-13	495791.90	5663756.90	523.60	320	-45	75	2006
	LG-14	495860.00	5663707.00	504.80	320	-45	76	2006
	LG-15	495731.80	5663807.70	539.70	320	-45	81	2006
	LG-16	495699.60	5663838.20	543.30	320	-45	56	2006
	LG-17	495808.00	5663685.00	508.10	320	-42	141	2006
	LG-18	495765.00	5663716.00	520.00	320	-48	84	2006
	LG-19	495727.40	5663745.20	529.00	320	-46	141	2006
	LG-20	495698.00	5663784.00	537.40	320	-44	90	2006
	LG-21	495659.40	5663814.60	543.10	320	-45	75	2006
	LG-22	495857.70	5663764.60	509.20	320	-44	84	2006
GC Zone	LG-23	495816.30	5663796.40	525.10	320	-45	132	2006
	LG-24	495780.20	5663826.90	534.40	320	-45	78	2006
	LG-25	495747.20	5663860.80	540.40	320	-44	85	2006
	LG-26	495887.60	5663735.50	503.70	320	-46	75	2006
	LG-28	495895.00	5663808.00	509.50	320	-45	140	2006
	LG-29	495857.80	5663855.80	526.00	320	-45	76	2006
	LG-30	495824.30	5663864.10	530.30	320	-43	75	2006
	LG-31	495785.50	5663899.80	537.30	320	-45	60	2006
	LG-32	495749.20	5663932.90	542.60	320	-46	57	2006
	LG-34	495949.00	5663819.00	504.80	320	-44	72	2006
	LG-35	495912.90	5663853.70	515.30	320	-44	75	2006
	LG-37	495844.00	5663925.00	529.00	320	-45	75	2006

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-038	495885.00	5663568.60	512.00	320	-45	150	2012
	LG-039	495851.70	5663603.40	505.30	320	-45	201	2012
	LG-040	495819.40	5663646.30	505.20	320	-45	186	2012
	LG-041	495885.00	5663637.90	506.60	320	-45	186	2012
	LG-042	495852.80	5663678.40	504.60	320	-45	186	2012
	LG-043	495932.30	5663663.00	513.70	320	-45	192	2012
	LG-044	495896.60	5663706.80	504.60	320	-45	189	2012
	LG-045	495844.20	5663533.50	504.90	320	-45	150	2012
	LG-046	495811.20	5663568.40	507.30	320	-45	201	2012
	LG-047	495777.90	5663611.00	509.50	320	-45	186	2012
	LG-048	495752.30	5663638.00	510.30	320	-45	186	2012
	LG-049	495710.60	5663692.00	531.00	320	-45	186	2012
	LG-050	495663.20	5663735.70	543.80	320	-45	186	2012
	LG-051	495631.10	5663774.80	548.20	320	-45	186	2012
	LG-052	495603.50	5663802.00	554.20	320	-45	186	2012
	LG-053	495796.60	5663507.70	513.60	320	-45	237	2012
	LG-054	495766.30	5663545.60	515.10	320	-45	186	2012
	LG-055	495734.70	5663584.00	514.90	320	-45	183	2012
	LG-056	495708.80	5663627.00	524.20	320	-45	195	2012
	LG-057	495666.10	5663663.40	543.90	320	-45	186	2012
	LG-058	495648.50	5663691.30	547.30	320	-45	189	2012
	LG-059	495606.30	5663731.40	554.70	320	-45	186	2012
	LG-060	495580.80	5663771.70	557.00	320	-45	189	2012
	LG-061	495767.10	5663471.50	517.10	320	-45	186	2012
	LG-062	495739.40	5663508.80	518.30	320	-45	186	2012
	LG-063	495703.60	5663544.10	518.50	320	-45	186	2012
	LG-064	495680.60	5663575.00	520.90	320	-45	186	2012
	LG-065	495632.40	5663627.50	549.10	320	-45	189	2012

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-066	495606.20	5663667.50	554.60	320	-45	186	2012
	LG-067	495575.20	5663699.40	556.90	320	-45	186	2012
	LG-068	495539.20	5663738.20	553.20	320	-45	183	2012
	LG-069	495724.90	5663437.30	523.50	320	-45	195	2012
	LG-070	495697.00	5663475.50	522.60	320	-45	231	2012
	LG-071	495664.20	5663515.70	521.10	320	-45	198	2012
	LG-072	495625.90	5663555.10	535.30	320	-45	186	2012
	LG-073	495597.80	5663591.50	554.20	320	-45	183	2012
	LG-074	495571.60	5663631.20	554.00	320	-45	186	2012
	LG-075	495534.70	5663671.90	551.50	320	-45	186	2012
	LG-076	495687.00	5663408.90	522.00	320	-45	189	2012
	LG-077	495662.10	5663442.10	521.90	320	-45	200	2012
	LG-078	495628.10	5663483.40	525.80	320	-45	186	2012
	LG-079	495603.10	5663512.00	536.70	320	-45	177	2012
	LG-080	495564.50	5663559.80	551.20	320	-45	198	2012
	LG-081	495530.50	5663597.70	548.10	320	-45	183	2012
	LG-082	495494.90	5663637.20	550.50	320	-45	186	2012
	LG-083	495465.80	5663671.80	551.40	320	-45	186	2012
	LG-084	495652.70	5663377.00	519.20	320	-45	192	2012
	LG-085	495621.30	5663412.80	522.80	320	-45	188	2012
	LG-086	495587.20	5663451.80	530.20	320	-45	186	2012
	LG-087	495555.40	5663485.80	542.30	320	-45	186	2012
	LG-088	495518.60	5663529.30	543.20	320	-45	186	2012
	LG-089	495493.40	5663567.30	546.70	320	-45	186	2012
	LG-090	495460.20	5663601.90	548.40	320	-45	152	2012
	LG-091	495427.80	5663640.20	549.20	320	-45	102	2012
	LG-092	495401.40	5663675.80	551.10	320	-45	102	2012
	LG-093	495574.30	5663379.00	525.60	320	-45	186	2012

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-094	495546.20	5663419.20	534.20	320	-45	186	2012
	LG-095	495523.40	5663456.60	538.10	320	-45	191	2012
	LG-096	495485.10	5663496.30	542.60	320	-45	150	2012
	LG-097	495445.30	5663540.80	545.50	320	-45	189	2012
	LG-098	495420.70	5663573.30	546.20	320	-45	102	2012
	LG-099	495386.90	5663613.40	549.50	320	-45	102	2012
	LG-100	495354.60	5663648.10	551.10	320	-45	102	2012
	LG-101	495562.20	5663316.50	527.60	320	-45	186	2012
	LG-102	495538.40	5663349.60	526.90	320	-45	186	2012
	LG-103	495515.40	5663387.50	532.90	320	-45	156	2012
	LG-104	495473.90	5663426.70	537.60	320	-45	162	2012
	LG-105	495446.50	5663461.10	540.70	320	-45	132	2012
	LG-106	495415.30	5663501.80	543.20	320	-45	150	2012
	LG-107	495380.20	5663549.00	545.70	320	-45	186	2012
	LG-109	495315.90	5663620.40	549.10	320	-45	102	2012
	LG-110	495531.00	5663287.10	525.40	320	-45	201	2012
	LG-111	495501.90	5663315.90	526.80	320	-45	192	2012
	LG-112	495471.90	5663357.80	532.80	320	-45	150	2012
	LG-113	495440.20	5663394.30	536.50	320	-45	162	2012
	LG-114	495410.00	5663430.40	538.50	320	-45	162	2012
	LG-115	495379.60	5663469.40	540.50	320	-45	174	2012
	LG-116	495339.90	5663512.70	546.60	320	-45	162	2012
	LG-118	495497.10	5663250.20	518.90	320	-45	150	2012
	LG-119	495467.60	5663289.70	526.30	320	-45	141	2012
	LG-120	495433.30	5663322.90	532.70	320	-45	120	2012
	LG-121	495396.20	5663363.70	536.10	320	-45	102	2012
	LG-122	495369.70	5663400.60	537.20	320	-45	105	2012
	LG-123	495336.00	5663446.00	545.10	320	-45	102	2012

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-126	495457.60	5663208.80	516.70	320	-45	142	2012
	LG-127	495435.30	5663252.10	525.40	320	-45	120	2012
	LG-128	495395.20	5663293.50	533.60	320	-45	102	2012
	LG-129	495365.80	5663333.50	538.80	320	-45	102	2012
	LG-130	495334.80	5663364.50	539.30	320	-45	108	2012
	LG-134	495422.90	5663180.70	517.00	320	-45	141	2012
	LG-205	495961.80	5663702.40	509.10	320	-45	186	2012
	LG-206	495932.60	5663739.70	506.30	320	-45	186	2012
	LG-207	495893.60	5663783.80	505.60	320	-45	182	2012
	LG-208	496003.30	5663729.70	505.40	320	-45	186	2012
	LG-209	495969.10	5663766.70	505.30	320	-45	189	2012
	LG-210	495811.30	5663960.00	535.20	320	-45	182	2012
	LG-211	496042.90	5663764.40	497.00	320	-45	185	2012
	LG-212	495999.50	5663812.90	501.80	320	-45	186	2012
	LG-213	495979.40	5663843.60	503.50	320	-45	186	2012
	LG-214	495941.00	5663882.80	512.60	320	-45	221	2012
	LG-215	495908.80	5663920.90	522.40	320	-45	223	2012
	LG-216	495882.10	5663955.90	524.20	320	-45	188	2012
	LG-217	495848.40	5663990.40	527.50	320	-45	204	2012
	LG-218	495812.90	5664035.80	533.20	320	-45	210	2012
	LG-219	496046.00	5663836.90	495.70	320	-45	102	2012
	LG-220	496018.00	5663876.10	501.20	320	-45	171	2012
	LG-221	495979.20	5663912.90	509.30	320	-45	114	2012
	LG-222	495946.30	5663957.80	518.10	320	-45	102	2012
	LG-223	495915.20	5663987.70	520.60	320	-45	105	2012
	LG-227	495919.90	5663599.30	514.90	320	-45	186	2012
	LG-228	495958.10	5663631.00	511.40	320	-45	186	2012
	LG-229	496001.90	5663660.30	509.90	320	-45	186	2012

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-230	496028.00	5663696.90	507.10	320	-45	186	2012
	LG-231	496068.20	5663731.40	499.00	320	-45	186	2012
	LG-232	496104.90	5663761.10	496.00	320	-45	189	2012
	LG-233	496076.90	5663795.30	492.30	320	-45	150	2012
	LG-234	495866.90	5663426.00	497.70	320	-45	303	2012
	LG-235	495832.50	5663467.10	505.00	320	-45	291	2012
	LG-236	495904.90	5663457.40	498.20	320	-45	186	2012
	LG-237	495875.30	5663496.30	507.40	320	-45	186	2012
	LG-238	495946.70	5663489.90	491.70	320	-45	102	2012
	LG-239	495914.70	5663528.40	509.10	320	-45	186	2012
	LG-240	495981.50	5663499.70	491.40	320	-45	102	2012
	LG-241	495952.90	5663559.30	506.40	320	-45	186	2012
	LG-242	496021.80	5663545.50	490.40	320	-45	106	2012
	LG-243	495992.40	5663591.70	507.40	320	-45	186	2012
	LG-244	495748.10	5664105.50	545.50	320	-45	120	2012
	LG-320	495560.60	5663167.30	513.80	320	-45	102	2012
	LG-321	495533.50	5663201.20	513.00	320	-45	102	2012
	LG-322	495608.20	5663216.90	515.40	320	-45	102	2012
	LG-323	495563.60	5663255.10	506.90	320	-45	102	2012
	LG-324	495648.80	5663239.20	492.40	320	-45	102	2012
	LG-325	495585.90	5663277.90	507.80	320	-45	102	2012
	LG-326	495681.70	5663263.20	490.70	320	-45	126	2012
	LG-327	495647.80	5663294.30	493.60	320	-45	102	2012
	LG-328	495718.90	5663296.90	496.80	320	-45	116	2012
	LG-329	495691.60	5663335.70	503.70	320	-45	101	2012
	LG-330	495756.40	5663331.90	496.90	320	-45	186	2012
	LG-331	495727.80	5663362.20	505.00	320	-45	101	2012
	LG-332	495795.50	5663363.50	498.90	320	-45	186	2012

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-333	495762.30	5663393.00	507.10	320	-45	185	2012
	LG-334	495833.80	5663395.80	501.00	320	-45	186	2012
	LG-335	495799.80	5663435.50	508.00	320	-45	186	2012
	LG-337	496066.70	5663582.90	487.50	320	-45	102	2012
	LG-338	496032.00	5663620.20	499.30	320	-45	186	2012
	LG-339	496063.00	5663657.80	500.50	320	-45	189	2012
	LG-401	496027.51	5663813.32	496.63	320	-45	192	2013-2014
	LG-402	496005.35	5663834.99	501.96	320	-45	195	2013-2014
	LG-403	495983.43	5663869.32	505.65	320	-45	159	2013-2014
	LG-404	495946.53	5663914.34	513.93	320	-40	156	2013-2014
	LG-405	496028.33	5663742.33	499.16	320	-47	156	2013-2014
	LG-406	495993.93	5663770.00	502.95	320	-45	213	2013-2014
	LG-407	495945.88	5663845.11	507.77	320	-45	174	2013-2014
	LG-408	495899.06	5663892.02	521.99	320	-45	111	2013-2014
	LG-409	495942.04	5663804.70	503.90	320	-45	198	2013-2014
	LG-410	495920.52	5663830.65	509.00	320	-45	177	2013-2014
	LG-411	495878.28	5663877.04	523.85	320	-45	99	2013-2014
	LG-412	495974.87	5663720.65	508.38	320	-45	228	2013-2014
	LG-413	495937.54	5663762.68	503.55	320	-45	204	2013-2014
	LG-414	495923.13	5663782.89	503.67	320	-45	162	2013-2014
	LG-415	495880.73	5663830.23	517.88	320	-45	114	2013-2014
	LG-416	495849.65	5663843.39	525.15	320	-45	120	2013-2014
	LG-417	495936.05	5663692.53	508.88	320	-45	228	2013-2014
	LG-418	495832.79	5663826.18	527.05	320	-67	150	2013-2014
	LG-419	495832.29	5663826.58	527.61	320	-45	141	2013-2014
	LG-420	495776.11	5663867.19	539.42	320	-45	96	2013-2014
	LG-421	495857.71	5663739.54	505.11	320	-45	174	2013-2014
	LG-422	495800.78	5663782.33	525.25	320	-45	141	2013-2014

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-423	495760.27	5663826.93	537.13	320	-45	147	2013-2014
	LG-424	495721.93	5663790.90	540.50	140	-80	153	2013-2014
	LG-425	495698.28	5663816.50	541.36	320	-45	99	2013-2014
	LG-426	495713.02	5663703.81	529.44	320	-50	165	2013-2014
	LG-426a	495764.89	5663662.87	508.51	320	-45	180	2013-2014
	LG-427	495662.97	5663784.63	541.28	140	-75	150	2013-2014
	LG-428	495668.71	5663683.06	544.02	320	-63	174	2013-2014
	LG-429	495637.89	5663717.89	547.48	320	-45	156	2013-2014
	LG-430	495651.90	5663643.67	545.07	320	-60	186	2013-2014
	LG-431	495604.83	5663683.17	554.62	320	-45	183	2013-2014
	LG-432	495630.47	5663630.02	549.60	320	-68	183	2013-2014
	LG-433	496077.47	5663757.62	495.26	320	-65	189	2013-2014
	LG-434	496076.94	5663758.21	495.19	320	-45	209	2013-2014
	LG-435	496042.12	5663723.17	502.77	320	-55	222	2013-2014
	LG-436	496041.23	5663662.96	502.91	320	-45	204	2013-2014
	LG-437	496003.84	5663687.92	511.08	320	-45	258	2013-2014
	LG-438	495993.14	5663620.67	506.69	320	-45	201	2013-2014
	LG-439	495968.94	5663574.80	507.46	320	-45	258	2013-2014
	LG-440	495924.04	5663549.49	509.08	320	-45	225	2013-2014
	LG-441	495846.68	5663568.55	505.63	320	-45	228	2013-2014
	LG-442	495820.45	5663601.62	506.09	320	-45	213	2013-2014
	LG-443	495772.17	5663576.68	510.87	320	-45	201	2013-2014
	LG-444	495730.10	5663539.67	515.01	320	-45	222	2013-2014
	LG-445	495916.88	5663954.05	521.33	320	-45	81	2013-2014
	LG-446	495885.76	5663983.61	524.65	320	-45	48	2013-2014
	LG-447	495872.09	5663914.54	526.38	320	-45	81	2013-2014
	LG-448	495852.44	5663953.04	527.36	320	-45	63	2013-2014
	LG-449	495835.61	5663896.26	530.00	320	-45	132	2013-2014

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-450	495796.35	5663932.76	536.89	320	-45	69	2013-2014
	LG-451	495765.68	5663974.25	541.93	320	-45	54	2013-2014
	LG-452	495752.55	5663913.07	541.32	320	-45	99	2013-2014
	LG-453	495716.07	5663955.39	545.40	320	-45	87	2013-2014
	LG-454	495726.78	5663903.51	543.36	320	-45	60	2013-2014
	LG-455	495861.62	5663468.11	500.05	320	-80	300	2013-2014
	LG-456	496023.25	5664077.26	517.62	320	-45	84	2013-2014
	LG-457	496076.45	5663683.98	497.95	320	-54	186	2013-2014
	LG-458	496047.04	5663562.49	490.87	320	-45	252	2013-2014
	LG-459	496007.30	5664038.26	517.12	320	-45	96	2013-2014
	LG-460	495959.69	5664015.90	522.48	320	-45	75	2013-2014
	LG-461	496087.01	5663595.31	484.77	320	-45	237	2013-2014
	LG-462	496004.98	5664193.14	519.12	320	-45	69	2013-2014
	LG-463	496005.45	5663532.27	491.15	320	-45	255	2013-2014
	LG-464	495884.16	5663533.56	509.37	320	-45	300	2013-2014
	LG-465	495682.12	5663533.62	519.06	320	-45	195	2013-2014
	LG-466	496053.18	5663976.44	510.04	350	-50	135	2013-2014
	LG-467	495631.31	5663501.63	526.27	320	-45	183	2013-2014
	LG-468	495918.32	5664060.01	521.97	320	-45	114	2013-2014
	LG-469	496021.66	5663944.79	508.31	320	-45	147	2013-2014
	LG-470	495598.05	5663474.19	530.93	320	-45	177	2013-2014
	LG-471	495656.88	5663703.66	545.22	40	-45	54	2013-2014
	LG-472	496064.25	5664039.62	515.22	320	-45	120	2013-2014
	LG-473	495930.93	5664122.24	523.44	320	-45	171	2013-2014
	LG-474	495665.19	5663851.09	545.76	320	-45	60	2013-2014
	LG-477	495962.31	5664082.08	523.02	320	-45	105	2013-2014
	LG-478	496005.17	5664117.44	519.05	320	-45	90	2013-2014
	LG-479	496085.07	5664115.05	515.23	320	-45	81	2013-2014

Zone	Hole Name	Easting	Northing	Elevation	Azimuth (°)	Dip (°)	Length (m)	Year
GC Zone	LG-480	495777.13	5663414.71	507.96	320	-55	189	2013-2014
	LG-487	495770.88	5663580.67	511.30	40	-50	180	2013-2014
	LG-488	496062.37	5663900.84	500.42	320	-45	150	2013-2014
	LG-489	495991.13	5663977.50	516.88	320	-45	120	2013-2014
	LG-490	496092.77	5663929.22	497.30	320	-45	150	2013-2014
	LG-491	496028.31	5664009.03	515.62	320	-45	114	2013-2014
	LG-492	496164.98	5663999.46	494.21	320	-45	180	2013-2014
	LG-493	496100.16	5664076.56	516.27	320	-45	81	2013-2014

10.3 Drill holes outside the estimation resource zone

A total of 24 holes were drilled in the GR zone totalling 3083.6 m and not included in the Mineral Resource estimate of the Lac Guéret deposit. The average depth of the drillholes was 128.5 m, with a maximum depth of 210 m. The diameter size of the cores was NQ and 1964 samples were assayed.

Table 10-2 – Drillholes outside the Mineral Resource zone

Hole Name	X	Y	Z	Azimuth (°)	Dip (°)	Length (m)
LG-01	495247,1	5664176,2	580,5	341	-50	90
LG-02	495430,8	5664342	586,5	309	-45	105
LG-03	495639,7	5664425,8	579,2	305	-50	144,5
LG-04	495707	5664489,5	568,7	302	-45	141
LG-05	495645,6	5664487,4	583,4	310	-60	72
LG-06	495741,4	5665032,6	601,4	110	-45	108
LG-218	495812,9	5664035,8	533,2	320	-45	210
LG-244	495748,1	5664105,5	545,5	320	-45	120
LG-245	495674,2	5664191,8	554,4	320	-45	120
LG-246	495617,2	5664260,9	566,2	320	-45	140,1
LG-247	495558	5664345,4	579,1	320	-45	186
LG-248	495520,7	5664373,1	584,6	320	-45	138
LG-249	495486,6	5664415,8	591,4	320	-45	141
LG-250	495452,5	5664455,5	595,2	320	-45	141
LG-251	495424,6	5664495,5	599,6	320	-45	102

Hole Name	X	Y	Z	Azimuth (°)	Dip (°)	Length (m)
LG-252	495592,8	5664371,2	580,2	320	-45	111
LG-253	495564,6	5664407,7	587,2	320	-45	120
LG-254	495533	5664447,5	590	320	-45	111
LG-255	495498,4	5664487	596,4	320	-45	102
LG-256	495468,1	5664519,8	602,6	320	-45	105
LG-257	495625,4	5664401,6	579,5	320	-45	111
LG-258	495593,8	5664442,4	587,6	320	-45	138
LG-259	495564	5664482,4	593	320	-45	102
LG-260	495536	5664518	598	320	-45	180
LG-261	495504	5664556	603	320	-45	153

Table 10-3, show the high-grade mineralized intervals with a maximum value of 46.5% Cg over 1.5 m in hole LG-248.

Table 10-3 - The mineralized intervals with high-grade % Cg

Hole Name	From (m)	To (m)	% Cg	Hole Name	From (m)	To (m)	% Cg
LG-01	37	39	33.55	LG-253	10.5	12	35.9
LG-02	47	49	34.96	LG-253	16.2	17.4	36.3
LG-03	23.3	25.8	40.57	LG-253	17.4	18.6	31.6
LG-03	38.75	40.75	32.58	LG-257	38.3	39.2	30.3
LG-03	40.75	42.85	30.6	LG-257	40.5	42	35.5
LG-03	45.65	47.65	31.47	LG-257	45	46.5	41.6
LG-03	47.65	48.6	30.33	LG-257	46.5	48	36.9
LG-03	116	117.93	32.49	LG-257	48	49.5	30.8
LG-03	130.03	130.46	30.82	LG-257	51	52.5	34.5
LG-05	27	28.55	32.71	LG-257	52.5	54	32.6
LG-247	51	52.5	30.8	LG-257	54	55.5	35.5
LG-247	78	79.5	34.8	LG-257	63	64.5	36.4
LG-247	88.5	90	31	LG-257	64.5	66	41.9
LG-247	94.5	96	31.9	LG-257	66	67.5	36
LG-247	96	97	36.1	LG-257	84	85.5	32.7
LG-248	24	25.5	36.5	LG-257	91.5	93	31.9
LG-248	25.5	27	46.5	LG-257	93	94	39.8
LG-252	52.5	54	31.8	LG-258	15	16.5	35.1
LG-252	55.5	56.55	34.8	LG-258	82.9	84.5	32.1
LG-252	75.5	76.5	30.7	LG-259	7.5	9	30.9

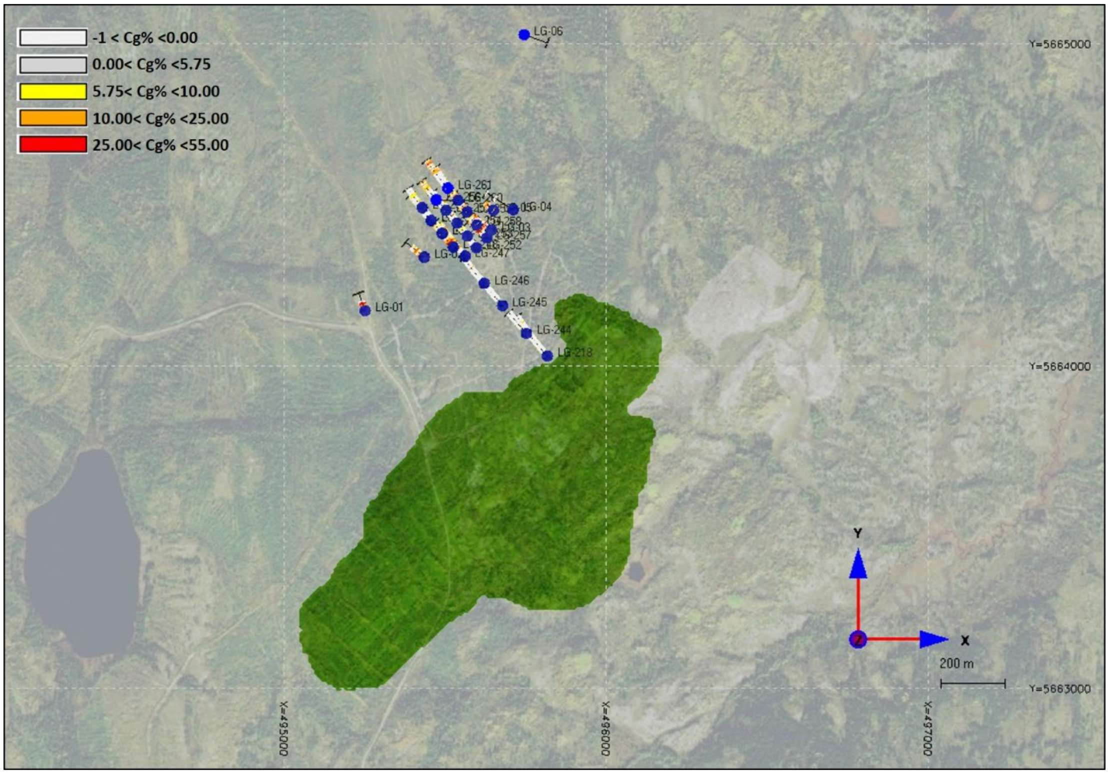


Figure 10-3 – 2013 Exploration drilling outside the GR Zones

10.4 Geotechnical Drilling

Mason Graphite commissioned Groupe Qualitas Inc. ("Qualitas") to conduct a geotechnical investigation campaign to collect geological and geomechanical data for the adequate designing and construction of an open pit mine, and to conduct a preliminary investigation for the projected storage areas, crusher and silo locations detailed in the 2018 Feasibility Study.

A total of 11 boreholes were drilled (Table 10-4). Nine boreholes (BH-14-01i, BH-14-02, BH-14-02B, BH-14-03i, BH-14-04, BH-14-05i BH-14-06 BH-14-07i and BH-14-08) along the open pit area were drilled to provide geomechanical information for design and engineering purpose of the open pit. Two boreholes (BH-14-09 and BH-14-10) were drilled to provide geotechnical information on the overburden and surface bedrock.

The fieldwork has been carried out from October 11 to December 18, 2014, and includes:

- Diamond drilling of 11 boreholes;
- Acoustical and optical televiewer surveys of eight boreholes;
- Shear wave velocities (Vs and Vp) measurements in eight boreholes;

- Petrographic and geomechanical core descriptions;
- Four multi-level vibrating wire piezometers installations (vibrating wire in each of the four boreholes);
- Four monitoring well installations;
- Determination of the hydraulic conductivity of the rockmass in eight boreholes (packer tests);
- Soil and groundwater sampling;
- Selection of core samples for laboratory tests;
- Selection of soil samples for laboratory tests.

After the drilling, the core logging was carried out to determine the geomechanical characteristics. Simultaneously the televiewer survey was performed to determine the number and orientation of the main set of structures.

Table 10-4 - Location of geotechnical drillholes

Borehole No.	Coordinates UTM NAD 83		Azimuth (°)	Dip (°)	Type of borehole	Drilling Date(s)	Elevation [1] of surface (m)	Elevation of bedrock (m)	End of borehole length [2] (m)
	Eastern	Northing							
BH-14-01i	495786.0	5663925.0	320	45	Inclined	2014-10-22	537.97	536.31	75.00
BH-14-02	495882.0	5663987.0	000	90	Vertical	2014-10-27 to 2014-10-28	524.35	517.30	158.4
BH-14-02B	495882.5	5663987.9	000	90	Vertical	2014-11-06	524.35	517.35	7.00
BH-14-03i	496000.0	5664082.0	040	45	Inclined	2014-10-29	518.69	515.65	79.45
BH-14-04	496028.0	5663916.0	000	90	Vertical	2014-10-30 to 2014-10-31	504.08	500.07	155.55
BH-14-05i	495959.0	5663770.0	130	45	Inclined	2014-10-31	504.51	503.91	77.25
BH-14-06	495837.0	5663689.0	000	90	Vertical	2014-11-01 to 2014-11-02	504.66	499.06	155.60
BH-14-07i	495682.0	5663690.0	205	45	Inclined	2014-10-25 to 2014-10-27	539.34	538.95	215.26
BH-14-08	495666.0	5663821.0	000	90	Vertical	2014-10-23 to 2014-10-25	542.76	537.96	155.30
BH-14-09	496205.0 [3]	5663820.0 [3]	000	90	Geotechnical	2014-11-02	479.00 [4]	474.95	11.30
BH-14-10	495333.0 [3]	5663982.0 [3]	000	90	Geotechnical	2014-11-04 to 2014-11-05	566.00 [4]	557.60	21.00

1. [1] Elevation provided by a surveyor prior to the drilling. Afterwards the ground surface of the drilling locations has been levelled to prepare the work areas. A difference of a few decimetres is possible from the original survey.
2. [2] All "depths" are measured along the borehole axis and correspond to "lengths".
3. [3] Coordinates surveyed with a Garmin GPS.
4. [4] Elevation estimated from a LIDAR survey provided by Hatch.

10.5 Drill Management

Drill collar sites were located using a hand-held GPS by Mason Graphite technicians. The orientation of front and back posts for each drillhole were put in place. The drill site preparation was verified by a geologist. The alignment of the drill was done by a technician. Drillholes inclination was set by geologist and driller with an inclinometer on the drill casing.

A geologist visited the drill site daily to check the drillhole. Drillholes were stopped once the planned depth was reached. The drillholes were continued when deemed relevant by Mason Graphite personnel in the field.

When a drillhole was completed, a wooden post with a flag including the name on it was left to identify the drillhole location. Groupe Cadoret ("Cadoret") surveyor from Baie-Comeau used this data to identify the drillhole during the surveying. Afterwards, PVC tubes were placed in the drill collars with identification information on a metal tag.

10.6 Down Hole Survey

Downhole dip and magnetic tests were taken every three metres using a Reflex multi-shot instrument. The instrument was used and manipulated by the drillers. Reflex measurements were given at every end of the holes to the geologist by using a program for automatic uploading of the data from the Reflex instrument to a computer. A magnetic deviation correction of 19.3° west was set in the Reflex instrument.

The following observations should be taken into consideration (but do not affect the accuracy or the quality of the Mineral Resources Estimate):

- Two drillholes have no Reflex values. One was forgotten (LG-045) and the instrument was broken on LG-040;
- Only measured Reflex values with an "OK" comment were kept (totalling 2,737 values kept out of 8,739 values measured). Essentially, erroneous values were probably due to magnetism from pyrrhotite in the host rock, but the exact cause has not been established. Related to this problem; two drillholes (LG-078 and LG-244) had no downholes survey values with "OK" comments;
- Two drillholes (LG-059 and LG-130) had recorded depth data that exceeded the maximum depth of the holes. Therefore, all Reflex values were discarded.

10.7 Drill Core Management

Drillers laid the drill core in wooden core boxes (1.5 m long with three rows). Drillers added a wooden block to identify the depth for each three-metre drill runs. Drillers placed a wooden lid on each core box and identified the drill core boxes with LG- and holes number using a black permanent marker. Each core box and lid were tied together with iron wire to hold the two parts together. Drillers transported the drill core to the core shack.

A geologist opened the boxes and ordered them by depth, did a quick log to see where the mineralization was located and stored the core boxes in covered steel core racks located outside the core shack for later description.

10.8 Surveying

Cadoret was contracted in November 2012 to survey the 2012 drillholes collars. A DGPS instrument was used to survey 170 drillholes of which nine were planned drill sites. Two drillholes were not surveyed (LG-260 and LG-261) during that survey. The coordinates from these two drillholes were taken using a hand-held GPS. Drillholes coordinates were reported in UTM NAD 83 zone 19 (Cadoret 2013).

Cadoret was also contracted in June 2013 to survey the 2006 drill collars which had not been surveyed previously. Out of 24 drillhole collars, 15 collar posts were found and surveyed. The remaining nine drillholes posts were not found mainly because of road construction or post destruction. Surveyed values in 2013 were only a few metres different from handheld GPS values. LG-07 was also surveyed as a reference; the difference from 2003 survey measurements was on the order of centimetres (Cadoret, 2013b).

In June 2014, 86 drillhole collars of the 2013-2014 program were surveyed by Cadoret. Supervision of the surveyor's works was made by Yves Caron, P.Geo., Director of Exploration for Mason Graphite. The locations were surveyed by differential GPS (Trimble equipment) and post-process of the data took place at their office in UTM coordinate system NAD83 SCRS. The report was provided to Mason Graphite on July 7, 2014.

10.9 Geotechnical Data Collection

When ready for logging, drill core was placed in the core shack for description. Technicians and the geologist checked the wooden blocks (three-metre drill runs) for length consistency. Technicians measured the core length drilled for each box to find the total drill length for each drillhole. For each drilled interval, the geologist measured the drill core length recovered to calculate the percentage of recovery.

For the same drill interval, the rock quality ("RQD") length was measured to calculate the RQD value. The total length of core fragments greater than 10 cm was to calculate the RQD. The number of fractures was also noted for each drill interval. Faults were noted in the geotechnical description.

10.10 Geological Logging

In June 2013, the entire 2012 drill core was reviewed under the supervision of Daniel Turcotte, P.Geo. The purpose of the re-logging was to verify the database uniformity on the geological descriptions. The result was in the conversion of some intervals described as Unit 3 being reassigned as Unit 2 (the changes are estimated to be around or less than 20%). About 10% of the intervals described as Unit 2 were reassigned to Unit 1 while few intervals described as Unit 1 were renamed undifferentiated gneiss (less than 10%).

For the 2013-2014 drilling campaign, Mason Graphite geologists logged the geological description of the drill cores. These elements were then noted in Geotic Log software. Geological Units used were the same as the ones described in the NI 43-101 Technical Report on the Uatnan Project issued in July 2012 based on visual values (Unit 1 = 4-10% Cg, Unit 2 = 10-27% Cg, Unit 3 = >27% Cg). Following the statistical study made by Marcotte in 2013, new thresholds are 5% to 10% for Unit 1, 10% to 25% for Unit 2 and greater than 25% for Unit 3.

The main mineralized lithological units were essentially based on the visual estimates in graphite % content. They were also described for non-mineralized drill segment. A more detailed lithological description (secondary lithology) was described for some sections of some drillholes.

Each geologist logging a hole was responsible for entering the data into Geotic Log. A complete database of all the drillholes was done by compiling them into one master Geotic Log database.

Photographs of each drillhole (wet and dry) were taken after geotechnical and geological description and included in Appendix of the drillhole logs. Each photo was identified by drillholes number, drill boxes interval and depth FROM-TO.

(For reference, see Table 7 2 - Property stratigraphic column).

11. Sample Preparation

11.1. Sampling Approach and Methodology

Samples (including duplicate, reference, and blank samples) were taken for a total of 43,324 m (including 987 m of trenches) and sent to the laboratory for analysis. These numbers include 2003, 2006, 2012 and 2013/2014 drill campaigns.

Drilling collar coordinates of each drillhole are reported as x,y,z values in UTM NAD 83 Z19. Drill samples were initially taken as 2 to 3-m lengths within homogeneous rocks for a few drillholes. Afterwards the sample length was generally of 1.5 m. The sample lengths were also defined by abrupt changes in geology and visual graphite grades.

Sample FROM-TO intervals were defined using wax pencils on drill cores by the geologists. Sample booklets were filled using the measured FROM-TO sample definition. Paper sample tags with three identification parts were used; Part 1 stayed in the booklet, Part 2 was placed in the sample bag for the lab, and Part 3 was stapled in the core box at the beginning of each sample.

Technicians would then cut the drill cores with an electrical diamond saw in half along the drill core axis and perpendicular to the mineral banding. One half was left in the box and the other half was put in a plastic bag with the sample tag inside the bag. The sample number was also marked with a permanent black marker on the plastic bag.

A technician filled a chain of custody ("COC") form given by AGAT to describe the sample batch, including the FROM-TO, sample numbers, the total number of samples to be analyzed and the type of analysis to be performed. A geologist would then verify that this form is correctly filled by comparing with the physical sample number and the number of samples to be sent.

Approximately five samples were grouped in a larger rice bag. Normally, samples for a full drillhole were sent as a group at the lab and would correspond to a laboratory batch. The bags were organized on pallets.

The pallets were placed in a Mason Graphite truck. Mason Graphite personnel brought the pallets to the Groupe Guilbault warehouse in Baie-Comeau. The pallets were transported by Manitoulin Trucking Company to AGAT in Sudbury, Ontario.

Before storing the drill core boxes in steel core racks, the core boxes were labelled with metal tags describing drillhole number, box number and length FROM-TO.

Boxes are stored outside in a gated enclosure in covered steel racks next to the core shack. The exploration camp where the cores are stored was never left unoccupied during the drilling campaigns and subsequent sampling. No surveillance or regular visits occurred outside of the field campaigns. The core has remained on site and core boxes, racks and the core itself was still in good condition when last visited by Claude Duplessis of GoldMinds on September 29, 2022.

11.2. Samples Preparation

11.2.1. Relation of Issuer to Sample Analysis

Mason Graphite enlisted its employees for the field operations and drilling supervision, field data collection, sample preparation, and shipping of samples to AGAT.

Mason Graphite has no relationship with PRA, IPS, ALS Chemex, AGAT, COREM or Assayers Canada Ltd. and is totally independent of these companies.

11.2.2. Sample Preparation, Assaying, and Analytical Procedures

Analytical methods at AGAT:

Preparation

- Drill core samples weight were recorded as received;
- Samples were dried at 60 °C;
- Drill core samples were crushed and split to give a 250 g split sample;
- Split samples were pulverized to 75% passing through 200 mesh.

Total Carbon Analysis

- All the operations involved for the total carbon analyses were performed directly at the instrument. The original analyses were performed on a LECO model CHSDR 600. The total carbon re-assays were performed on a LECO model CS 844 (induction furnace - which was used originally for the graphite analyses);
- 0.2 g of pulp samples or less (if necessary, when carbon content is too high, and samples saturate the equipment) were placed in LECO crucibles;
- Crucibles with samples were put in a LECO furnace at 1,350° for 90 to 360 seconds (until all the carbon has been oxidized);
- Ct results were measured and reported in percent (%).

Graphitic Carbon Analysis

- The operations for graphite analyses were performed at three different stations: weighing, digestion, analysis. The re-assays were performed on a LECO model SC 432. The first analyses were performed on the CS 844;
- Around 0.25 g of pulp samples were placed in porcelain crucibles;
- 5 ml of 50 % HCl is added to the pulp sample in the porcelain crucible;
- Crucibles were put on a hot plate (at approx. 100°C) for approximately 10 minutes;
- Samples were filtered using a fibreglass filter (1 micron openings) and rinsed with 50% HCl and then water (initial analyses performed in 2012 did not use filters);
- Samples with filters were put in boat crucibles and then on a hot plate for drying;
- Boat crucibles with samples were put in a LECO furnace at 1,350° for 90 to 360 seconds (until all the Carbon has been oxidized);
- Cg results were measured and reported in percent (%).

Specific Gravity Measurements

Specific gravity measurements by gas pycnometry were also taken every five samples for a total of some 3,478 analyses performed. A Quantachrome Pentapyc 5200e instrument was used for the analysis. Prepared 5 g pulp samples were placed into a sample holder cup where ultrahigh purity Helium (He) was used as a displacing fluid. Density was determined using Boyle's Law from the displacement of He from each sample.

Mason Graphite requested GMG to prepare an independent sampling program for the Uatnan Property. For the same mandate, GMG did a rock density measurement (weight in air and weight in water) for six samples (4132, 4133, 4134, 4135, 4146 and 4147) at the GMG office in Québec City.

Sample replicates, duplicates, blanks (determined from an empty sample holder cup) and reference materials (an object with a known volume) were routinely used as part of AGAT Quality Assurance Program.

11.3. Quality Assurance and Quality Control

Quality Assurance and Quality Control ("QA/QC") samples were inserted along the sample definition of the drill core. Generally, for each sample number ending with a 10, a duplicate sample was inserted, for each sample number ending with 35 and 85, a standard sample was inserted and for each sample number ending with 60, a blank sample was inserted.

Standard Reference Material for graphitic mineralization is not common. During the 2012 drill campaign, a graphite standard (GCL 003) from Mongolia Central Geological Laboratory was used. This standard has a certified value of 14.43% ± 0.64 for Total Carbon (Figure 11-1) and an information value of 12.0% for Graphitic Carbon (Figure 11-2). The Total Carbon value from this standard was obtained from analyses performed by gravimetric method.

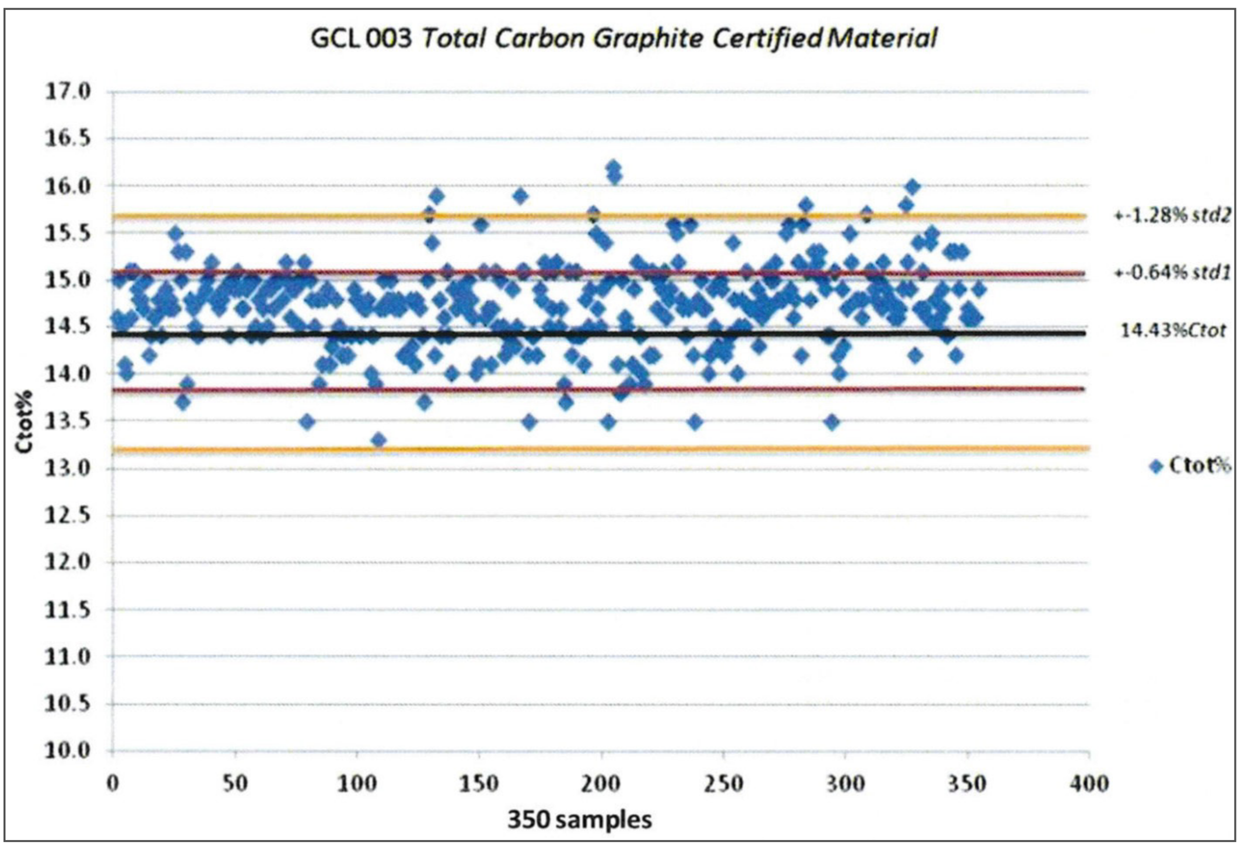


Figure 11-1 - Total carbon from assays certified material (GCL 003)

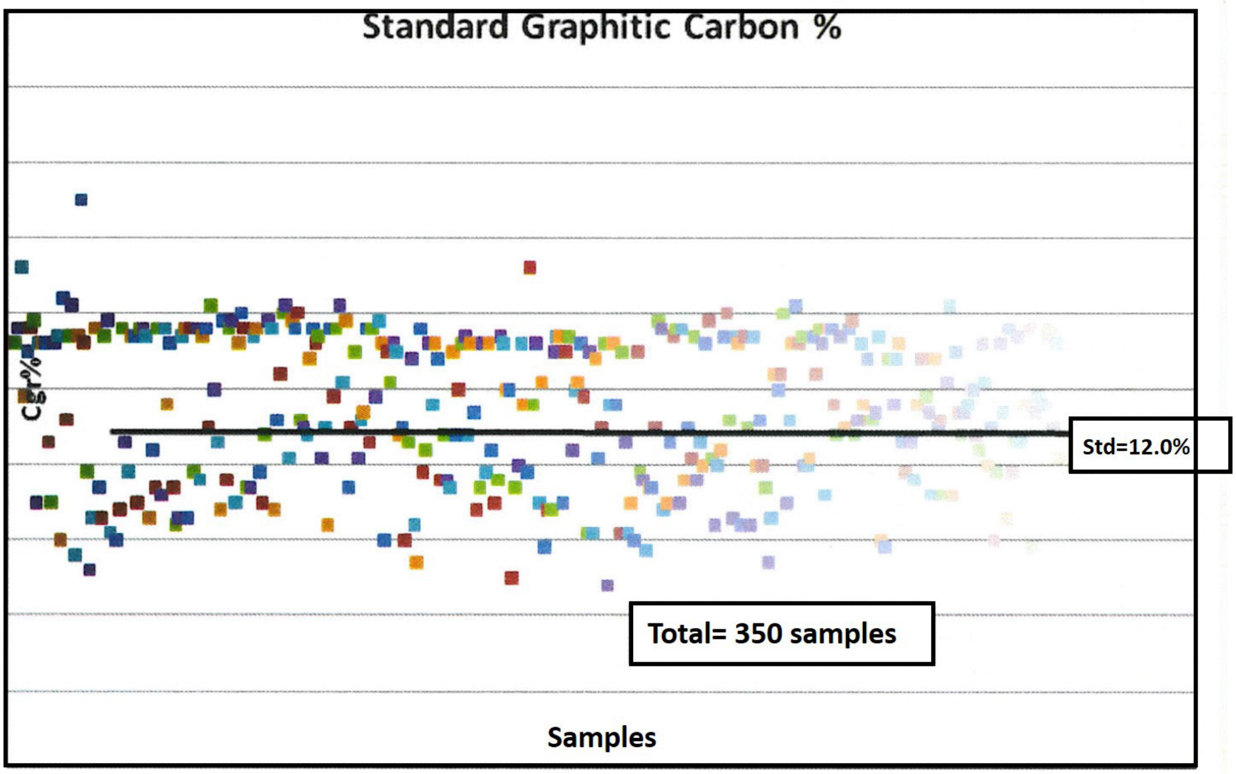


Figure 11-2 - Graphitic carbon from assays certified material (GCL 003)

During the 2013-2014 drilling campaign another standard (total of 163 standards) was used from COREM (MRI-1 and MRI-2). COREM standard (Std LG) with low graphitic Carbon concentration (Std LG with total Carbon between 7.95% and 8.68%; Graphitic Carbon between 7.4% and 8.52%; Figure 11-3). This standard shows one invalid value of 13.4% Cg (Figure 11-3). COREM standard (Std HG) with high graphitic Carbon concentration (Std HG with total Carbon between 24.1% and 25.9%; Graphitic Carbon between 22.1% and 25%; Figure 11-3 and Figure 11-4).

