

## **Mineral Resource Estimate Update, NI 43-101 Report, for the Malmbjerg Property, Greenland**



PRESENTED TO  
**Greenland Resources Inc.**

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## Acronyms and Abbreviations

Abbreviation	Definition
3D	Three-dimensional
Acme	Acme Laboratories
Ai	Bond Abrasion Index
Amax	Amax Inc.
Ar	Argon
Arktisk	Arktisk Minekompagni A/S
ActLabs	Activation Laboratories Ltd.
BWi	Bond Ball Mill Work Index
CIM	Canadian Institute of Mining, Metallurgy and Exploration
CPP	Cumulative Probability Plot
CRM	Certified Reference Material
DL	Detection Limit
FNX	FNX Mining Company Inc.
G&A	General and Administrative
GEUS	Danish Geological Survey
GRI	Greenland Resources Inc.
HARD	Half Absolute Relative Difference
ICP	Inductively Coupled Plasma
InterMoly	International Molybdenum Plc.
IPL	International Plasma Labs Ltd.
K	Potassium
KGHM	KGHM Polska Miedź S.A.
MLSA	Government of Greenland Mineral Licence and Safety Authority
MMTS	Moose Mountain Technical Services
Mo	Molybdenum
MoS <sub>2</sub>	Molybdenum Disulphide
MRE	Mineral Resource Estimate
NI 43-101	National Instrument 43-101
Nordisk	Nordisk Mineselskab A/S
NSG	Non-sulphide Gangue
NQ2	4.76 cm core diameter diamond drilling
NQ3	4.51 cm core diameter diamond drilling
NSR	Net Smelter Return
OK	Ordinary Kriging Algorithm

Project	Malmbjerg Molybdenum Project
PQ	8.31 cm core diameter diamond drilling
QAQC	Quality Assurance/Quality Control
QEMSCAN	Quantitative Evaluation of Minerals by Scanning Electron Microscopy
QP	Qualified Person
Quadra FNX	Quadra FNX Mining Ltd.
Quadra	Quadra Mining Ltd.
RWi	Bond Rod Mill Work Index
SAG	Semi-Autogenous Grinding
SMC	Semi-Autogenous Mill Comminution
SGS	SGS Canada Inc.
SI	International System of Units
Std. Dev.	Standard Deviation
Tetra Tech	Tetra Tech Inc.
USA	United States of America

## Units of Measure

above mean sea level .....	amsl
acre .....	ac
ampere .....	A
annum (year) .....	a
bank cubic metres .....	bm <sup>3</sup>
billion .....	B
billion tonnes .....	Bt
billion years ago .....	Ga
British thermal unit.....	BTU
centimetre.....	cm
cubic centimetre .....	cm <sup>3</sup>
cubic feet per minute .....	cfm
cubic feet per second .....	ft <sup>3</sup> /s
cubic foot.....	ft <sup>3</sup>
cubic inch .....	in <sup>3</sup>
cubic metre.....	m <sup>3</sup>
cubic yard.....	yd <sup>3</sup>
Coefficients of Variation .....	CVs
day.....	d
days per week .....	d/wk
days per year (annum) .....	d/a
dead weight tonnes .....	DWT

decibel adjusted .....	dBa
decibel .....	dB
degree .....	°
degrees Celsius.....	°C
diameter .....	∅
dollar (American).....	USD\$
dollar (Canadian).....	Cdn\$
dry metric ton.....	dmt
foot .....	ft
gallon.....	gal
gallons per minute (US) .....	gpm
gauge .....	ga
gigajoule.....	GJ
gigapascal .....	GPa
gigawatt.....	GW
gram .....	g
grams per litre .....	g/L
grams per tonne .....	g/t
greater than.....	>
hectare (10,000 m <sup>2</sup> ).....	ha
hertz .....	Hz
horsepower.....	hp
hour .....	h
hours per day .....	h/d
hours per week.....	h/wk
hours per year .....	h/a
inch.....	"
kilo (thousand).....	k
kilogram.....	kg
kilograms per cubic metre .....	kg/m <sup>3</sup>
kilograms per hour.....	kg/h
kilograms per square metre.....	kg/m <sup>2</sup>
kilometre.....	km
kilometres per hour.....	km/h
kilopascal.....	kPa
kilotonne .....	kt
kilovolt .....	kV
kilovolt-ampere .....	kVA
kilovolts.....	kV
kilowatt .....	kW
kilowatt hour .....	kWh

kilowatt hours per tonne (metric ton) .....	kWh/t
kilowatt hours per year .....	kWh/a
less than .....	<
litre.....	L
litres per minute.....	L/m
megabytes per second.....	Mb/s
megapascal.....	MPa
megavolt-ampere .....	MVA
megawatt.....	MW
metre .....	m
metres above sea level .....	masl
metres Baltic sea level .....	mbsl
metres per minute .....	m/min
metres per second.....	m/s
metric ton (tonne) .....	t
microns.....	µm
milligram .....	mg
milligrams per litre .....	mg/L
millilitre .....	mL
millimetre .....	mm
million .....	M
million bank cubic metres.....	Mbm <sup>3</sup>
million bank cubic metres per annum.....	Mbm <sup>3</sup> /a
million pound(s) .....	Mlb.
million tonnes .....	Mt
minute (plane angle).....	'
minute (time) .....	min
month .....	mo
Neutron.....	N
ounce.....	oz
pascal.....	Pa
centipoise .....	mPa·s
parts per million.....	ppm
parts per billion.....	ppb
percent .....	%
pound(s) .....	lb.
pounds per square inch.....	psi
revolutions per minute.....	rpm
second (plane angle).....	"
second (time).....	s
specific gravity.....	SG

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square centimetre.....	cm <sup>2</sup>
square foot .....	ft <sup>2</sup>
square inch.....	in <sup>2</sup>
square kilometre.....	km <sup>2</sup>
square metre .....	m <sup>2</sup>
thousand tonnes.....	kt
tonne (1,000 kg) .....	t
tonnes per day.....	t/d
tonnes per hour .....	t/h
tonnes per year .....	t/a
tonnes seconds per hour metre cubed.....	ts/hm <sup>3</sup>
volt.....	V
week.....	wk
weight/weight.....	w/w
wet metric ton.....	wmt
year (annum) .....	a

## 1.0 SUMMARY

Tetra Tech Inc. (Tetra Tech) and Moose Mountain Technical Services (MMTS) were retained by Greenland Resources Inc. (GRI) to update the mineral resource estimate for the Malmbjerg Project (the Project), located in east-central Greenland. The purpose of this report