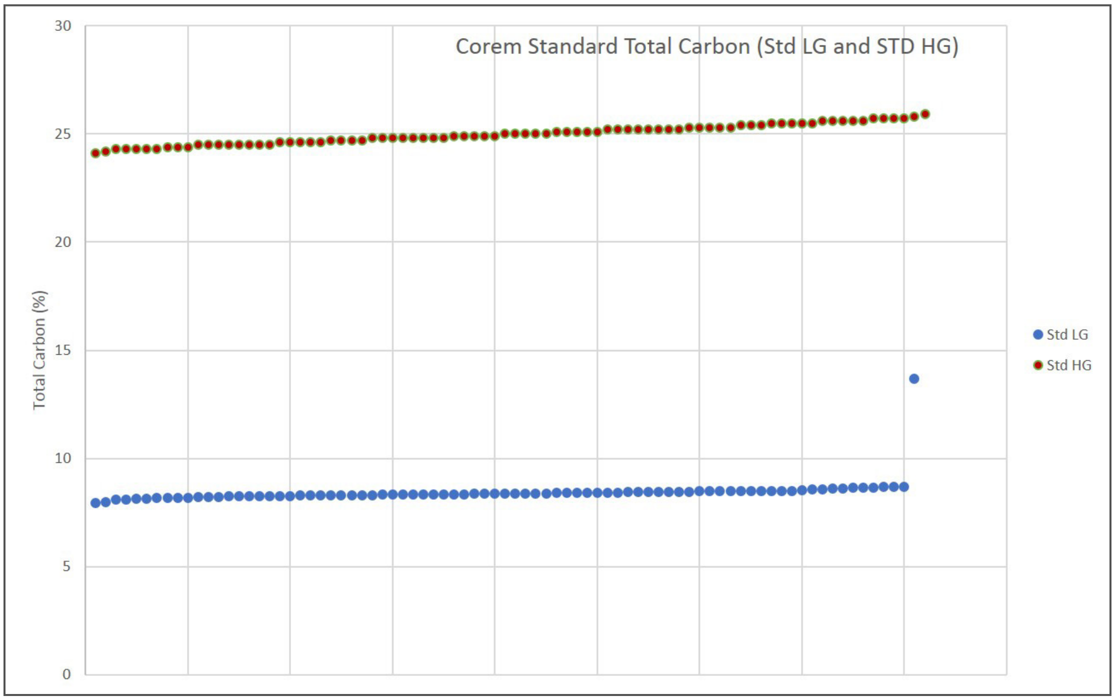


Figure 11-3 - Total carbon values (%) of COREM standards

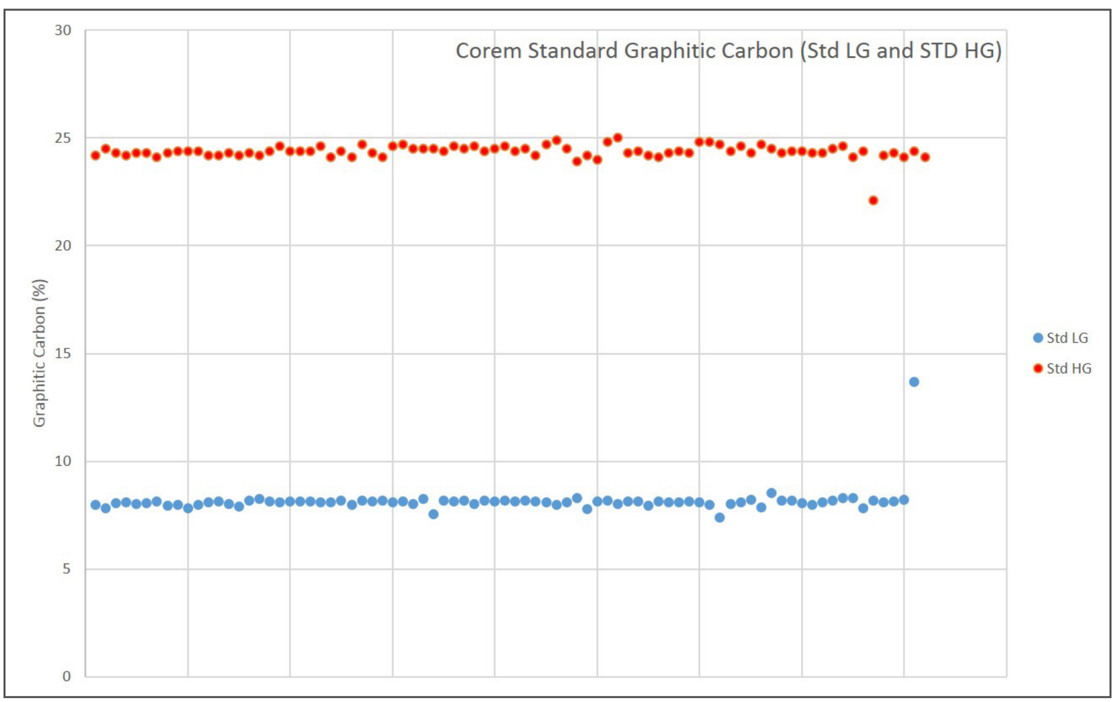


Figure 11-4 - Graphitic carbon values (%) of COREM standards

A total of 307 blank samples were inserted and consisted of coarse white quartz sand from large bags purchased at a hardware store in Baie-Comeau (Figure 11-5).

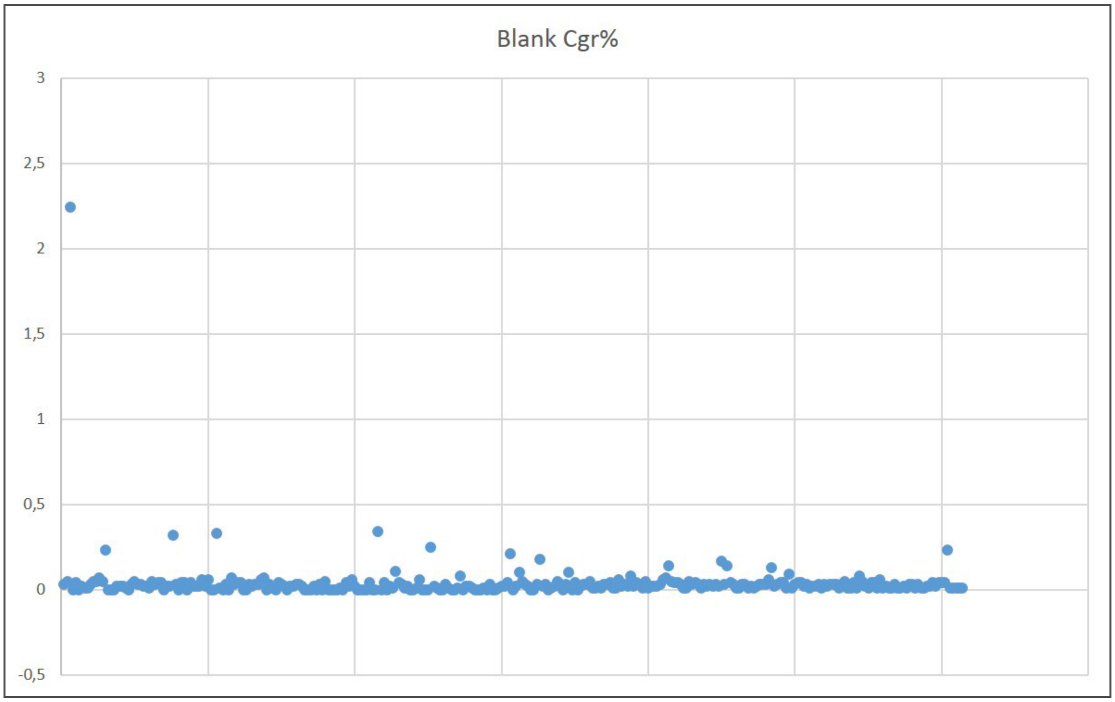


Figure 11-5 - Graphitic carbon values of blank samples (%)

Duplicate samples consisted of the second half of a particular drill core interval using the next sample number (for example, sample number 110 is the duplicate of drill core sample number 109). A total of 300 duplicate samples were inserted along the drill core sample definition during the drilling campaign from 2013 to 2014 (Figure 11-6 and Figure 11-7).

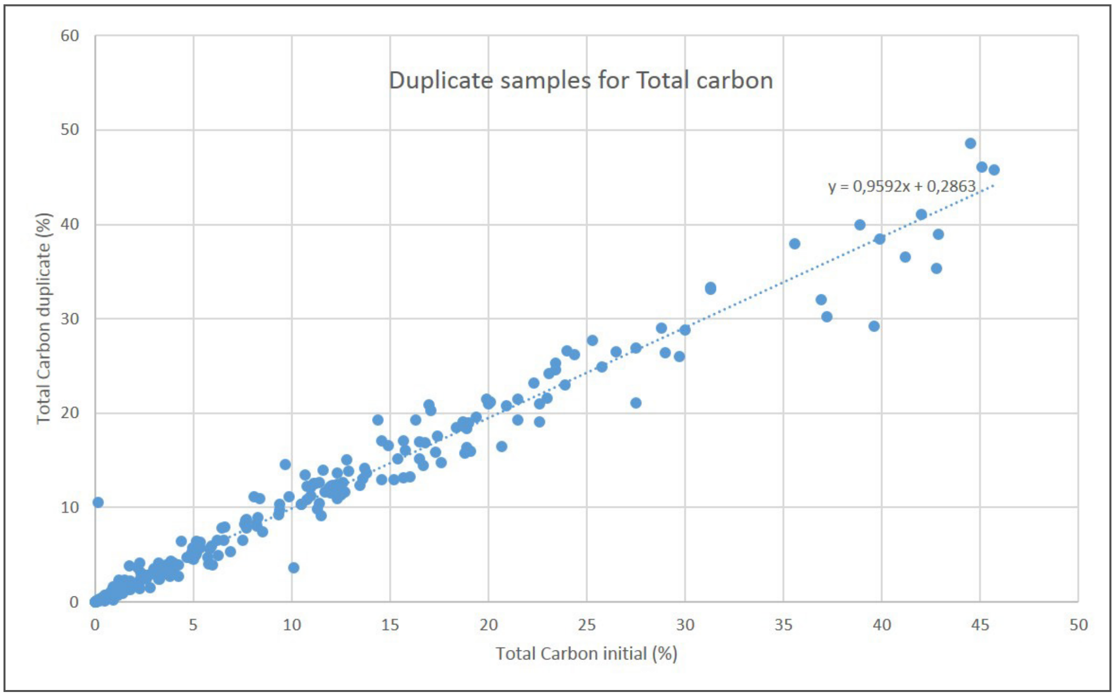


Figure 11-6 - Duplicate samples, total carbon (%)

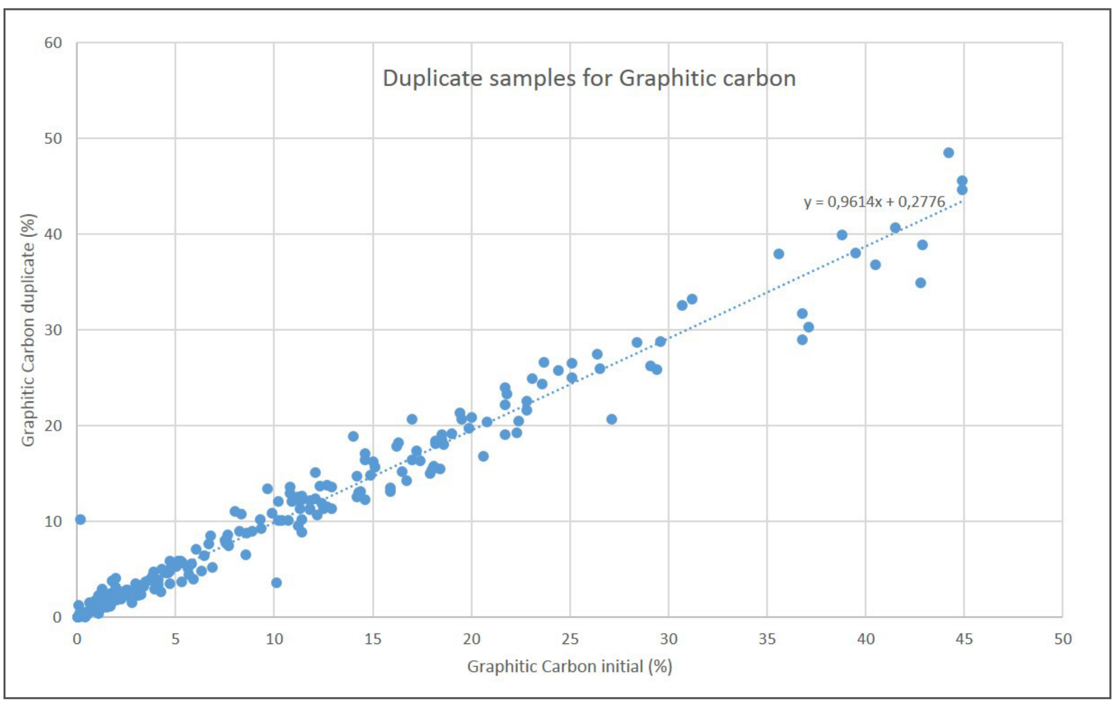


Figure 11-7 - Duplicate samples, graphitic carbon (%)

Figure 11-6 and Figure 11-7 show that sample and duplicate values are quite similar, and no abnormal values were detected. The slope of the regression lines and the correlation coefficient is very close to unity which indicates a good reproducibility.

11.4. Referee Analyses

COREM laboratory located in Québec City was chosen as the referee laboratory to reanalyze 536 coarse reject samples as a standard QA/QC procedure. Sample selection made sure to have some samples from each drillhole. In addition, samples were chosen to be representative of the grade histogram variation, focusing on samples with total carbon ("Ct") values greater than 4% for a total of 447 samples analyzed. This represents approximately 6% of the samples with Total Carbon values > 4% analyzed during the 2012 drill campaign. Fifty-two samples with Total Carbon less than 4% were also analyzed. One standard sample or one blank sample was inserted every 15 samples for a total of 33 samples. Four field duplicates were also included in the list of samples to be analyzed.

11.4.1. Total Carbon Analysis

The sample is placed in a LECO capsule and then introduced into the furnace (1,380°C) under an atmosphere of oxygen. Carbon is oxidized to CO_2. After the removal of moisture, gas (CO_2) is measured by an infrared detector. A computerized system calculates and displays the concentration of the total carbon present in the sample.

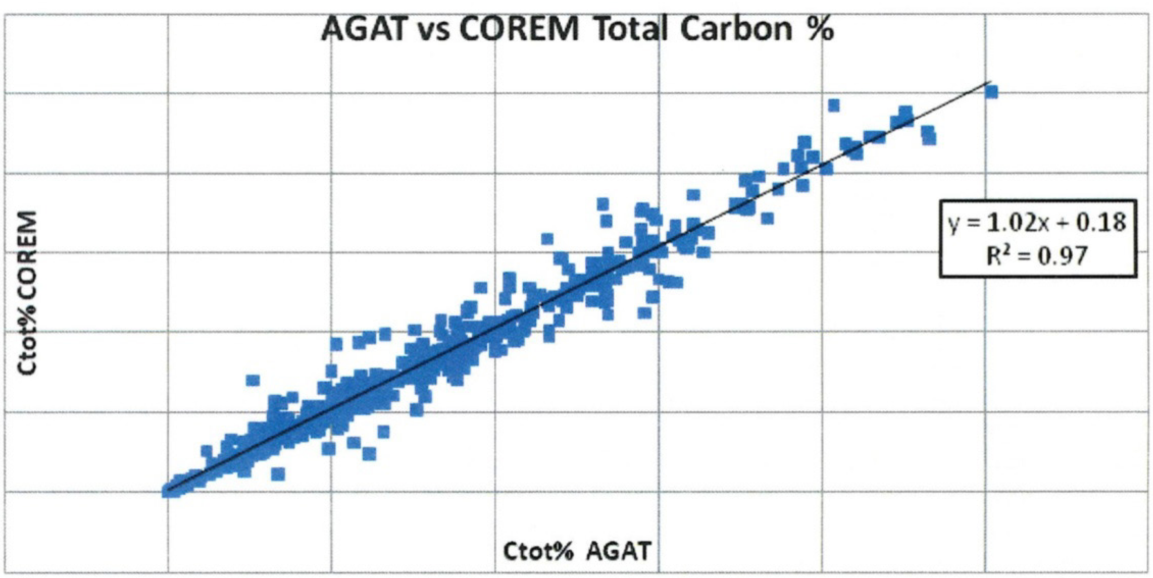


Figure 11-8 - Correlation AGAT – COREM for total carbon

11.4.2. Graphitic Carbon Analysis

The sample is pretreated with nitric acid, rinsed, and filtered. Then the sample is placed in a LECO capsule and then introduced into the furnace (1,380 °C) under an atmosphere of oxygen. Carbon is oxidized to CO_2. After the removal of moisture, gas ("CO_2") is measured by an infrared detector. A computerized system calculates and displays the concentration of the graphitic carbon present in the sample.

The slope of the regression line and the correlation coefficient is very close to unity which indicates a high reproducibility between the AGAT and COREM analyses.

11.5. Reanalysis of Graphitic Results

In March 2013, a field visit by Mason Graphite with the objective of validating 11 randomly selected drillholes with their assays resulted in the questioning of some graphitic carbon results. At the Uatnan Property, some rare carbonates are observed. Percentages of inorganic carbon (obtained by the subtraction of total carbon – graphitic carbon) above 2% should thus be occasional and cannot be above 12% (pure calcite contains 12% carbon). It was thus decided to reanalyze all the samples with total graphite ≥ 4% and with values of inorganic carbon ≥ 1%. Blank, standard and duplicate samples were also included in the process of reanalyzing some 6,211 pulp samples at AGAT.

These new results were imported into the Geotic Log assay database. Whenever a new analysis was performed (either for graphitic carbon or total carbon), the latest value was used in the final database. The graphitic carbon and total carbon values seen in the assay database reflect this procedure.

11.6. Security

GMG believes that the sampling procedures and handling in the field, sample preparation, sample and data security, and the analytical procedures were sufficient to maintain the integrity of the samples as representative of the material sampled.

12. Data Verification

12.1 Database

Geotic Log software was used to create individual log databases. Geology, sampling, coordinates, and geotechnical data were entered in individual Geotic log database tables by the geologist logging a specific drillhole.

The database used for this work was compiled by Mason Graphite. This database was delivered by Roche as Access database named "*GD_PH2_LacGueret*" as well as another file named "DB-FINAL-N43101-V2.xlsx" (197 holes totalling 29,906 m, and four trenches totalling 987 m).

The drilling data from the 2013 and 2014 drilling campaign was compiled by Mason Graphite geologists (86 holes, totalling 13,418 m) and verified by GMG.

12.2 Field Verification

Lyons directed the exploration work in the field from 2002 through mid-2006 and helped establish the 2006 drill program executed by Daniel Lapointe, P.Geo., for Quinto. He relogged the 2006 core in May 2007 in the secure storage site at Baie-Comeau, QC following which he visited the drill grid site. He also consulted with Quinto during 2006 and 2007 related to metallurgical issues and the initial efforts to make a geological model in 2007. The 2006 drill sites are marked with wooden stakes and the casing has been pulled out. Locations were made with a hand-held GPS unit. Surveying by Cadoret in summer 2013 located most of the sites as described above.

During the 2012 drill campaign, field verifications were being done on a hole-by-hole basis (see Chapter 7 for details). Lyons knows of no known limitations regarding the field data besides the normal data ranges inherent in the described methods.

In accordance with the National Instrument 43-101 guidelines, Claude Duplessis Eng., has visited the Uatnan Property on August 2, 2016, accompanied by Jean L'Heureux, Eng. A second site visit to the Property done on September 29, 2022, by Duplessis Eng., accompanied by Antoine Cloutier P.Geo., of NMG.

During the first site visit Mr. Duplessis inspected the location of several borehole collars in the main zone. The collars are clearly marked, and the borehole casing is capped and marked with the borehole number. No discrepancies were found between the location, numbering, or orientation of the collars verified in the field, on plans and in the database verified by GMG. Mr. Duplessis, Eng., has also reviewed the core at the site and visited the mill site as well.

Mr. Duplessis, Eng., and Mr. Rachidi P.Geo., took independent samples (core samples) previously in 2014 with Yves Caron, P.Geo.

During the second site visit Mr. Duplessis, Eng., inspected the core storage facility, as well as sites of bulk samples. Casing of drillholes were not observed due to recent logging in the area, probably removed prior to logging to avoid incidents in harvesting. As well as small trees, dense vegetation is now in place. The historic drilling trails are difficult to locate.

12.3 Purpose of Site Visit

The purpose of the site visit was to ascertain the geological setting of the Project, exploration works, and database verification.

12.3.1 2013-2014 Drill Campaign Database

The last verification/correction of the new database (2013-2014 campaign) took place at the GMG office on October 22, 2014.

12.3.2 Independent Sampling

12.3.2.1 Independent Sampling Program by GMG 2015

Mason Graphite commissioned GMG to prepare an independent sampling program for the Uatnan Property. Merouane Rachidi, P.Geo., PhD., and Claude Duplessis, Eng., Senior Engineer, Qualified Persons ("QPs") as defined by the NI 43-101 and organized the preparation and sampling protocol.

12.3.2.2 Sampling

For the purpose of this program, three diamond drillholes ("DDH") LG-19, LG-207 and LG-422 were selected to represent the three main diamond drill campaigns, which occurred on the GC deposit in 2003, 2012 and 2014. Fourteen core boxes containing the remaining half cores of selected sections from these DDH were prepared and sent directly from Mason Graphite's core shack by their geologist, Yves Caron, P.Geo., and received in Québec City by GMG on October 31, 2014. Forty-seven samples (including blanks and standards) were prepared at the GMG office in Québec and then sent to the Accurassay Laboratories ("Accurassay") for analyses (Table 12-1).

Table 12-1 - Independent half-core samples from diamond drillholes [1]

Hole	From (m)	To (m)	Interval (m)	Sample ID GMG	Sample ID Mason Graphite
Blank				4101	
LG-19	68.30	71.00	2.70	4102	81419
LG-19	71.00	73.50	2.50	4103	81420
LG-19	73.50	75.00	1.50	4104	81421
LG-19	75.00	76.90	1.90	4105	81422
LG-19	76.90	78.70	1.80	4106	81423
LG-19	78.70	81.00	2.30	4107	81424
LG-19	81.00	83.40	2.40	4108	81425
LG-19	83.40	85.15	1.75	4109	81426
LG-19	85.15	87.90	2.75	4110	81427
LG-19	87.90	89.90	2.00	4111	81428
Blank				4112	
Std1-J				4113	
Std2-R				4114	
LG-19	89.90	92.10	2.20	4115	81429
LG-19	92.10	94.50	2.40	4116	81430
LG-207	45.00	46.50	1.50	4117	5600720
LG-207	46.50	48.00	1.50	4118	5600721
LG-207	48.00	49.50	1.50	4119	5600722
LG-207	49.50	51.00	1.50	4120	5600723
LG-207	51.00	52.50	1.50	4121	5600724
LG-207	52.50	54.00	1.50	4122	5600725
LG-207	54.00	55.50	1.50	4123	5600726
LG-207	55.50	56.20	0.70	4124	5600727
Blank				4125	
Std1-J				4126	
Std2-R				4127	
LG-207	56.20	57.00	0.80	4128	5600728
LG-207	57.00	58.50	1.50	4129	5600729
LG-207	58.50	60.00	1.50	4130	5600730
LG-207	60.00	61.50	1.50	4131	5600731
LG-422	15.5	17	1.50	4132	E5615308

[1] LG19, LG207 and LG422

Hole	From (m)	To (m)	Interval (m)	Sample ID GMG	Sample ID Mason Graphite
LG-422	17	18.2	1.20	4133	E5615309
LG-422	18.2	19.2	1.00	4134	E5615310
LG-422	19.2	21	1.80	4135	E5615311
LG-422	21	22.5	1.50	4136	E5615312
LG-422	22.5	23.1	0.60	4137	E5615313
LG-422	23.1	24.4	1.30	4138	E5615314
LG-422	24.4	26.15	1.75	4139	E5615315
Blank				4140	
Std1-J				4141	
Std2-R				4142	
LG-422	26.15	27.00	0.85	4143	E5615316
LG-422	27	28.5	1.50	4144	E5615317
LG-422	28.5	30	1.50	4145	E5615318
LG-422	30	31.45	1.45	4146	E5615319
LG-422	31.45	32.4	0.95	4147	E5615321

The core boxes were photographed (dry and wet) before the sampling. To properly compare the laboratory results, each sample was taken from the same intervals defined by Mason Graphite. Blanks and two different standards (low-grade and high-grade) were inserted along the samples for the quality assurance and the quality control program ("QA/QC").

12.3.2.3 Sampling Approach and Methodology

Forty-seven samples were prepared at the GMG office in Québec City (including blanks and standards). Samples were placed in plastic bags with the GMG sample tag inside. The sample number of each sample was also marked with a permanent black marker on the plastic bag. Samples were then sent to the Accurassay laboratory for analyses.

After samples reception and registration, the samples were crushed (size between 0 and 2 mm), pulverized and split in two pulps (Pulp 1 and Pulp 2). All the Pulp 1 samples (47 samples) and half of the Pulp 2 samples (19 samples) were analyzed. Eight duplicate samples of the Pulp 1 were also analyzed for the QA/QC program (Figure 12-1).

Samples were analyzed for total sulphur by LECO (ALTS1), total carbon by LECO (ALTC1), major element concentrations by XRF (ALXRF1), and graphitic carbon by LECO (Cg), (Figure 12-1).

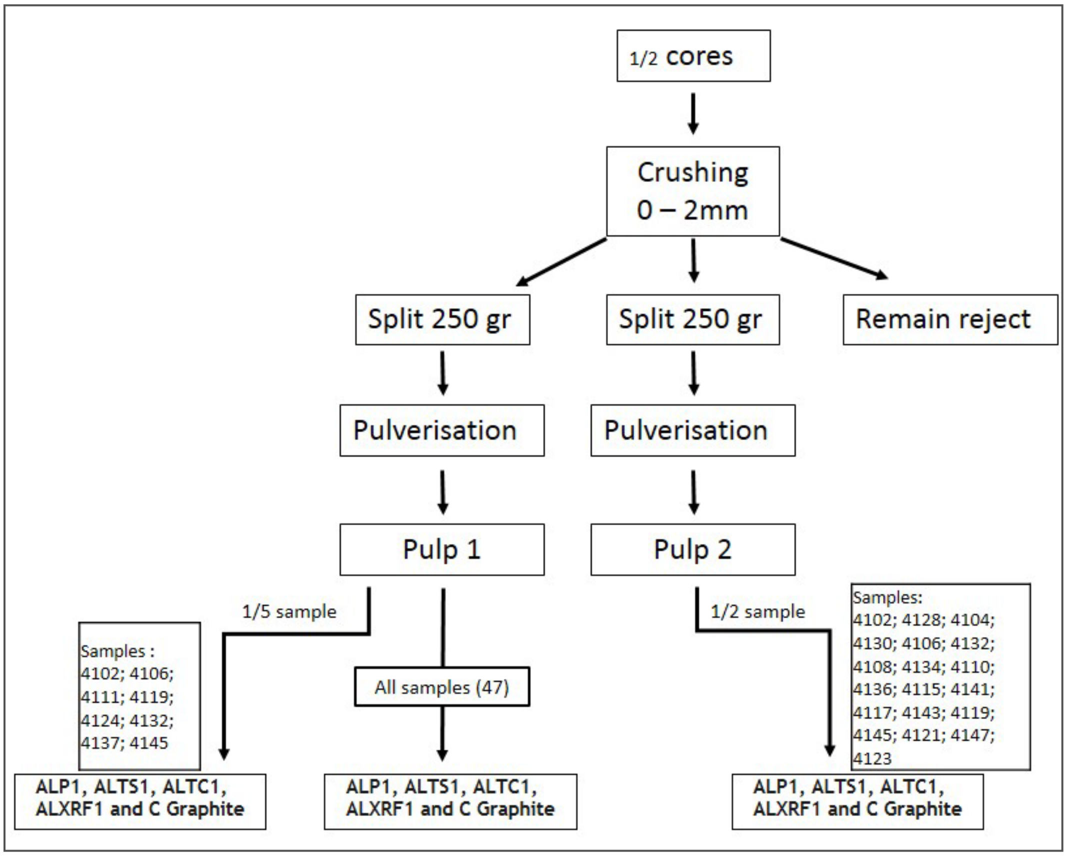


Figure 12-1 - Sample preparation at Accurassay[1]

12.3.2.4 QA/QC program

Two standards were used for the QA/QC program (Figure 12-2); STD I correspond to the standard with low graphitic carbon concentration (Cg between 7.96% and 8.05%); STD II corresponds to the standard with high graphitic carbon concentration (Cg between 23.6% and 24.5%). The blank samples inserted are from a retailed swimming pool filter consisting in coarse white silicate sand.

Duplicate samples consisted of eight samples (Pulp 1) reanalyzed to compare the laboratory analysis precision. Figure 12-3, shows that sample and duplicate values are quite similar, and no abnormal values were detected. The slope of the regression lines and the correlation coefficient is very close to unity which indicates a good reproducibility (Figure 12-3).

[1] ALP1= sample preparation and crushing; ALTS1= total sulphur by LECO; ALTC1= total carbon by LECO; ALXRF1 = major element concentrations by XRF; and graphitic carbon.

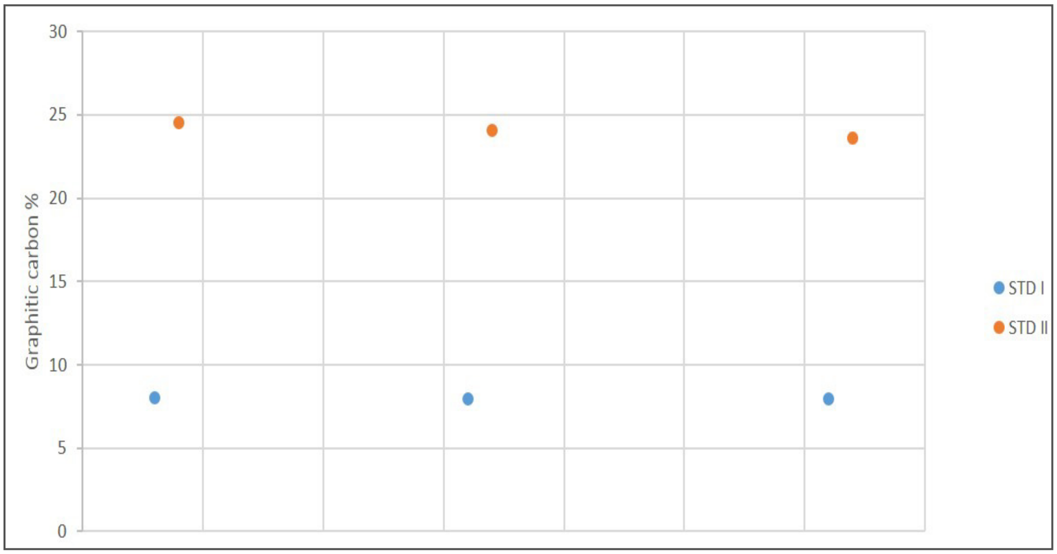


Figure 12-2 - Standards STD I and STD II

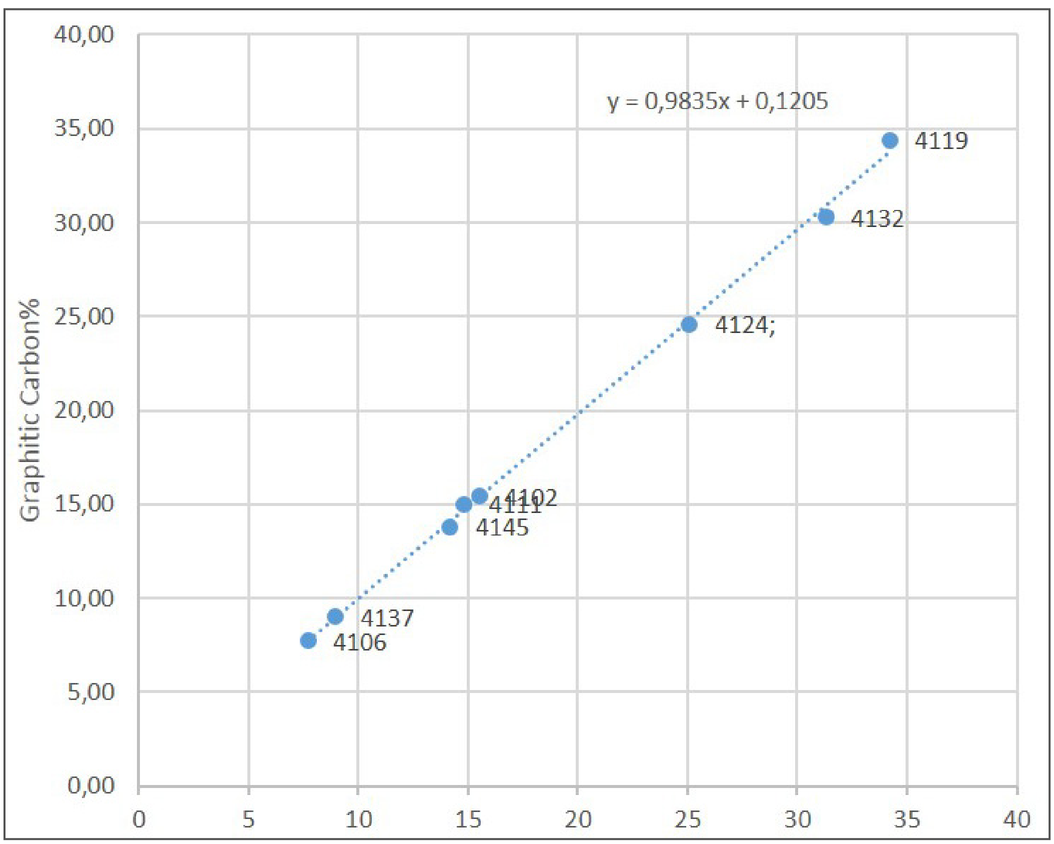


Figure 12-3 - Duplicate samples, graphitic carbon (%)

The graphitic carbon values of Pulp 1 and Pulp 2 are similar with a maximum difference of 1.9% for sample 4132 (Figure 12-4). This correlation may indicate a good sample preparation method (riffle splitting method) of the Accurassay laboratory.

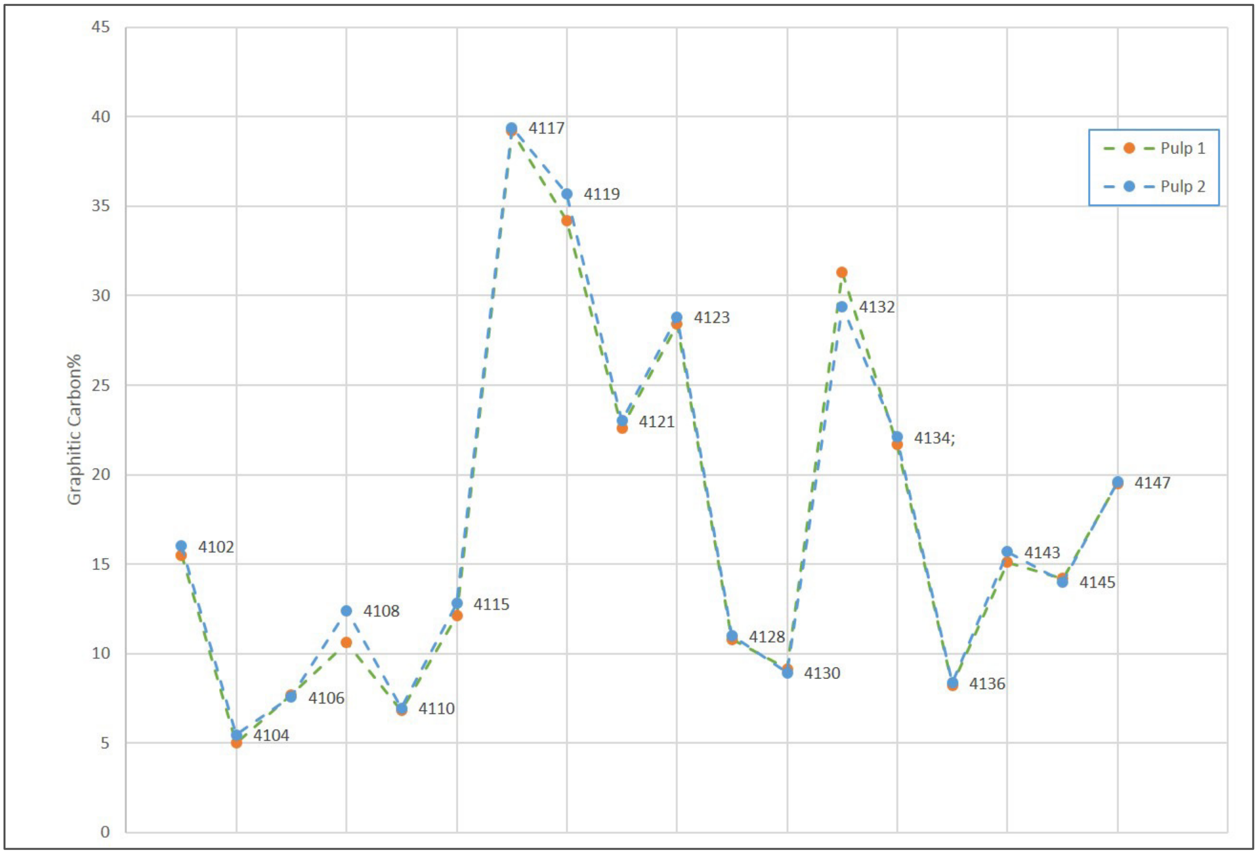


Figure 12-4 - Graphitic carbon% values of Pulp 1 versus Pulp 2

12.3.2.5 Results and interpretation

Thirty-seven samples previously analyzed by International Plasma Laboratory Ltd. ("IPS") (LG-19, 2006) and AGAT (LG-207, 2012 and LG-422, 2014) were submitted to Accurassay for graphitic carbon, total carbon, total sulphur and major elements XRF analyses. Table 12-2, shows the Accurassay results on the Pulp 1 (graphitic carbon %, total carbon % and total sulphur %) and Mason Graphite's values obtained from previous laboratories (graphitic carbon and total carbon).

The results of the major elements don't show anomalies (Table 12-3). The concentrations of Ti, Mn, P_2O_5, K, Mg and Ca are very low for the majority of samples and there is no correlation between these elements and the graphitic carbon concentrations.

Table 12-2 - Results from Accurassay (Pulp 1) versus Mason Graphite's results[1]

					Mason Graphite			Accurassay			
Hole	From (m)	To (m)	Intervals	ID GMG	ID	Graphitic C (%)	C (%)	ID	Graphitic C (%)	C (%)	Sulphur (%)
LG-19	68.30	71.00	2.70	4102	81419	14.79	-1	28034	15.50	16.66	10.82
LG-19	71.00	73.50	2.50	4103	81420	33.51	-1	28037	30.90	33.27	9.38
LG-19	73.50	75.00	1.50	4104	81421	4.45	-1	28038	5.01	4.41	2.80
LG-19	75.00	76.90	1.90	4105	81422	25.80	-1	28040	20.20	21.46	8.39
LG-19	76.90	78.70	1.80	4106	81423	7.86	-1	28041	7.70	7.14	3.12
LG-19	78.70	81.00	2.30	4107	81424	27.28	-1	28044	27.40	29.92	6.64
LG-19	81.00	83.40	2.40	4108	81425	12.75	-1	28045	10.60	11.29	4.35
LG-19	83.40	85.15	1.75	4109	81426	2.06	-1	28047	3.14	3.36	2.05
LG-19	85.15	87.90	2.75	4110	81427	7.09	-1	28048	6.82	7.06	3.17
LG-19	87.90	89.90	2.00	4111	81428	20.62	-1	28050	14.80	14.69	5.62
LG-19	89.90	92.10	2.20	4115	81429	9.77	-1	28055	12.10	11.06	3.30
LG-19	92.10	94.50	2.40	4116	81430	23.11	-1	28057	19.00	20.64	6.25
LG-207	45.00	46.50	1.50	4117	5600720	40.2	40.6	28058	39.20	40.56	11.94
LG-207	46.50	48.00	1.50	4118	5600721	42.5	43.7	28060	42.20	42.04	6.90
LG-207	48.00	49.50	1.50	4119	5600722	36.3	36.1	28061	34.20	38.34	12.82
LG-207	49.50	51.00	1.50	4120	5600723	34.8	36.5	28064	33.10	33.85	15.43
LG-207	51.00	52.50	1.50	4121	5600724	23.5	25	28065	22.60	23.39	12.72
LG-207	52.50	54.00	1.50	4122	5600725	9.37	10.4	28067	8.22	8.38	12.18
LG-207	54.00	55.50	1.50	4123	5600726	27	27.3	28068	28.40	28.84	12.11

[1] Obtained from previous laboratories

					Mason Graphite			Accurassay			
Hole	From (m)	To (m)	Intervals	ID GMG	ID	Graphitic C (%)	C (%)	ID	Graphitic C (%)	C (%)	Sulphur (%)
LG-207	55.50	56.20	0.70	4124	5600727	27.2	27.3	28070	25.10	28.40	14.95
LG-207	56.20	57.00	0.80	4128	5600728	10.3	10.5	28075	10.80	11.36	16.40
LG-207	57.00	58.50	1.50	4129	5600729	8.46	8.47	28077	8.30	8.80	16.60
LG-207	58.50	60.00	1.50	4130	5600730	9.75	10.7	28078	9.15	9.76	14.00
LG-207	60.00	61.50	1.50	4131	5600731	8.82	9.24	28080	9.44	8.91	11.45
LG-422	15.5	17	1.50	4132	E5615308	32.7	32.7	28081	31.30	32.08	13.55
LG-422	17	18.2	1.20	4133	E5615309	23.5	23.9	28084	27.80	27.67	13.09
LG-422	18.2	19.2	1.00	4134	E5615310	20.9	21.2	28085	21.70	24.42	11.78
LG-422	19.2	21	1.80	4135	E5615311	2.31	2.32	28087	2.89	3.00	10.10
LG-422	21	22.5	1.50	4136	E5615312	8.39	8.4	28088	8.23	8.55	11.41
LG-422	22.5	23.1	0.60	4137	E5615313	8.64	8.71	28090	8.96	9.05	11.19
LG-422	23.1	24.4	1.30	4138	E5615314	8.67	8.71	28092	10.83	9.31	8.70
LG-422	24.4	26.15	1.75	4139	E5615315	11.2	11.6	28093	12.29	13.02	12.40
LG-422	26.15	27	0.85	4143	E5615316	16.4	16.4	28098	15.10	16.63	12.83
LG-422	27	28.5	1.50	4144	E5615317	15.5	15.7	28100	14.50	15.63	7.99
LG-422	28.5	30	1.50	4145	E5615318	13.8	14	28101	14.20	14.70	12.62
LG-422	30	31.45	1.45	4146	E5615319	11.8	12.4	28104	8.54	8.75	11.76
LG-422	31.45	32.4	0.95	4147	E5615321	20.4	20.8	28105	19.50	21.42	6.92

Table 12-3 - Results of XRF for major elements

Hole	Tag GMG	Mason Graphite Sample nº	Tag Accurassay	Fe_2O_3 %	SiO_2 %	Al_2O_3 %	Na_2O %	MgO %	K_2O %	CaO %	P_2O_5 %	MnO %	TiO_2 %	Cr_2O_3 %	V_2O_5 %	LOI %
LG-19	4102	81419	28034	23.81	36.58	4.75	0.29	2.19	2.21	1.79	0.41	0.26	0.20	-0.06	0.09	27.48
LG-19	4103	81420	28037	20.57	25.65	4.46	0.47	1.85	1.39	1.91	0.34	0.28	0.35	-0.06	0.13	42.65
LG-19	4104	81421	28038	9.89	55.83	15.06	1.49	3.29	4.78	1.43	0.24	0.17	0.75	-0.09	-0.06	7.22
LG-19	4105	81422	28040	17.91	38.85	6.65	0.89	1.66	1.82	1.46	0.38	0.19	0.36	-0.08	0.06	29.85
LG-19	4106	81423	28041	10.46	55.07	12.96	1.68	2.99	4.00	1.68	0.24	0.18	0.60	-0.08	-0.04	10.26
LG-19	4107	81424	28044	16.12	33.91	6.38	0.79	1.89	1.74	1.67	0.37	0.18	0.38	-0.07	0.07	36.56
LG-19	4108	81425	28045	10.44	46.59	8.88	0.83	6.12	2.61	7.94	0.24	0.37	0.44	-0.09	-0.01	15.64
LG-19	4109	81426	28047	7.26	61.34	13.37	2.14	3.19	3.83	2.18	0.20	0.19	0.58	0.39	-0.08	5.41
LG-19	4110	81427	28048	8.77	58.56	10.15	1.09	3.82	3.02	3.56	0.23	0.21	0.46	-0.08	-0.03	10.23
LG-19	4111	81428	28050	16.51	47.26	7.89	0.93	2.04	2.86	1.41	0.30	0.11	0.43	-0.07	0.03	20.31
LG-19	4115	81429	28055	11.04	54.64	8.63	0.87	3.60	2.66	3.45	0.26	0.12	0.44	-0.09	0.00	14.36
LG-19	4116	81430	28057	15.35	42.51	7.29	0.53	2.08	2.80	1.71	0.32	0.09	0.44	-0.08	0.07	26.90
LG-207	4117	5600720	28058	25.84	13.63	2.44	0.07	1.39	0.68	2.55	0.31	0.20	0.26	-0.03	0.16	52.50
LG-207	4118	5600721	28060	25.48	17.04	3.21	0.06	1.20	0.95	2.17	0.41	0.16	0.29	-0.06	0.14	48.94
LG-207	4119	5600722	28061	25.87	17.15	2.23	0.07	0.82	0.65	1.40	0.26	0.18	0.15	-0.04	0.11	51.16
LG-207	4120	5600723	28064	33.12	12.07	2.13	0.15	0.68	0.63	1.26	0.21	0.23	0.15	-0.03	0.12	49.28
LG-207	4121	5600724	28065	26.38	27.27	3.69	0.12	1.98	1.41	2.11	0.37	0.37	0.20	-0.06	0.03	36.12
LG-207	4122	5600725	28067	26.64	41.55	3.99	0.10	2.88	1.19	2.31	0.42	0.28	0.17	-0.06	0.00	20.56
LG-207	4123	5600726	28068	27.15	23.71	3.25	0.23	1.23	1.41	1.18	0.33	0.30	0.28	-0.07	0.06	40.95
LG-207	4124	5600727	28070	31.70	18.07	3.04	0.23	0.95	1.17	0.88	0.28	0.14	0.18	-0.07	0.08	43.34
LG-207	4128	5600728	28075	32.82	30.60	3.85	0.16	1.40	1.77	0.95	0.24	0.27	0.20	-0.08	0.04	27.77

Hole	Tag GMG	Mason Graphite Sample nº	Tag Accurassay	Fe_2O_3 %	SiO_2 %	Al_2O_3 %	Na_2O %	MgO %	K_2O %	CaO %	P_2O_5 %	MnO %	TiO_2 %	Cr_2O_3 %	V_2O_5 %	LOI %
LG-207	4129	5600729	28077	34.54	31.04	3.89	0.30	1.44	1.65	0.93	0.22	0.49	0.17	-0.08	0.02	25.40
LG-207	4130	5600730	28078	32.67	33.60	4.42	0.27	1.85	1.71	0.96	0.24	0.40	0.17	-0.08	0.02	23.76
LG-207	4131	5600731	28080	32.90	36.90	4.07	0.23	2.23	1.11	1.32	0.35	0.42	0.17	-0.08	0.01	20.36
LG-422	4132	E5615308	28081	32.11	16.47	2.15	0.08	0.90	0.59	1.27	0.28	0.32	0.16	-0.06	0.09	45.63
LG-422	4133	E5615309	28084	43.35	11.34	1.57	0.07	0.60	0.24	1.29	0.17	0.49	0.12	-0.07	0.09	40.76
LG-422	4134	E5615310	28085	45.28	13.66	1.74	0.00	0.77	0.41	1.21	0.21	0.40	0.11	-0.07	0.07	36.20
LG-422	4135	E5615311	28087	21.99	48.79	4.67	0.03	5.59	1.05	3.76	0.40	0.53	0.19	-0.06	-0.04	13.10
LG-422	4136	E5615312	28088	25.56	42.57	4.33	0.10	2.97	1.47	2.23	0.43	0.28	0.19	-0.09	-0.01	19.96
LG-422	4137	E5615313	28090	25.24	43.09	4.63	0.07	2.53	1.78	1.70	0.43	0.21	0.18	-0.09	-0.01	20.24
LG-422	4138	E5615314	28092	31.09	37.00	4.09	0.08	2.88	1.23	2.36	0.37	0.67	0.17	-0.08	0.01	20.14
LG-422	4139	E5615315	28093	27.05	34.87	4.68	0.05	2.56	2.13	2.56	0.36	0.30	0.21	-0.09	0.01	25.31
LG-422	4143	E5615316	28098	26.57	33.23	3.28	0.09	3.06	0.50	2.83	0.47	0.43	0.14	-0.08	0.01	29.46
LG-422	4144	E5615317	28100	33.12	33.01	3.59	0.02	2.17	1.43	2.23	0.38	0.34	0.15	-0.08	0.02	23.63
LG-422	4145	E5615318	28101	25.23	36.65	3.55	0.03	2.64	1.36	2.49	0.43	0.21	0.15	-0.05	0.00	27.32
LG-422	4146	E5615319	28104	26.32	41.22	4.21	0.12	2.98	1.20	2.16	0.38	0.79	0.17	-0.08	0.02	20.51
LG-422	4147	E5615321	28105	39.25	23.46	3.90	0.13	0.75	2.05	1.31	0.29	0.41	0.16	-0.07	0.03	28.34

Graphitic Carbon

The graphitic carbon comparison between the Accurassay results of the Pulp 1 (37 samples, witness cores) and the values obtained from the previous laboratories (samples taken from the original cores) show quite a good correlation except for two samples (4105 and 4111) that display a difference of around 5% Cg (Figure 12-5). For Pulp 2 (18 samples) also taken from the witness cores, the values of Accurassay show a good correlation and the maximum difference is about 3.3% Cg for sample 4132 (Figure 12-6). The difference between samples taken from the original cores and those taken from the witness cores (for the same intervals) can be explained by the heterogeneity and the orientation of the mineral banding within the cores. These differences can also be induced by the core cutting when the mineralized zones are not cut equally.

The sign test (Figure 12-7) on the graphitic carbon values obtained from Accurassay (Pulp 1) and previous laboratories shows that there is a good correlation between the two sets of analyses and no bias was detected.

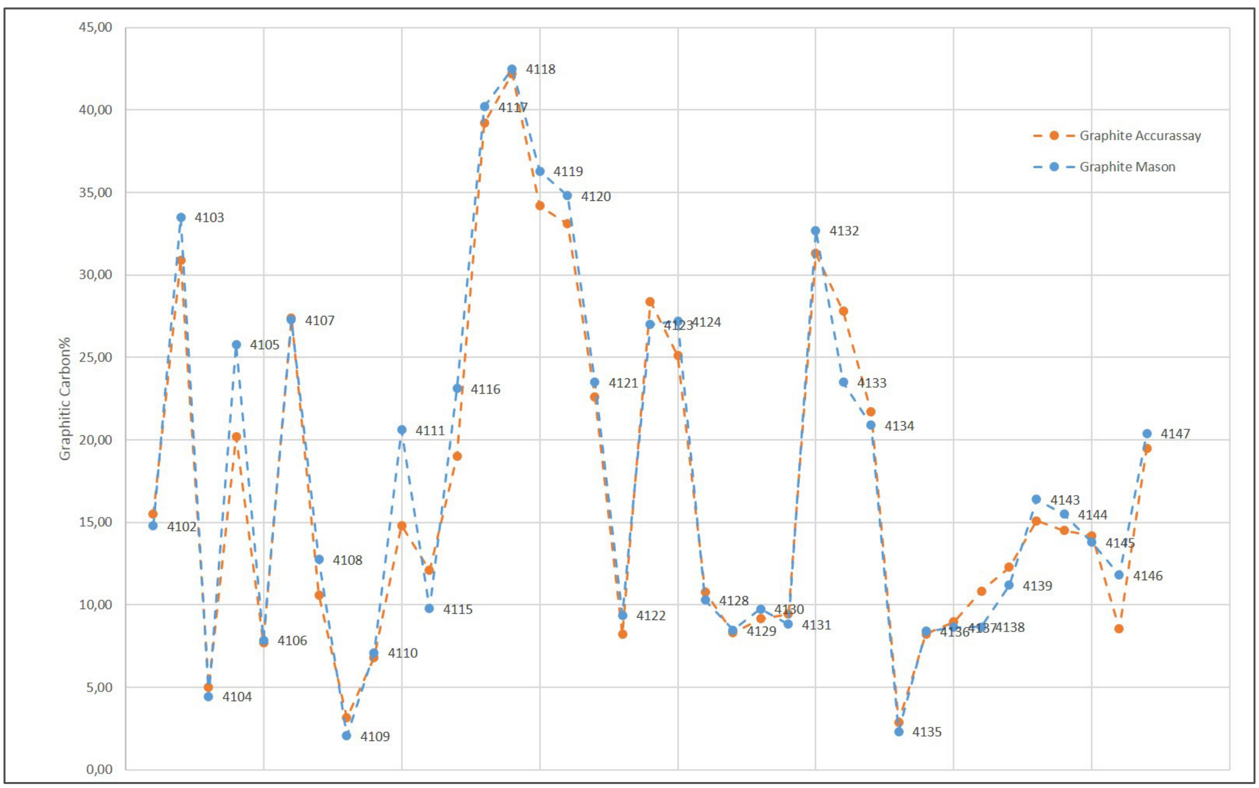


Figure 12-5 - % Cg Comparison between Accurassay (Pulp 1) and previous laboratories

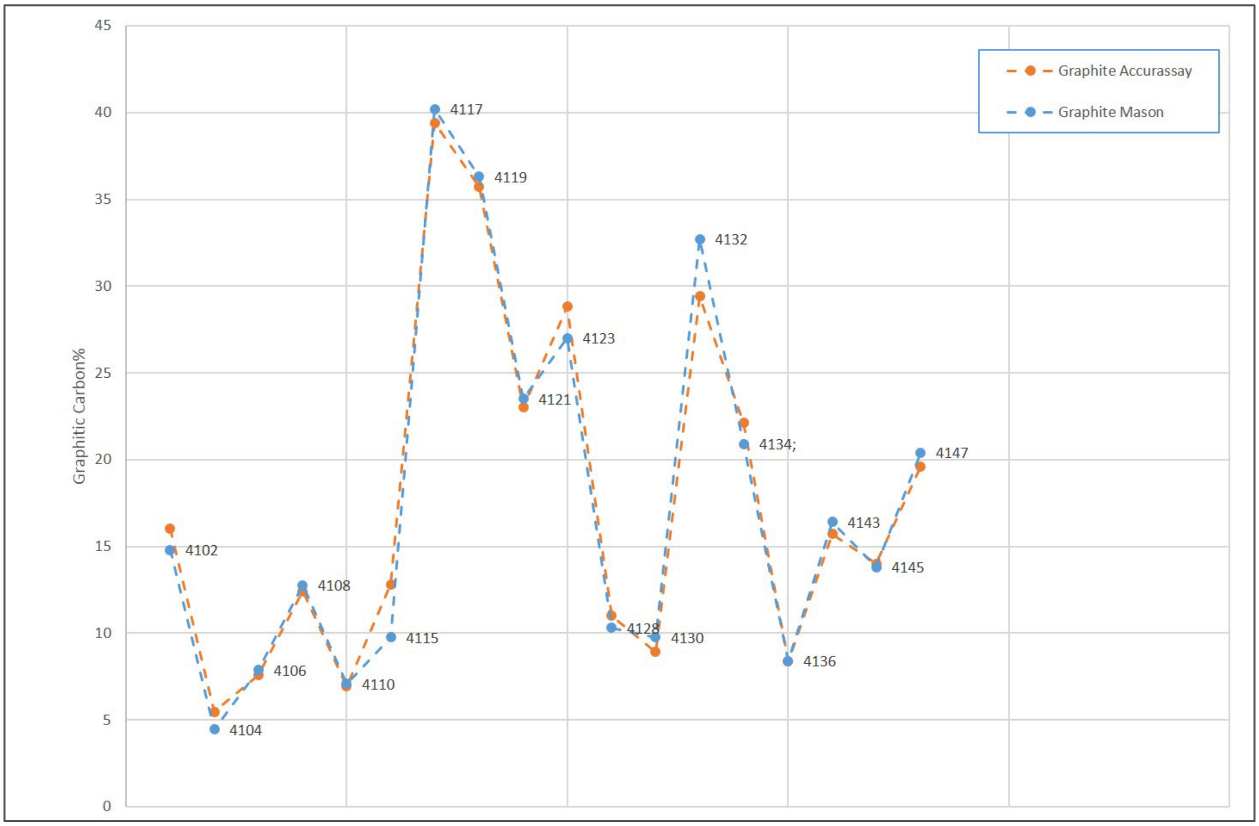


Figure 12-6 - % Cg Correlation between Accurassay (Pulp 2) and previous laboratories

15	number of negative values	15	somme of indicators signs
22	number of positive values		
0	null		
37	pairs number	37	pairs number
		18,5	pairs number/2
		0,335601	inferior limit
		0,664399	superior limit
		0,405405	sign test value

Figure 12-7 - Sign Test of % Cg from Accurassay (Pulp 1) and previous laboratories

Total Carbon

The total carbon results obtained from the Accurassay laboratory are quite similar to the values obtained from previous laboratories with a maximum difference of 3.65% for sample 4146 (Figure 12-8).

The correlation between total carbon and the graphitic carbon is quite linear (Figure 12-9) with a correlation coefficient of 0.94 (Y (graphitic carbon) = 0.94 X (total carbon) + 0.328).

This correlation allows us to conclude that the total carbon analysis can be used by Mason Graphite as an indicator for graphitic carbon concentrations at the Uatnan Property.

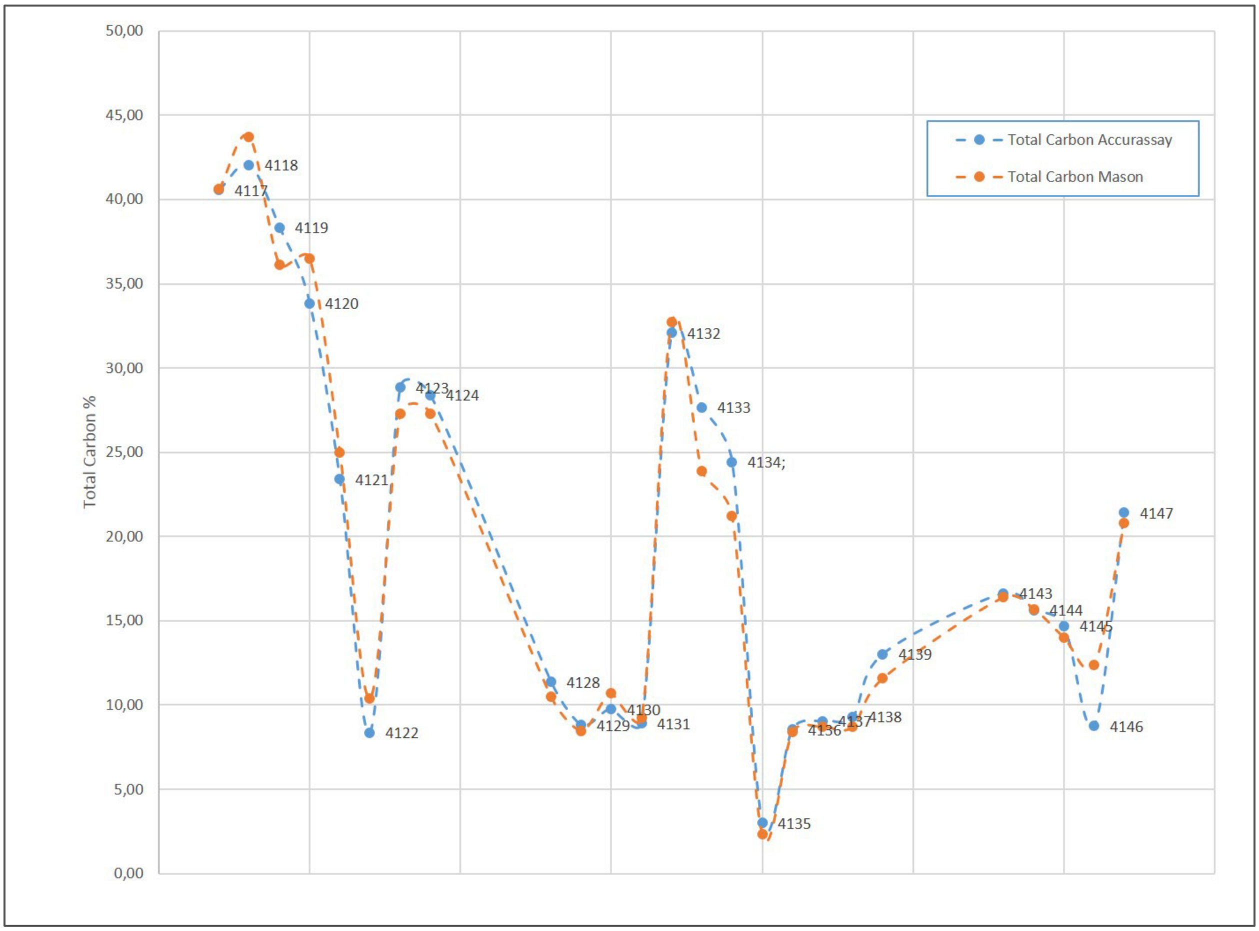


Figure 12-8 - Correlation between % Ct from Accurassay and previous laboratories

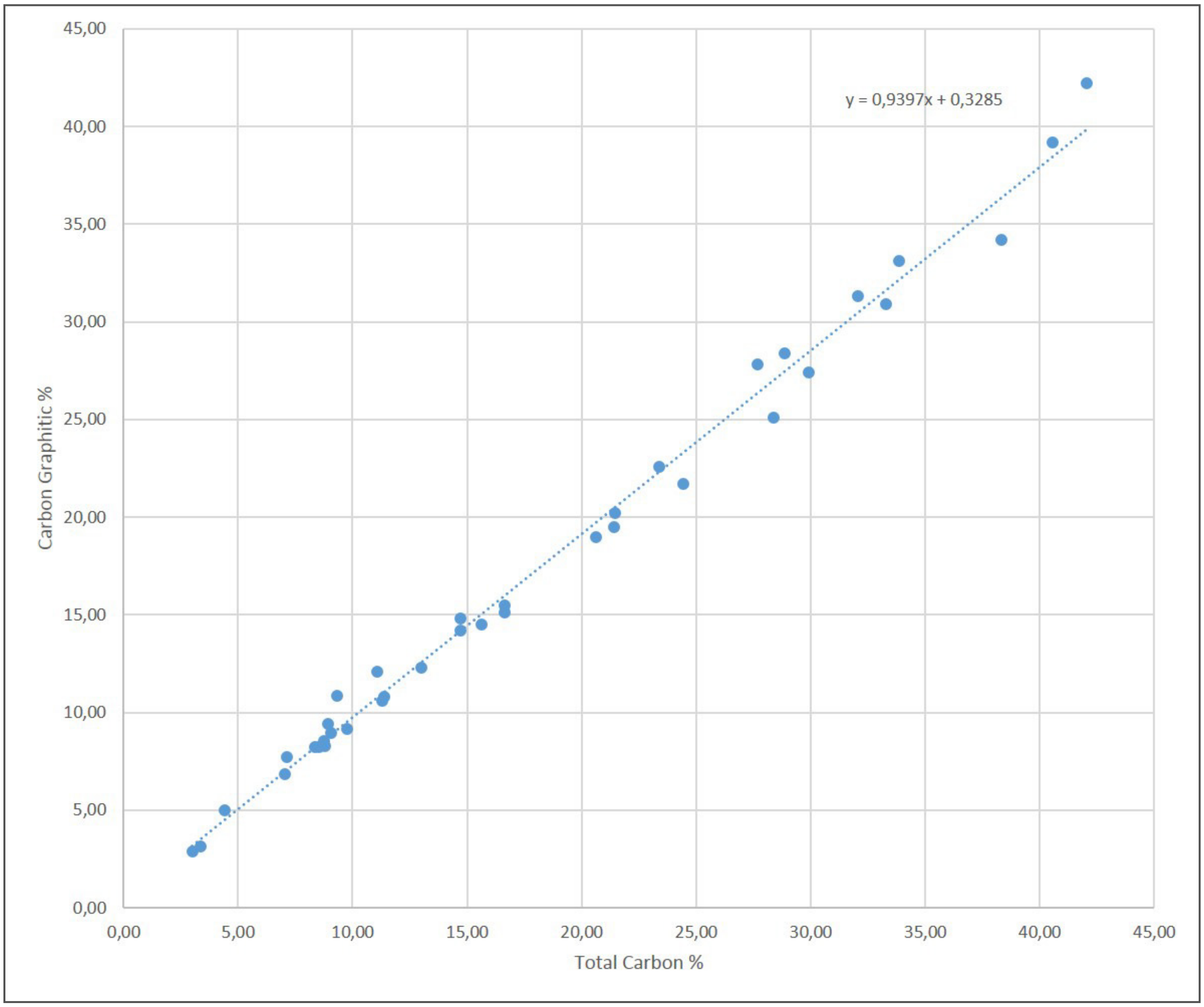


Figure 12-9 - Graphitic carbon % versus total carbon % results from Accurassay

Total Sulphur

The total sulphur results obtained from samples show a minimum of 2.05% and a maximum of 16.6% with a weighted average of 9.24% (see Table 12-2). No clear correlation between the carbon content and the sulphur content could be established.

GMG is satisfied with the results of the independent sampling program and no anomalous values were detected.

12.3.2.6 Independent Sampling Program by GMG 2022

A recent field visit was carried out by Claude Duplessis, Eng., and Antoine Cloutier, P.Geo., on September 29, 2022, on the Uatnan Property. Claude Duplessis, Eng., Senior Engineer, a Qualified Person as defined by the NI 43-101 took some independent samples (the ¼ core samples) from four drillholes (Figure 12-10). A total of 13 core samples (Figure 12-11) and three surface samples from large blasted mineralized blocks presumed to be from the U1, U2 and U3 bulk sample sites were sent for analysis at ALS Laboratories in Val-d'Or.

Figure 12-10 - Core storage facility sampled during the site visit

12.3.2.7 Sampling

Fifteen core samples (the ¼ core samples) were taken from four drillholes (LG-413, LG-424, LG-88 and LG-121; Figure 12-11), including blanks and standards and three samples from blocs blasted during a previous bulk sample program.

Samples were placed in plastic bags with the GMG sample tag inside. The sample number of each sample was also marked with a permanent black marker on the plastic bag. Samples were collected independently of NMG, kept secure and sent by Mr. Duplessis at ALS Laboratories in Val-d'Or, Québec.

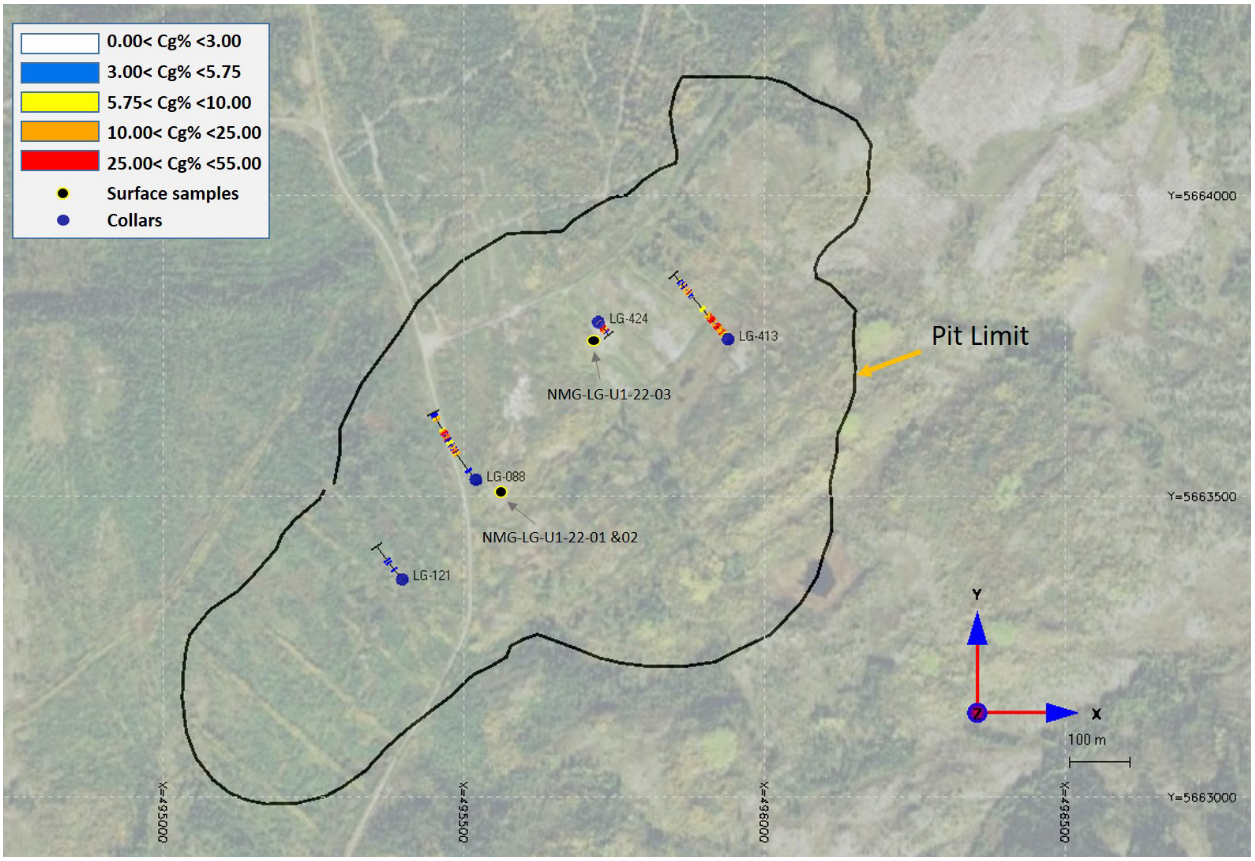


Figure 12-11 – Location of the drillholes selected for independent samples

Once dried, the samples were crushed 70%<2 mm to break up any agglomerates and homogenized. Each 250 g subsample pulverized to 85% less than 75 µm and submitted for IR Spectroscopy (Total Carbon and Graphitic carbon), magnetic susceptibility, 4A multi-element ICP-MS + REE. Also, each sample (50 g) submitted for PGM-ICP24 (Pt, Pd, and Au), Elemental Sulphur, sulphate Sulphur-carbonate leach.

12.3.2.8 Results and Interpretation

Thirteen samples previously analyzed by International Plasma Laboratory Ltd. ("IPS") and AGAT laboratory were submitted to ALS Laboratories for graphitic carbon, total carbon, total sulphur and other elements. Table 12-4, shows the resampled intervals (graphitic carbon %) and Mason Graphite's values obtained from previous laboratories.

Table 12-4 – The original assay results vs the independent resampled core samples

Interval with original assays					Intervals resampled during the site visit	
Hole name	From (m)	To (m)	Original sample number ½ of core samples	Origin sample % Cg	Duplicate samples ¼ of core samples	% Cg
LG-413	67	68.5	E5617031	14.20	23475	31.2
LG-413	68.5	69.75	E5617032	19.90	23476	21.1
LG-413	69.75	71	E5617033	30.1	23477	12.55
LG-413	71	72.8	E5617034	18.3	23478	20.5
LG-424	24	25.5	E5614764	41.2	23479	42.5
LG-424	25.5	27	E5614765	38.9	23480	36
LG-424	27	28.5	E5614766	43.8	23481	44.8
LG-424	28.5	30	E5614767	40.6	23482	39.2
LG-424	30	31.5	E5614768	39.9	23483	39.3
LG-88	126.6	128	E5609823	10.7	23486	11.1
LG-88	128	130	E5609824	4.43	23487	4.11
LG-121	75	76.5	E5685318	22.8	23488	20.1
LG-121	76.5	78	E5685319	22.1	23489	21.4

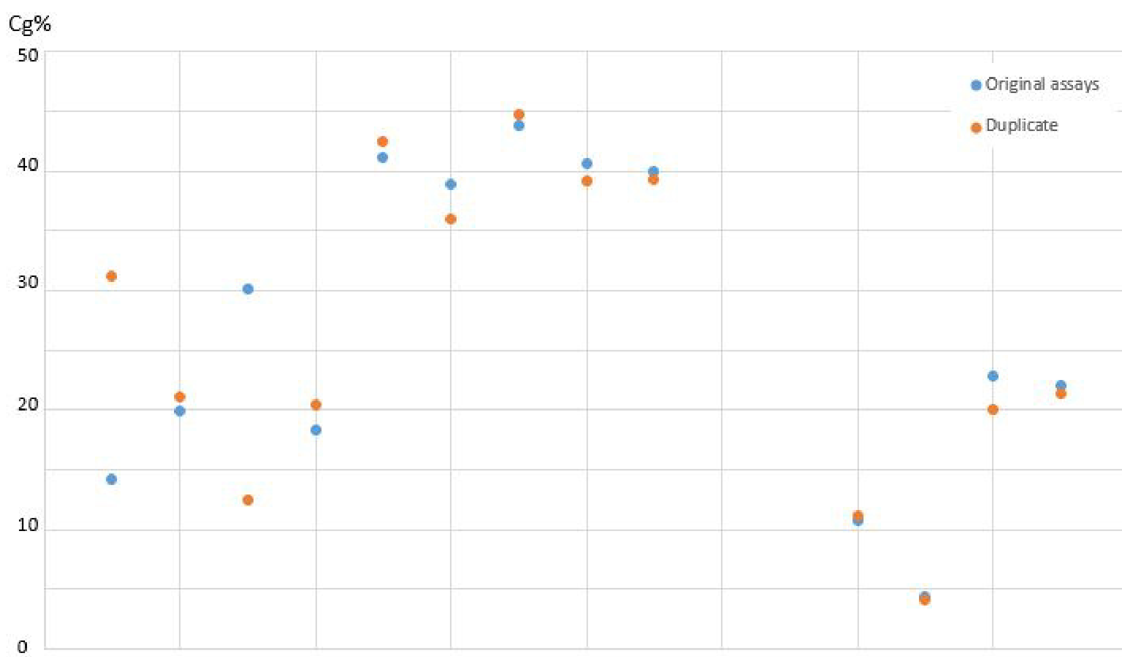


Figure 12-12 – Distribution of the % Cg original versus independent core samples

Samples from the previous bulk sample sites taken from the Uatnan Property show some good values for % Cg, (Table 12-5). A maximum value of 39.7 % Cg and a minimum value of 15.8 % Cg.

Table 12-5 – Bulk samples results

Hole name	GMG sample Number	C Graphitic %	% Cg	% S
NMG-LG-U1-22-01	23490	15.8	16.6	5.45
NMG-LG-U2-22-01	23491	18.25	19.15	9.1
NMG-LG-U3-22-02	23492	39.7	34.2	1.52

The results of the duplicate samples versus the original samples show a good correlation. GMG is satisfied with the results of the independent sampling program and no anomalous values were detected.

13. Mineral Processing and Metallurgical Testing

13.1. Historical Testwork

Extensive historical testwork has been completed on the Lac Guéret deposit. The testwork presented below originates from the 2013 NI 43-101 Technical Report Preliminary Economic Assessment, the 2015 Technical Report Resource Update & Feasibility Study and the 2018 NI 43-101 Technical Report Feasibility Study Update.

A brief overview of the relevant testwork done is presented here. Details can be referenced in the above-mentioned technical reports. No additional testwork was completed during the current study. The assumptions for metallurgical recovery and final concentrate grade for the PEA are presented in Section 13.3.

13.1.1. Preliminary Testwork

In the 2013 PEA, a metallurgical testwork program was conducted using samples from four channels taken from rocky outcrops. The testwork concluded that the Lac Guéret deposit mineralized material can be concentrated successfully without complex processing and the addition of polishing/attrition and cleaning stages ensures the final concentrate grade is maximized. Table 13-1 shows the saleable concentrate split into four basic size fractions.

Table 13-1 - Preliminary testwork results

Concentrate Particle Size	Weight (%)	Assay (% Ct)	Distribution (% Ct)
+50 mesh	18.6	96.9	19.0
-50 to +80 mesh	14.1	96.2	14.4
-80 to +150 mesh	13.1	96.2	13.3
-150 mesh	54.2	91.7	53.3
Total Concentrate	**100.0**	**93.7**	**100.0**

13.1.2. Feasibility Study Testwork

Sample Selection

The Lac Guéret mineralized material samples used for testwork were categorized into three units (U1, U2 and U3) according to the average graphitic carbon grade throughout the mineralized material's body. The range in grades of each unit is presented in Table 13-2.

Table 13-2 - Mineralized material units definition

Graphitic Unit	Graphite Grade (Cg)
U1	5% < Cg < 10%
U2	10% < Cg < 25%
U3	Cg > 25%

The samples used for comminution and pilot-scale concentration testwork were from two bulk samples resulting from surface blasts in July 2014. Variability samples were also collected from four drillholes for additional comminution testing. Bench-scale concentration tests were performed on two-channel samples from PEA batch materials as well as on three variability samples collected from nine drillholes. A detailed description of sample location, sample preparation and mineralized material unit definition are presented in the 2018 Feasibility Study Technical Report.

Comminution

Comminution tests on the Lac Guéret material included JK Drop Weight tests ("DWT"), SAG Mill Comminution (“SMC”) tests, SAG design tests, Rod and Ball mill grindability tests, as well as abrasion tests. The range of results obtained for each type of test is presented in Table 13-3. For the current PEA, as a general rule, the 80th percentile values were used for equipment sizing and wear calculation with added design factors ranging from 25% to 50%.

Table 13-3 - Summary of comminution test results

Test	Number of tests	Index	Units	Min	Max	80th percentile
Drop Weight Test	2	Axb	-	119.5	103.9	n/a
SAG Mill Comminution Test	11	Axb	-	169.7	63.5	90.8
SAG Design	2	SAGDesign	kWh/t	3.1	4.1	n/a
SAG Design	2	RWi	kWh/t	9.0	9.2	n/a
SAG Design	2	BWi	kWh/t	15.0	16.6	n/a
Bond Ball Mill Work Index	11	BWi	kWh/t	9.6	19.6	16.8
Abrasion Test	5	Ai	g	0.039	0.208	n/a

The conclusion from the comminution testwork was that the Lac Guéret mineralized material is soft in macro (impact) grinding, and generally soft in micro (attrition) grinding, with the exception of samples in mineralized material unit U3 which were classified as being medium to very hard. All samples were characterized as mildly abrasive.

Concentration

Concentration testwork was performed on the PEA channel samples to test the repeatability of the PEA flowsheet and variability between mineralized material units. Results revealed that previous performances were not exactly reproduced. The variability was attributed to the weathering of the samples over time. Additionally, it was determined that there is no interaction between mineralized material units when treated together, meaning the results obtained were a weighted average of the individual sample results.

Several flotation technologies were tested during the FS concentration testwork, and the conclusion reached was that regular flotation technology (cells and columns) yielded the best graphite grade and recovery.

FS Flowsheet Development

The performance of three and four polishing lines flowsheets was compared. Results showed that four polishing lines allowed a better recovery of the coarse graphite flake. The removal of the fourth polishing line yielded carbon losses of 6.3% from the +150 mesh concentrates. The losses were recovered in the -150 mesh concentrate fraction.

Material Aging

The impact of aging or weathering was tested by comparing samples that were exposed to air and sprayed for varying periods of time prior to being processed. After approximately eight weeks of aging, carbon recovery was reduced at the scavenger phase of processing.

Pilot Scale Testwork

In 2014, two bulk samples from the Lac Gueret deposit originating from two surface blasts taken mid-July 2014 were tested in a three-stage flowsheet. The proposed flowsheet for the pilot scale test was as follows:

- Stage #1: Rougher and scavenger flotation circuit;
- Stage #2: Polishing #1 and polishing #2 + cleaner flotation circuit;
- Stage #3: Polishing #3 and polishing #4 + cleaner flotation circuit.

It was only with the addition of a fourth polishing stage that the targeted 96% concentrate carbon grades were achieved in the +50 mesh, +100 mesh and +150 mesh concentrates. As observed previously, the carbon losses observed in the three coarsest size fractions were recovered in the -150 mesh fraction.

In 2016, the proposed four stage flowsheet was tested at a pilot scale using the same samples from 2014 surface blasts used in the pilot test. The following stages were tested:

- Stage #1: Rougher and scavenger flotation circuit;
- Stage #2: Polishing #1 + cleaner flotation circuit;
- Stage #3: Polishing #2 + cleaner flotation circuit;
- Stage #4: Polishing #3 + cleaner flotation circuit;
- Stage #5: Polishing #4 + cleaner flotation circuit.

Process issues arose with the grinding circuit at the rougher stage leading to overgrinding. This may have broken down some of the larger particles that otherwise, would have been recovered in the larger size fraction (+48 and +100 mesh). Low recovery resulted from sample oxidation caused by weathering due to outdoor storage of the sample for the two years prior to the testwork taking place. Results can be seen in Table 13-4. Because of the oxidized state of this sample, results are not considered representative of the Lac Guéret deposit during normal mining operations.

Table 13-4 - Concentrate carbon grade – 2016 Pilot scale testwork

Fraction (mesh)	Carbon Grade (%)	Carbon Recovery (%)
+48	96.6	2.5
+100	96.9	8.7
+150	96.4	8.3
-150	91.1	59.5

In 2018, a bulk sample was taken from a surface blast. The sample was taken deeper in the deposit to ensure it would be unaltered by weathering. The same proposed four stage flowsheet as done in the 2016 pilot scale testwork was performed for comparison. Results can be seen in Table 13-5.

Table 13-5 - Concentrate carbon grade – 2018 Pilot scale testwork

Fraction (mesh)	Carbon Grade (%)	Carbon Recovery (%)
+48	94.5	7.1
+100	96.2	31.2
+150	98.1	11.5
-150	94.2	44.6

13.2. Final Metallurgical Results Used for the 2018 Feasibility Study

When samples are unweathered, as presented in the 2018 pilot scale testwork, values of 96% carbon grade are achievable in fractions +48, +100 and +150 mesh. The carbon losses in the coarser size fractions are recovered in the -150 mesh concentrate size fraction with the same overall recovery as experienced in previous testwork campaigns. The results used for the FS plant process design are presented in Table 13-6.

Table 13-6 - Final results used for Feasibility Study and plant design

Stream (mesh)	Weight Recovery (%)	Carbon Recovery (%)	Carbon Grade (%)
Feed	**100.0**	**100.0**	**27.8**
+50	3.3	11.4	96.0
-50 to +100	4.9	17.0	96.0
-100 to +150	1.8	6.2	96.0
-150	17.4	57.7	92.2
All Concentrates	**27.4**	**92.5**	**93.7**
Tails	**72.6**	**7.5**	**2.9**

13.3. Metallurgical Results Used for the Current PEA

Because no new testwork was conducted, a metallurgical model was developed using the results presented in Table 13-6 with slight adjustments to the carbon grade of each size fraction. Two main changes affected the model, the scale of the Project and the end-user of the graphite concentrate. Given that the mining and processing rates increased significantly, the feed grade decreased from 27.8% in the 2018 FS to 17.5% in the current PEA. No adverse effects are expected on recovery due to feed grade as testwork conducted on different mineralized material units both individually and combined yielded the same recoveries with variations observed in the carbon distribution per size fraction. Specifically, high-grade mineralized materials tended to contain more fine graphite which was recovered in the finest size fraction. Secondly, the entirety of the graphite concentrate is destined for further processing for use as a battery material, meaning conserving flake size was no longer required. When compared to the 2018 FS, the proposed flowsheet (see Chapter 17) remains unchanged at the front end (crushing, SAG milling, ball milling, rougher and scavenger flotation) and considers only two polishing-cleaning stages which combine and replace cleaning stages 1 and 2 and cleaning stages 3 and 4 respectively, from the FS. The second main assumption is that the carbon recovery by size class will remain relatively unchanged. In order to improve the final concentrate grade, a desliming step was included to remove the minus 20-micron ultrafines which are generally low in grade. The introduction of a slimes removal step results in an estimated decrease in overall carbon recovery from 92.5% in the FS to 85% for this PEA. The resulting material balance used for the current PEA is considered representative of the Lac Guéret deposit and is presented in Table 13-7.

Table 13-7 - Metallurgical recovery results used for PEA

Stream (mesh)	Weight Recovery (%)	Carbon Recovery (%)	Carbon Grade (%)
Feed	**100.0**	**100**	**17.5**
+80 concentrate*	4.9	28	96.8
-80 concentrate*	10.5	57	93.0
Combined concentrate	**15.4**	**85**	**94.2**
Tails	**84.6**	**15**	**3.1**

*Individual concentrates shown for information only. The PEA flowsheet produces a single combined concentrate at 94.2%C.

14. Mineral Resource Estimates

14.1 Introduction

This section reports the results of the Mineral Resource Estimates for the Uatnan Project based on the Mason Graphite drilling campaign (2012, 2013/2014) and Quinto exploration data (2003 and 2006 drilling campaign data). The geological interpretation was worked out collaboratively among several geologists working with Mason Graphite and Roche in the first resource estimation (Lyons et al., 2013).

Mineral intervals and geological interpretation on sections and plans of the mineralized bodies of the Lac Guéret Graphite deposits were done by Merouane Rachidi, P.Geo., PhD. and Claude Duplessis, P.Eng., both Qualifies Persons under NI 43-101.

The interpretation of the mineralized zones is mainly based on the percentage of carbon graphite and follows structural tendencies of the deposit. The drilled area of the broader graphite deposit shows a single graphitic bed or narrow cluster of beds deformed into overturned nappe style folds compressed from the southeast as the effect of the D_2 deformation. This style of folding is common in the Gagnon Terrane from the Property for about 350 km to the northeast and indeed throughout the Grenville Orogeny. The grades within the graphite bands are quite variable and likely thicken and thin due to slide deformation in the folds. The lateral continuity of the graphite bands is demonstrated in the extensive stripping done in 2003 and 2004 on the drilled area and along the trend.

14.2 Previous Mineral Resources Estimates

14.2.1 2012 Mineral Resources Estimate

In 2012, Mason Graphite commissioned Roche to produce a Technical Report on the Lac Guéret Graphite Project. The 2012 Mineral Resources Estimate is presented in Table 14-1 below.

Table 14-1 - Lac Guéret - Historical resource estimate

Lac Guéret - 2012 Mineral Resources Estimate (4% Cg Cut-Off)			
Categories	Unit	kt	Grade (% Cg)
Measured (M)	Unit 1 (4 to 10% Cg)	31	7.82
	Unit 2 (10 to 27% Cg)	123	14.85
	Unit 3 (> 27 % Cg)	145	36.72
	All Units	299	24.39
Indicated (I)	Unit 1 (4 to 10% Cg)	2,673	8.09
	Unit 2 (10 to 27% Cg)	2,089	16.83
	Unit 3 (> 27 % Cg)	2,535	36.2
	All Units	7,297	20.24
Measured + Indicated	Unit 1 (4 to 10% Cg)	2,704	8.67
	Unit 2 (10 to 27% Cg)	2,212	18.30
	Unit 3 (> 27 % Cg)	2,680	36.96
	All Units	7,596	20.40
Inferred	*Unit 1 (4 to 10% Cg)*	*1,273*	*7.56*
	Unit 2 (10 to 27% Cg)	*714*	*17.54*
	Unit 3 (> 27 % Cg)	*772*	*33.1*
	All Units	*2,758*	*17.29*

14.2.2 2013 Mineral Resources Estimate Update

Following Mason Graphite's first infill drilling campaign, the revised Mineral Resources Estimate was issued on 12 November 2013.

The 2013 Mineral Resources Estimate for the graphite GC Zone drill grid on the Lac Guéret Property is summarized in the Table 14-2 below. The 2013 Mineral Resources used a cut-off grade of A 5% Cg and no maximum capping grade limit was applied. Internal waste is defined as % Cg below 5% and is calculated only for blocks internal to the block model. Units 1 and 2 appear similar in texture and have been deemed statistically similar and were thus merged within Unit 2 mineralization. Unit 3 is a distinctive type with bimodal graphite flake size.

The geological interpretation and model included three Unit 2 zones and twelve Unit 3 zones, with seventeen narrow internal waste zones: Unit 2 has 5 % -25% Cg, while Unit 3 contains 25% Cg or more. Waste has less than 5% Cg.

The blocks were kept small (3 x 3 x 3 m) to constrain the model to the geological interpretation as much as possible. The search ellipsoid was defined in a plane that parallels the average bedding trend. The search ellipse has a principal azimuth of 45 degrees, a principal dip of -40 degrees and intermediate azimuth of 135 degrees. Anisotropy was interpreted with the semi-variogram and set to 60 m along the x-axis, 40 m along the y and 50 m along the z-axis.

Table 14-2 - 2013 Mineral Resources Estimate

Mineral Resources Estimate Lac Guéret – 2013 (cut-off 5 % Cg constrained inside Whittle Pit #71)			
Categories	**Unit**	**kt**	**Grade (% Cg)**
Measured (M)	Unit 2 (5 % to < 25 % Cg)	4,052	13.36
	Unit 3 (25 % Cg +)	465	33.77
	All	4,517	15.46
Indicated (I)	Unit 2 (5 % to < 25 % Cg)	39,300	13.01
	Unit 3 (25 % Cg +)	6,207	32.32
	All	45,507	15.64
Measured + Indicated	Unit 2 (5 % to < 25 % Cg)	43,352	13.04
	Unit 3 (25 % Cg +)	6,672	32.42
	All	50,024	15.63
Inferred (Inf)	*Unit 2 (5 % to < 25 % Cg)*	*9,224*	*13.27*
	Unit 3 (25 % Cg +)	*2,637*	*30.53*
	All	*11,861*	*17.11*

14.3 Exploration Database

On August 2, 2013, Roche received the final version of the 2013 database used for the previous Mineral Resources Estimate update. The Excel database was dated August 1, 2013. Roche performed checks over the analysis results in order to verify the accuracy of the assay results. No errors were found in those verifications (Lyons et al., 2014).

For the current Mineral Resources update, the database containing information up to the 2012 drilling campaign was delivered to GMG by Roche as an access database named "*GD_PH2_LacGuéret*" as well as another file named "*DB-FINAL-N43101-V2.xlsx*." The database of the 2013-2014 drilling campaign was delivered to GMG by Yves Caron, P.Geo. For the 2013-2014 drilling campaign database, the last verification and corrections were done by Merouane Rachidi, P.Geo., PhD. (GMG) and Yves Caron, P.Geo. at the GMG office on October 22, 2014. After verification and error correction, both databases were merged into a single database for this Mineral Resources Estimate.

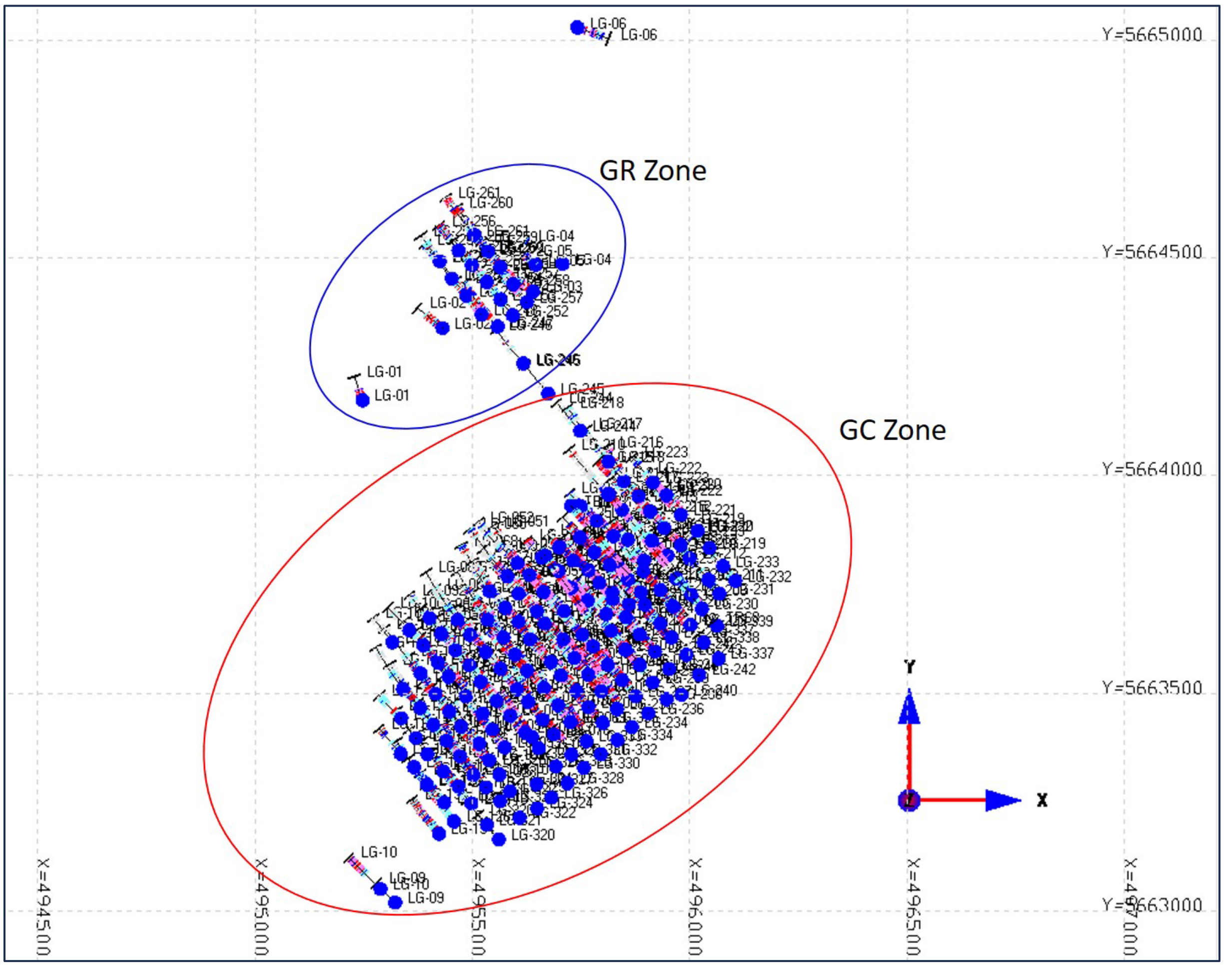


Figure 14-1 - 2003, 2006 and 2012 Drillholes location on the Uatnan Property

The database up to the 2012 drilling campaign (drilling campaigns of 2003, 2006 and 2012) includes:

- 197 drillholes and 4 trenches (Figure 14-1);
- Total drilled length 29,906 m with 987 m of channel sampling in surface trenches;
- 18,389 assays for carbon graphite (% Cg);
- 2,877 drillhole trace deviation data;
- 2,573 lithological descriptions.

The 2013-2014 database (2013-2014 drilling campaign; Figure 14-2) includes:

- 86 drillholes;
- Total drilled length is 13,418 m;
- 7,567 assay results for carbon graphite (% Cg);
- 415 drillhole trace deviation data;
- 1,128 lithological description records;
- A digital contour map made in 2006 by GPR International (Montréal, QC).

All coordinates are given in UTM (NAD83, Zone 19).

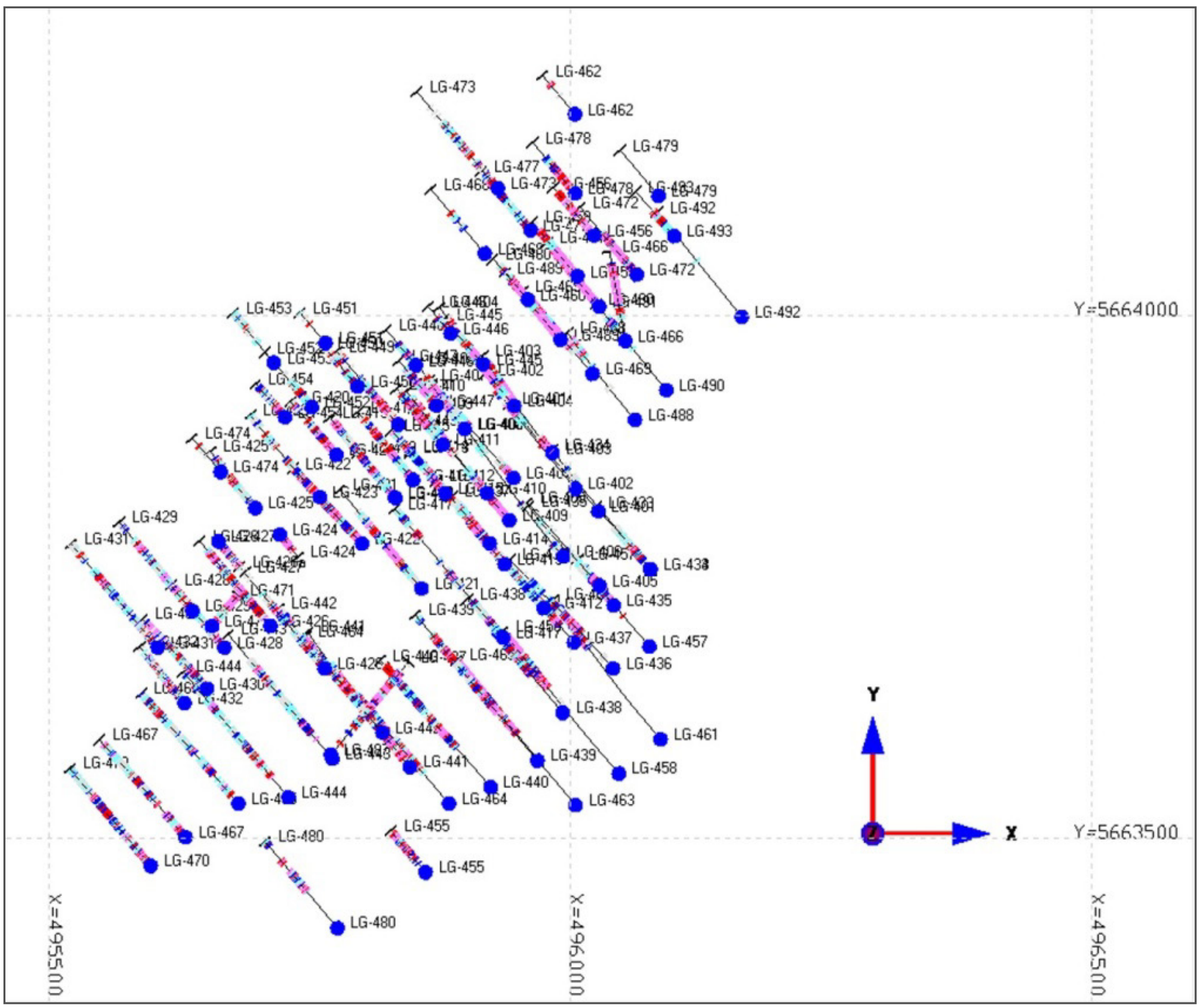


Figure 14-2 - 2013 and 2014 Drillholes on the Uatnan Property

14.3.1 Specific Gravity Data

The specific gravity measurements were taken from the NI 43-101 report published on January 17, 2014, on the Lac Guéret Property (Lyons et al., 2014). The specific gravity measurements were performed on drill cores during the 2013-2014 drilling campaigns. These measurements were made on different rock types by AGAT using gas pycnometry on pulp samples of 5 grams.

For the 2016 Mineral Resources Estimate update by GMG (Duplessis et al., 2016), the two units (Unit 1 and Unit 2) were combined based on the type of graphite and the lithological host, which are the same, the only difference appearing in the carbon graphite content. GMG used a fixed specific gravity of 2.9 t/m^3 to convert volume into tonnage for the Lac Guéret Property (Table 14-3).

Table 14-3 - Specific gravity measurements [1]

	Unit 1 & 2 (5% < Cg < 25%)	Unit 3 (Cg ≥ 25%)	Waste (0% < Cg < 5%)
Average	2.94	2.88	2.92
Min	2.05	2.61	2.18
Max	4.59	3.97	4.01
Number of samples	**1,014**	**275**	**2,189**

On January 2015, Mason Graphite commissioned GMG to prepare an independent sampling program for the Lac Guéret Property. For the same project GMG, made rock density measurements (weight in air and weight in water) for six samples (4132, 4133, 4134, 4135, 4146 and 4147) taken from the Hole LG-422 (Table 14-4).

[1] Source: Mineral Resource update report, January 2014

Table 14-4 - Rock density measurements

Sample ID GMG LG-422	Intervals	Length (m)	Dry Weight (g)	Weight in Water (g)	Density (ρ)	Average Length-Weighted Density (ρ)	Specific gravity (g/cm³)
4132	15.5 - 17	14	268.00	164.40	2.59	2.88	
		17	389.30	252.80	2.85		
		24	595.00	391.20	2.92		
		15	334.60	209.80	2.68		
		23	635.10	408.40	2.80		
		24	659.20	454.10	3.21		
4133	17 - 18.2	10	295.90	191.80	2.84	3.18	3.69
		21	735.60	517.60	3.37		
		25	733.10	505.80	3.23		
		19	468.50	333.00	3.46		
		15	390.60	259.40	2.98		
		32	804.30	539.40	3.04		
4134	18.2 - 19.2	20	597.60	415.80	3.29	3.27	
		32	1,022.00	707.00	3.24		
		31	834.00	579.40	3.28		
4135	19.2 - 21	9	251.30	159.10	2.73	2.92	
		29	610.00	392.80	2.81		
		18	396.70	255.00	2.80		
		30	691.30	455.20	2.93		
		46	1,100.00	717.30	2.87		
		17	408.10	266.00	2.87		
		36	857.70	573.10	3.01		
		24	645.90	443.70	3.19		
4146	30 - 31.45	19	487.80	328.00	3.05	2.94	3.35
		30	801.00	637.00	4.88		
		54	1,287.60	580.00	1.82		
		20	415.60	273.00	2.91		
4147	31.45 - 32.4	29	757.10	517.38	3.16	3.12	
		20	589.90	404.10	3.17		
		21	541.00	360.70	3.00		

The densities of the intervals were between 2.88 and 3.27 with a length-weighted average calculated of 3.05. For the 2016 updated Mineral Resources Estimate (issued on February 19, 2016), GMG considered that using a fix specific gravity of 2.9 t/m³ was conservative.

14.3.2 Geological Section and Geological Interpretation

For the previous as well as current Mineral Resources Estimate, Roche sent the geological interpretations of the different units to GMG in DXF format. Three envelopes were produced by connecting directly the defined mineralized prisms on each section. The waste envelopes were then created and subtracted from the model.

14.3.2.1 Section Definitions

The geological interpretation was done on a set of sections oriented N50°E. The figure below (Figure 14-3) shows a plan view of the drillholes pattern and local coordinate system.

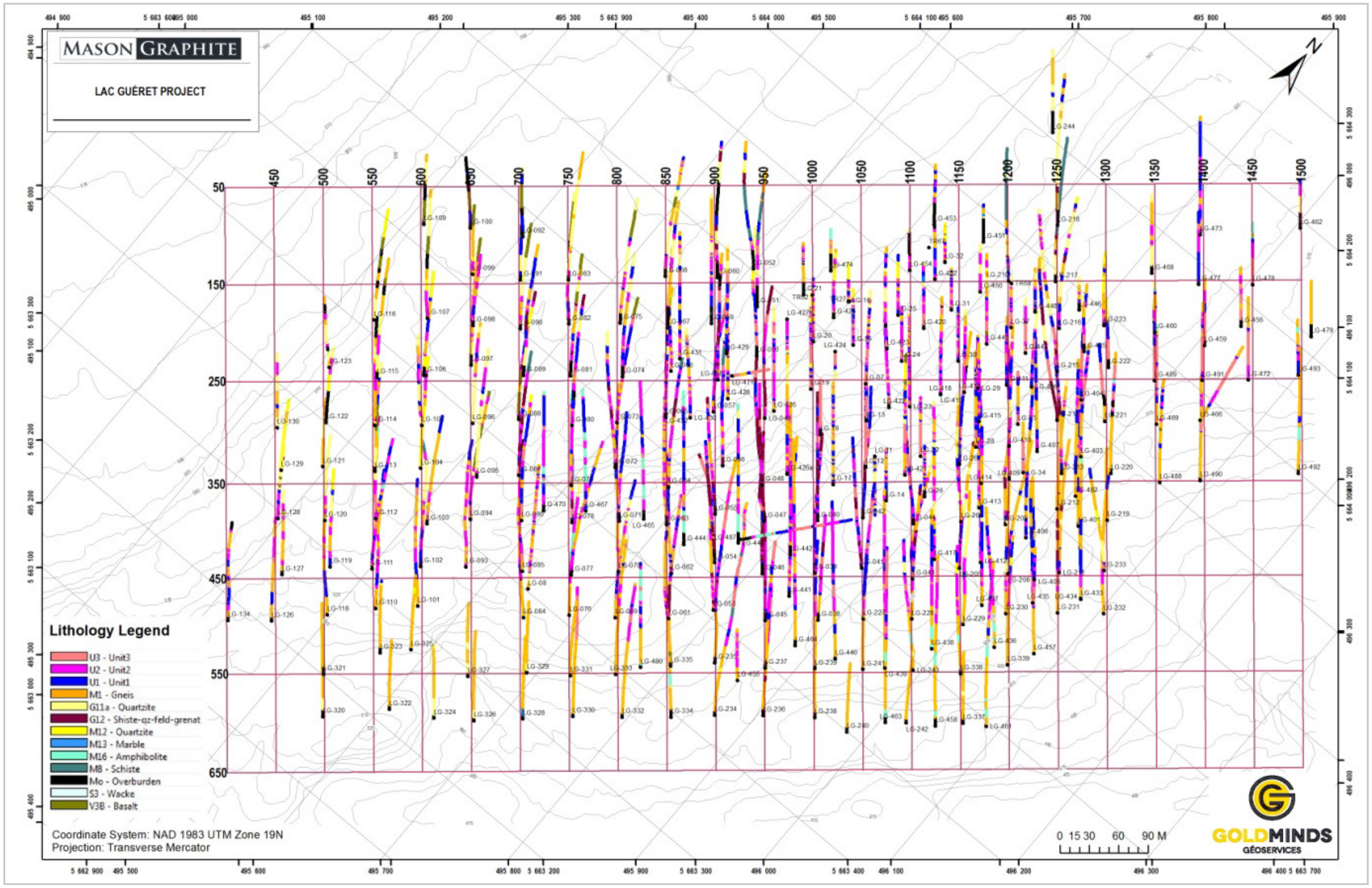


Figure 14-3 - Drillholes pattern and local coordinate system over the Lac Guéret Deposit

14.3.2.2 Geological Interpretation

The boundaries of the geological and mineralized units were interpreted on vertical sections spaced 50 m apart with a corridor limit of 25 m on each side.

The host rock gives good limits to the general graphite stratigraphy but does not have the internal geological detail sufficient to resolve potential folds and/or fault displacements external to the graphite layers. The graphite lithologies tend to show more folding than neighbouring rocks, but there are few controls in the neighbouring rocks to demonstrate folding in them except at the centimetre to metre-scale. Thus, the interpretation depended mainly on correlation of graphite-rich units (Table 14-5) with interspersed internal waste bands (Cg <5%). These turned out to be relatively continuous and internally consistent in thickness and extent as has been validated in the several infill drilling campaigns by Mason Graphite.

Experience from extensive trenching and channel sampling supports the confidence in the lateral continuity along strike. However, grades perpendicular to the bedding planes change abruptly and the units can change rapidly in the dip plane.

Table 14-5 - Geological units definition

Unit Name	% Cg Range	Flake characteristic (visual)	Lithologic Host
Unit 1	5-10	Mainly coarse >200µ	Qzt, QFB gneiss
Unit 2	>10-25	Significant coarse >200µ	Qzt, QFB gneiss
Unit 3	>25	Very coarse in bands/veinlets; most Gr is very fine	QFB gneiss
Waste	<5	Isolated medium to coarse	Qzt, QFB gneiss
FW-QZT	variable	Generally medium to coarse	Qzt+/-marble, calcsilicate, gneiss
HW-QFB_GN	variable	Generally medium to coarse	Variable gneiss w/cinnamon phlogopite

The statistical distribution study of carbon suggests that the deposit comprises three distinct populations with threshold values of 5%, 10% and 24.5% (Marcotte, 2013, Table 14-5). However, it was decided to combine Unit 1 and 2 together. The two units (Unit 1 & 2) were combined based on the lithological host, which are the same. The Unit 3 was classed separately due to its difference in the type of carbon graphite, finer flake size, and higher grade.

14.4 Statistics

The geostatistical analysis was done in 2013 using GEMS and described in the technical report on the Mineral Resources Estimate published in January 2014 (Lyons et al., 2014).

The variography was run by Roche in all directions with GEMS using all composite data. The search orientation of the ellipse was characterized by an azimuth of 5° and a dip of 40°. Anisotropy was interpreted with the semi variogram and set to 60 m along the x-axis, 40 m along the y and 50 m along the z-axis.

In the last Mineral Resources Estimate, a variable search ellipsoids direction was used to follow the geological interpretation trends.

14.5 Modelling

After the verification/validation of the Lac Guéret database, GMG conducted a mineralization interpretation and a 3D wireframe envelope modelling of the graphite mineralization. Several sections (66 sections) were created using all drilling results. The interpretation was first completed on sections to define mineralized vertical projection contours called prisms (polygon interpretation) in Genesis© using assays results (Figure 14-4). Three envelopes were produced by connecting directly the defined mineralized prisms on each section (Figure 14-5 and Figure 14-6). GMG followed the same geological interpretation done by Roche in 2013.

The topographic surface originated from a Laser Imaging Detection and Ranging Survey ("LiDAR"). The topographic surface was supplied by Hatch as 2 m elevation contours and is large enough to cover all the wireframes. The overburden thickness has been taken into account while doing the modelling of blocks.

Three envelopes have been modelled using drilling data. The principal envelope named Body 1 extends over 1,290 m. The other two envelopes (Body 2 and Body 3) are smaller and are located on the south part of the Property (Figure 14-5 and Figure 14-6).

The waste zones were modelled based on several sections as waste envelopes and then subtracted from the mineralized material body (Figure 14-7). Only the envelope named Body 1 is concerned by this subtraction, the other envelopes do not contain waste zones.

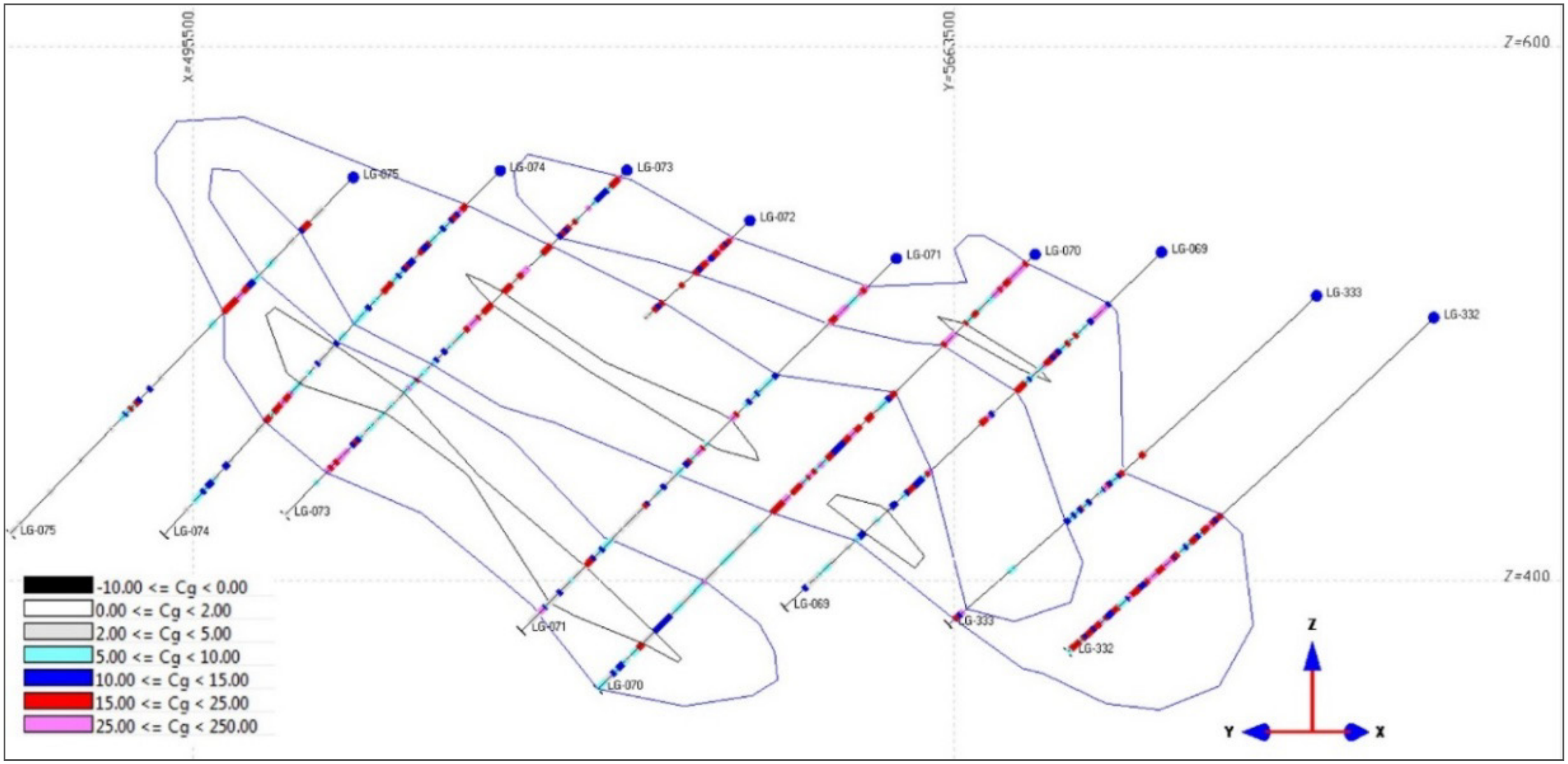


Figure 14-4 - Section 800 looking northeast

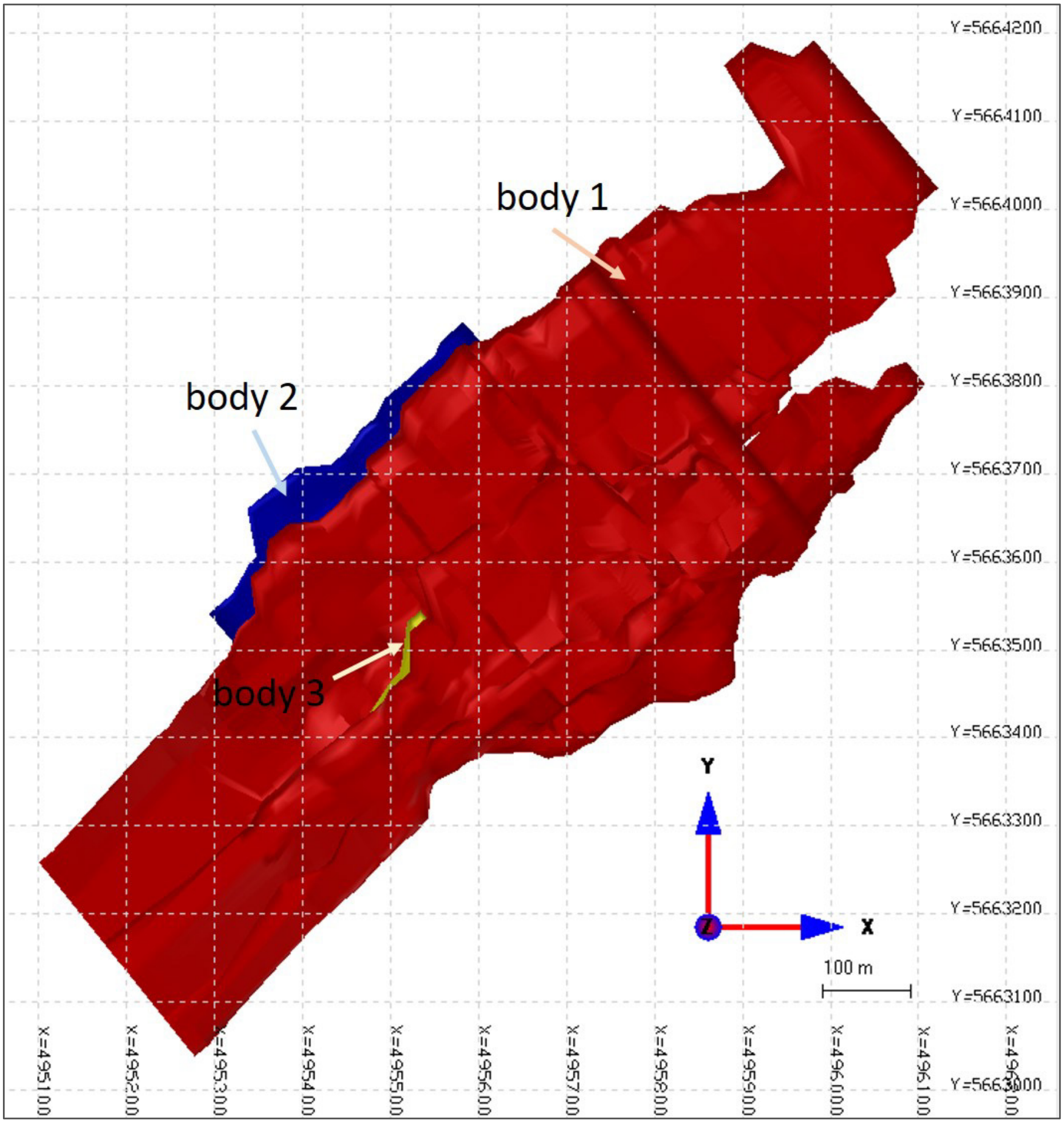


Figure 14-5 - Plan view of Lac Guéret deposit showing three mineralized envelopes [1]

[1] Body 1, 2 and 3.

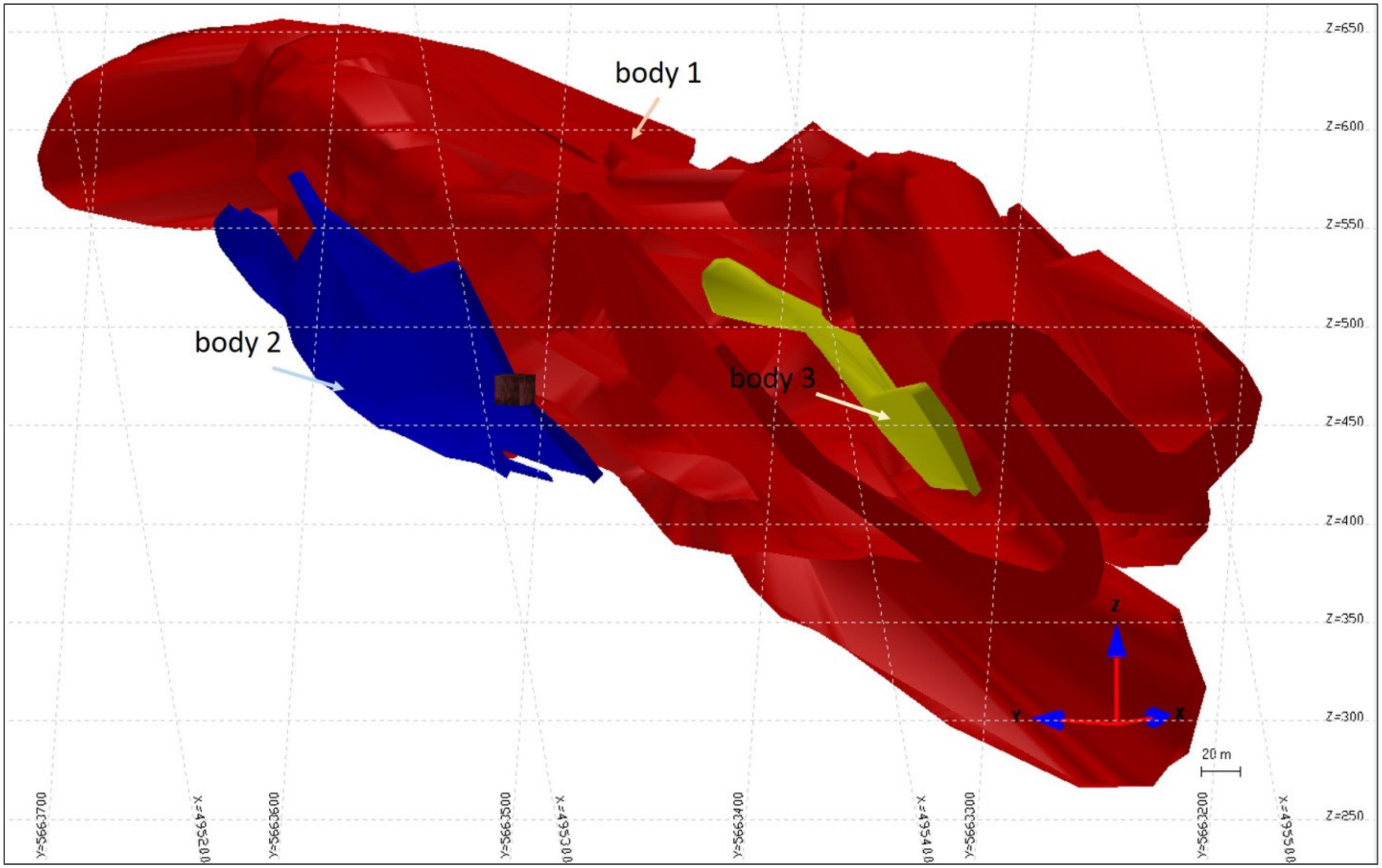


Figure 14-6 - View looking northeast showing the three mineralized envelopes [1]

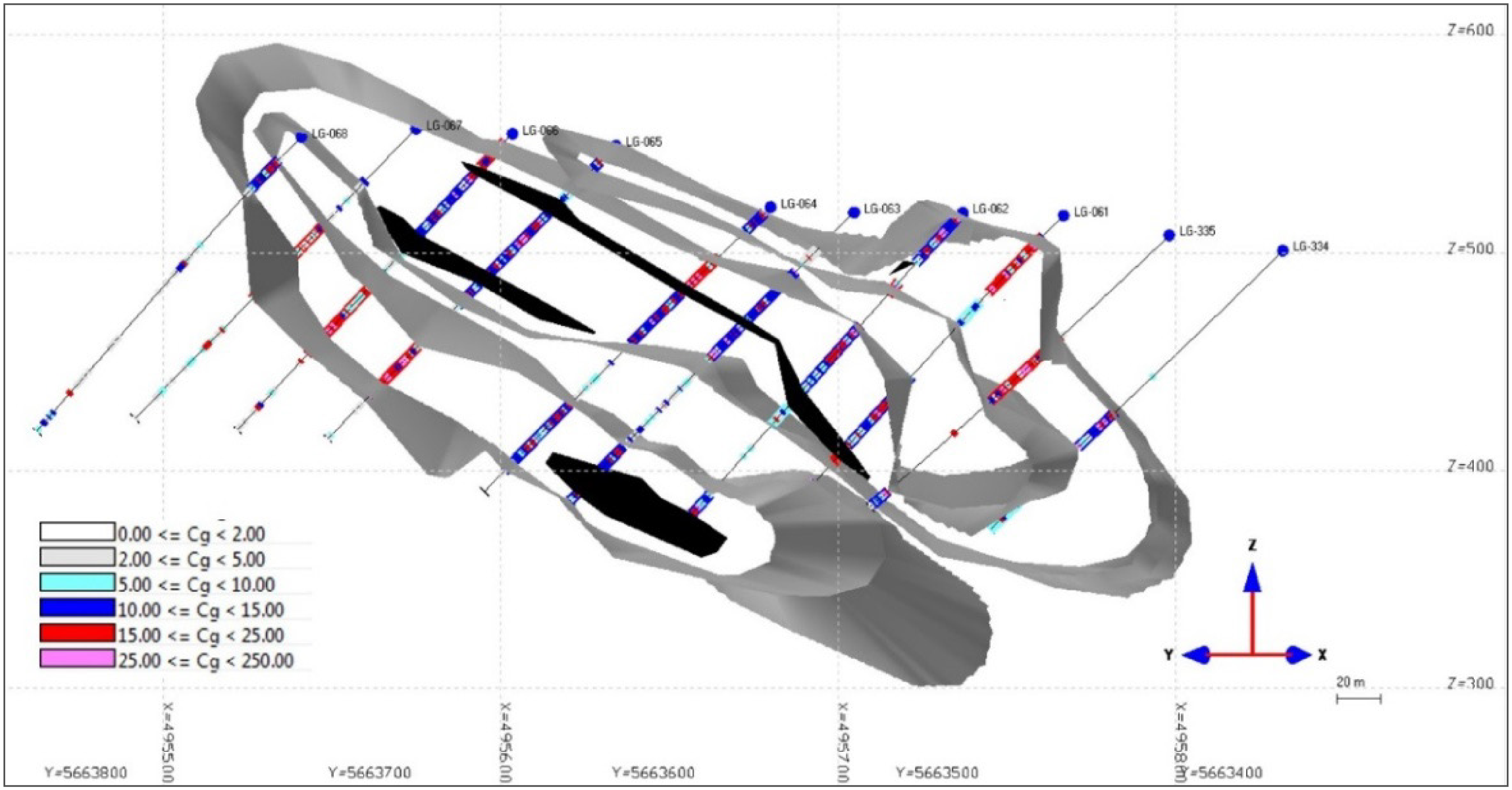


Figure 14-7 - Section 850 looking northeast showing the mineralized envelope [2]

[2] Body 1, grey and the waste zones in black.

14.5.1 Compositing of Assay Intervals

Before assigning grades to dimensionless "points" in the 3D space (the composite centres) in the block grade interpolation, it is necessary to homogenize (same length for the composites) the length of the grade "support" through numerical compositing. Each composite has a length of 3 m, created from the beginning of each mineralized interval (Figure 14-8).

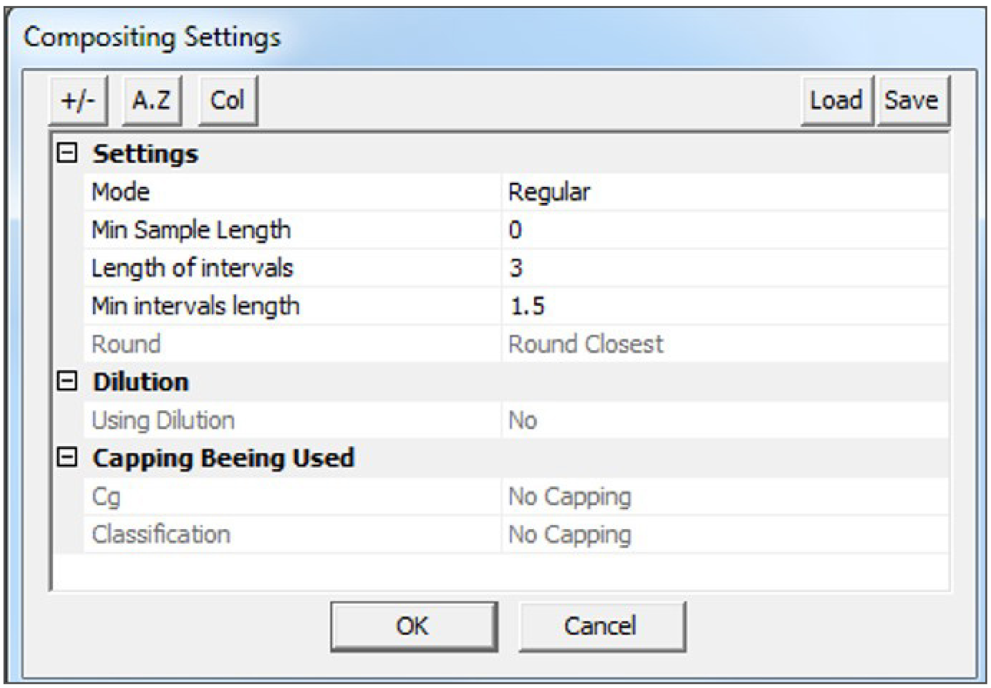


Figure 14-8 - Compositing parameters

Compositing is done downhole from the start of the mineralized intersection. Missing assays and unsampled length are assumed to be zero grade (no graphite content). At the end of the mineralized intersection, the last retained composite is the last with a minimum length of 1.5 m. It is important to mention that only composites within the mineralized envelopes have been used to estimate the Mineral Resources.

No grade capping was applied to Lac Guéret assays results since the highest grades were spatially and statistically coherent.

14.5.2 The Block Model

14.5.2.1 Block model definition

The current Mineral Resources Estimates of the Uatnan Property was done with the Genesis software for modelling and Mineral Resources Estimate.

The origin of the block model (Figure 14-9) is the lower left corner of the Lac Guéret deposit (495000E, 5662800N, 600Z) and no rotation was applied. The block size has been defined to respect complex geometry of the envelopes. The Mineral Resources Estimate was carried out with a block size of 3 m (EW) x 3 m (NS) x 3 m (Z).

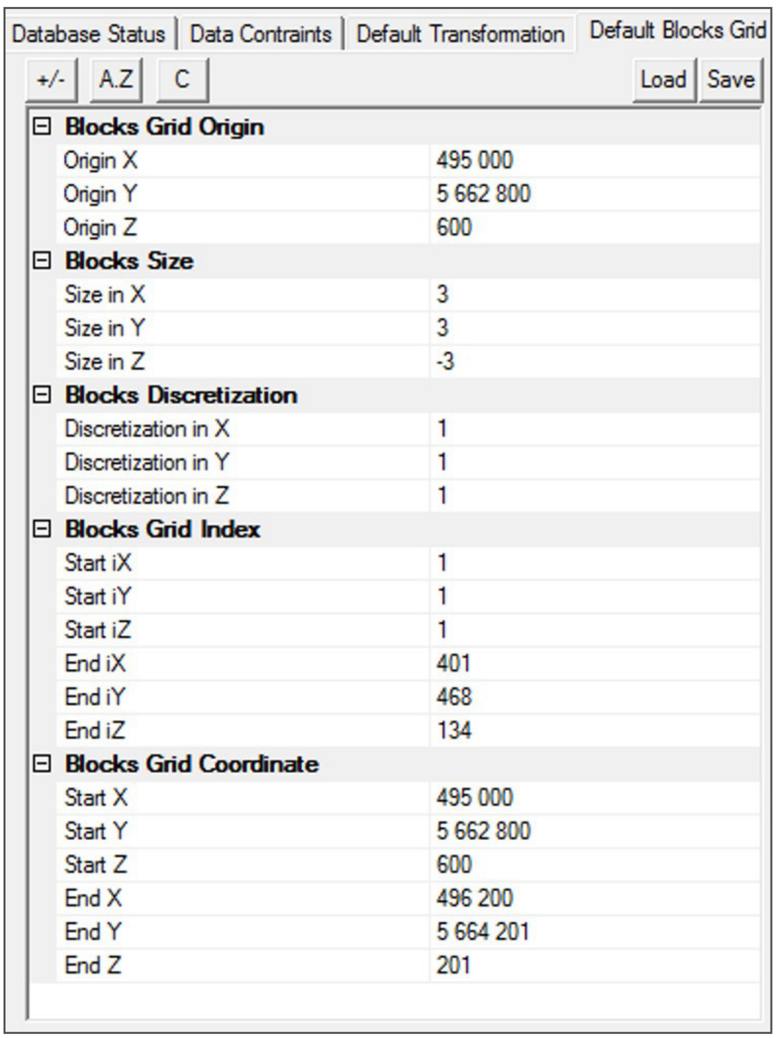


Figure 14-9 - Block model parameters

Three block models were produced (Body 1, 2 and 3; Figure 14-10). The envelopes have been filled by regular blocks and only composites within the envelopes were used to estimate the block grades. This represents a total of 5,725 composites (5,591 composites were used for Body 1; 87 composites for Body 2 and 47 composites for Body 3).

The average % Cg grade was calculated for each block using interpolation according to the inverse of the distance from the nearest composites. Interpolation parameters were based on drill spacing, envelope extension and orientation.

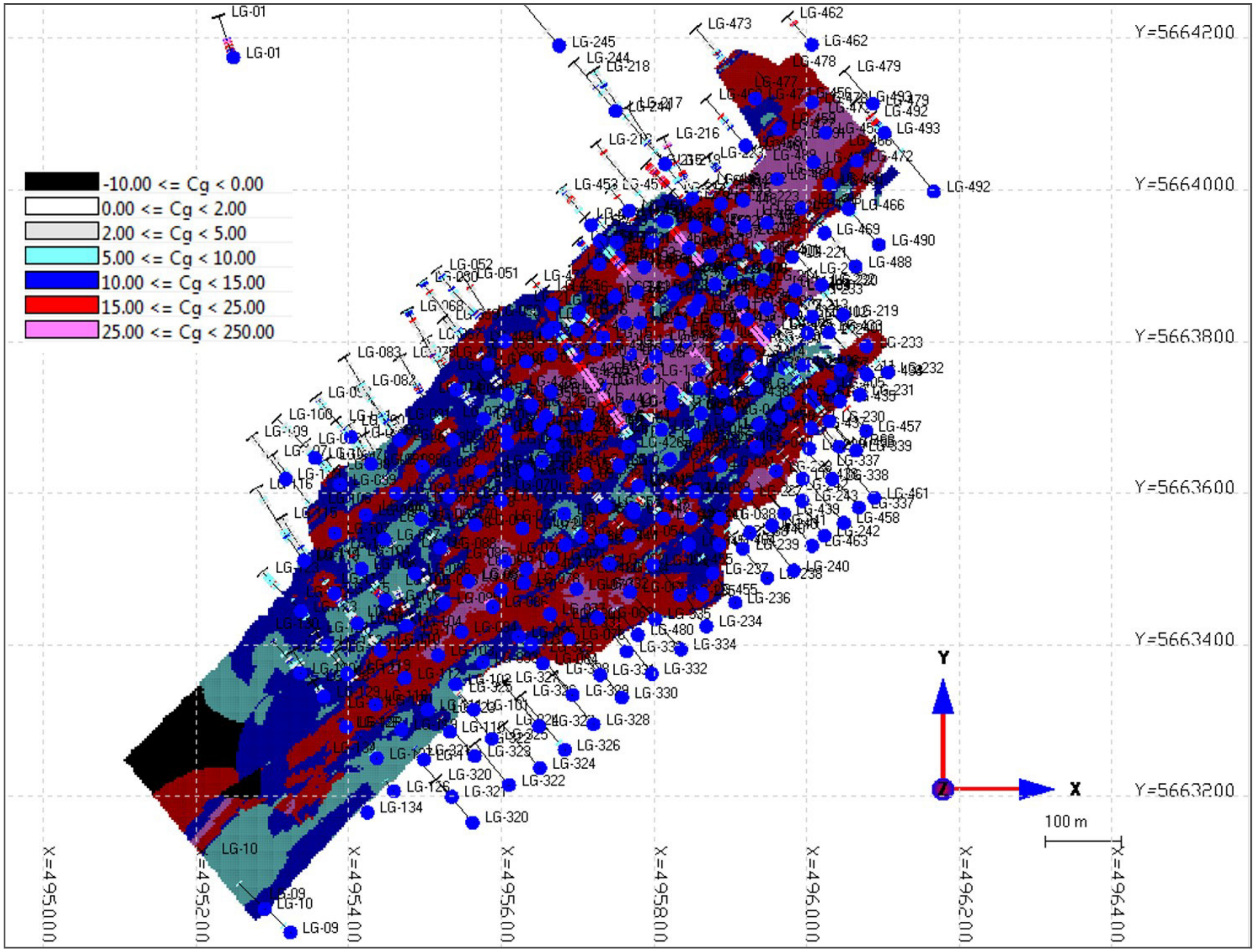


Figure 14-10 - Plan view of the block models color coded by % Cg

14.5.2.2 Ellipsoid parameters and interpolation

Three runs were used for the Mineral Resources Estimate of the Lac Guéret deposit (Table 14-6). For run one, the number of composites was limited to ten with a maximum of two composites from the same drillhole. For runs two and three the number of composites was limited to ten with a maximum of one composite from the same drillhole.

Table 14-6 - Variable search ellipsoid parameters for Mineral Resources Estimate

Ellipsoid name	Run_01	Run_02	Run_03
Azimuth	05	05	05
Dip	40	40	40
Spin	0	0	0
Major axis	40	60	120
Median axis	60	80	120
Minor axis	15	15	120

A variable direction search ellipsoid was used for the grade estimation and follows the geological interpretation trends. Table 14-6, shows the size of the variable ellipsoid used for the Mineral Resources Estimate.

14.5.2.3 Mineral resources classification

The Lac Guéret Mineral Resources were automatically classified using variable search ellipsoids for each category (Table 14-7).

The classification parameters used for Lac Guéret deposit are:

- Measured Mineral Resources used at least eight composites per block, with a maximum of ten composites and two composites per drillhole were used;
- Indicated Mineral Resources used at least four composites per block, with a maximum of ten composites and two composites per drillhole were used;
- Inferred Mineral Resources used at least two composites per block, with a maximum of ten composites and two composites per drillhole were used;

Table 14-7 - Search ellipsoid parameters for Mineral Resources Classification

Ellipsoid	Measured	Indicated	*Inferred*
Azimuth	05	05	*05*
Dip	40	40	*40*
Spin	0	0	*0*
Azimuth2	0	0	*0*
Major Axis	40	50	*160*
Median Axis	40	50	*120*
Minor Axis	15	20	*120*

Each mineralized body (meshed envelopes) was validated visually to ensure that grade and classification distributions were geologically reasonable (Figure 14-11, Figure 14-12, Figure 14-13 and Figure 14-14).

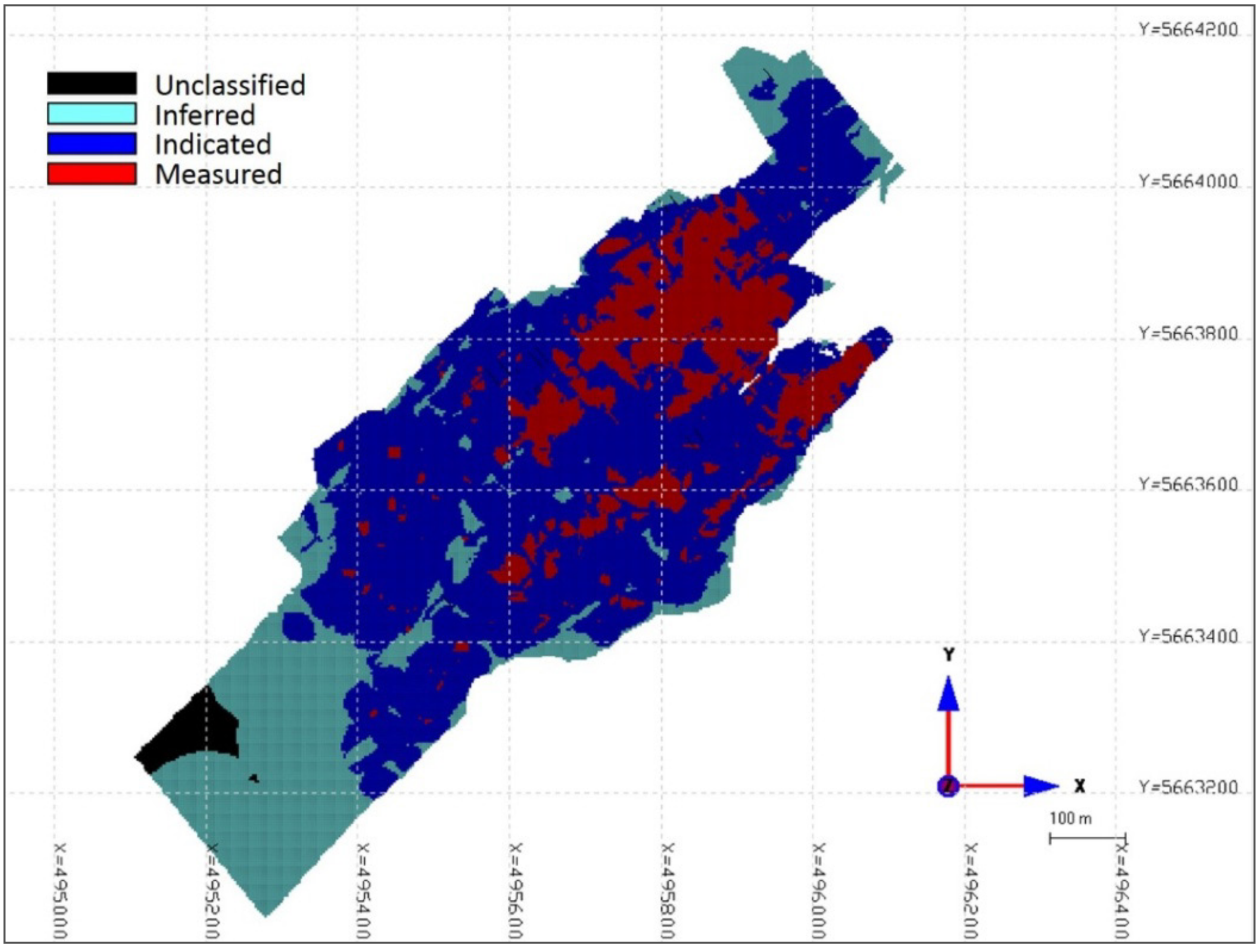


Figure 14-11 - Plan view showing the block model color coded by classification[3]

[3] Overburden extracted.

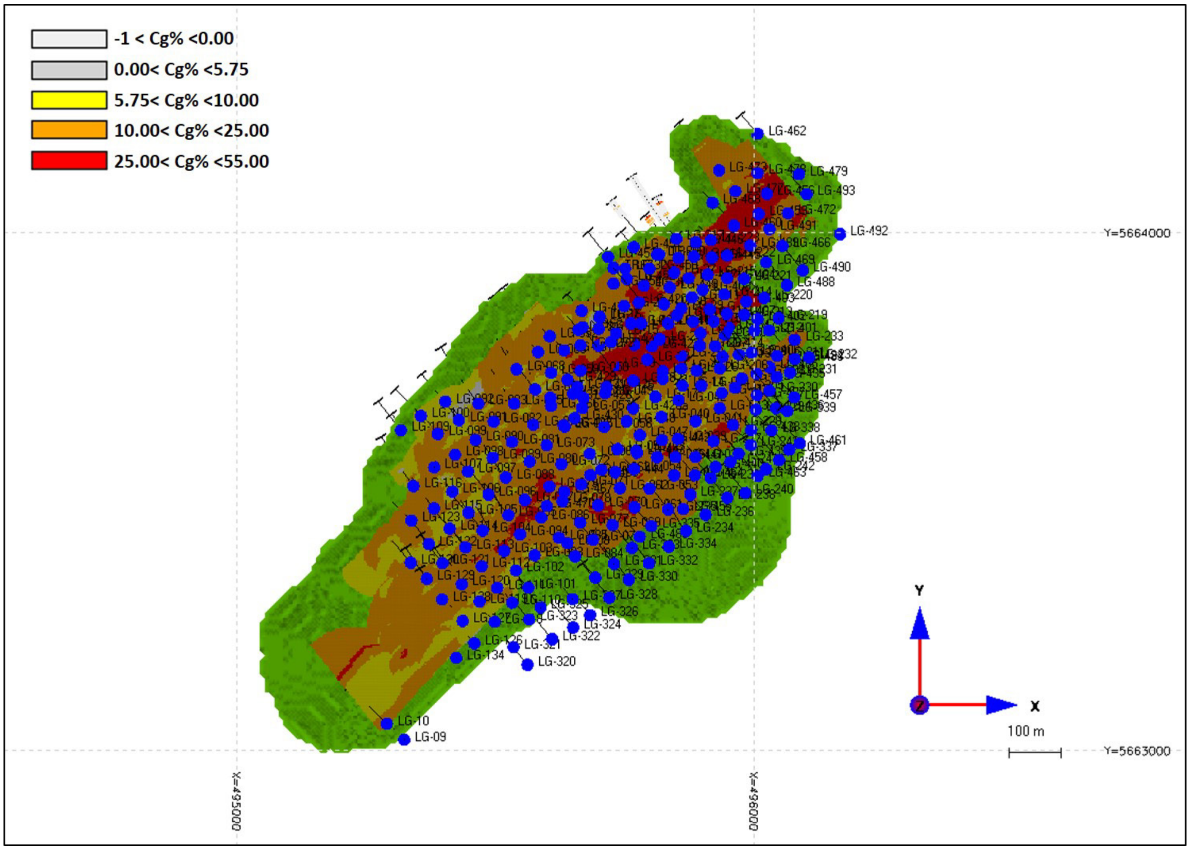


Figure 14-12 - Plan view of Mineral Resources color coded by % Cg [4]

[4] In-pit (COG 5.75% Cg, value $2063) Modelled by GMG in November 2018.

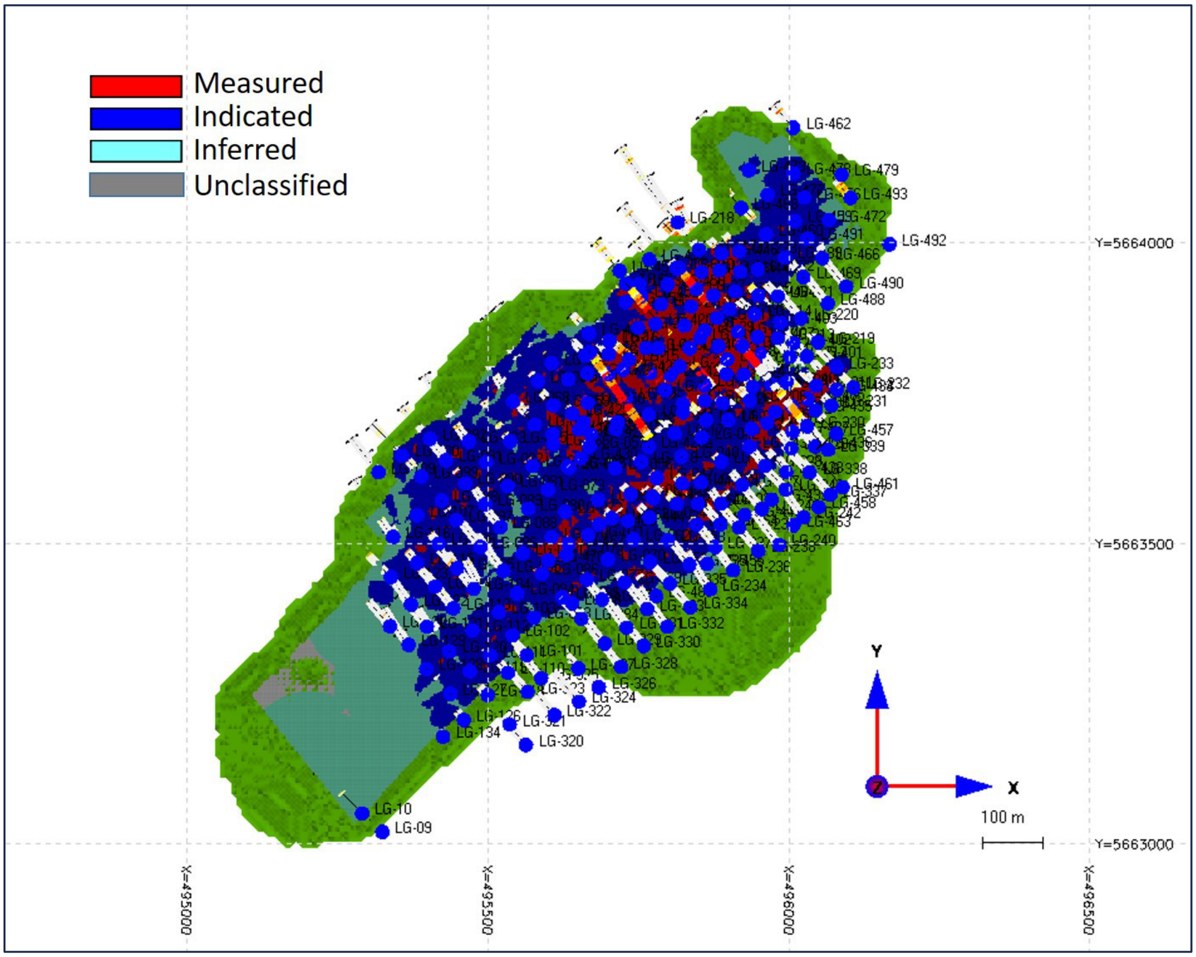


Figure 14-13 - Plan view of Mineral Resources with color coded by classification [5]

[5] In-pit (COG 5.75% Cg, value $2063) Modelled by GMG in November 2018.

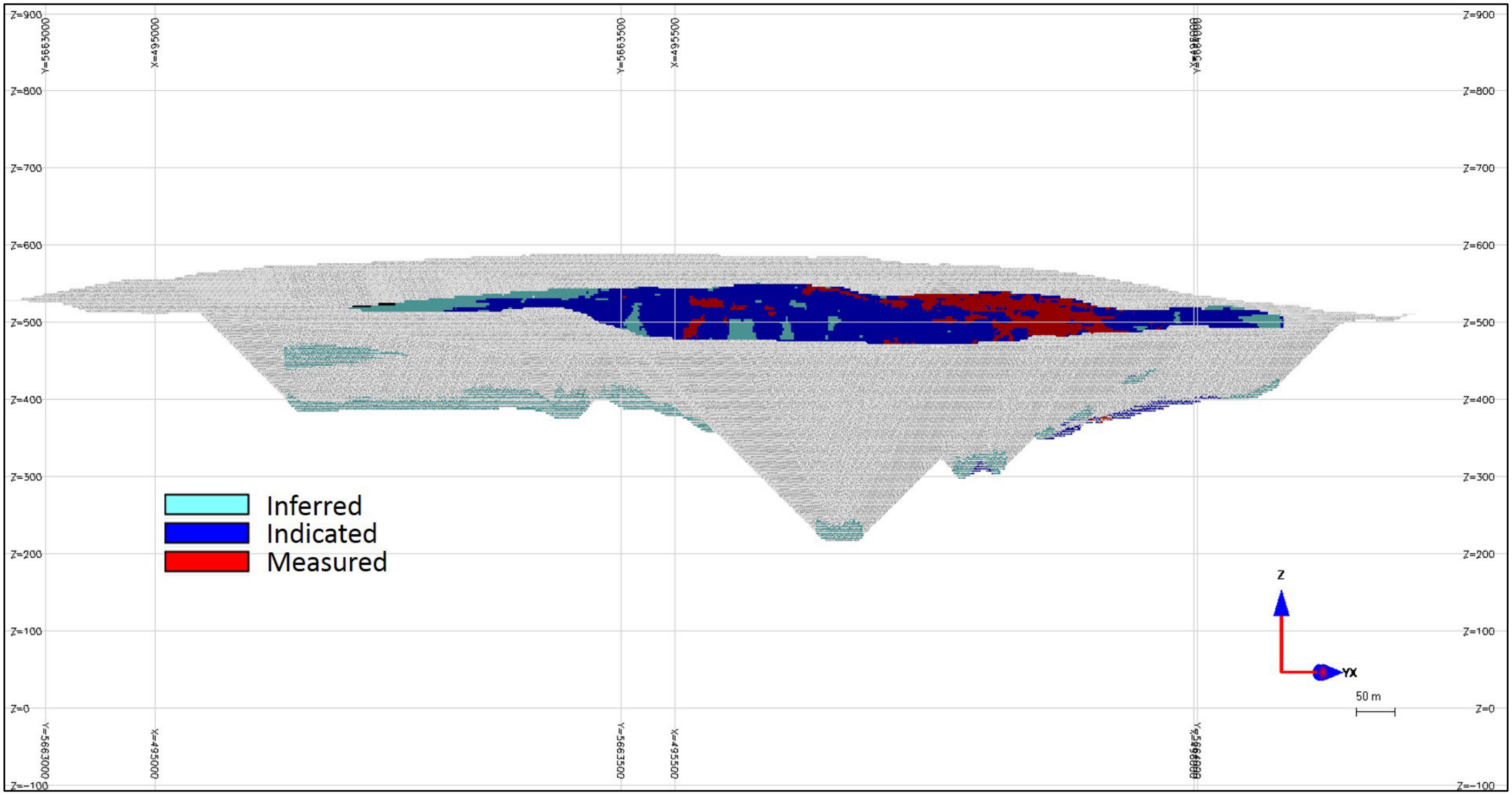


Figure 14-14 - Section looking northwest showing block models in pit.

14.6 Current Mineral Resources Estimate Results

The current Mineral Resources of the Lac Guéret deposit were estimated using a cut-off grade ("COG") of 5.75% Cg and a pit optimization was designed using the same block model used for the Mineral Resource Update issued November 9, 2015.

The current Measured and Indicated Mineral Pit-constrained Resources are 65.6 million tonnes at 17.2% Cg (Table 14-8).

Mineral Reserves and Mineral Resources are as defined by CIM Definition Standards on Mineral Resources and Mineral Reserves. Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability.

Table 14-8 - Current Mineral Resources Estimate for Lac Guéret [8]

In pit constrained Mineral Resources	Density	Tonnes (Mt)	Grade (% Cg)	Cg (Mt)
Measured 5.75% < Cg < 25%	2.9	15.65	15.2	2.38
Measured Cg > 25%	2.9	3.35	30.6	1.02
Total Measured	**2.9**	**19.02**	**17.9**	**3.40**
Indicated 5.75% < Cg < 25%	2.9	40.29	14.6	5.89
Indicated Cg > 25%	2.9	6.33	31.6	2.00
Total Indicated	**2.9**	**46.62**	**16.9**	**7.89**
Indicated + Measured 5.75% < Cg < 25%	2.9	55.94	14.8	8.27
Indicated + Measured Cg > 25%	2.9	9.70	31.2	3.03
Total Measured + Indicated	**2.9**	**65.64**	**17.2**	**11.30**
Inferred 5.75% < Cg < 25%	2.9	*15.35*	*14.9*	2.28
Inferred Cg > 25%	2.9	*2.47*	*31.8*	*0.79*
Total Inferred	**2.9**	***17.82***	***17.2***	**3.07**

Notes:

1. The Mineral Resources provided in this table were estimated by Mr. Rachidi P.Geo., and C. Duplessis, Eng., (QPs) of GoldMinds Geoservices Inc., using current Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Reserves, Definitions and Guidelines.
2. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, market or other relevant issues. The quantity and grade of reported Inferred Resources are uncertain in nature and there has not been sufficient work to define these Inferred Resources as Indicated or Measured Resources. There is no certainty that any part of a Mineral Resource will ever be converted into Mineral Reserves.

[8] Body 1 + 2 + 3, using a 5.75 < Cg < 25% and Cg > 25% in-pit, rounded numbers.

3. The Mineral Resources presented here were estimated with a block size of 3mE x 3mN x 3mZ. The blocks were interpolated from equal length composites (3 m) calculated from the mineralized intervals.
4. The mineral estimation was completed using the inverse distance to the square methodology utilizing three runs. For run 1, the number of composites was limited to ten with a maximum of two composites from the same drillhole. For runs two and three the number of composites was limited to ten with a maximum of one composite from the same drillhole.
5. The Measured Resources classified using a minimum of four drillholes. Indicated Resources classified using a minimum of two drillholes. The Inferred Resources were classified by a minimum of one drillholes.
6. Tonnage estimates are based on a fix density of 2.9 t/m^3.
7. A pit optimized using a new parameter detailed in Table 14-9. The effective date of the current Mineral Resources is January 10,2022.
8. Mineral Resources are stated at a cut-off grade of 5.75% Cg.

There has not been additional drilling on the mineralized zone since the last Mineral Resources estimate (Duplessis et al., 2016). A pit optimization with new parameters (Table 14-9, provided by BBA) using the same block model as previously used has been done by GoldMinds Geoservices Inc.

Table 14-9 - The parameters used for the Mineral Resource pit optimization

Parameters	Unit	Value
Mining Cost Mineralized Material	$/t mined	4.00
Processing Cost	$/t milled	36.00
Tailing Management Cost	$/t milled	2.00
G&A Cost	$/t milled	5.00
Total Mineralized Material Based Cost	$/t processed	43.00
Mill Recovery	%	85.0%
Concentrate Grade	%	94.0%
Concentrate Price	CAD $/t	1500
Revenue Factor		1.00
Production Rate	Mtpy	3.4
Discount Rate	%	8%
Pit slope		50

There is a very small difference between the use of a cut-off grade of 5% Cg and 5.75% Cg. The table below show the difference in terms of the previous and current pit constrained Mineral Resources.

Table 14-10 - Comparison of 2014, 2018 and 2022 Mineral Resources Estimates

Mineral Resources Estimates Lac Guéret	Mineral Resources Estimate updated, December 2014 by GMG (In Whittle 40 COG 5% Cg)		Mineral Resource Estimates November 2018 by GMG (In Pit COG 5.75% Cg)		Mineral Resource Estimates December 2022 by GMG (In Pit COG 5.75% Cg)	
	% Cg	Tonnes	% Cg	Tonnes	% Cg	Tonnes
Indicated	16.9	46,589,000	16.9	46,519,000	16.91	46,623,000
Measured	17.9	19,105,000	17.9	19,021,000	17.94	19,021,000
Meas + Indicated	17.2	65,693,000	17.2	65,540,000	17.21	65,644,000
Inferred	*17.2*	*17,651,000*	*17.3*	*17,613,000*	*17.22*	*17,820,000*

The graphite mineralization of the Uatnan Property is extensive in terms of size and grade. There is a significant amount of resources, and the graphite mineralization extends to the northeast as well as to the southeast around the iron formation anticlinorium core and at depth.

15. Mineral Reserve Estimate

Since this Report summarizes the results of a Preliminary Economic Assessment, no Mineral Reserves have been estimated for the Uatnan Project as per NI 43-101 guidelines.

16. Mining Methods

16.1. Introduction

The objective of the PEA was to define a project that maximizes the annual concentrate production while providing a techno-economic life-of-mine. Given the Mineral Resources that were presented in Chapter 14, BBA carried out an optimization exercise and determined that the Lac Guéret Mineral Resources can be mined and processed for a period of roughly 24 years, with an annual production of approximately 500,000 t of concentrate. These figures were deemed reasonable and therefore formed the basis of the PEA.

The mining method selected for the Project is a conventional open pit, truck and shovel, drill, and blast operation. Vegetation, topsoil, and overburden will be stripped and stockpiled for future reclamation use. The Mineral Resources and waste rock will be mined with 9 m high benches, drilled, blasted, and loaded into rigid frame haul trucks with backhoe excavators.

Waste rock will be hauled to the mine rock stockpiles ("MRS") and managed with the tailings storage facility ("TSF"), located to the northwest of the open pit. Subsequent engineering phases will select appropriate tailings and waste rock management placement methods and technologies to enhance operational and closure performance according to industry standards (Earth system and O'Kane, 2020). To minimize the environmental footprint of the Project, when possible, waste rock will be backfilled into the mined out open pit. The mine will be operated by an owner fleet, seven days per week, 24 hours per day and be comprised of a four-crew system working on a 2-week in, 2-week out rotation.

The following section of the Report presents the mine design and mine planning work that was done to develop the mine capital and operating cost estimate for the PEA, and to estimate the subset of Mineral Resource contained with the open pit design, which is presented in Table 16-1.

The subset of Mineral Resource contained with the open pit design consider a cut-off grade of 5.75% Cg and include 62.2 Mt of Measured and Indicated Resources at an average diluted grade of 17.3% Cg, and 14.2 Mt of Inferred Resources at an average diluted grade of 18.0% Cg. A total of 102.6 Mt of overburden and waste rock are included in the pit resulting in a strip ratio of 1.3.

Table 16-1 - Subset of Mineral Resources within the pit design for the PEA

Description	Unit	Value
PEA Mill Feed	Mt	76.4
Average Diluted Grade (Cg)	%	17.5
In-Situ Graphite	Mt	13.4
OB & Waste Rock	Mt	102.6
Strip Ratio		1.3

16.2. General Parameters Used to Estimate the Mineral Resources

The following section discusses the geological information that was used for the mine design. This information includes the topographic surface, the geological block model, and the material properties for mineralization, waste rock, and overburden. The overburden at Uatnan is composed of sand and silt to silty sand, with some traces of gravel and traces of clay.

Mine design and mine planning were done in Hexagon's MinePlan 3D software Version 16. The mine design was carried out using the NAD83 CSRS Zone 19 coordinate system, in metric units.

16.2.1. Topographical Data

The mine design for the PEA was carried out using a topographic surface that originated from a Laser Imaging Detection and Ranging Survey ("LiDAR") and provided to BBA in 2 m elevation contours.

16.2.2. Mineral Resource Block Model

The mine design for the PEA is based on the three-dimensional ("3D") geological block model that was prepared by GoldMinds Geoservices Inc. and presented in Chapter 14. The blocks are 3 m wide, 3 m long and 3 m high and there is no rotation to the model.

Each block in the model contains the Cg grade and the resource classification (Measured, Indicated, and Inferred).

16.3. Material Properties

Table 16-2 presents the material properties that were used to design the open pit and estimate the equipment fleet requirements and stockpile design capacities.

Table 16-2 - Material properties

Description	Unit	Overburden	Rock
Bulk density	t/m^3	2.10	2.90
Swell factor	%	30	30
Moisture content	%	4	8

16.4. Mining Dilution and Mining Recovery

To account for mining dilution, a diluted Cg grade value has been assigned for each block of mineralization that neighbours a waste block. The mining dilution was estimated at 10%, meaning that for each 3 m wide block of mineralization, 0.3 m of the neighbouring waste block was included as dilution. A Cg grade of 0% was used for the waste rock. The addition of mining dilution resulted in lowering the Cg grade within the open pit from 17.7% to 17.5%.

It is assumed that the mining losses for the Lac Guéret deposit will be equal to the tonnage of waste rock that will be diluted with the mineralization and sent to the crusher. This assumption results in a zero loss/gain of mineralized tonnage.

16.5. Pit Optimization

A pit optimization analysis has been completed to determine the extent of the deposit that can be mined and processed economically. The pit optimization was done using the pseudo-flow algorithm in the Economic Planner module of MinePlan 3D. The algorithm determines the economic limits of the open pit at a range of selling prices based on input of mining and processing costs, revenue per block, and operational parameters such as the metallurgical recovery, pit slopes and other imposed physical constraints. Since this study is at a PEA level, NI 43-101 guidelines allow for Inferred Mineral Resources to be considered in the pit optimization and mine plan.

The input parameters presented in Table 16-3 used for the pit optimization analysis were developed from the results of the 2018 Feasibility Study (Mason, 2018) with adjustments for inflation and updated project knowledge. The costs used for the pit optimization are inputs and should therefore not be confused with the final operating costs for the Study presented in Section 21.

In 2015, SNC Lavalin had prepared a report titled, "Lac Guéret Project Open Pit Slope Recommendations". This report recommended shallow overall pit slopes in the range of 30 to 35 degrees, since at that time the proposed production rate was 50,000 tpy and the open pit was smaller compared with the actual Project, resulting in the ultimate pit walls being in the graphite rock formation. With the increased production rate considered in this PEA, the ultimate pit walls will be in competent rock and BBA had therefore considered an overall pit slope of 50 degrees for the pit optimization.

Table 16-3 - Pit optimization parameters

Item	Unit	Value
Mining Cost	CAD/t (mined)	4.00
Processing Cost (includes tailings)	CAD/t (processed)	38.00
General & Administration Cost	CAD/t (processed)	5.00
Metallurgical Recovery	%	85
Concentrate Grade	%	94
Concentrate Selling Price	CAD/t	1,500

16.5.1. Cut-Off Grade

The cut-off grade ("COG") is calculated to determine if material within the pit should be sent to the mill for processing or to the waste rock pile. The marginal COG, referred to as the "Open Pit Discard COG" in the CIM Estimation of Mineral Resource and Mineral Reserves Best Practice Guidelines, differs from the breakeven COG since mining costs are excluded from the calculation. The reason for excluding mining costs is that material already defined to be within the limits of the open pit must be mined regardless of if it is classified as mineralized material or waste to access the bench below. The only exception where a mining cost would be included in the marginal COG calculation is if there is an incremental cost for mining mineralized material relative to mining waste. The following calculation was used to calculate the marginal COG for the Lac Guéret deposit.

$$Marginal\ COG = \frac{Processing\ Cost\ x\ Concentrate\ Grade}{(\text{Sales Price} - \text{G\&A Cost})x\ Mill\ Recovery}$$

The marginal open pit cut-off grade was calculated to be 3.2 % Cg. The COG for the mine design was increased to 5.75% Cg to be in line with the COG used for the Mineral Resources. It should be noted that within the open pit, there are approximately 0.6 Mt of Measured, Indicated, and Inferred Mineral Resources that have a grade between 3.20 and 5.75% Cg. The average grade of these resources is 5.1% Cg.

16.5.2. Pit Optimization Results

Using the cost and operating parameters, a series of 25 pit shells were generated by varying the selling price (revenue factor) from $225 to $1,800/t. The tonnages and grades associated with each of the pit shells are presented in Table 16-4. The Net Present Value ("NPV") of each shell was calculated assuming a selling price of $1,500/t of graphite concentrate, a discount rate of 8% and an annual production rate of 3.2 Mtpy of mineralized material. It is important to note that the NPV's presented do not include initial and sustaining capital costs and are therefore not indicative of the Project's NPV, they are merely used to compare the pit shells relative to each other. Figure 16-1 presents the results in a graphical format.

The pit shell selected for the mine design and mine plan was the Revenue Factor ("RF") 0.35, which provides the maximum NPV. The RF 0.35 pit contains 76.1 Mt of Measured, Indicated and Inferred Mineral Resources with an average diluted Cg grade of 17.5% and a strip ratio of 1.2:1.

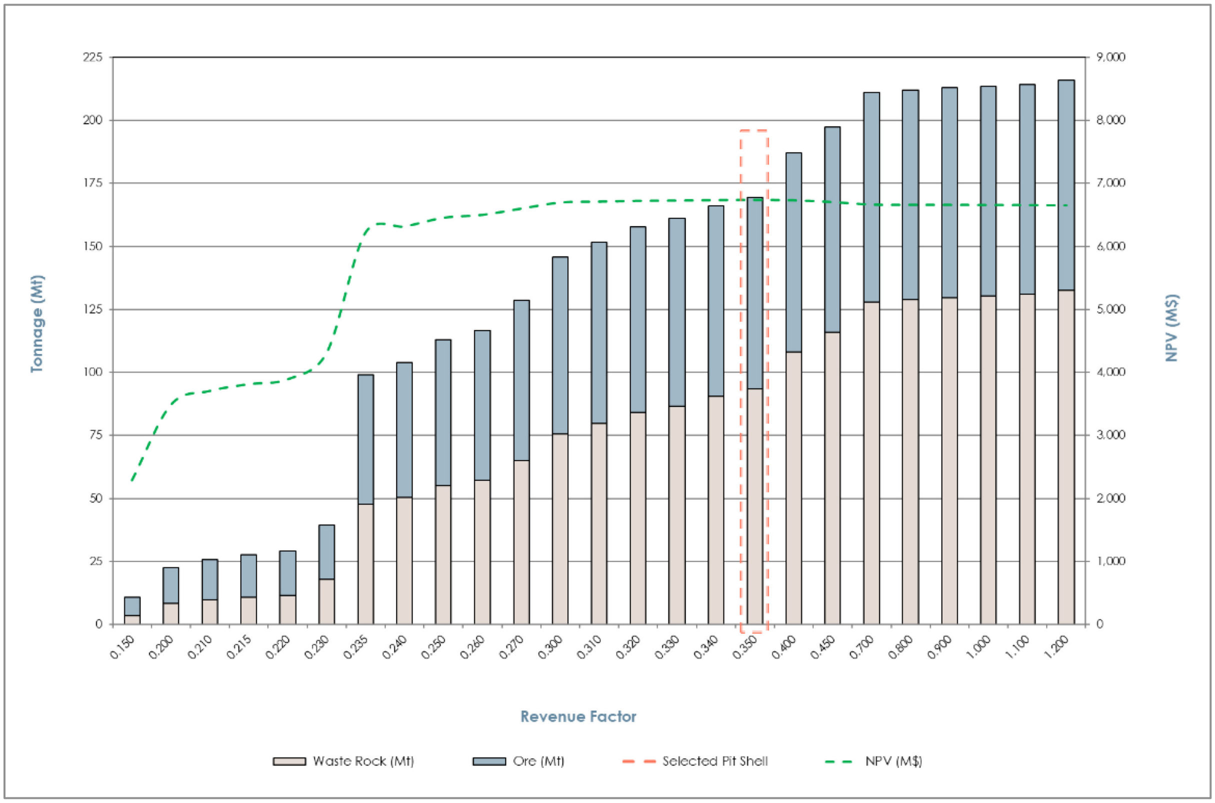


Figure 16-1 - Pit optimization results

Table 16-4 - Pit optimization results

Revenue Factor	Mill Feed (Mt)	Cg (%)	Concentrate Tonnage Produced (Mt)	Annual Concentrate Tonnage (tpy)	Waste Rock (Mt)	Strip Ratio	Mine Life (y)	NPV ($M)
0.150	7.3	29.2	1.9	77	3.5	0.5	2	2,289
0.200	14.2	25.2	3.2	129	8.3	0.6	4	3,486
0.210	15.9	24.4	3.5	140	9.8	0.6	5	3,706
0.215	16.8	24.0	3.7	146	10.7	0.6	5	3,813
0.220	17.5	23.8	3.8	151	11.5	0.7	5	3,891
0.230	21.5	22.6	4.4	176	17.9	0.8	6	4,311
0.235	51.3	18.9	8.8	351	47.7	0.9	15	6,220
0.240	53.7	18.8	9.1	365	50.3	0.9	16	6,314
0.250	57.9	18.6	9.7	389	55.0	0.9	17	6,453
0.260	59.5	18.5	9.9	398	57.2	1.0	18	6,500
0.270	63.5	18.3	10.5	419	65.2	1.0	19	6,599
0.300	70.2	17.9	11.3	453	75.6	1.1	21	6,695
0.310	72.0	17.8	11.6	462	79.7	1.1	21	6,710
0.320	73.8	17.7	11.8	471	84.0	1.1	22	6,722
0.330	74.5	17.6	11.9	475	86.6	1.2	22	6,727
0.340	75.4	17.6	12.0	479	90.5	1.2	22	6,734
0.350	76.1	17.5	12.1	483	93.3	1.2	22	6,737
0.400	79.1	17.4	12.4	497	108.1	1.4	23	6,730
0.450	81.3	17.2	12.6	505	115.9	1.4	24	6,703
0.700	83.1	17.0	12.8	512	127.9	1.5	24	6,662
0.800	83.2	17.0	12.8	512	128.9	1.5	24	6,660
0.900	83.2	17.0	12.8	512	129.7	1.6	24	6,658
1.000	83.2	17.0	12.8	513	130.3	1.6	24	6,657
1.100	83.3	17.0	12.8	513	131.0	1.6	24	6,655
1.200	83.3	17.0	12.8	513	132.5	1.6	25	6,651

16.6. Open Pit Design

Since the Project is at a PEA level, BBA did not complete a detailed pit design by adding access ramps and catch benches on the pit walls. A simplified ultimate pit surface was generated following the selected optimized pit shell as a guide and considering an overall pit slope of 50 degrees, which is presented in Figure 16-2. The pit is approximately 1,500 m long and 750 m wide at the surface, with a total surface area of the pit is roughly 65 ha. The deepest part of the pit is at the 214 m elevation which is 290 m below surface.

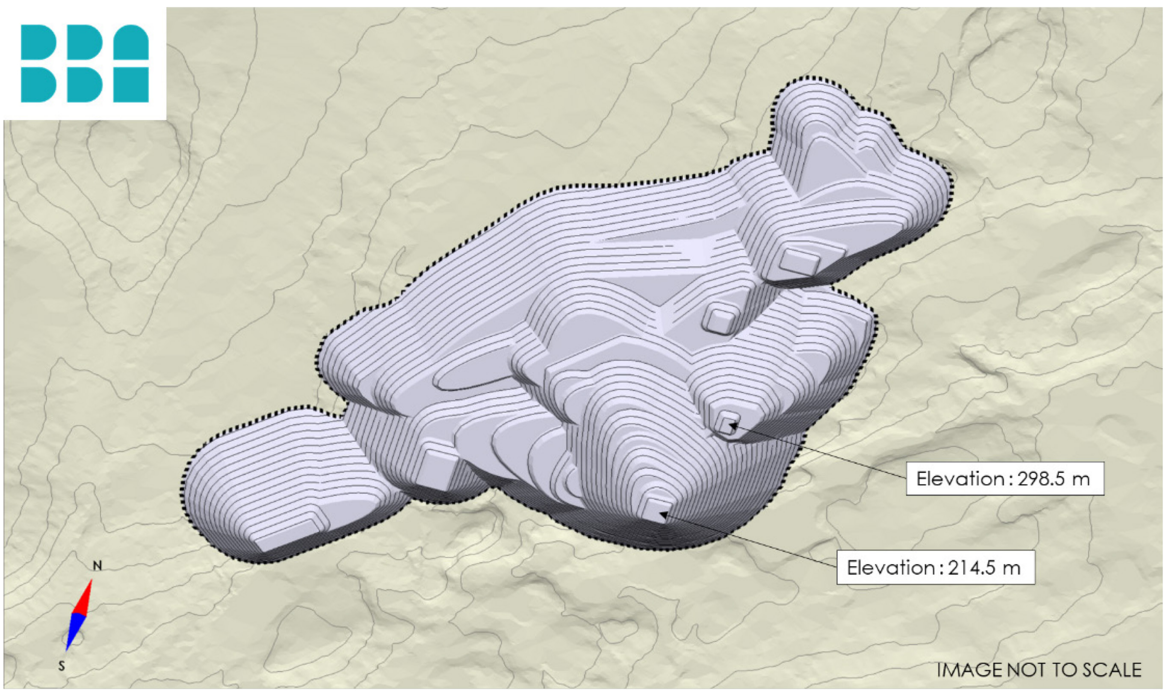


Figure 16-2 - Pit design

Table 16-5 presents the subset of Mineral Resources within the pit design for the PEA which includes 62.2 Mt of Measured and Indicated Resources at an average diluted grade of 17.3% Cg, and 14.2 Mt of Inferred Resources at an average diluted grade of 18.0% Cg. A total of 102.6 Mt of overburden and waste rock are included in the pit resulting in a stripping ratio of 1.3.

Table 16-5 - Subset of Mineral Resources within the pit design for the PEA

Description	Tonnes (Mt)	Cg Grade (%)	In Situ Graphite (Mt)
Measured Resources	18.7	17.9	3.3
Indicated Resources	43.5	17.1	7.4
Total M&I Resources	**62.2**	**17.3**	**10.8**
Inferred Resources	14.2	18.0	2.6
OB & Waste Rock	102.6		

16.7. Waste Rock Stockpiles

Material mined from the open pit that is not directly hauled to the primary crusher will be placed in storage facilities across the site. These facilities, discussed in further detail below, include topsoil stockpiles, overburden stockpiles, the mine rock stockpiles (MRS) managed with the TSF, and the in-pit waste rock placement. Figure 16-3 presents a layout showing the open pit, the MRS and TSF, and the in-pit waste rock placement.

16.7.1. Topsoil Stockpile

An average topsoil thickness in the open pit of 30 cm was considered for the Study. The topsoil (organic material) will be stripped and placed separately in a stockpile and will be used for closure and reclamation activities. The topsoil stockpiles will be strategically located around the site to minimize haul distances. Topsoil will also be hauled directly to certain areas if they are available for progressive reclamation, thus reducing costs by limiting re-handling activities.

16.7.2. Overburden Stockpile

During the initial years of the mining operation, overburden will be hauled to an overburden stockpile located near the ex-pit mine rock stockpile (MRS). As areas of the TSF and MRS reach their final designs, overburden stripped from the pit will be hauled directly to carryout progressive reclamation.

16.7.3. Tailings Storage Facility

During the life of mine, approximately 23.3 Mm^3 of waste rock will be placed in mine rock stockpiles ("MRS"). Waste rock mined from the open pit will be placed in the same area as the TSF which is discussed in further detail in Section 18.

16.7.4. In-Pit Waste Rock Placement

An in-pit waste rock backfill facility has been designed to minimize the footprint of the Project and to reduce the haulage travel distances. The waste rock will be placed back in the open pit once areas of the pit have been mined to completion, which is expected to be possible as of Year 5. The in-pit waste rock backfill and placement has been designed with an overall slope of 26.6°. According to the mine plan presented in the next section of this Report, a total of 8.3 Mm^3 of waste rock will be placed in the in-pit backfilling.

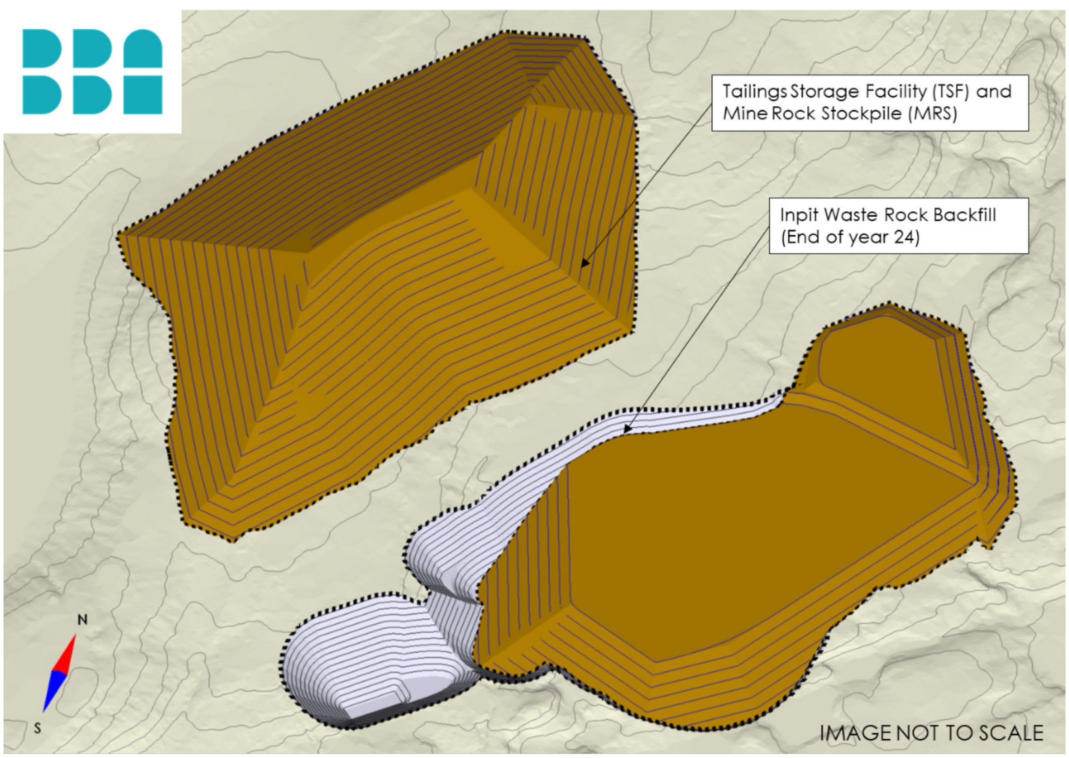


Figure 16-3 - Waste rock backfilling with TSF and MSR

16.8. Mine Planning

16.8.1. Mine Planning Parameters

The mine production plan has been prepared using the MinePlan Schedule Optimizer ("MPSO") tool in the Hexagon MinePlan 3D software. Provided with economic input parameters and operational constraints such as phase sequencing, maximum bench sink rates, and mining and milling capacities, the software determines the optimal mining sequence which maximizes the NPV of the mine production plan.

The mine plan has been prepared annually for the first five years and in three-year increments thereafter and considers full bench cuts.

To maximize the NPV of the Project, the mine plan targets higher-grade material in the initial years of the Project, resulting in less material being processed to produce the 500,000 tpy concentrate production target.

Mining phases (pushbacks) have been designed and incorporated into the mine plan to develop the pit in a sequential manner such that in-pit backfilling of waste rock can be maximized, as presented in Section 16.7.4.

16.8.2. Mine Production Schedule

The Uatnan Project has a 24-year mine life plus a six-month period of preproduction development referred to as Year 0. The purpose of the preproduction period is for the mine to provide waste rock for construction material and to prepare the pit for mining operations. A total of 500 kt of material is planned to be mined during preproduction.

During the mining operation, the total material mined from the open pit peaks at 10.8 Mt during Years 15 to 17 and averages 7.6 Mtpy. The average diluted Cg grade ranges from 14.2% to 24.9%, and averages 22.4% during the first five years. The average concentrate production over the life of mine averages 503,000 tpy.

Table 16-5 presents the mine production schedule, Figure 16-4 to Figure 16-7 present various charts which display the mine production schedule.

Table 16-6 - Mine production schedule

Description	Unit	PP	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 - 8	Year 9 - 11	Year 12 - 14	Year 15 - 17	Year 18 - 20	Year 21 - 23	Y24	TOTAL
Mill Feed	Mt	0.0	1.9	2.5	2.7	2.4	2.7	10.8	10.2	10.2	10.2	10.2	10.2	2.5	**76.4**
Cg Grade	%	0.0	24.9	23.2	21.3	22.6	21.0	17.0	16.5	16.5	14.2	15.3	19.5	17.7	**17.5**
Concentrate Produced	Mt	0	564	524	519	480	505	1,658	1,521	1,523	1,309	1,409	1,794	266	**12,073**
OB &Waste Rock	Mt	0.5	2.7	1.9	2.4	3.0	2.9	12.7	9.2	7.6	22.2	16.7	18.5	5.0	**102.6**
Total Material Mined	Mt	0.5	4.6	4.4	5.1	5.3	5.6	23.5	19.4	17.8	32.4	26.9	28.7	7.5	**179.0**
Strip Ratio		0.0	1.4	0.8	0.9	1.3	1.1	1.2	0.9	0.7	2.2	1.6	1.8	2.0	**1.3**

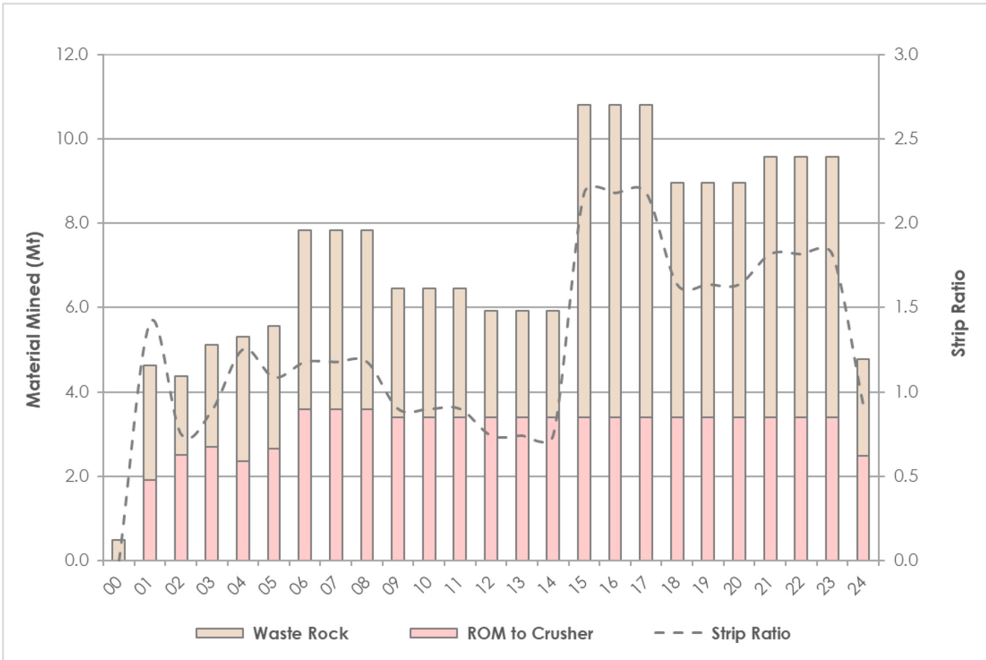


Figure 16-4 - Mine production schedule

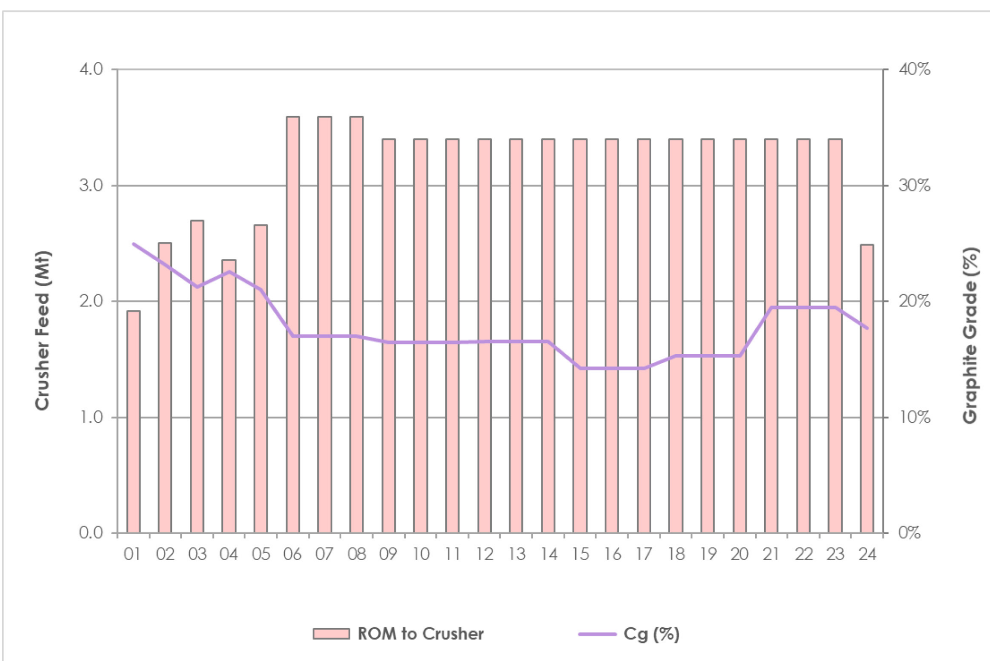


Figure 16-5 - Process plant feed

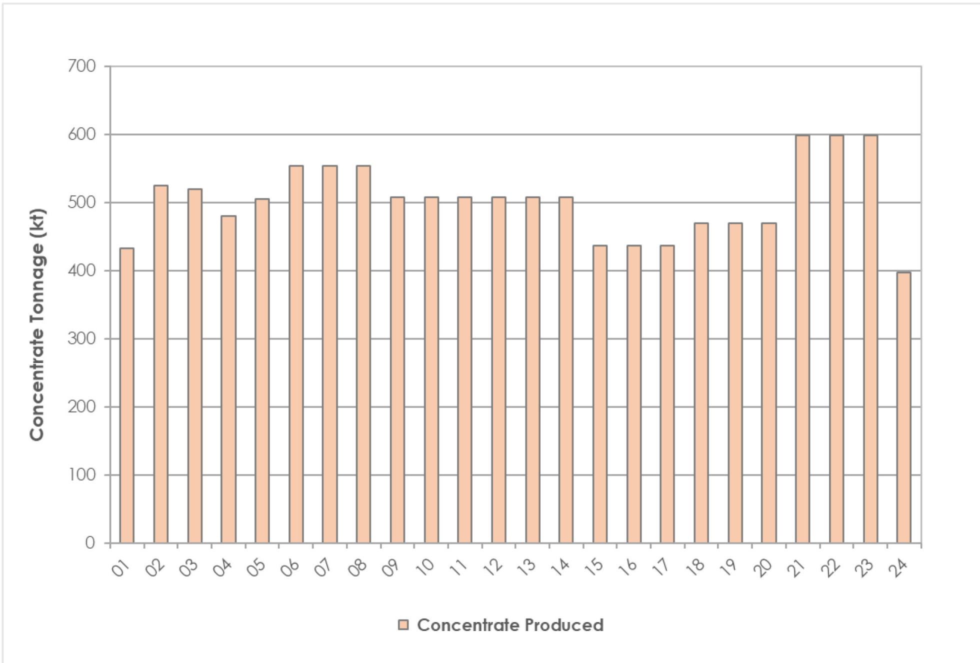


Figure 16-6 - Concentrate production

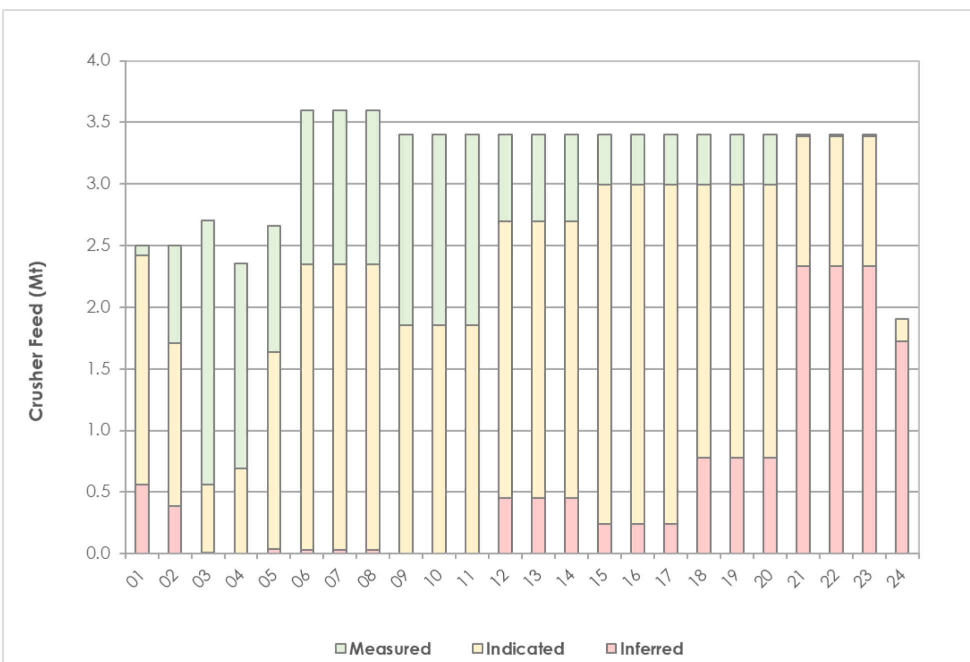


Figure 16-7 – Process plant feed by resource classification

16.9. Mine Equipment Fleet

The following section discusses equipment selection and fleet requirements to carry out the mine plan. The mine will be operated by an owner fleet with the peak requirements presented in Table 16-7. The table the Caterpillar or Komatsu equivalent to give the reader an appreciation for the size of each machine although the specific equipment selection will be done during the procurement phase of the Project.

The planned operating strategy targets the use of a battery-powered fleet of haul trucks but since the technology is currently in the development phase, it has been decided to present a base case with a diesel operated fleet. Electrical trucks and equipment will be introduced into the mining fleet as they become available.

Table 16-7 - Mining equipment fleet

Equipment	Model	Description	Units
Haul Truck	Komatsu HD605	Payload – 60 tonnes	12
Hydraulic Excavator	CAT 395	Operating Weight – 94,000 kg	2
Production Drill	Epiroc FlexiRoc D65		4
Track Dozer	Komatsu D155AX	Net Power – 264 kW	3
Road Grader	CAT 16M	Operating Weight – 23,000 kg	3
Wheel Loader	Komatsu WA600	Net Power – 395 kW	1
Utility Excavator	Komatsu PC490	Operating Weight – 49,000 kg	1
Water / Sand Truck	Komatsu HM400	Capacity – 40,000 litres	2
Stemming Loader	CAT IT14		1
Light Plant	n/a	6 kW	8
Fuel & Lube Truck	n/a		1
Mechanic Truck	n/a		1
Lowboy	n/a		1
Transport Bus	GMC	20 passengers	1
Pickup Truck	Ford F250	Crew Cab	10
Dewatering Pump	n/a	85 kW	5

16.9.1. Operating schedule

The mine will operate 24-hours a day, on two 12-hour shifts, seven days per week. For equipment calculations, a total of five days of lost production time has been considered for poor weather conditions. During these periods, the primary crusher, if operating will be fed from an emergency mineralized material stockpile located on the run-of-mine pad.

16.9.2. Drilling and blasting

Production drilling will be done with diesel-powered down-the-hole ("DTH") drills that will drill 5.5-inch (140 mm) diameter holes on 9 m high benches. Drilling productivities have been calculated using an instantaneous drill penetration rate of 35 m/h. Table 16-8 presents the drill and blast parameters.

Table 16-8 - Drill and Blast Parameters

Parameter	Unit	Value
Bench Height	m	9
Blasthole Diameter	mm	114
Burden & Spacing	m	4.2
Sub drilling	m	1.2
Stemming	m	2.1
Explosives Density	g/cm^3	1.20
Powder Factor	kg/t	0.32

Blasting will be carried out using emulsion and pre-split drilling and blasting will be done on the final pit walls. A total of four production drills are required during peak production.

Explosives products and accessories will be delivered to site by an explosive's supplier and stored in the appropriate facilities which will respect the minimum distance requirements specified by Natural Resources Canada Explosives Regulatory Division. A mobile manufacturing unit ("MMU"), operated and maintained by the explosive's supplier, with a 12,500 kg capacity will deliver the emulsion from the transfer site to the blast patterns.

The work crew will consist of two blasters and two blaster helpers, working on a 2-crew system, day shift only.

There will be roughly two blasts per week which will generate between 50,000 to 100,000 tonnes of rock. The quantity of explosives averages approximately 2,500,000 kg per year.

16.9.3. Loading

Loading will be done on 9 m benches (3 m flitches) using diesel-powered hydraulic backhoe excavators equipped with 5.2 m^3 buckets. During peak production, the fleet will include two excavators. A wheel loader has also been included in the fleet to assist the excavators and for reclaiming the emergency mineralized material stockpile.

16.9.4. Hauling

Hauling will be done with 60-tonne rigid frame haul trucks. A haulage network was established in MPSO that considers the hauls for each mining cut to each potential dumping destination. Using rimpull curves provided by the truck manufacturers, MPSO calculated the travel times for each haul. The travel times were then added to the fixed haulage cycle times to arrive at the total cycle times. A total of four trucks are required in Year 1, ramping up to seven by Year 9, and reaching a peak of 12 in Year 18.

16.9.5. Auxiliary equipment

A fleet of support equipment has been included for haul road maintenance, drill pad preparation, and cleaning around the loading face. The fleet of support equipment includes dozers, graders, a water/sand truck, and a utility excavator.

A fleet of service equipment such as fuel and lube trucks, lowboys to transport the tracked equipment, a personnel bus, maintenance vehicles, and pick-up trucks is also included.

16.10. Mine Dewatering

To manage water that collects in the open pit, sumps will be developed on the pit floor as mining progresses, and a series of pumps will be used to pump the water to settling ponds located at surface. BBA has assumed that in general, a total five pumps should be adequate to serve the needs of the open pit. The PEA considers diesel-powered pumps, and electrification should be considered for the next phase of study.

16.11. Tailings Storage Facility Construction and Operation

The filtered tailings from the concentrator will be disposed at the TSF and managed with waste rock. Filtered tailings will be trucked and compacted in layers to assure physical stability criteria. The placement strategy will be determined during subsequent phases of engineering and will enhance closure performance and tailings and waste rock management according to industry standards.

The mine road graders and water/sand trucks will be used to maintain the roads related to the TSF. The TSF and MRS construction activities will follow the same seven days per week schedule as the mine operations. Table 16-9 presents the equipment fleet for the TSF and MRS.

Table 16-9 - Mine equipment fleet (TSF and MRS)

Equipment	Model	Description	Units
Haul Truck	HD 605	Payload – 60 tonnes	2
Wheel Loader	Komatsu WA600	Net Power – 395 kW	1
Track Dozer	Komatsu D155AX	Net Power – 264 kW	1
Hydraulic Excavator	CAT 395	Operating Weight – 94,000 kg	1

16.12. Mine Workforce

The mine workforce requirements have been calculated to reach 193 during peak production. The mine operations team will work on a 4-crew system, to provide 24 hours per day year-round coverage. The mine management and technical team will work on a 2-week in, 2-week out rotation.

17. Recovery Methods

Two principal changes were made to the Uatnan Project since the 2018 NI 43-101 Technical Report Feasibility Study Update. The first is a significant increase in concentrate production from 51 ktpa to 500 ktpa. The second is shifting the target market for the concentrate to the lithium-ion battery market exclusively, meaning preservation of maximum graphite flake size is no longer a consideration.

Using the metallurgical testwork results presented in Chapter 13, a simplified flowsheet was proposed, and the process was designed for an average throughput of 3,400 ktpa of mill feed and a production of approximately 500 ktpa of graphite concentrate.

In this section, the methodology of the proposed flowsheet for graphite recovery from the Uatnan Project is described in detail. Additionally, utility requirements, plant services and descriptions of the concentration plant are presented in this section.

17.1. Process Design Basis

The general parameters for the concentration plant design established for the Uatnan Project are presented in Table 17-1. Equipment sizing was based on these parameters.

Table 17-1 - General process design criteria

Parameter	Units	Value
General Design Criteria		
Operating days per year	d	365
Operating hours per day	h	24
Concentrate Production	tpy	500,000
Mill feed	tpy	3,400,000
Process facility service life	y	25
Plant utilization	%	90
ROM Mineralized Material Characteristics		
Grade		
▪ Total carbon (average)	% C	17.5
Specific gravity		2.9

Parameter	Units	Value
Final Concentrate		
Mass recovery to concentrate	%	15.4
Overall concentrate grade	% C	94.2
▪ +80 mesh total	% C	96.8
▪ -80 mesh total	% C	93.0
▪ Tailings	% C	3.1
Carbon recovery	%	85

17.2. Process Flowsheet

17.2.1. Process Description

The run of mine ("ROM") will be trucked from the mine to the crushing area where it will undergo a first-size reduction using a mineral sizer. The crushed material is stockpiled before being conveyed to the concentrator where the size is further reduced via primary grinding in a semi-autogenous ("SAG") mill and secondary grinding in a ball mill. Following comminution, the mineralized material is concentrated through rougher and scavenger flotation. The concentrates generated from rougher and scavenger flotation are polished and cleaned in two stages before reporting to the concentrate thickener. The thickened concentrated is pressure filtered and dried to produce a final graphite concentrate that is stored in a bulk silo and transported offsite. Any sulphur dioxide generated from the drying of the graphite concentrate will be captured in a wet scrubber where it will be neutralized with caustic soda. The flotation tailings are thickened in a tailings thickener before being pressure-filtered and subsequently trucked to the Tailings Storage Facility ("TSF") for deposition. Overflow water from the concentrate, tailings and process water thickeners reports to a process water tank.

17.2.2. Simplified Process Flow Diagram

The simplified process flow diagram for the process plant is illustrated in Figure 17-1.

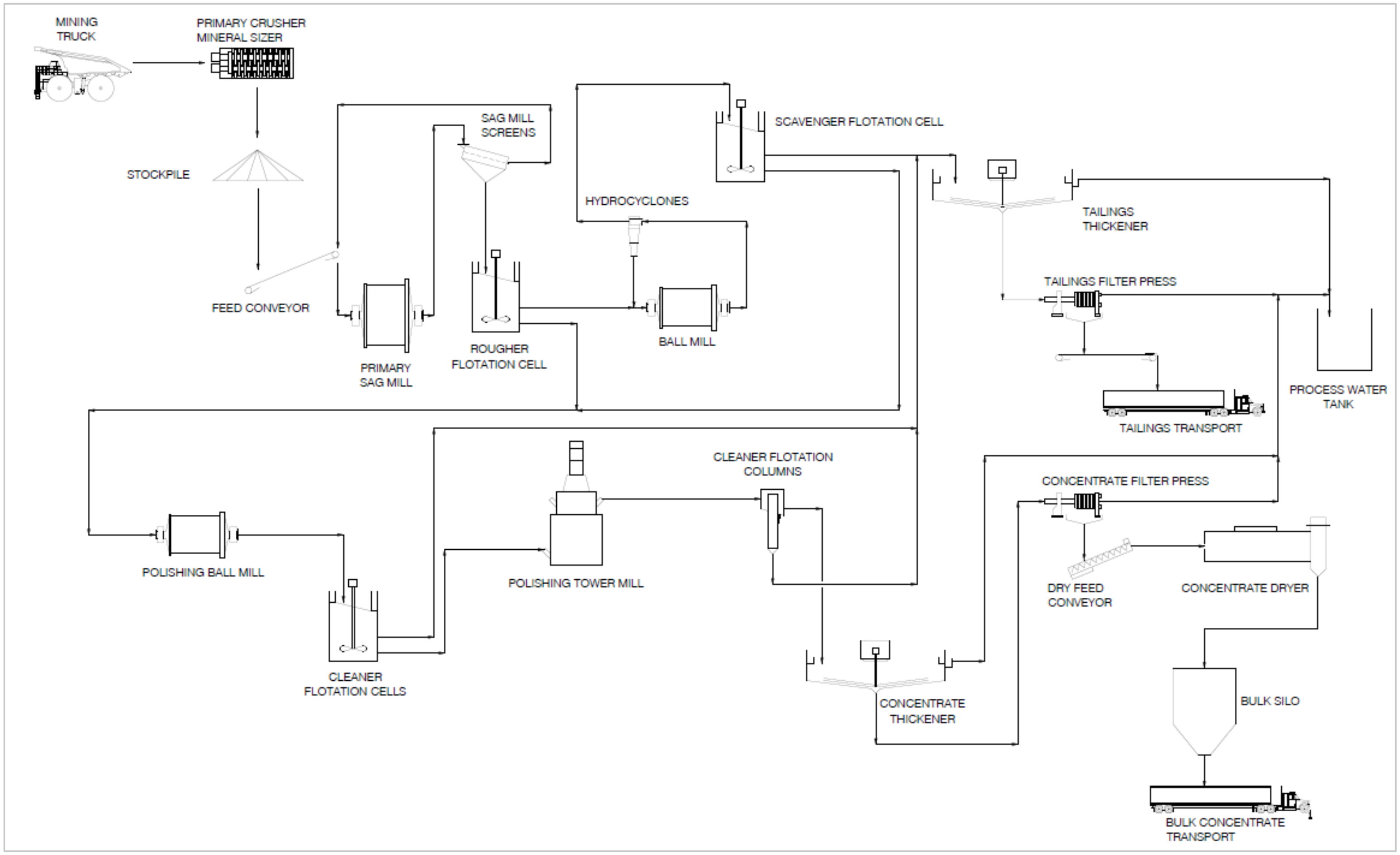


Figure 17-1 - Simplified process flow diagram

Crushing Area

The crushing area consists of:

- A ROM stockpile with a capacity of roughly 9,750 t;
- A mineral sizer with an apron feeder;
- A crushed mill feed stockpile with a live capacity of 12 hours.

The mill feed will be transported from the mine to the ROM pad and placed on an apron feeder which delivers material to the crusher. The crushed material will be stockpiled and fed to the grinding circuit. The daily throughput was set at 9,750 tpd.

Primary Grinding, Secondary Grinding and Flotation

The primary grinding, secondary grinding and flotation areas consist of:

- A primary grinding semi-autogenous ("SAG") mill;
- A SAG mill discharge scalping screen;
- A bank of rougher flotation cells;
- A secondary grinding ball mill;
- Ball mill classification cyclones;
- A bank of scavenger flotation cells.

The crushed mineralized material is transported via conveyor to the semi-autogenous ("SAG") mill. The SAG mill discharges on to a scalping screen. The screen oversize is returned to the SAG mill for regrinding. The undersize from the screen is fed to a bank of rougher flotation cells.

The concentrates from the rougher flotation cells are sent to the first polishing circuit. The rougher tails are sent to ball mill in the secondary grinding circuit.

The ball mill discharges to a cyclone cluster for classification. The cyclone underflow (U/F) is returned to the ball mill. The cyclone overflow (O/F) is sent to a bank of scavenger flotation cells.

The concentrates from the scavenger flotation cells are sent to the first polishing mill circuit. The scavenger tails are sent to the tailings thickener.

Polishing and Cleaning Flotation

The polishing and cleaning flotation areas consist of:

- A polishing ball mill;
- A bank of cleaner flotation cells;
- A vertical polishing mill;
- Cleaner flotation columns;

The rougher and scavenger concentrates are combined and sent through two polishing and cleaning flotation stages in series. The final concentrate produced from these stages is sent to the concentrate thickener. The tails from the cleaning stages are sent to the tailings thickener. Water collected from the dewatering stages ahead of the polishing mills is sent to the process water tank via a process water thickener. Any solids recovered to the thickener U/F are returned to the second polishing-cleaning stage.

Concentrate Filtration, Drying and Storing

The concentrate filtration, drying and storage areas consist of:

- A concentrate thickener;
- A concentrate filter;
- A concentrate dryer;
- A wet scrubber;
- A bulk concentrate silo.

The underflow of the concentrate thickener is sent to the concentrate filter feed tank prior to reaching the concentrate filter. The concentrate slurry pumped to the filter press is dewatered, forming a solid cake that then reports to the dryer to remove all residual moisture. The dried concentrate is stored in a bulk concentrate silo. The bulk concentrate silo has a 48-hour storage capacity. From here, the concentrate is loaded into transport trucks to be taken off-site.

The dryer gas may contain both solid elemental sulphur and sulphur dioxide gas. The solid sulphur particles will be captured in the solution of a wet scrubber. The scrubber water will be filtered, and the recovered solid cake will be disposed of. The sulphur dioxide gas will be neutralized in a packed-bed scrubber with caustic soda.

Tailings

The tailings generated from the scavenger flotation and cleaning stages are pumped to the tailings filtration plant located adjacent to the TSF. Here, they are recovered in thickened form from the underflow of the tailings thickener. The decanted water from the tailings thickener overflow is sent to the process water tank.

Pressure filters are used to further dewater the thickened tailings to produce a final tailings cake. The tailings are trucked to the TSF where they will be deposited and managed with mine waste in a placement method to enhance closure performance. The filtrate and cloth wash water recovered from the pressure filters are sent back to the tailings thickener.

17.3. General Plant Utilities and Services

A brief outline of reagents, water, air, fire protection, power, process instrumentation and process control used in the plant is found below.

17.3.1. Reagents Storage and Handling

A summary of the reagents used in the process flowsheet is provided in Table 17-2

Table 17-2 - Reagents used in the process plant

Reagent	Function
Collector	A chemical to render the desired mineral hydrophobic, allowing it to float.
Frother	A chemical used to strengthen the surface tension of the air bubbles in flotation to aid in carrying desired particles to the surface.
Dispersant	A chemical used to improve the rejection of unwanted particles from being floated.
Flocculant	Used to accelerate settling of solids in thickeners.
Hydrated lime	Added to neutralize the plant feed to protect the equipment from the acidic nature of the mineralized material.
Caustic	Used in wet scrubber to capture any SO_2 generated from drying the concentrate.

17.3.2. Water Management System

Process Water

The majority of the process water comes from recycling overflow water originating from the concentrate, tailings and process water thickeners. Process water is used for grinding, flotation, screening as well as for reagent preparation. A detailed water balance was not prepared for the PEA. However, it is expected that the concentrator balance will be negative and that make-up water from a nearby lake, well and/or treated site-runoff water will be required.

Potable Water

Potable water is used for safety showers, eyewash stations, fire suppression and for human consumption.

17.3.3. Power Requirements

The total installed power estimated for the concentrator is 36 MW. This load includes all electrical power for crushing/grinding/flotation areas as well as the concentrate dewatering/drying and tailings dewatering circuits. An emergency generator will be in place to provide power to critical equipment in case of power failure.

18. Project Infrastructure

18.1. Overall Site Description

The mine site will host the following major infrastructure:

- Processing facilities including a ROM pad and crusher, a covered stockpile, a wet concentrator and a dry building;
- A tailings filtration plant;
- A tailings storage facility ("TSF") and a mine rock stockpile ("MRS") for tailings and waste rock management and placement in the same area;
- A mine garage to perform light maintenance work on the mobile equipment, like oil changes and minor repairs;
- A water treatment plant and runoff retention pond to manage the site contact water;
- A diesel tank with an associated pump to fuel the mobile equipment;
- A permanent camp with space to house 360 FIFO workers.

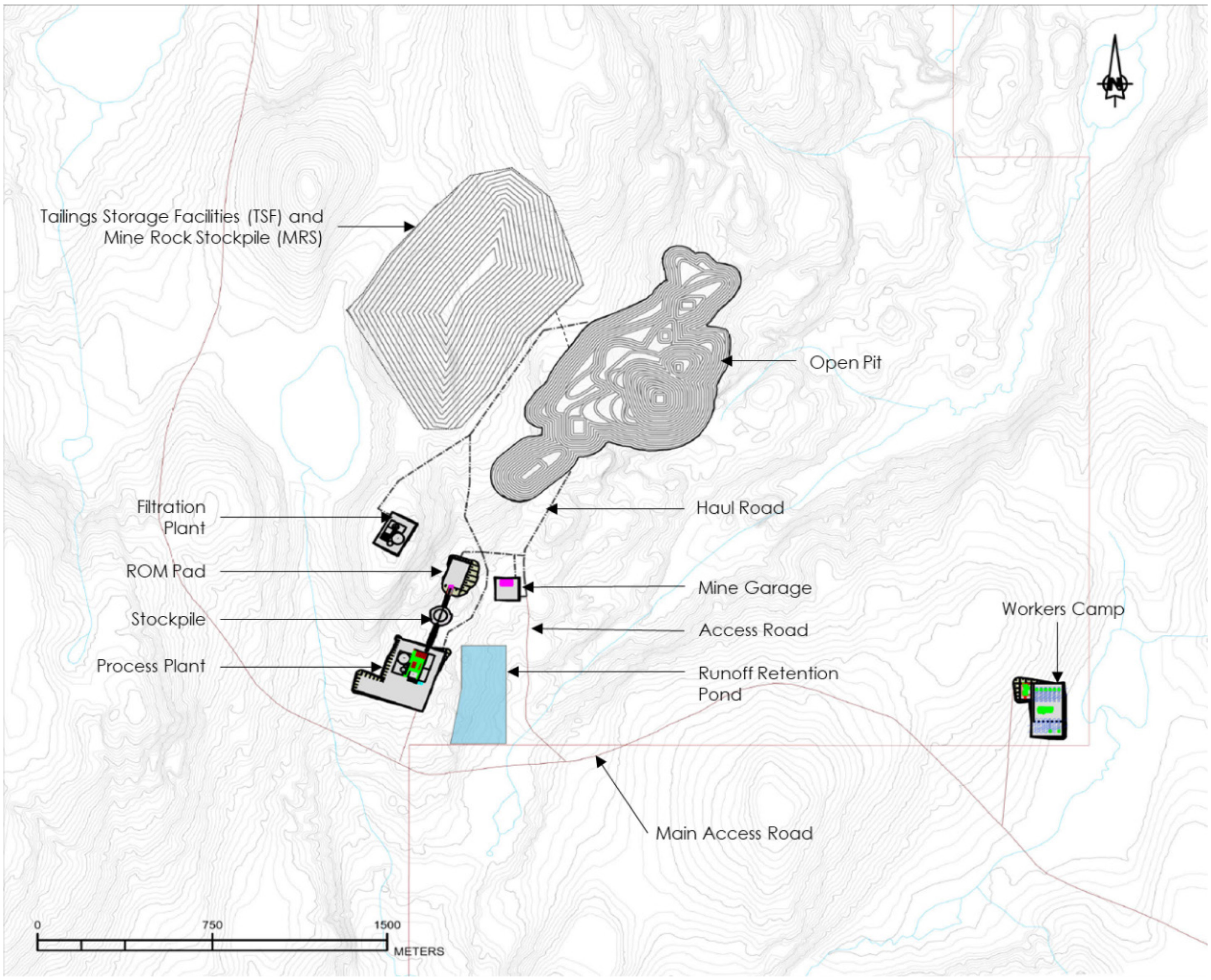


Figure 18-1 - General site layout and potential location of the TSF and MRS

18.2. Power Line, Substations and Electrical Distribution

The 315 kV Manic-5 hydropower station is the closest Hydro-Québec facility to the proposed plant site and is the only one within a 100 km radius with sufficient capacity to supply the Uatnan Project. Two options were considered to bring a permanent power supply to the site:

(1) A 70 km, 315 kV overhead line from Manic 5 to site;

(2) A 70 km, 161 kV overhead line from Manic 5 to site.

Both options are valid to supply up to a maximum of 70 MVA. The preliminary estimate for the site was 50 MW. For the PEA, Option 2 was selected, and a cost estimate was developed based on a design that includes a new 315/161 kV substation at Manic 5, a single-circuit 70 km overhead line from Manic 5 to the Uatnan site, and a 161/25 kV substation and all required power distribution requirements at the mine site. It is important to note that the selected option was not reviewed by Hydro-Québec and that the feasibility of the proposed arrangement needs to be verified and approved, including but not limited to the extension of the 315 kV at Manic 5, the necessary environmental impact studies and, the detailed line routing and land acquisition requirements.

A single line diagram illustrating Option 2 is presented in Figure 18-2.

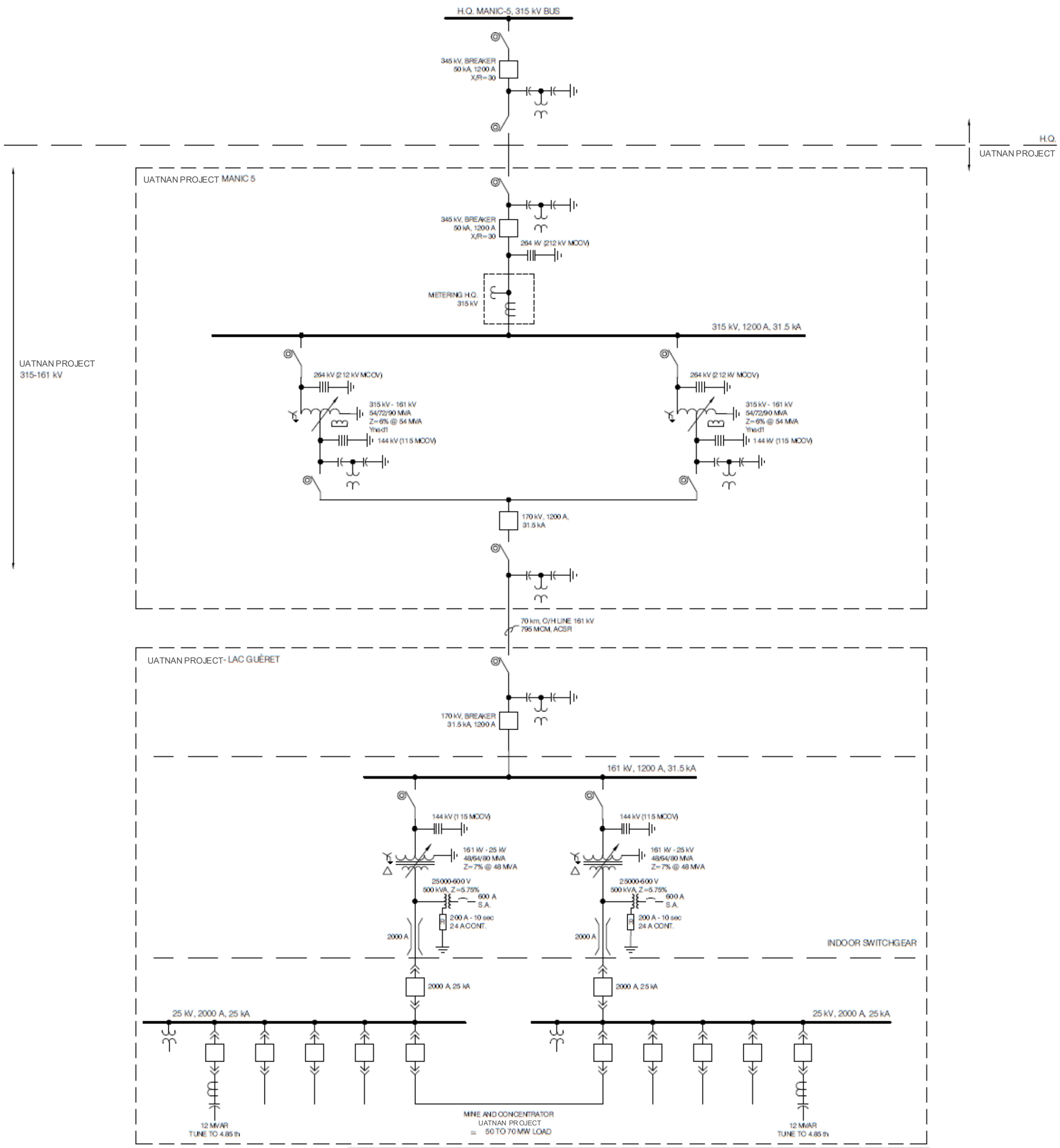


Figure 18-2 - Single-line diagram for proposed site power distribution

18.2.1. Future Provision for Full Electrification of Operations

As mentioned in Chapter 16, the current study was performed using conventional fuel-driven equipment, however, the intention is to migrate from diesel to electrical power once the technology is commercially available. Provisions have been made for the transition to a full electrification of operations.

18.3. Main Access Road and Service Roads

18.3.1. Main Access Road

Access to the Uatnan Project site is via the paved all-weather Highway 389 from Baie-Comeau up to km 202, then via Class 1 forestry roads R0924 and then R0928, heading north-northwest for 85 km to the mining site. On-site roads to access the mining site either from camp or forest road #R0928 already exist and will be upgraded for industrial activities. Provisions have been made to improve the forest road such that they will be capable of withstanding heavy traffic for regular transportation of employees to and from site, concentrate hauling to Baie-Comeau and for deliveries of industrial equipment and consumables (parts, reagents, etc.).

18.3.2. Mine Haul Road and Service Roads

A mine haul road will connect the mine to the Tailings Storage Facility, the primary crusher and the mine garage. The haul road has been designed for 60-t haul trucks. The haul road will be 25 m wide.

Service roads cover access from the main gate entrance at the end of the main access road to the industrial area process facilities and connect to the various mining facilities including the mining pit, the crusher, the tailings storage facility, and to the water management facilities.

18.4. Surface Water Management

18.4.1. Design Criteria

All contact water will be collected and either recycled to the plant or treated before being released to the environment. Every area in contact with ore, waste rocks or tailings will be surrounded by ditches and contact water will be collected into a collecting basin. The water basin is designed to contain runoff water resulting from an Environmental Design Flood ("EDF") according to D019 criteria for tailings PGA. The capacity was established based on the larger active area. A total retention capacity of 400,000 m^3 was estimated. A water treatment plant ("WTP") will be installed and ready to process the water before discharging the effluent into the environment.

18.4.2. Water Treatment Plant

As a general rule, water will be recycled and reused as much as possible in the process flowsheet. Excess water will have to be returned to the environment (effluent). To ensure that the effluent meets the governmental quality criteria, a water treatment plant ("WTP") will be built on site and will be operated during operations and after closure until the effluent naturally meets the quality requirements. The nameplate capacity of the WTP will be 550 m^3 per hour.

The WTP will perform the following functions, as needed by the water characteristics:

- Suspended matter treatment (with flocculation if needed);
- Adjustment of the pH;
- Precipitation of any dissolved metals;
- Filtration of the precipitated metals.

18.5. Site Buildings

18.5.1. Crusher Tower

The crusher tower is located approximately 500 m from the mine. The location was chosen to minimize blasting. It is aligned with the conveyors and the crushed mill feed stockpile. The Run of Mine ("ROM") pad is sized to receive 24 hours of blasted mineralized material. The mineralized material is dumped by 60-tonne mining trucks onto a grizzly screen that leads to a bin. The material exiting the bin falls on an apron which in turn, feeds the mineral sizer. The discharge of the mineral sizer goes on the 130 m-long crushed mineralized material belt conveyor. The fines particles passing through the apron feeder are collected by the fine particles chute and fed to the discharge conveyor.

The conveyor discharges the crushed mineralized material onto a stockpile that provides for 12 hours of live feed. A lightly heated dome-type shelter, 65 m in diameter and 25 m high, covers the stockpile. Three apron feeders feed the SAG mill belt conveyor which heads towards the wet area of the concentrator.

18.5.2. Concentrator

Wet Area

The wet process area will house the grinding (SAG, ball mill and polishing mills), cyclones, flotation tank cells and columns as well as the concentrate filtration equipment.

A process water thickener and process water tank are outside next to the concentrator.

Tailings will be pumped to the filtration plant via an 800 m long pipeline (200 mm in diameter, rubber lined and constructed using carbon steel). The pipeline is in a ditch with membrane to collect any leaks which would be redirected to the water treatment plant.

Drying Area

Although the equipment in the drying area will be designed to be dust tight, thus preventing the emission of graphite dust in the air, physical separations between the sectors will prevent transmission of dust in case of a containment failure. The drying area will be adjacent to the wet area.

The drying area contains the electrically heated concentrate dryer and a caustic wet scrubber to capture any SO_2 emissions.

Concentrate Shipping Area

The concentrate shipping area is adjacent to the drying area. The concentrate dryer discharges into a bin. The dried concentrate is pneumatically conveyed to the top of four silos. Two silos form a loading station allowing two trucks to be loaded simultaneously. Having two silos per loading station also allows for maintenance work to be carried out without interrupting operations. Each silo has a volume of 500 m^3 for a total of 2,000 m^3 which represents 48 hours of concentrate production.

The dry concentrate will be loaded into 75-tonne haul trucks for transport to Baie-Comeau. Based on the haulage distance respecting transportation during day shift only, it was estimated that 25 trucks would be required. This fleet includes spares in reserve when maintenance is required.

Offices

The process plant will include 60 offices for management, administrative staff and employees with supervisory roles.

18.5.3. Tailings Filtration

The tailings from the concentrator will be pumped via pipeline to a tailings thickener located at the filtration plant adjacent to the TSF. The thickened underflow is filtered in one of three filter presses. The filtered solid tailings material, containing 15-20% moisture, is dumped on one of the three 30 m long belt conveyors which then feed a single 50 m long conveyor feeding a filtered tailings stockpile. A dome-type structure, (35 m W x 60m L x 20m H) will cover the pile. The pile can reach up to 3,600 m³ which represents a 24-hour accumulation of tailings. Then, the filtered tailings will be trucked to the tailings storage facility.

18.5.4. Mine Garage

The mine garage and heavy equipment parking are separated from other facilities to limit interactions between equipment and personnel. The garage will be able to accommodate two 60-tonne trucks at the same time.

18.6. Camp Site Accommodations

The mining camp will be located on the western shore of Lac des Torchons. The area is flat, deforested and located close to the main road accessing the mine facilities. The camp and the auxiliary building will cover approximately 250 m x 135 m (3.4 ha). The distance between the camp site and the mine is approximately 2 km.

The camp site will comprise the following installations:

- Twelve buildings with 30 rooms each, providing space for a total of 360 employees;
- One building with one kitchen, one dining room, one recreational room, one infirmary room;
- One electrical room;
- One main parking area;
- One domestic wastewater treatment station.

Other locations options may be available around the mine site and will be defined in the next phases.

18.7. Site Services

18.7.1. Potable Water and Sanitary Water

Water will be supplied from a water well or nearby lake and domestic wastewater will be treated by a septic tank linked to an infiltration field.

18.7.2. Fuel Storage

The fuel required for the process mobile equipment, the mine equipment and concentrate transport trucks will be stored in an exterior contained tank located at the mine garage site.

18.7.3. Telecommunication and Industrial IT

The telecommunication and industrial IT infrastructure part of this study is aligned with the design of a modern mine with all the services required for an Industry 4.0 style operation, such as short-interval control, predictive maintenance, VOD, on-site teleoperation, and a local integrated operation centre.

The equipment, accessories, and installation services to supply the following systems/services throughout the site facilities have been considered in the study estimate, including redundant fibre-optic backbone, a Private 4G/5G LTE system covering the mine site, redundant satellite WAN links, wired and wireless networking, physical security system (video surveillance and access control), accommodation camp TV, cybersecurity systems, high performance hyperconverged servers, office/operation workstations, laptops and tablets, as well as PoC (PTT-over-Cellular, and Wi-Fi) as a more modern type of two-way radio using rugged smartphones.

18.8. Tailings Storage Facility

The filtered tailings will be trucked to a tailings storage facility where they will be deposited along with the mine waste rock. Given that the tailings are potentially acid generating ("PAG"), the design of the TSF includes a membrane lining under the entire surface area and the next phases of engineering will select a strategy for tailings, overburden and mine rocks placement that will enhance operational and closure performance.

The TSF and MRS pile is designed for a total storage capacity of approximately 43 Mm^3. The pile was sized to accommodate approximately 23 Mm^3 of waste and 20 Mm^3 of tailings. Trade-Off technologies review and studies for tailings and waste rocks management with a detailed deposition plan will be defined during the next phase of the Project.

Table 18-1 presents the tailings storage capacity by type of material:

Table 18-1 - Tailings storage facility capacity

Item	Unit	Volume
Waste Rock	Mm^3	23.6
Tailings	Mm^3	19.8
Total TSF and MRS Capacity	**Mm^3**	**43.4**

19. Market Studies and Contracts

This section is based on information provided to NMG by Benchmark Mineral Intelligence (Benchmark Minerals). Benchmark Minerals is an independent credible source which compiles international graphite prices and other commercial information for various commercial size fractions and concentrate purities.

19.1. Introduction

Graphite is a form of carbon which occurs naturally in metamorphic rocks such as marble, schist, and gneiss, or is obtained synthetically by the calcination of various carbon sources such as petroleum coke.

Graphite has unique chemical, electrical, mechanical and thermal properties that make it ideal for use in many applications, from pencil lids and refractory bricks to battery anode material.

Graphite is commercially available in four types, depending on the source, particle size and crystallinity:

- Natural Amorphous [60-85% Cg]: Less than 200 mesh in size, low crystallinity;
- Natural Flake [> 75% Cg]: From jumbo flakes (+ 50 mesh) to fine flake (- 150 mesh), high crystallinity;
- Synthetic Flake [> 99.55% Cg]: Fine particle size (- 150 mesh), very high crystallinity;
- Vein [> 95% Cg]: found in lumps that can be worked into shapes, high crystallinity.

The Uatnan Project contains natural flake graphite.

19.2. Natural Graphite Markets

The principal use for natural graphite is in the production of Li-ion batteries. The demand for various applications is illustrated in Figure 19-1.

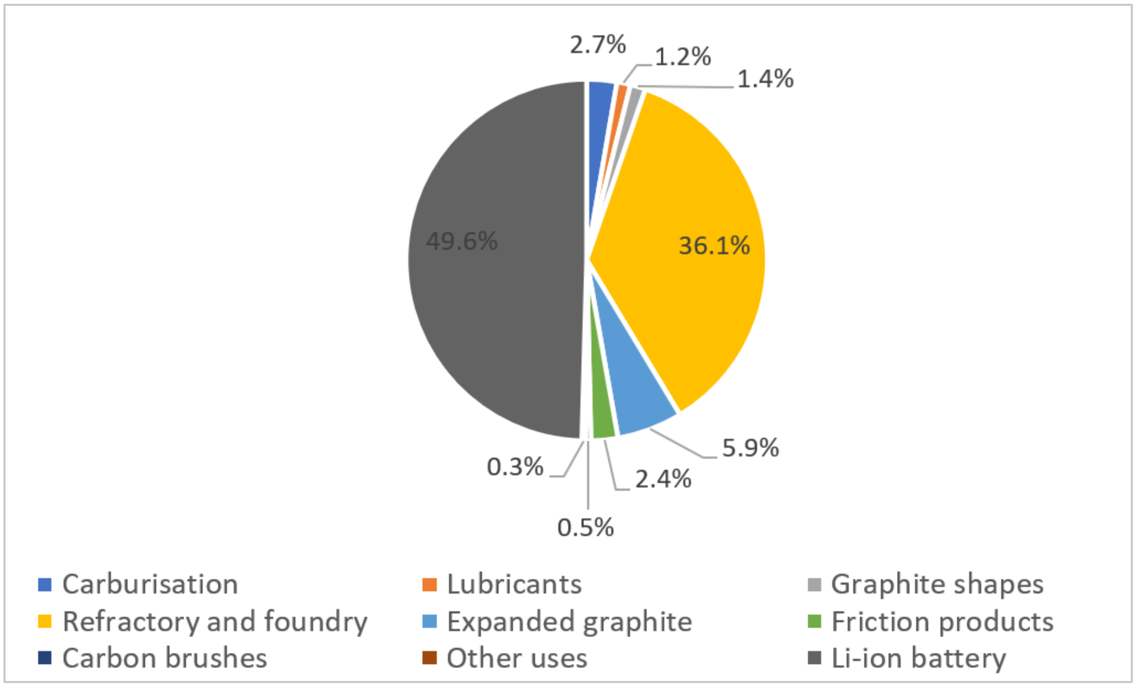
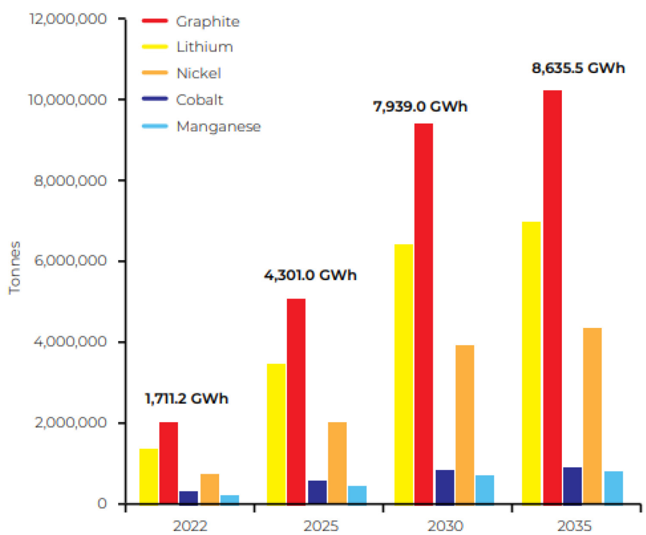


Figure 19-1 - Natural graphite demand per application
(Source: Benchmark Minerals, 2021 Q4 report)

19.2.1. Lithium-Ion (Li-Ion) Batteries

With existing technology, graphite is the most suitable material for anodes of Li-ion batteries, and this type of battery is steadily replacing all other types of small rechargeable batteries. The demand for graphite to satisfy the global lithium-ion cell/Gigafactory capacity is projected to increase to more than 10.36 million tonnes by 2035 (Source: BMI - Gigafactory Assessment - January 2023).

Raw material demand vs global lithium ion cell/Gigafactory capacity



MATERIAL	2022	2025	2030	2035
LITHIUM	1,400,000	3,518,000	6,511,000	7,087,000
GRAPHITE ANODE	2,053,000	5,161,000	9,527,000	10,363,000
COBALT	334,000	594,000	875,000	940,000
NICKEL	775,000	2,052,000	3,998,000	4,407,000
MANGANESE	245,000	487,000	758,000	839,000
TOTAL GWh	1,711.2	4,301.0	7,939.5	8,635.5

The data in this chart does not constitute a forecast, and assumes 100% utilisation rates
Benchmark's forecast numbers are available via a separate subscription, please contact info@benchmarkminerals.com for further information

Source: Benchmark Mineral Intelligence

Figure 19-2 - Raw material demand

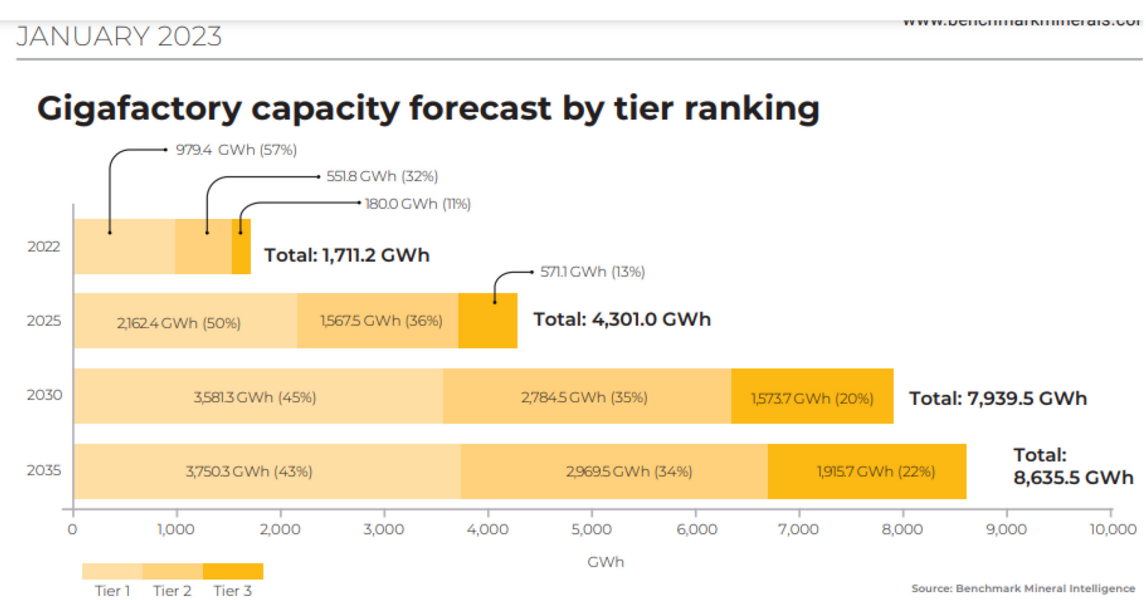


Figure 19-3 - Natural graphite expected supply 2015-2030

The development of e-mobility is the primary factor generating demand growth for this type of material. This is made evident through an expected 8.6 GWh in the lithium-ion battery production capacity pipeline as illustrated in Figure 19-3 (Source: BMI - Gigafactory Assessment - January 2023). The supply of natural graphite is expected to fall into deficit in 2023, with continued steep decline in the following years as illustrated in Figure 19-4 (Source: BMI – Flake Graphite Forecast – Q4 2022).

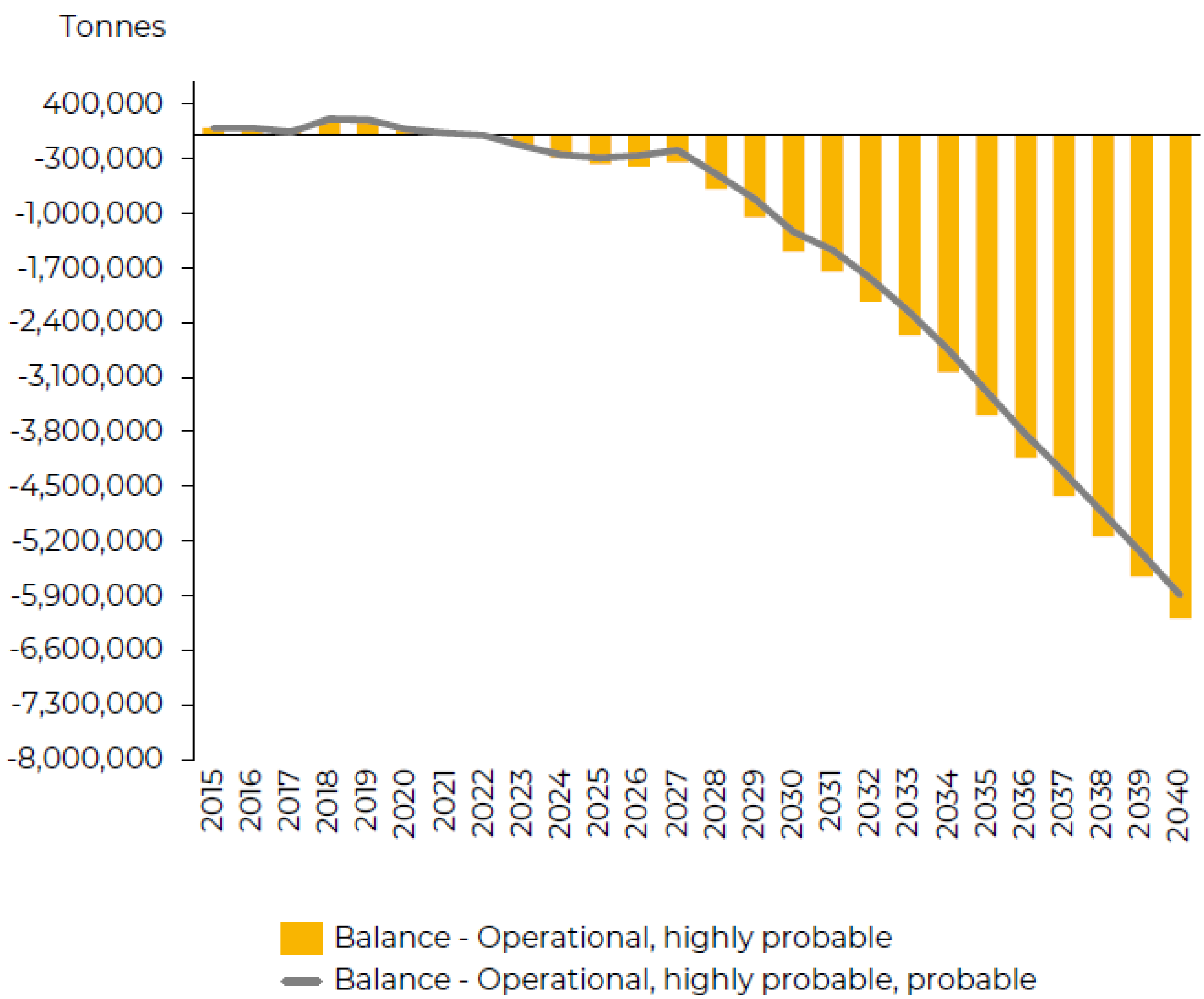


Figure 19-4 - Natural graphite expected supply 2015-2040

19.3. Producers and Political Environment

China is the largest producer of natural graphite, followed by Brazil, Mozambique and Madagascar.

Recent geopolitical events such as disputes between the United States and China and the Russian-Ukrainian conflict have made battery makers and EV producers realize the importance of securing supply of critical materials locally to de-risk their supply chain. In addition, the latest ESG trends and regulations have been steering the European and North American battery / EV manufacturers to source from local suppliers which offers more sustainable practices (i.e., low CO_2 footprint).

The recent announcement of the Inflation Reduction Act in the US has resulted in increased interest in the NMG projects.

19.4. Price Forecast

The selling price for the Uatnan Project concentrate was determined based on the estimated grade and particle size distribution of the final product (see Table 19-1) and on the price forecasts made by Benchmark Minerals. It also considers other factors such as low geopolitical risks, net zero carbon footprint, no US import tariffs, etc.

Table 19-1 - Uatnan concentrate size and grade distribution

Concentrate Fraction	Mass Fraction (%)	Grade (%C)
Coarse fraction (+80 mesh)	32	96.8
Fines fraction (-100 mesh)	68	93.0
Blended concentrate	100	94.2

Table 19-2 - Graphite flake selling price in USD (Benchmark Forecast, 97-98%C))

Concentrate size	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Upper value (USD)												
+50 mesh	2,429	2,333	2,248	2,198	2,098	2,013	1,922	1,928	1,947	2,009	2,009	2,009
+80 mesh	2,018	1,952	1,998	2,048	1,946	1,803	1,750	1,709	1,710	1,665	1,665	1,665
+100 mesh	1,753	1,724	1,741	1,802	1,726	1,718	1,664	1,636	1,591	1,576	1,576	1,576
-100 mesh	1,408	1,496	1,525	1,543	1,533	1,550	1,536	1,549	1,517	1,508	1,508	1,508
-150 mesh	1,395	1,476	1,498	1,509	1,491	1,501	1,478	1,483	1,443	1,426	1,419	1,411
Lower value (USD)												
+50 mesh	2,089	1,976	1,877	1,809	1,705	1,608	1,509	1,487	1,476	1,509	1,509	1,509
+80 mesh	1,748	1,663	1,673	1,688	1,584	1,443	137	1,322	1,300	1,256	1,256	1,256
+100 mesh	1,528	1,476	1,464	1,490	1,408	1,377	1,311	1,267	1,212	1,190	1,190	1,190
-100 mesh	1,242	1,289	1,288	1,281	1,254	1,245	1,212	1,201	1,157	1,141	1,141	1,141
-150 mesh	1,231	1,272	1,266	1,254	1,221	1,207	1,168	1,152	1,102	1,080	1,075	1,069

Based on the Benchmark forecasts and considering the 94% Cg of the blended Uatnan concentrate, two selling prices were considered:

- Conservative price = USD1,100;
- Average price = USD1,450.

The conservative price of USD1,100 (DPU Baie-Comeau) was considered for the financial analysis presented in the PEA.

20. Environmental Studies, Permitting, and Social or Community Impact

20.1. Permitting Requirements

The following sections give an overview of the regulatory environment for the Project.

20.1.1. Provincial Environment Quality Act

The opening and operation of a graphite mine that has a production capacity of 500 t or more per day triggers the environmental impact assessment and review procedure under Section 31.1 of the Environment Quality Act ("EQA"). An Environmental Assessment has been filed in 2015 for an operation of 500 tpd (Hatch, 2015) and the former Lac Guéret Project obtained a decree in 2018 from the government. Although, the Uatnan Project will request a modification of the actual decree or a new one as per article 31.1 of the EQA, baseline studies (Hatch, 2015) will have to be updated based on the new study area to identify any environmental issues like protected areas, species at risk, waterbodies, fish habitats, biophysical environment etc. The results of those studies will have to be considered to identify project alternatives.

Furthermore, studies of the physical and biological environments must be carried out in priority to identify the sensitive elements of the receiving environment: major body of water, wetlands, ecological heritage, archeology, etc.

20.1.2. Provincial Mining Act

The Mining Act provides the framework for the mining lease, the closure plan, and the financial guarantee. The mining lease is required to extract mineralized material. To obtain the mining lease, a closure plan must be submitted to the Ministry of Energy, Natural Resources and Forest and approved.

20.1.3. Federal Legislation and Regulations

Under the Impact Assessment Act (IAA 2019), only projects designated by the Regulations Designating Physical Activities (DORS/2019-285) are subjected to the environmental assessment procedure. Thus, an environmental assessment under the IAA 2019 is required for the construction, operation, decommissioning and abandonment of one of the following (art.18):

(a) A new coal mine with a coal production capacity of 5,000 tpd or more;

(b) A new diamond mine with an ore production capacity of 5,000 tpd or more;

(c) A new metal mine, other than a rare earth element mine, placer mine or uranium mine, with an ore production capacity of 5,000 tpd or more;

(d) A new metal mill, other than a uranium mill, with an ore input capacity of 5,000 tpd or more;

(e) A new rare earth element mine with an ore production capacity of 2,500 tpd or more;

(f) A new stone quarry or sand or gravel pit with a production capacity of 3,500,000 tpd or more.

Thus, a graphite mine is not subjected to the Impact Assessment Act and then an Impact Assessment is not required under the federal process. Meanwhile, the mining effluent is not subjected to the Metal and Diamond Mining Effluent Regulations ("MDMER").

Other regulations apply to mining activities. For example, the Project should comply with the Fisheries Acts, Fisheries and Oceans Canada ("DFO") for any activities in water susceptible to result in serious harm to fish that are part of a commercial recreational or Aboriginal fishery, or to fish that support such a fishery, Migratory Birds Convention Act, the Explosives Act, the Species at Risk Act, etc.

20.1.4. Status of Permits

The Lac Guéret Project received a ministerial decree in 2018 from the Québec Government. From 2018 to 2020, Mason Graphite received some permits and leases which are presented in Table 20-1. Permits expired are not listed in the table.

Table 20-1 - Lists of permits for Baie-Comeau and Lac Guéret

Description	Authority	Issued
Ministerial Decree 608-2018	Québec Government	May 16, 2018
Closure Plan advanced exploration : *Plan de restauration approuvé pour exploration avancée– Baie-Comeau*	*Ressources naturelles et énergie*	November 7, 2018
Authorization : *Certificat d'autorisation 7610-09-01-0595903-401754899 Travaux de déboisement au site minier du lac Guéret*	MELCC Art. 22	Novembrer14, 2018
Authorization : *Certificat d'autorisation 7610-09-01-0611201-401812870 Aménagement d'une carrière au site du lac Guéret*	MELCC Art. 22	May 31, 2019
Authorization : *Autorisation ministérielle 7610-09-01-0596403-401814744 Travaux préparatoires sur le site du concentrateur – Phase 1*	MELCC Art. 22	June 6, 019
Authorization : *Autorisation ministérielle 7610-09-01-9690201-401816146 Équipements de traitement – Eau potable et eaux usées campement industriel – Lac Galette*	MELCC Art. 22	September 13, 2019
Authorization : *Autorisation ministérielle 7610-09-01-0593405-401905615 Construction de la réserve d'eau brute et de l'aire d'entreposage du minerai brut*	MELCC Art. 22	March 11, 2020
Authorization : *Autorisation ministérielle 7610-09-01-0593406-401907986 Traitement des eaux – site du concentrateur, Parc industriel Jean-Noël Tessier, Baie-Comeau*	MELCC Art. 22	March 25, 2020

20.2. Environmental and Social Studies

As mentioned, the Lac Guéret Project has been subjected to an Impact Assessment under the provincial regulations. An impact study was filed in 2015 (Hatch, 2015) and a feasibility study has also been filed in 2016 (Mason Graphite, 2016) and updated in 2018 (Mason Graphite, 2018).

The Uatnan Project will require a new decree , or a modification of the decree. The environmental assessment process needs to follow the following sequence:

- In the case of a new decree, a Project Notice needs to be filed to the MELCC to initiate the process ;
- An updated Environmental Impact Study needs to be carried-out;
- If applicable, public participation: the public has 30 days to review the documentation and officially asks for public hearings or mediation on the Project;
- Environmental analysis from ministries, recommendations, and government decision.

If a modification is required, the process may be shorter and will not include the submission of a project notice, although, an updated impact identification will have to be produced including updated baseline studies detailed in further sections.

After having a decree, licenses and authorizations from various governmental authorities such as the MELCC are required to build and operate the mine.

20.2.1. Biophysical Environment

Baseline studies were conducted from 2012 to 2018 to cover study areas defined for the previous project (Mason Graphite, 2018; Hatch, 2015). Some studies will have to be updated since they were performed more than 10 years ago and most of them will have to be completed to cover a larger project study area. The fact that the footprint of the Project will be larger than the one previously planned, involves the increase of the study area. The following aspects will have to be covered in detail in the updated study area:

- Site hydrology and surface water quality;
- Hydrogeology and ground water quality;
- Air quality and noise;
- Vegetation and wetlands;
- Fish and fish habitat;
- Terrestrial and avian wildlife;
- Endangered species and species at risk.

The previous work will be reviewed and additionally the field work will cover the missing information required to evaluate the impacts of the Project and for infrastructure trade-off validation and locations.

20.2.2. Social Environment

From the outset of the exploration stage, Mason Graphite developed a consultation plan and met with stakeholders on-site. The objectives of the consultation plan were to identify any concerns, expectations, and/or reactions from the affected communities, and reflect those in the Project development. Between 2012 and 2015, several meetings and public consultation activities took place with governmental, social, environmental, and local economic development actors and groups, along with the Innu First Nation of Pessamit, as the Project is located on Nitassinan Territory (Hatch, 2015).

In 2017, the Innu Council of Pessamit and Mason Graphite signed the Mushalakan agreement, an impact and benefit agreement that outlined the mutual desire to work closely together and ensure the Lac Guéret Project would result in benefits for both parties.

As it initiated studies for a new mining project leveraging the Lac Guéret deposit, NMG resumed engagement efforts and met with various stakeholders starting in October 2022. Through visits and series of meetings in the Baie-Comeau region and Pessamit Community, NMG gathered feedback from local organizations and leaders who were initially involved in the Lac Guéret Project, established a dialogue as the new forecasted operator of the Uatnan Project, and informed stakeholders of the next steps in the Project development.

Stakeholders Met	Interest or Concerns
City of Baie-Comeau (deputy mayor, councillors and civil servants)	▪ Economic opportunities ▪ Local benefits ▪ Job creation ▪ Territorial development ▪ Public consultation ▪ Transparency from NMG
Member of National Assembly	
Member of Parliament	
MRC of Manicouagan	
Members of the Lac Guéret monitoring committee	
Port of Baie-Comeau	
Société du port ferroviaire de Baie-Comeau	
Manicouagan Chamber of commerce	
Société d'expansion Baie-Comeau	
Innovation Développement Manicouagan	
Pessamit Band Council (chief and vice-chiefs)	▪ Environmental footprint and cumulative effects ▪ Inclusion of traditional and Indigenous knowledge ▪ Employment ▪ Training opportunities ▪ Impact and Benefit Agreement
MU Conseils (previously consulting for Mason Graphite)	▪ Community relations ▪ Sustainable development ▪ Public consultation and participation ▪ Environmental conservation

Participation and engagement at these meetings were positive with frank discussions. Several socio-economic actors expressed to NMG their disappointment towards the extended inactivity of the former Lac Guéret Project and recent lack of communications. Still, they were open to a new mining project in their community, which would lead to territorial development, new economic opportunities, and job creation.

In addition, the Innu Band Council of Pessamit expressed their interest to establish a collaboration with NMG and develop a new agreement that would reflect the Uatnan Project's characteristics.

Transparency and timely communications on the project development are expected. To that effect, NMG has appointed employees to further social efforts and act as points of contact for local groups.

20.3. Waste rock, Mineralized Material, Tailings, and Overburden Characterization

Several reports have been published by different consultants and for different purposes in recent years. Geochemical testing carried out on the Mason Graphite project tailings shows that the tailings and waste rock are potentially acid generating ("PAG"). The 2018 decree (Décret 607-2018) has some decree conditions asking additional characterizations of the waste rock and the tailings in laboratory conditions and, on site.

The available characterized material does not cover the entire actual footprint of the open pit but the one previously planned (Mason Graphite, 2018). An updated characterization will have to be undertaken to verify if, into the new pit layout, the waste rock is PAG and metal leaching. It is assumed here that the mineralized material and tailings should have similar characteristics as the 2018 project layout.

Ongoing and further geochemical characterization results will be included in the next engineering phase. The following additional information will be included to address the Project design refinements and confirm the tailings and waste rock management technologies:

1) Acid mine drainage and metals leaching: Several tests are underway as part of a major research project in partnership with Mason Graphite, Coalia, Rio Tinto and Lamont. An exhaustive characterization of the tailings from the pilot tests and waste rock from Mason's Lac Guéret Project was carried out including static and kinetic tests. The research project focuses on the acidogenic and leachable potential of tailings and waste rock in order to develop management methods to limit sulphide oxidation during the years of operation and at closure. Characterization included static tests (metal content, whole rock, XRD, ABA) and kinetic tests

(humidity cell tests and on-site columns). The results are compiled and analyzed and should be published in 2023.

A research project covering the tailings is done in collaboration with Rio Tinto and Mason graphite. Alkaline amendments are proposed to increase the neutralization potential of the tailings and then to increase the lag time before the onset of acid generation. Many laboratory tests were performed on the tailings and amendments and kinetic tests were also done. An important field test program was started during the summer of 2022. Results should be available in 2023.

From those results, engineering and technologies trade-off will have to be carried out to select appropriate tailings and waste rocks management methods that will limit sulphide oxidation during the years of operation and at closure.

2) Some results obtained within the framework of the research project demonstrated that the analysis of the chemical composition on samples of tailings and mineralized material gave concentrations of uranium and thorium higher than the average concentrations measured in the earth's crust (Taylor, 1964). Samples of mineralized material and tailings were therefore characterized in a preliminary manner by selecting a limited number of samples to determine the impact of those concentrations on the tailings and mineralized material (Lamont 2021). More information may be available on this topic and will be considered for the next steps. According to results, expertise could be required to identify appropriate management on site.

3) One issue that has been identified at the deposit is the ability of the tailings, mineralized material, and waste rock to undergo self-heating. This is due to the rapid oxidation of sulphide minerals, like pyrrhotite and pyrite, when fully exposed to air and moisture. In this case, the control of convection, such as by a fine-grained cover, can be important to limiting self-heating reactions in waste rock. This should be considered in tailings and waste rocks management technologies and monitored in the proposed test piles during the first years of operation.

4) Part of overburden is also potentially acidic. Especially when in contact with bedrock. More tests should be performed on the possibility to use the overburden as a neutral material for final reclamation.

20.4. Mine Closure

A closure plan will have to be filed and approved by the Ministry of Natural Resources to get the mining lease. As the development of the Project advance, the closure activities will need to be described. A financial guarantee for 100% of the closure costs, including contingencies will have to be included in the activities.

For the closure plan, it is propossed to study the opportunity to backfill the open pit with waste rock as much as possible, as well as evaluate the possibility of tailings backfill. A minimum pile should be built on the site and progressive reclamation prioritized. It is also encouraged that technologies trade-off studies for tailings and waste rock management will promote placement in the mine rock stockpile ("MRS") and TSF to enhance closure performance.

20.5. Environmental Initiatives and GHD Emissions

The Uatnan Project will be developed based on a transition of electric mining operation. The issuers are designing a mine of the future, targeted to be electric, complemented by clean advanced beneficiation facilities maximizing energy efficiency to provide battery and EV manufacturers with responsibly extracted, environmentally transformed, and locally sourced green anode material.

Through design and operation choices, significant objectives of the Uatnan Project are to minimize tree clearing, develop forest products from harvesting, optimize mining infrastructure through progressively backfill the proposed open pit, progressively rehabilitate the site by vegetating the stockpile, compensate for the loss of (and even improve where possible) wetlands, electrify the mining fleet and concentrator operations and attain carbon neutrality for future operations.

21. Capital and Operating Costs

The Uatnan Project is a greenfield mining and processing facility with average yearly mill feed throughput capacity of 3,400,000 t and a target production of approximately 500,000 tpy of graphite concentrate.

The process flowsheet was developed using the same metallurgical basis used for Mason's updated Feasibility Study issued on December 11, 2018. The main difference between the two flowsheets, apart from the increased plant capacity, is the intended end use of the material. Given that 100% of the graphite concentrate produced from the Uatnan Project is destined for the battery market, preserving the flakes is no longer considered in the processing route. Given this consideration, the flowsheet was simplified by reducing the number of both polishing and cleaner flotation stages from four to two. This change minimizes the number of grinding mills and flotation cells required, reducing both the capital and operating costs for the Project.

Basis of Estimate

- Capital cost estimates were prepared by BBA for the purchase of the mine equipment fleet and the development of the open pit;
- Capital cost estimates were prepared by BBA for all facilities including the incoming power line, the electrical distribution, the water treatment facilities and tailings storage facility;
- The major process equipment pricing is supported by email budgetary quotes. Minor equipment and auxiliaries were factored based on the Feasibility Study equipment list and BBA's internal database;
- All costs provided by external sources were free of contingency and escalation;
- Costs were adjusted to reflect latest market pricing for bulk materials and labour costs as of Q4-2022.

The estimate was built with a base date of December 2022 and the default currency is the Canadian dollar (CAD or $). All bulk material pricing is based on Canadian dollars. Budgetary pricing received for equipment has been converted to Canadian dollars using the following exchange rates provided by NMG.

Currency Code	Currency Name	Rate
CAD	Canadian Dollar	1.00
USD	US Dollar	1.275

21.1. Capital Cost Basis of Estimate and Assumptions

The capital cost estimate ("CAPEX") consists of direct and indirect capital costs, Owner's Costs as well as contingency.

21.1.1. Estimate Type and Purpose

The capital costs estimate prepared for this Order of Magnitude Study ("OoM") are based on engineering deliverables for equipment, methodology and level of detail consistent with a Class 5 as defined by AACE International Recommended Practice 47R-11. The accuracy achieved was evaluated considering the level of definition reached in major engineering deliverables, execution strategy and pricing for each plant.

The capital cost estimates were developed within the expected accuracy range of –35%/+50%

21.1.2. Major Assumptions

All backfill materials will be available from gravel pits or other sources located close to the site. Mine waste rock from the open pit is not suitable for road construction due to its possibility of being acid generating. All excavated material will be disposed of within the site battery limits.

21.1.2.1. Major Exclusions

The following items have not been included in the CAPEX:

- Provisions for inflation, escalation, and currency fluctuations;
- Provisions for risk and mitigation plans;
- Interest incurred during construction;
- Project financing costs.

21.1.3. Capital Costs Summary

A summary of the initial capital and sustaining capital costs for the Project are presented in Table 21-1.

Table 21-1 - Summary of capital cost estimate

Sector	Cost ($M)
Direct Costs	
▪ Mining	61
▪ Site infrastructure	55
▪ Offsite Infrastructure	184
▪ Water treatment and tailings	118
▪ Ore crushing and process plant	548
Indirect Costs (40%)	319
Contingency (25%)	279
TOTAL CAPEX	**1,564**
Initial CAPEX	1,417
Sustaining CAPEX	147

Note: Totals may not add up due to rounding.

21.1.3.1. Sustaining Capital

Sustaining capital is the amount required to periodically invest in the operations phase to maintain the functionality of the mining and processing operations. The CAPEX was developed to minimize outlays in the pre-production phase and delay any capital expenditures to later periods during the Project revenue streams.

For this Project, the sustaining capital estimated at $147M is mainly related to the haul truck fleet replacement, the co-disposal system and water management.

21.1.4. Basis of Estimate – General

A similar project was referenced for estimates on the basis for this OoM. Equipment and material prices were escalated from the previous Lac Guéret Feasibility Study Project (2018) and adjusted for the current date. Crew rates were established using BBA's database. The costs for the various disciplines (civil, concrete, architecture, structure, piping, electrical and automation) were calculated by establishing appropriate multiplication factors which were then applied to the equipment total for each WBS. Updated equipment prices were obtained for the major process equipment and the minor equipment and auxiliaries were scaled from the 2018 FS. The Overland conveyors and conveyors, as per engineering deliverables, were estimated and added to the crusher and concentrator WBS. The electrical estimate was established based on BBA's experience. The indirect costs and contingency were calculated based on 40% and 25% of direct costs, respectively.

21.1.4.1. Material Take-Off and Unit Rates

The major equipments generated for the estimate are mainly based on engineering deliverables that exclude contingencies of any kind. The MTOs were developed using the general layout drawings.

Based on quantities generated by the MTOs, we received quotations for major equipment and/or quotes from similar projects.

The rates included the material, transportation, and direct labour to perform the work as well as mobilization and demobilization.

21.1.4.2. General Plant Site

The general plant site cost includes site preparation, grading, excavation and backfill of the industrial pad. The area of over 45,000 m^2 covers the process plant, and storage areas, the mineralized material storage building, the substation and electrical rooms and the construction laydown and office areas.

21.1.4.3. Basis of Electrical Estimate

Preliminary electrical load evaluated at this stage has been established to around 50 MVA for the Uatnan mining site.

BBA has evaluated different options for the power supply for the existing Hydro-Québec ("HQ") transmission power network in the surrounding area.

Manic-5 substation, 70 km 160 kV line, substation at site.

21.1.5. Base of Estimate – Indirect Costs

The indirect cost is evaluated at 40% of direct cost for this study.

21.1.6. Contingency

Contingency is evaluated at 25% of the total of Direct and Indirect costs.

21.1.7. Closure Costs

Based on site layouts, a provision of $92M was estimated for the closure and rehabilitation of the mine site.

The closure and rehabilitation costs include the dismantling and removal of all facilities and services and revegetation of the area. Possible revenue from the salvage of equipment and materials was not considered in the closure costs.

21.2. Operating Costs Estimate

This section provides information on the estimated operating costs of the Uatnan Project and covers mining, processing, tailings and water management, site services and general administration. The operating costs ("OPEX") over the Project life are estimated at $3,236M for an average of $268/t of concentrate. A summary of these costs is presented in Table 21-2.

Table 21-2 - Operating costs summary

Description	LOM Opex Cost ($M)	Cost per tonne ($/t concentrate) (1)	Fraction of Cost (%)
Mining and tailing (average over life)	917	76	28
Mineralized Material Processing	1,620	134	50
Water Management	134	11	4
General and Administration	565	47	18
Total OPEX	**3,236**	**268**	**100**

(1) The costs presented are calculated based on LOM production of 12,072,770 t of concentrate.

21.2.1.1. Mining Operating Costs

Mine operating costs have been estimated for each period of the mine plan and are based on operating the mining equipment, the labour associated with operating the mine, the cost for explosives as well as pit dewatering, road maintenance, and other miscellaneous activities.

The mine operating costs over the 24-year mine life have been estimated for a total of $917M and average $5.12/t mined ($76/t of concentrate). Table 21-3 presents the mine operating cost by activity.

Table 21-3 - Mining operating costs by activity

Activity	Unit	Value
Loading	$/t	0.26
Hauling	$/t	0.91
Drilling and Blasting	$/t	0.79
Ancillary Equipment	$/t	0.84
Labour	$/t	1.85
Equipment Leasing	$/t	0.42
Other	$/t	0.04
Total	**$/t**	**5.12**

Note: Totals may not add up due to rounding.

Mining Equipment

The mineralization and waste rock will be mined with 9-m high benches, drilled, blasted, and loaded into 60-tonne rigid-frame haul trucks with backhoe excavators. The mine will be operated by an owner fleet, seven days per week, 24 hours per day and be comprised of a four-crew system working on a two-weeks in, two-weeks out rotation.

The Uatnan Project involves a zero-emission operating strategy with a battery-powered fleet of haul trucks and electric equipment as the technology becomes available. In the meantime, the PEA used a base case with a diesel-operated fleet.

BBA requested quotations from equipment manufacturers to estimate the cost to operate and maintain the equipment.

A diesel price of $1.55 per litre was considered.

Explosives and Accessories

An emulsion cost of $0.89 per kg was used, which is based on budgetary pricing from local explosive suppliers. The suppliers also provided pricing for explosive accessories such as detonators, boosters, connectors, etc.

Equipment Leasing

The mine operating costs consider leasing for the production equipment (trucks, excavator, drills, dozer, Grader, etc.). Leasing costs have been estimated using a rate of 5% and a 60-month term.

Other Miscellaneous Costs

The mine operating costs include an additional $0.3M/y, which considers the costs for mill feed grade control, dewatering costs that are in addition to the operation of the pumps, as well as other miscellaneous costs.

Mine Labour

The workforce cost for the mining operations averages approximately $14M per year, which has been calculated based on the number of employees and their annual salaries. The salaries include fringe benefits as well as bonuses.

21.2.1.2. Tailings Loading, Transportation, and Placement

The costs to load, transport and place the tailings in the TSF have been estimated to average $1.54/tonne milled ($9.78/t of concentrate) over the life of the mine. This cost was developed using the same basis of estimate as described for the mine operating costs above.

21.2.2. Process Operating Costs

For a typical year at 500,000 tpy of graphite concentrate, the process operating costs were estimated at $68M/y or $141/tonne of concentrate. The OPEX is divided into six main cost areas including labour, electrical power, equipment maintenance and consumables, grinding media, reagent consumption and an allowance for miscellaneous costs. A breakdown of the process operating costs is presented in Table 21-4.

Table 21-4 - Processing OPEX, over Project Life

Cost Area	LOM Cost ($M)	Annual Cost ($M)	Unit Cost ($/t)	Unit Cost ($/t conc.)	Fraction
Labour	184	7.7	2.40	16.00	11%
Electrical Power	462	19.3	6.02	40.12	28%
Maintenance & Consumables	257	10.7	3.34	22.28	16%
Grinding Media	349	14.6	4.57	30.48	22%
Reagents	307	12.9	4.02	26.82	19%
Miscellaneous	60	2.5	0.78	5.21	4%
Total	**1,620**	**67.6**	**21.14**	**140.91**	**100%**

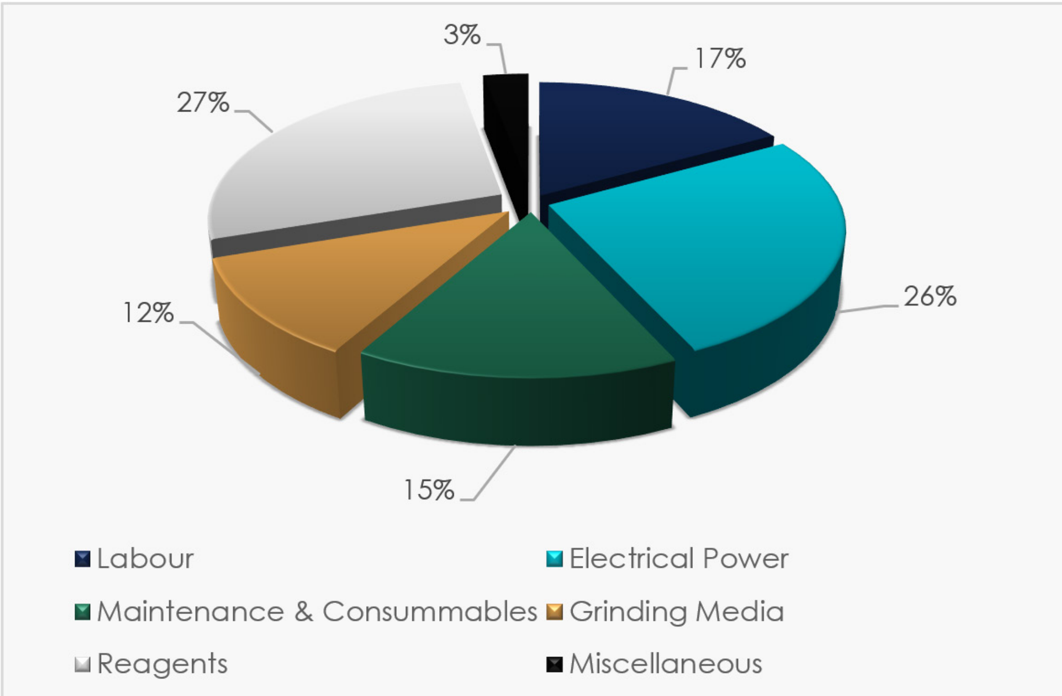


Figure 21-1 - Processing operating cost breakdown

Labour Costs

It is estimated that there will be 148 employees for the administration, operations, maintenance and mill metallurgy. The total annual cost for the manpower is estimated at $7.7M per year. This corresponds to $16/t of concentrate produced.

Electrical Power Costs

Electrical power is required for the equipment in the processing plant such as crushers, grinding mills, flotation cells, conveyors, screens, pumps, agitators, dryer, services (compressed air and water), etc. The estimated electrical operating costs are based on the processing plant operating 24 hours per day, 7 days per week, and an annual production of 500,000 t of graphite, The electrical power consumption was developed from the mechanical equipment list and from power requirements from equipment suppliers.

The unit cost of electricity was set to 0.07$/kWh. The total annual cost for the process plant electrical power is estimated at $19M per year. This corresponds to 40$/t of graphite concentrate produced.

Maintenance and Wear Parts Consumptions

The maintenance and wear parts consumption costs, which include the crusher liners, screen deck panels, grinding mill liners, polishing mill liners, flotation cell wear parts, pump wear parts, filter cloths, dryer wear parts, etc., were estimated at 7.5% of the direct capital cost of the process equipment. The maintenance and consumables costs are estimated at $10.7M per year or $22.3/t of concentrate produced.

Grinding Media

The grinding mills (SAG, ball, polishing and tower mill) will need a regular addition of steel balls to replace the worn media and exercise the proper grinding action on the material. The media consumption has been estimated from the abrasion index of the mineralized material and power consumption.

The total cost of grinding media for the mills is estimated at $14.6M per year or $30.5/t of concentrate.

Reagents

Frother, collector and dispersant are the reagents required throughout the various stages of flotation. Flocculant is required for thickener operations. Lime will be added for pH control as required. Caustic soda is required for the scrubbing of sulphur dioxide produced from the concentrate dryer. The annual quantities were determined by factoring the reagent consumption values presented in the previous FS which was based on test work results.

The total cost for plant reagents is $12.9M per year or $26.8/t of concentrate.

Miscellaneous Costs

An allowance of $2.5M per year or $5.21/t of concentrate produced was considered for items such as laboratory tests, external consultants and/or contractors, etc.

21.2.3. General and Administration Operating Costs

The General and Administration ("G&A") operating costs include all materials, services and personnel costs associated with the site administration and technical services. Additionally, the transportation costs to fly employees to Baie-Comeau and then bus them to site, as well as all room and board costs for the permanent camp operation are included in the G&A. The costs related to the corporate office are excluded.

The G&A costs for the Project, are estimated at $23.5M per year of operation on average or $47/t of graphite concentrate.

22. Economic Analysis

The economic evaluation of the Uatnan Project was performed using a discounted cash flow model on both a pre-tax and after-tax basis. The capital and operating cost estimates presented in Chapter 21 of this Report were based on the mining and processing plan developed in this Study to produce roughly 500 kt of a graphite concentrate annually over the life of the mine ("LOM"). The internal rate of return ("IRR") on total investment was calculated based on 100% equity financing.

The net present value ("NPV") was calculated for discounting rates of 0%, 6%, 8% and 10%, resulting from the net cash flow generated by the Project. The Project base case NPV was calculated based on a discounting rate of 8%. The payback period based on the undiscounted annual cash flow of the Project is also indicated as a financial measure. A sensitivity analysis was performed for the pre-tax and post-tax results to assess the impact of variation of the Project initial capital costs, operating costs and sensitivity to the selling price of concentrate.

The financial analysis was done using the following assumptions and procedures:

- The Project construction schedule including key project milestones;
- A base case graphite concentrate selling price of 1,100 USD/t;
- Financial analysis considers the costs to reflect a concentrate delivered at place unloaded ("DPU") in Baie-Comeau;
- Capital and operating costs are in constant Q4-2022 dollars with no escalation or inflation applied;
- Working capital required to meet expenses after production start and before revenue becomes available, is included;
- No applicable royalties or agreements have been identified nor included in this analysis;
- An exchange rate of CAD 1.275 = USD 1.00 has been considered;
- Calculation of production, sales and key financial metrics on a yearly basis;
- Payback periods, unless otherwise stated, are the years required to reach a break-even cashflow from the start of production (not accounting for pre-production).

The financial analysis was performed by BBA on a pre-tax basis. The Client provided applicable annual taxation guidance which BBA incorporated into its cash flow model to also provide results on an after-tax basis. Current Canadian tax regulations were applied to assess the corporate tax liabilities while the Québec mining tax regulations adopted in 2013 were applied to assess the mining tax liabilities. All values are expressed in Canadian Dollars unless otherwise stated.

Table 22-1 presents the undiscounted cash flow projection for the Project based on the following:

- The aforementioned annual revenues;
- Operating costs;
- Capital cost disbursements;
- Other costs including rehabilitation and closure costs and transportation (haulage) costs to port.

Table 22-1 - Undiscounted cash flow ($M)

Production Plan and Grades	TOTALS	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Total Mined (kt)	179,014	0	500	4,632	4,380	5,112	5,303	5,554	7,833	7,833	7,833	6,463	6,463	6,463	5,927	5,927	5,927	10,811	10,811	10,811	8,968	8,968	8,968	9,580	9,580	9,580	4,787
Ore Processed (kt)	76,403	0	0	1,920	2,500	2,700	2,353	2,661	3,595	3,595	3,595	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	2,485
Milled Ore Grade (%Cg)	17.5%	0%	0%	25%	23%	21%	23%	21%	17%	17%	17%	16%	16%	16%	17%	17%	17%	14%	14%	14%	15%	15%	15%	19%	19%	19%	18%
Concentrate Production Dry (kt)	12,073	0	0	433	524	519	480	505	553	553	553	507	507	507	508	508	508	436	436	436	470	470	470	598	598	598	397
Product Sales and Revenue	**TOTALS**	**-2**	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Gross Revenue (M CAD)	16,932	-	-	607	735	728	673	709	775	775	775	711	711	711	712	712	712	612	612	612	659	659	659	839	839	839	557
Transportation Fees (M CAD)	-	-	-	(15)	(18)	(18)	(16)	(17)	(19)	(19)	(19)	(17)	(17)	(17)	(17)	(17)	(17)	(15)	(15)	(15)	(16)	(16)	(16)	(20)	(20)	(20)	(14)
Net Revenu (M CAD)	-	-	-	592	717	711	657	691	756	756	756	694	694	694	695	695	695	597	597	597	643	643	643	819	819	819	543
Net realized price (CAD/dmt)	-	-	-	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368	1,368
Operating Costs	**TOTALS**	**-2**	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Mining and waste deposition	(917)	-	-	(33)	(34)	(35)	(36)	(34)	(34)	(34)	(34)	(36)	(36)	(36)	(35)	(35)	(35)	(47)	(47)	(47)	(47)	(47)	(47)	(41)	(41)	(41)	(27)
Processing	(1,620)	-	-	(57)	(62)	(63)	(60)	(63)	(71)	(71)	(71)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(61)
Water Management	(134)	-	-	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
G&A	(565)	-	-	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)	(24)
Total OPEX	(3,236)	-	-	(118)	(125)	(127)	(125)	(126)	(135)	(135)	(135)	(134)	(134)	(134)	(134)	(134)	(134)	(145)	(145)	(145)	(145)	(145)	(145)	(139)	(139)	(139)	(117)
Capital Costs	**TOTALS**	**-2**	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Mining (w/ pre-prod OPEX)	(34)	-	(15)	(7)	(0)	-	-	(1)	(1)	-	-	(4)	-	-	(2)	-	-	(3)	-	-	(3)	-	-	-	-	-	-
Offsite CAPEX	(78)	(39)	(39)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mine	(27)	(9)	(14)	(4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Access Roads	(106)	(37)	(53)	(16)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site Infrastructure	(14)	(5)	(7)	(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Treatment and waste deposition	(118)	(17)	(25)	(7)	-	-	-	(33)	-	-	(35)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crushing and Process Plant	(548)	(169)	(241)	(72)	-	-	-	-	-	-	-	(33)	-	-	-	-	-	-	-	-	-	(33)	-	-	-	-	-
Telecommunication	(6)	(2)	(3)	(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Permanent Camp	(35)	(12)	(18)	(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indirects	(319)	(116)	(160)	(43)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contingency	(279)	(102)	(140)	(38)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total CAPEX	(1,564)	(509)	(713)	(196)	(0)	-	-	(34)	(1)	-	(35)	(36)	-	-	(2)	-	-	(3)	-	-	(3)	(33)	-	-	-	-	-
Other Costs	**TOTALS**	**-2**	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Reclamation Costs	(92)	(46)	(23)	(23)																							
Working Capital	-	-	(39)	(2)	(1)	1	(0)	(3)	-	-	0	-	-	0	-	-	(4)	-	-	0	-	-	2	-	-	7	39
Overall Financials	**TOTALS**	**-2**	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Pre-tax Cash Flow	11,628	(555)	(775)	253	591	584	532	529	621	622	587	523	559	559	559	561	557	449	452	452	495	465	500	679	679	687	465
Cumulative Pre-tax Cash Flow	125,726	(555)	(1,331)	(1,077)	(486)	98	630	1,158	1,780	2,401	2,988	3,511	4,070	4,630	5,188	5,749	6,306	6,755	7,207	7,658	8,153	8,618	9,118	9,797	10,476	11,163	11,720
Total Corporate Income and Mining Taxes ($)	4,288	-	-	21	63	94	149	173	207	215	218	191	195	199	203	205	207	160	161	161	181	178	178	258	259	260	151
After-tax Cash Flow	7,340	(555)	(775)	232	528	490	383	355	415	406	368	332	364	360	356	356	350	289	291	290	314	287	322	421	420	427	314
Cumulative After-tax Cash Flow	77,300	(555)	(1,331)	(1,098)	(570)	(80)	302	658	1,072	1,479	1,847	2,178	2,542	2,902	3,258	3,614	3,964	4,253	4,545	4,835	5,149	5,436	5,757	6,178	6,599	7,026	7,340

Figure 22-1 presents the undiscounted cash flows for the Project as derived from the spreadsheet format presented earlier.

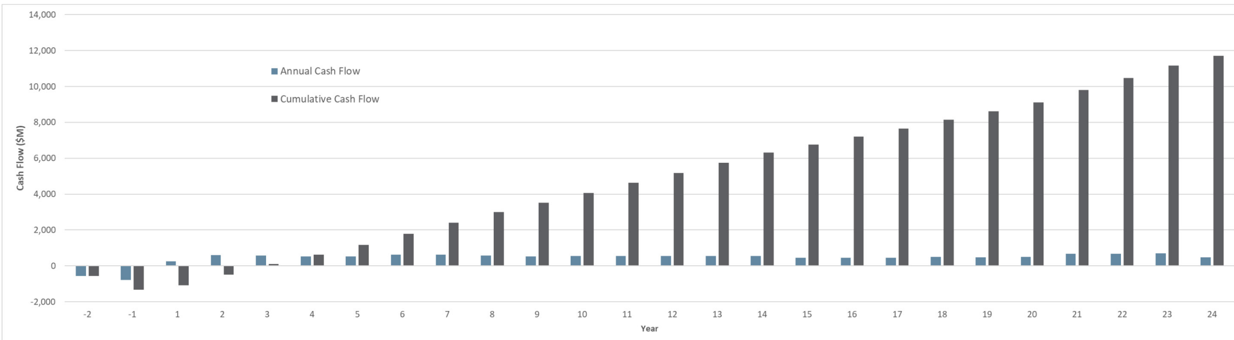


Figure 22-1 - Project cash flow

A discount rate is applied to the cash flow to derive the NPV for each discount rate. The payback period is presented for the undiscounted cumulative NPV. The NPV calculation was done at 0%, 6%, 8% and 10%. The base case NPV was assumed at a discount rate of 8% following discussions with the Client. Table 22-2 presents the results of the financial analysis for the Project, based on the assumptions and cash flow projections.

Table 22-2 - Before tax financial analysis results

IRR = 32.6%	NPV ($M)	Payback (years)
Discount Rate		
0%	$11,628 M	2.8
6%	$4,743 M	-
8%	$3,613 M	-
10%	$2,777 M	-

At a benchmark selling price for graphite concentrate of USD 1,100/dmt, DPU Baie-Comeau and an exchange rate of CAD1.275 = USD1.00, the Project is forecasted to provide a before-tax IRR of 32.6%. At the base case discount rate of 8% the NPV is $3,613M and the payback period is 2.8 years after the start of production.

After tax Project financial performance is presented in Table 22-3.

Table 22-3 - After tax financial analysis results

IRR = 25.9% Discount Rate	NPV ($M)	Payback (years)
0%	$7,340 M	3.2
6%	$2,905 M	-
8%	$2,173 M	-
10%	$1,629 M	-

On an after-tax basis, the Project is forecasted to provide an IRR of 25.9%. At the base case discount rate of 8%, NPV is $2,173 M. The payback period is 3.2 years after the start of production.

22.1. Sensitivity Analysis

NPV and IRR sensitivity to key variable ranges, before and after tax, was determined from the financial model base case, for the following ranges.

- Initial capital costs +/-50%;
- Operating costs +/-50%;
- Products selling price -/+50%.

Results are shown in Table 22-4, and graphically in Figure 22-2 and Figure 22-3.

Table 22-4 - Sensitivity analysis table (before tax)

Variation	-70%	-65%	-50%	-35%	-25%	-10%	0%	10%	25%	35%	50%	65%	70%
Selling Price													
Graphite concentrate selling price (USD/t)	330	385	550	715	825	990	1,100	1,210	1,375	1,485	1,650	1,815	1,870
IRR	-1.2%	2.8%	11.5%	18.5%	24.8%	28.8%	32.6%	36.3%	39.9%	45.2%	50.3%	55.3%	56.9%
NPV (8%) ($M)	-847	-528	428	1,383	2,339	2,976	3,613	4,250	4,888	5,843	6,799	7,755	8,073
Payback (y)	24.0	18.0	7.5	5.1	4.2	3.2	2.8	2.5	2.2	2.0	1.8	1.6	1.6
Initial CAPEX													
CAPEX ($M)	-	-	709	-	1,063	1,276	1,417	1,559	1,772	-	2,126	-	-
IRR	-	-	58.8%	-	41.9%	35.8%	32.6%	29.90%	26.6%	-	22.3%	-	-
NPV (8%) ($M)	-	-	4,301	-	3,957	3,751	3,613	3,476	3,270	-	2,926	-	-
Payback (y)	-	-	1.5	-	2.2	2.6	2.8	3.1	3.5	-	4.2	-	-
OPEX													
OPEX ($M)	-	-	1,618	-	2,427	2,912	3,236	3,560	4,045	-	4,854	-	-
IRR	-	-	36.4%	-	34.5%	33.4%	32.6%	31.8%	30.7%	-	28.8%	-	-
NPV (8%) ($M)	-	-	4,225	-	3,919	3,736	3,613	3,491	3,307	-	3,001	-	-
Payback (y)	-	-	2.5	-	2.7	2.8	2.8	2.9	3.0	-	3.2	-	-

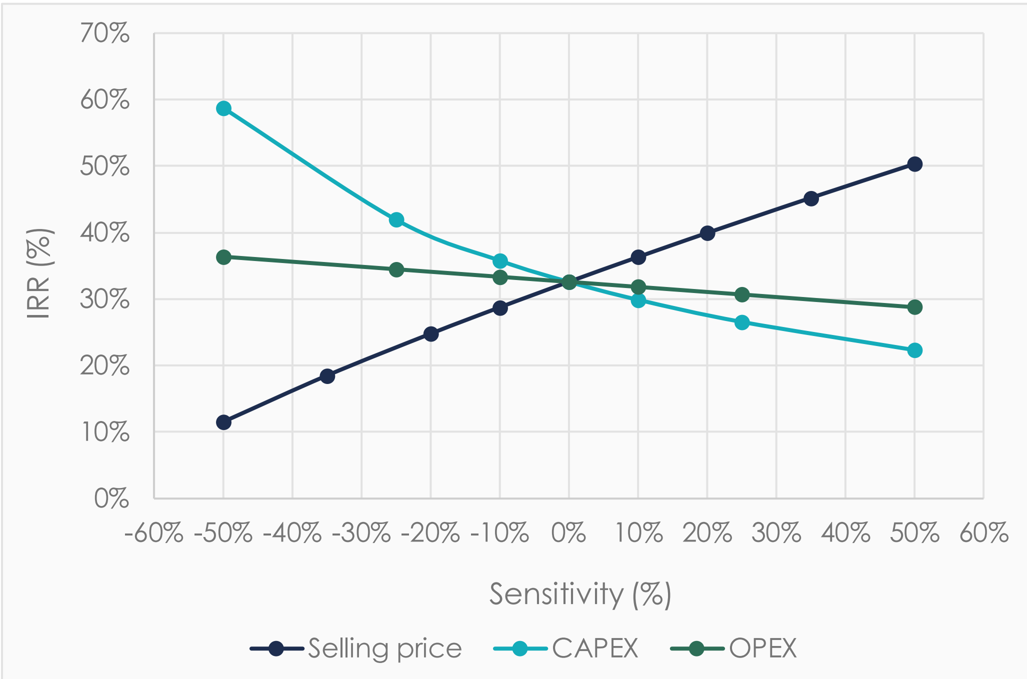


Figure 22-2 - Before-tax sensitivity analysis for IRR

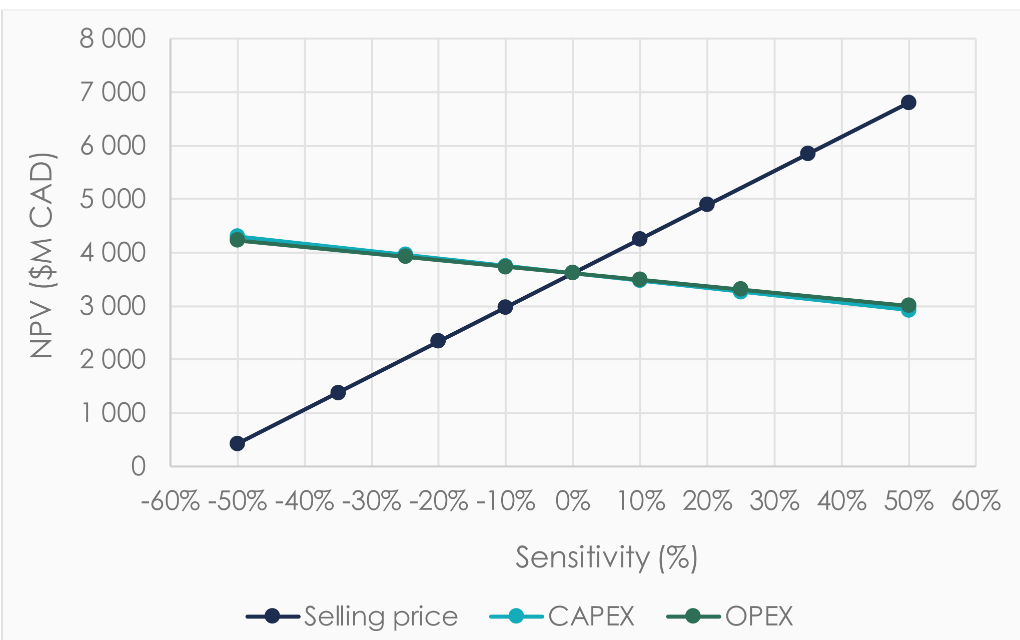


Figure 22-3 - Before-tax sensitivity analysis for NPV

Table 22-5 - Sensitivity Analysis Table (after-tax)

Variation	-70%	-65%	-50%	-35%	-25%	-10%	0%	10%	25%	35%	50%	65%	70%
Selling Price													
Graphite concentrate selling price (USD/t)	330	385	550	715	825	990	1,100	1,210	1,375	1,485	1,650	1,815	1,870
IRR	-2.1%	1.7%	9.3%	15.2%	20.1%	23.1%	25.9%	28.6%	31.2%	34.9%	38.5%	41.9%	43.0%
NPV (8%) ($M)	-905	-609	138	815	1,413	1,796	2,173	2,543	2,912	3,462	4,010	4,556	4,738
Payback (y)	24.0	21.4	8.6	5.7	4.8	3.8	3.4	3.1	2.7	2.5	2.3	2.1	2.1
Initial CAPEX													
CAPEX ($M)	-	-	709	-	1,063	1,276	1,417	1,559	1,772	-	2,126	-	-
IRR	-	-	45.4%	-	33.0%	28.4%	25.9%	25.4%	24.5%	-	23.0%	-	-
NPV (8%) ($M)	-	-	2,518	-	2,346	2,242	2,173	2,103	1,997	-	1,815	-	-
Payback (y)	-	-	2.0	-	2.7	3.1	3.4	3.7	4.1	-	4.9	-	-
OPEX													
OPEX ($M)	-	-	1,618	-	2,427	2,912	3,236	3,560	4,045	-	4,854	-	-
IRR	-	-	28.7%	-	27.3%	26.5%	25.9%	25.4%	24.5%	-	23.0%	-	-
NPV (8%) ($M)	-	-	2,518	-	2,346	2,242	2,173	2,103	1,997	-	1,815	-	-
Payback (y)	-	-	3.0	-	3.2	3.3	3.4	3.5	3.6	-	3.8	-	-

Figure 22-4 - After-tax sensitivity analysis for IRR

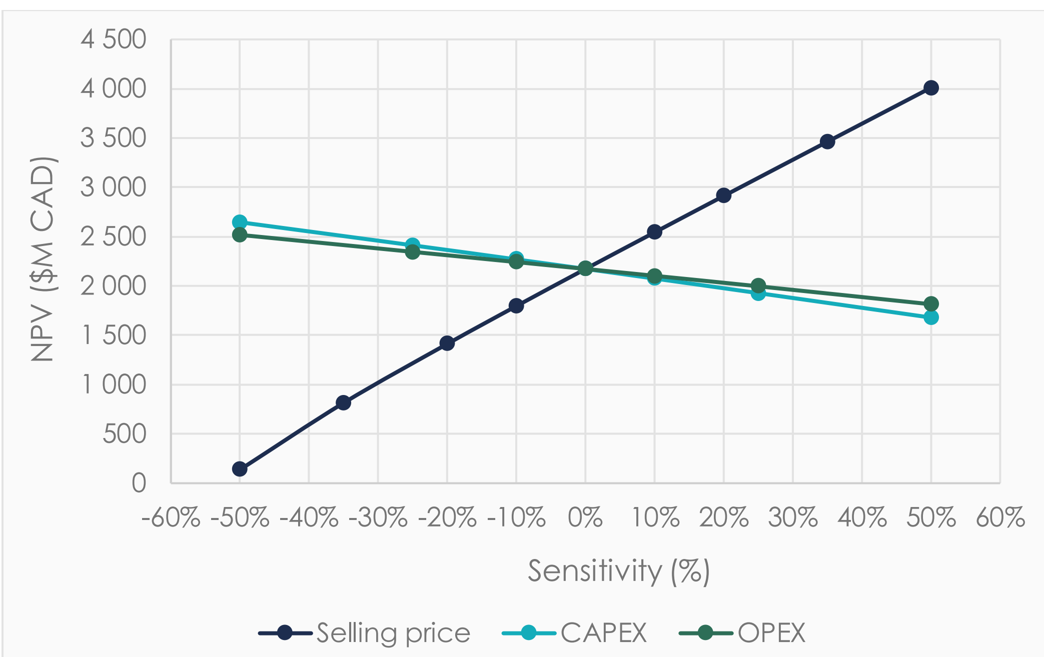


Figure 22-5 - After-tax sensitivity analysis for NPV

23. Adjacent Properties

With the current interest in flake graphite, the Uatnan Property is surrounded by new claimholders (Figure 23-1). The main ones are Focus Graphite Inc. to the north and south and Green Battery Minerals Inc. with Ressources E-Power Inc. to the south. Various independent claims-owners are also nearby but have not reported significant exploration work to date.

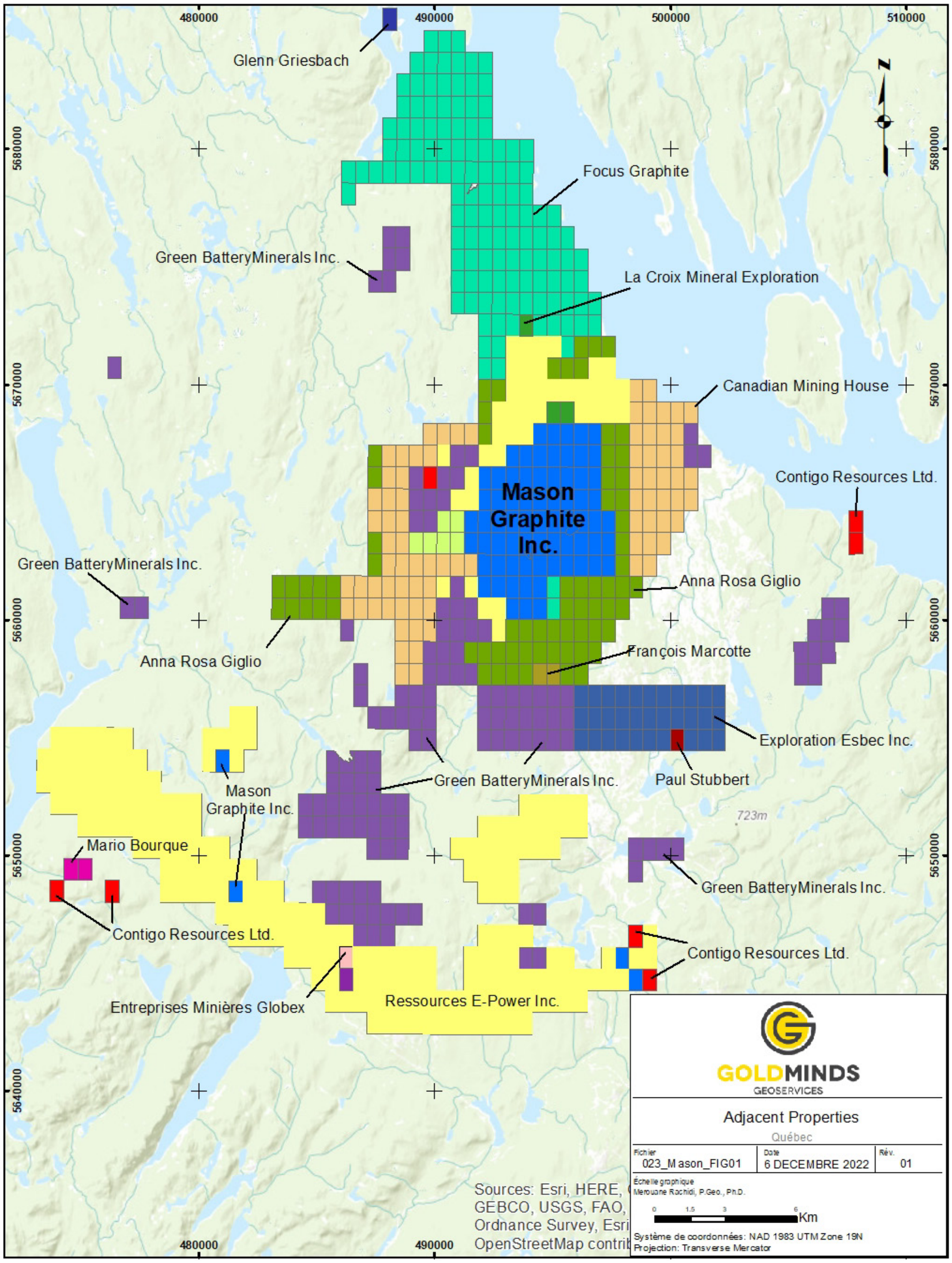


Figure 23-1 - Adjacent properties

24. Other Relevant Data and Information

This Chapter summarizes the overall Project schedule for the development of the Uatnan Project as well as a description of the Property owned by Mason Graphite in Baie-Comeau that was not considered in the execution of the current PEA.

24.1. Project Schedule

The Uatnan Project schedule presented in Table 24-1 takes into consideration the requirements outlined in the agreement between NMG and Mason conditional to the formation of a Joint Venture.

The major Project milestones include the completion of a Feasibility Study, environmental studies, discussions and progressive installation of the electrical power supply to the site, beginning of site construction and plant start-up.

Table 24-1 - Uatnan Project Schedule

Activity / Milestone	Duration
PEA – Press release and issue NI43-101Report	-
Feasibility Study (FS) Testwork	9 months
FS – Press release and issue NI43-101 Report	18 months
Detailed Engineering & Procurement	18 months
Provincial Project notice	-
Environmental impact assessment	12 months
Geotech and hydrogeological drilling (phase 1)	1 month
Environmental baseline studies	8 months
Temporary camp installation	5 months
Geotech and hydrogeological drilling (phase 2)	1 month
Issuance of Environmental Decree	-
Begin discussions with Hydro Quebec	-
HQ Government authorization issued – start of construction	-
Construction Power Supply Available	-
Site Construction	24 months
Operation Power Supply available	-
Concentrator begins operating	-

25. Interpretation and Conclusions

25.1. Overview

The results of this PEA demonstrate that the Uatnan Project is economically robust and should be advanced to the next stage of project development.

25.2. Data Verification and Mineral Resources

The database used for this work was compiled by Mason Graphite. This database was delivered by Roche as Access database named 'GD_PH2_LacGueret' as well as another file named ''DB-FINALN43101-V2.xlsx'' (197 holes totalling 29,906 m, and four trenches totalling 987 m). The new drilling data from the 2013 and 2014 drilling campaign was compiled by Mason Graphite geologists (86 holes, totalling 13,418 m) and verified by GMG.

The current Mineral Resources Estimates of the Lac Guéret deposit were done with Genesis software for modelling and Mineral Resources Estimate. Three block models were produced (Body 1, 2 and 3; Figure 14-10). The average % Cg grade was calculated for each block using interpolation according to the inverse of the distance from the nearest composites. Interpolation parameters were based on drill spacing, envelope extension and orientation.

The current Mineral Resources of the Lac Guéret deposit were estimated using a cut-off grade ("COG") of 5.75%Cg and a pit optimization was designed using the same block model used for the Mineral Resource update issued November 9, 2015.

The current combined Measured and Indicated Mineral Pit-constrained Resources are 65.64 Mt at 17.2% Cg (11.3 Mt Cg) and Inferred Pit-constrained Ressources are 17.82 Mt at 17.2% Cg (3.07 Mt Cg) (Table 25-1).

Mineral Reserves and Mineral Resources are as defined by CIM Definition Standards on Mineral Resources and Mineral Reserves. Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability.

Table 25-1 - Mineral Resources Estimate for Uatnan

In pit constrained Mineral Resources	Tonnes (Mt)	Grade (% Cg)	Cg (Mt)
Measured 5.75% < Cg < 25%	15.65	15.2	2.38
Measured Cg > 25%	3.35	30.6	1.02
Total Measured	**19.02**	**17.9**	**3.40**
Indicated 5.75% < Cg < 25%	40.29	14.6	5.89
Indicated Cg > 25%	6.33	31.6	2.00
Total Indicated	**46.62**	**16.9**	**7.89**
Indicated + Measured 5.75% < Cg < 25%	55.94	14.8	8.27
Indicated + Measured Cg > 25%	9.70	31.2	3.03
Total Measured + Indicated	**65.64**	**17.2**	**11.30**
Inferred 5.75% < Cg < 25%	*15.35*	*14.9*	*2.28*
Inferred Cg > 25%	*2.47*	*31.8*	*0.79*
Total Inferred	***17.82***	***17.2***	***3.07***

Notes:

1. The Mineral Resources provided in this table were estimated by Mr. Rachidi P.Geo., and C. Duplessis, Eng., QP's of GoldMinds Geoservices Inc., using current Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Reserves, Definitions and Guidelines.
2. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, market or other relevant issues. The quantity and grade of reported Inferred Resources are uncertain in nature and there has not been sufficient work to define these Inferred Resources as Indicated or Measured Resources. There is no certainty that any part of a Mineral Resource will ever be converted into Mineral Reserves.
3. The Mineral Resources presented here were estimated with a block size of 3mE x 3mN x 3mZ. The blocks were interpolated from equal length composites (3 m) calculated from the mineralized intervals.
4. The mineral estimation was completed using the inverse distance to the square methodology utilizing three runs. For run 1, the number of composites was limited to ten with a maximum of two composites from the same drillhole. For runs two and three the number of composites was limited to ten with a maximum of one composite from the same drillhole.
5. The Measured Resources classified using a minimum of four drillholes. Indicated Resources classified using a minimum of two drillholes. The Inferred Resources were classified by a minimum of one drillholes.
6. Tonnage estimates are based on a fix density of 2.9 t/m^3.
7. A pit optimized using a new parameter detailed in Table 14-9. The effective date of the current Mineral Resources is January 10, 2022.
8. Mineral Resources are stated at a cut-off grade of 5.75% Cg.

The current Mineral Resources do not take into consideration the drillholes in the northern part of the deposit which displays assays of up to 46.5% Cg over 1.5 m in hole LG-248.

25.3. Metallurgy and Processing

The metallurgical response of the Lac Guéret deposit material had been tested extensively leading up the 2018 FS. The results of these studies concluded that a flowsheet consisting of three or four stages of cleaning can achieve high-grade flake concentrates ranging from 92-98%C while minimizing graphite losses to the tailings (carbon recovery over 92%). The newly proposed simplified flowsheet made reasonable extrapolations of the existing data to simplify the flowsheet to two polishing-cleaning stages and which results in a single concentrate product with a grade of 94% Cg and an overall carbon recovery of 85%. The proposed flowsheet, final concentrate recovery and grade should be validated with new metallurgical testwork. In addition to confirming the equipment selection including flotation, concentrate and tailings dewatering, these tests will also validate the assumed reagent consumptions, power requirements and grinding media wear rates used to calculate the process operating costs.

25.4. Mining Methods

The Uatnan Project will be mined using conventional open pit mining methods consisting of drilling, blasting, loading, and hauling. Mineralized material will be hauled to the primary crusher and the tailings will be deposited and managed in the tailings storage facility ("TSF") with mine rock stockpile ("MRS") using placement method and strategy to enhance closure performance. To minimize the environmental footprint of the Project, when possible, waste rock will be backfilled into the mined out open pit.

A mine plan with a life-of-mine of 24 years was prepared for this PEA. The subset of Mineral Resource contained with the open pit design consider a cut-off grade of 5.75% Cg and include 62.2 Mt of Measured and Indicated Resources at an average diluted grade of 17.3% Cg, and 14.2 Mt of Inferred Resources at an average diluted grade of 18.0% Cg. A total of 102.6 Mt of overburden and waste rock are included in the pit resulting in a strip ratio of 1.3.

25.5. Environmental Studies

The former Lac Guéret Project was granted a decree in 2018 from the government. The significant modification brought to the Uatnan Project will require either a modification of the actual decree or a new one. Baseline studies (Hatch, 2015) will have to be updated based on the new study area to identify any environmental issues like protected areas, species at risk, waterbodies, fish habitats, biophysical environment, etc. The results of those studies will have to be considered to identify project alternatives. After having a decree, licenses and authorizations from various governmental authorities such as the MELCC are required to build and operate the mine.

Geochemical testing carried out on the Mason Graphite Project tailings and waste rock shows that the tailings and waste rock are potentially acid generating ("PAG"). Geochemical characterization results will be included in the next engineering phase to select appropriate tailings and waste rocks management placement methods and technologies that will limit sulphide oxidation during the years of operation and at closure.

The Uatnan Project will be developed based on a transition to an electric mining operation. Through design and operation choices, significant Project objectives aim to adapt and follow high standards for tailings and waste rocks management, optimize mining infrastructure through progressively backfill the proposed open pit, progressively rehabilitate the site, electrify the mining fleet and attain carbon neutrality for future operations.

25.6. Infrastructure

The Uatnan Site is located in a remote location (285 km from Baie-Comeau, the nearest city) and does not have access to public services, requiring it to be autonomous. A mining camp with 350 rooms will be built , next to the Lac Des Torchons, less than 3 km from the mine site. Access roads to the deposit already exist but will have to be upgraded to support industrial use.

The concentrator has been relocated to be near the deposit. It was assumed that electrical needs could be sourced from the Manic-5 hydroelectric power station, located 70 km away. The building will house wet and dry processing areas, along with offices for employees including the general and administrative staff.

A mine garage at the mine site will be used for maintenance on the mining equipment.

The main industrial installations will comprise a mineralized material storage area with a crusher and concentrator buildings (wet and dry areas).

A tailings filtration plant will be built to manage the tailings. They will be thickened then filtered before being trucked to a tailings storage facility for deposition and management along with the mine rock stockpile ("MRS"). The bottom of the TSF and MRS will be lined to collect potentially acid-generating seepage water.

All of the site runoff water and pit dewatering having been potentially in contact with graphite mineralized material, waste rock or tailings will be pumped to a collecting water basin for recycling to the plant or for treatment in the water treatment plant prior being released to the environment.

25.7. Market Studies and Contracts

The Uatnan Project aims to produce a natural flake graphite destined for the lithium-ion battery market. According to current market projections, the demand for graphite to satisfy the global lithium-ion cell/Gigafactory capacity is expected to increase six-fold by 2031 and the supply of natural graphite is expected to fall into deficit in 2022-2023, with continued steep decline in the following years. Based on forecasts and considering the 94% Cg of the blended Uatnan concentrate, two selling prices were considered:

- Conservative price = USD1,100;
- Average price = USD1,450.

The conservative price of USD1,100 (DPU Baie-Comeau) was considered for the financial analysis presented in this PEA.

25.8. Capital and Operating Costs

25.8.1. Capital Costs Summary

A summary of the initial capital and sustaining capital costs for the Project are presented in Table 25-2.

Table 25-2 - Summary of capital cost estimate

Sector	Cost ($M)
Direct Costs	
▪ Mining	61
▪ Site infrastructure	55
▪ Offsite Infrastructure	184
▪ Water treatment and tailings	118
▪ Mill feed crushing and process plant	548
Indirect Costs (40%)	319
Contingency (25%)	279
TOTAL CAPEX	**1,564**
Initial CAPEX	1,417
Sustaining CAPEX	147

Note: Totals may not add up due to rounding.

25.8.2. Operating Costs Estimate

This section provides information on the estimated operating costs of the Uatnan Project and covers mining, processing, tailings and water management, site services and general administration. The operating costs ("OPEX") over the Project life are estimated at $3,236M for an average of $268/t of concentrate. A summary of these costs is presented in Table 25-3.

Table 25-3 - Operating costs summary

Description	LOM Opex Cost ($M)	Cost per tonne ($/t concentrate) (1)	Fraction of Cost (%)
Mining and tailing (average over life)	917	76	28
Mineralized material Processing	1,620	134	50
Water Management	134	11	4
General and Administration	565	47	18
Total OPEX	**3,236**	**268**	**100**

(1) The costs presented are calculated based on LOM production of 12,072,770 t of concentrate.

25.9. Indicative Economic Results

The results of the study confirm that the Project is economically viable with an after-tax IRR of 25.9% and an 8% discount rate NPV of $2,173M based on current pricing projections for flake concentrate. The complete results of the economic analysis, before and after tax are presented in Table 25-4.

Table 25-4 - Results of the economic analysis of the Uatnan Project

Economic Indicator	Pre-Tax	After-Tax
NPV (8% discount rate)	$3,613M	$2,173
IRR	32.6%	25.9%
Payback period	2.8 years	3.2 years

25.10. Project Risks

Table 25-5 - Project risks (preliminary risk assessment)

Area	Risk Description and Potential Impact	Mitigation Approach
Geology and Mineral Resources	1. Insufficient density measurements from in-pit material can influence Resource Estimates. 2. The 3D modelling and the wireframes creation based on a high cut-off grade (5 % Cg) is significantly more conservative and reduces the potential of the deposit. 3. Inferred Mineral Resources are considered too speculative in nature to be categorized as Mineral Reserves. Mineral Resources that are not Mineral Reserves have not demonstrated economic viability.	1. Density determinations should be continued for both mineralized and non-mineralized rock types. 2. Modification of the wireframes using a low cut-off grade will add more mineralized intervals to the resources therefore providing more accurate modelling. 3. Continue updating the structural and mineralization models. 4. A drilling program that targets the pit-constrained inferred resources would be beneficial to increase confidence on the mineral resources with the goal to convert Inferred Mineral Resources to Indicated or Measured Mineral Resources. 5. Review and validate the rotation schedule to promote local employment.
Mine	1. Geotechnical and Hydrogeological knowledge. 2. Availability of labour. 3. Infrastructure location.	1. Prepare geotechnical and hydrogeological studies to better define pit slope angles and estimate water inflows into the future pit. 2. Engage with local contractors for operations labour. 3. Make some condemnation drilling to place the infrastructures. 4. Review and validate the rotation schedule to promote local employment.
Mineral Processing and Metallurgy	1. Decreased graphite recovery and grade with proposed flowsheet. 2. Production of graphite concentrate of lesser quality in terms of impurities, flake size distribution and other characteristics which could be detrimental for use as anode material.	1. Metallurgical testwork to confirm and optimize the flowsheet. 2. Processing of large quantities (hundreds of tonnes of mineralized material) of representative samples in NMG's demonstration plant and value-added installations to properly assess the Lac Guéret mineralized material for use as anode material.

Area	Risk Description and Potential Impact	Mitigation Approach
Mineralized material, Waste, and Water Management	1. Acid mine drainage and metals leaching potential.	1. Geochemical characterization.
Tailings Management Facility	1. Sulphide oxidation.	1. Baselines Updates. 2. Technologies trade-off to be performed. 3. Prepare geotechnical and hydrogeological studies for site selection. 4. At the next engineering phase, select a mine rock stockpile (MRS) strategy and tailings management strategy to enhance operational and closure performance.
Construction (Costs and Schedule)	1. Delays in obtaining permits	1. Early communication and collaboration with all parties.
Environmental, Permitting and Social License	1. Social licence. 2. Delay in obtaining the decree, authorizations and/or permits.	1. Collaborations and communications. 2. Social Pre-agreement with communities.
Rehabilitation and Closure	1. Materials for closure.	1. Geochemical characterization. 2. Borrow-pit investigation. 3. Technologies trade-off to be performed.

26. Recommendations

26.1. Summary

The results of the PEA demonstrate that the Uatnan Project is financially viable. The authors of this Report recommend that the Project be advanced to the next stage of development, which based on the agreement between NMG and Mason Graphite, is a Feasibility Study to be completed within the timeframe of the OJV Agreement.

A summary of the next critical steps and an approximate budget required to advance the Project and complete an FS is presented in Table 26-1. The items are detailed further in the following sections.

Table 26-1 - Uatnan Project budget for next phase

Activity/Milestone	Budget
Drilling (10,000 metres)	$3.3M
Environmental studies	$2.3M
Pit slopes	$0.4M
Metallurgical testwork	$0.5M
Feasibility Study	$3.5M
TOTAL	**$10.0M**

26.2. Geology and Mineral Resources

The interpretation of the mineralized zones is mainly based on the percentage of carbon graphite and follows structural tendencies of the deposit. Three envelopes were produced by connecting the defined mineralized prisms using a cut-off grade of 5% Cg.

- Density determinations should be continued for both mineralized and non-mineralized rock types;
- To carry all necessary work to maintain the claims in good standing during the development process;
- To map the geology of the deposit during mining operations in order to detect any discrepancy in the deposit geometry thus allowing ongoing adjustment of the mining plan;

- It is recommended to modify the wireframes to include the mineralized intervals between 3 % Cg and 5 % Cg. The integration of zones with low grades may affect the sensitivity of the Mineral Resources estimation;
- It is recommended to do additional drilling work to transform all or part of the Inferred Mineral Resources to either Indicated or Measured. A total of 10,000 m of core drilling should suffice to increase confidence in the current Inferred Resources;

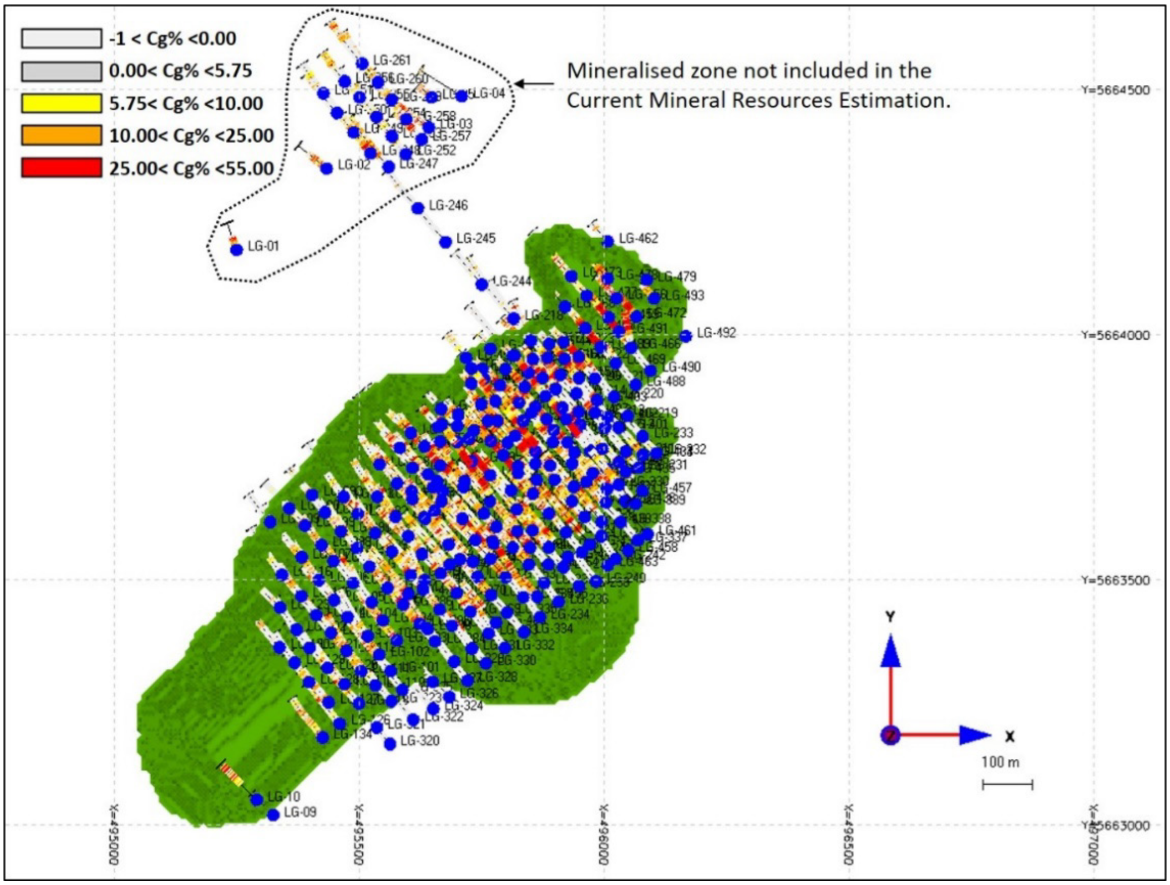


Figure 26-1 - Plan view showing zone in the northern part of the optimized not included in the current Mineral Resource Estimate

- It is also recommended to include potential resources of the GR mineralized zone located north of the Lac Guéret proposed pit, to the current Mineral Resource Estimate of the Property. Information from 22 drill holes covering this zone is not included in the current Mineral Resource Estimate.

26.3. Mining

The following activities are recommended for the next phase of Project development:

- Complete geotechnical and hydrogeological studies to better define pit slope angles and to estimate water inflows into the future pit;
- Complete a trade-off study for a contractor versus owner operated fleet;
- Study the possibility of an all-electric mining fleet;
- Carryout condemnation drilling to confirm the location of infrastructure.

26.4. Metallurgical Testwork

A comprehensive metallurgical testwork program should be conducted to validate the proposed flowsheet and to provide input parameters for equipment sizing. The recommended testwork includes:

- JK Drop weight tests and SAG Mill Comminution tests;
- Bond Low Energy Impact Test;
- SAG design tests;
- Bond ball mill grindability tests;
- Bond rod mill grindability tests;
- Unconfined compression strength tests;
- Bond abrasion tests;
- Bench-scale concentration tests;
- Pilot-scale concentration tests;
- Thickening tests;
- Filtration tests (concentrate and tailings);
- Rheology on tailings tests;
- Environmental tests (include toxicity tests);
- Acid generation tests;
- Mineralized material variability tests;
- Bulk sample program to transform mineralized material to battery anode products by micronization, shperonization, purification and coating, to ultimately obtain coated spheronized purified graphite ("CSPG"). These products can be processed and charactarized for their suitability as anode material at NMG's facilities.

26.5. Processing Plant

The following activities are recommended during the next phase:

- Review crushing pad, process plant and tailings filtration plant locations;
- Evaluation of different concentrate drying options (electrical indirect drying vs. steam drying using a boiler):
  - Impact on the footprint of the drying area;
  - Impact on the power consumption.

26.6. Waste rocks, Tailings and Water Management

The following activities are recommended during the next phase:

- Baseline studies (Hatch, 2015) will have to be updated based on the new study area to identify any environmental issues like protected areas, species at risk, waterbodies, fish habitats, biophysical environment etc. The results of those studies will have to be considered to identify project alternatives;
- Perform feasibility-level geotechnical and hydrogeological studies for the Uatnan pit footprint to localized infrastructure footprint;
- From updated data including geochemistry and ongoing tests-cells results and baselines studies, perform technologies trade-off studies to address Project design refinements for tailings and waste rocks management that will reduce sulphide oxidation during operations and at closure and follow industry standard.

26.7. Environment and Permitting

The following activities are recommended for the next phase of Project development:

- Continue the collaborative work with the Community, the Innu First Nation and the Stakeholder Committee;
- Review with the Innu community the pre-development agreement according to Uatnan Project impacts and attenuation;
- Continue holding public consultations in order to properly inform and take into account the local communities' and stakeholders' concerns regarding the Project;
- Validation with MELCCFP if a new decree is required for Uatnan Project, of a decree modification. For a new decree NMG needs to submit a Project Notice to the MELCCFP to initiate the process;

- A closure plan will have to be filed and approved by the MERNF to get the mining lease. As the development of the Project will advance, the closure activities will need to be described;
- Selection of appropriate management strategy in the placement of tailings and mine rock stockpile ("MRS") to enhance closure performance.

27. References

27.1. General

Lyons, E., Saucier, G., and Thomassin, Y., 2012. NI 43-101 Technical report on Lac Guéret Graphite Project for Mason Graphite Inc., July 2012, SEDAR Company Filings (www.sedar.com), 93 p.

Lyons, et al., 2013. Lyons, E.M.., Magnan, M., Saucier, M., Cassoff, J., Rivard, S., Bilodeau, M., Buchanan, M.-J., and Skiadas, N., 2013. NI 43-101 Report: Technical Report on the Preliminary Economic Assessment, Lac Guéret Graphite Project, Quebec—Canada for Mason Graphite Inc., effective April 22, 2013, issued June 6, 2013, SEDAR Company Filings (www.sedar.com).

Lyons, et al., 2014. Lyons, E.M.., Magnan, M., Perron, M., Cassoff, J, Pengel, E., Bilodeau, M., Buchanan, M.-J., and Skiadas, N., 2014. NI 43-101 Report: Technical Report on the Mineral Resource & PEA Update 2013, Lac Guéret Graphite Project, Quebec—Canada for Mason Graphite Inc., effective 12 Nov 2013, issued 17 Jan 2014, SEDAR Company Filings (www.sedar.com).

NI 43-101 Technical Report: FEASIBILITY STUDY UPDATE of the LAC GUÉRET GRAPHITE PROJECT, Québec, Canada (J, Cassoff, A. Grandillo, L. Piciacchia, S. Fortier, C. Duplessis and M. Rachidi, issued December 11, 2018)

Hatch, Mason Graphite Inc., Exploitation du gisement de graphite du Lac Guéret, Étude d'impact sur l'environnement, volumes 1 et 2, Novembre 2015, 1,858 pages.

GENIVAR. 2012. Projet de développement industriel entre les deux secteurs de Baie-Comeau – Analyse des enjeux environnementaux. Rapport réalisé pour la Société d'expansion de Baie-Comeau. 41 p.

27.2. Geology and Resources

Bliss, J.D. and Sutphin, D.M. (1992): Grade and Tonnage Model of Amorphous Graphite: Model 18k; in G.J. Orris and J.D. Bliss, Editors, U.S Geological Survey, Open File Report 92-437, pages 23-25.

Caron, Y., P, géo., 2015. Rapport des forages d'Exploration 2013 région de la Côte-Nord, Québec. Intern report Mason Graphite Inc. 241p.

Clark, T, 1994. Géologie et gîtes de l'Orogène du Nouveau-Québec et de son arrière-pays in: Géologie du Québec, Gouvernment de Québec, MM 94-10, p. 47-65.

Cadoret 2013. Rapport d'Opérations, Client: Graphite Mason, Mandat Localisation de forages, 4 mars 2013, 8 p.

Cadoret 2013. Rapport d'Opérations, Client: Graphite Mason, Mandat Localisation de forages, 4 juillet 2013, 8 p.

Cadoret 2013. Rapport d'Opérations, Client: Graphite Mason, Mandat Localisation de forages, 7 juillet 2014, 5 p.

Clark, T. and Wares, R., 2005. Synthèse lithotectonique et métallogénique de l'Orogène du Nouveau-Québec, MRNFP, MM 2004-01 (édition limitée), 180 p.

Clarke, P.J., 1977. Région de Gagnon, MRN-Geol Expln Serv. Rept RG-178, 89p.

Currie, K.L., 1972. Geology and petrology of the Manicouagan Resurgent Caldera, Québec, Geol. Surv. Can., Bull. No 198.

Cloutier A (2015). Technical Report of the 2012-2013 Prospecting and 2013 Drilling Campaigns on the Matawinie Property Québec; Entreprises Minières du NouveauMonde; 233 p (GM 68856).

Corriveau L; Perreault S; Davidson A (2007). Prospective Metallogenic Settings of the Grenville Province; In Goodfellow W.D. ed. Mineral Deposits of Canada: A Synthesis of major Deposit-Types District Metallogeny the Evolution of Geological Provinces and Exploration Methods; Geological Association of Canada Mineral Deposits Division Special Publication No. 5; 819-847 pp

Daigneault, R, 2004. Projet Lac Guéret – Sommaire des observations structurales, unpubl. rept. for SOQUEM Inc & Quinto Technology Inc., 6 p.

Davidson, A., 1996. Geological Compilation of the Grenville Province, Geol. Surv. Can., Open File Rept. 3346.

Duplessis, C., Ed Lyons, P., Jeffrey. C., Gauthier, G., Roy, P. and Mohamed Bouna, A.M. NI 43-101 TECHNICAL REPORT: RESOURCES UPDATE AND FEASIBILITY STUDY, LAC GUÉRET GRAPHITE PROJECT, QUÉBEC, CANADA, effective September 25, 2015, Reissued February 29, 2016, SEDAR Company Filings (www.sedar.com).

Earth system and O'Kane (January 2020). Rock Placement Strategies to Enhance Operational and Closure Performance of Mine Rock Stockpiles. Phase 1 Work Program – Review, Assessment & Summary of Improved Construction Methods, prepared for the International Network for Acid Prevention.

Emslie, R. F. and Hunt, P.A, 1989. The Grenville event: magmatism and high-grade metamorphism: in Current Research, Part C, Geol. Surv. Can., Paper 89-1C, p.11-17.

Ferreira, E.C., 1962a. Report on Geological, Drilling and Dip Needle Survey, Area 24A, Echo Lake, Québec: unpubl. rept. for Québec Cartier Mining Co., 7 p. plus maps, Min. Nat. Res. Que., Assessment Report No. 12609.

Ferreira, E.C., 1962b. Report on Geological, Drilling and Dip Needle Survey, Area 24B, Echo Lake, Québec: unpubl. rept. for Québec Cartier Mining Co., 11 p. plus maps, Min. Nat. Res. Que., Assessment Report No. 13176.

Geotech Ltd. (A. Bagrianski), 2003. Report on helicopter-borne time domain electromagnetic geophysical survey: Blocks A & B, Reservoir Manicouagan Area, Québec, unpubl rept. for SOQUEM Inc., 13 p.

Grieve, R.A.F., 1983. The Manicouagan Impact Structure: an analysis of its original dimensions and form, Jour, Geophys. Res., B Suppl. (2), p. A807-A818. (Proc. of the 17th Lunar and Planetary Science Conf., Pt. 2, Mar. 15-19, 1982).

Grondin et al., 2015. Grondin, T., Guimond-Rousson, J., Bouzahzah, H. and Demers, I., 2015. Tests métallurgiques et travaux associés pour Mason Graphite – Essais sur carottes de forage. Unité de recherché et de service en technologie minérale (URSTM), rapport final PU-2014-10-931, 49p.

GSC, 1968b. Lac Tétépisca, Geol. Surv. Can., Geophysical Series Maps 4945G.

GSC, 1968a. Lac Manicouagan, Geol. Surv. Can., Geophysical Series Maps 4980G.

Harben P.W; M. Kuzvart (1996). A Global Geology; Industrial Minerals Information Ltd; London 462 p.

Hocq, M., 1994. Introduction and La Province de Grenville in: Géologie du Québec, Gouvernment de Québec, MM 94-10, p. 1-6 and p. 75-94.

Hynes, A. and A. St-Jean, 1997. Metamorphic signatures of faulting in the Manicouagan Reservoir Region, Grenville Province, Eastern Québec, Can Min, v 35, pp 1173-1189.

Leventhal, J.S. and T.H. Giordano, 2000. The nature and roles of organic matter associated with ores and ore-forming systems: an introduction in Rev Econ Geol, v 9, Ch 1, p1-26.

Lyons, E.M., 2002. NI43-101Technical Report: Phase 1 – Geology & Sampling on the Lac Guéret Property, Manicouagan, Region Côte-Nord, Québec, (NTS 22N/03) for Quinto Technology Inc., Oct 2002, SEDAR Company Filings (www.sedar.com), 33 p.

Lyons, E.M., 2004a. NI43-101 Technical Report: Exploration Phase 2 – Geology and Sampling & Phase 3 – Diamond Drilling on the Lac Guéret Property, Manicouagan, Region Côte-Nord, Québec, (NTS 22N/03) for Quinto Technology Inc., Feb 2004 SEDAR Company Filings (www.sedar.com), 57 p.

Lyons, E.M., 2004b. NI43-101 Technical Report: Exploration Phase 4 – Geology, Stripping, and Sampling on the Lac Guéret Property, Manicouagan, Region Côte-Nord, Québec, (NTS 22N/03) for Quinto Technology Inc., Dec 2004, SEDAR Company Filings (www.sedar.com), 50 p.

Lyons, E.M., 2005a. Technical Report (Québec Assessment): Lac Guéret Property, Report on Geological Mapping Block B in 2004-05. Comté Manicouagan, Region Côte-Nord, Québec, (NTS 22N/03) for Quinto Technology Inc. and SOQUEM Inc, June 2005, QM, 21 p.

Lyons, E.M., 2005b. Technical Report (Québec Assessment): Lac Guéret Property, Report on Trenching and Drilling 2003-04 on the GR & GC Graphite Zones. Comté Manicouagan, Region Côte-Nord, Québec, (NTS 22N/03) for Quinto Technology Inc. and SOQUEM Inc, July 2005, QM, 54 p.

Lyons, E.M., 2009. Technical Report (non-NI 43-101 Compliant): Exploration Phase 5 Drilling and Mineral Resource Estimation on the Lac Guéret Property, Manicouagan, Region Côte-Nord, Québec, (NTS 22N/3) for Quinto Technology Inc., unpublished internal report, 42 p.

Lyons, E.M., 2014b. Field Visit, Lac Guéret Project, internal report, Mason Graphite February 14, 2014, 2 p.

Marcotte, D, Eng., 2013. Étude de la distribution statistique du carbone organique; unpubl report for Mason Graphite.

Marcoux, P. and Avramtchev, L., 1990. Feuille Reservoir Manicouagan – 22N (scale 1:250,000), Gîtes minéraux du Québec, Région de la Fosse du Labrador, carte no. M-390 de DV84-01.

Marshall, et al., 2000. Marshall, B., Vokes, F.M., and. Laroque, A.C.L, 2000. Regional metamorphism remobilization: upgrading and formation of ore deposits in Rev Econ Geol, v 11, Ch 2, p19-38.

O´dale, C.P., 2015. Manicouagan Impact Crater; see www.ottawa-rasc.ca under Odale-Articles-Manicouagan, 12 p.

Rioux, G., 2008. Contrôle stratigraphique et qualité mineralurgique des gites de graphite des lacs Guéret et Guinecourt, Terrane de Gagnon, Province de Grenville. M.Sc. thesis, Université du Québec à Montréal (UQAM), 140 p.

Roy, I., 2004. Projet Lac Guéret Nord (1339N), Rapport sur les travaux d'exploration en 2004, Secteur du Bloc C pour SOQUEM Inc. and Quinto Technology Inc. , 41 p, QM 61184.

Spray, J.G., Kelley, S.P. and Rowley, D.B. (1998). "Evidence for a late Triassic multiple impact event on Earth". Nature, v. 392, pp. 171-173 (abstract).

Simandl G.J. and Kenan W.M. (1997). Crystalline Flake Graphite; in Geological Fieldwork 1997 British Columbia Ministry of Employment and Investment Paper 1998-1 24P-1 to 24P-3 pp.

27.3. Process

COREM, Rapport final no T-1552 Validation du diagramme d'écoulement du minerai de graphite Mason Graphite, July 21, 2014.

SGS Lakefield, 14689-001 Grindability Summary - October 30, 2014.

SGS Lakefield, An investigation into the flowsheet development for a sample from Lac Guéret Deposit prepared for Mason Graphite, Project 13838-001 Final Report, May 21, 2013.

SGS Lakefield, An Investigation into the Comminution Characteristics of Eleven Samples from the Lac Guéret Deposit prepared for Mason Graphite, Project 14689-002 Final Report, Rev 1, February 6, 2014.

SGS, The Grinding Circuit Design based on the Small-Scale Data for the Lac Guéret Project, Project 14689-003, version 1, 2015-04-06.

COREM, Rapport final No T-1716 Pilotage d'un échantillon d'exploration de Mason Graphite, July 15, 2015.

COREM, Rapport final No T-2065 Flottation de 25 tonnes de minerai du Lac Guéret pour Mason Graphite, December 5th, 2017.

COREM, Rapport final No T-2245 Flottation de 75 tonnes de minerai du Lac Guéret, October 12th, 2018.

27.4. Mining & Others

SNC Lavalin, Feasibility Study – Open Pit Slopes Design Recommendations Report, 625035-0000-4GER-0001, August 24, 2015.

SNC Lavalin, Feasibility Study – Waste Rock Pile and Overburden Stockpile Preliminary Analysis and Recommendations, 625035-0000-4GER-0003, February 27, 2015

Hatch Water Management Plan for the Mine Site and Storm Water Management Strategy for the Plant Site, H347199-0000-16-124-0001, June 19, 2015.

Ministère du Développement durable, de L'Environnement et des Parcs, Directive 019. Sur l'Industrie minière, 2012.

Ministère de l'Énergie et des Ressources naturelles du Québec, LOI SUR LES MINES (RLRQ, chapitre M-13.1).

V. Rudenno, The Mining Valuation Handbook, fourth Edition, 2012.

P. Darling, SME Mining Engineering Handbook, volumes 1 & 2, Third Edition, 2011.

BBA.CA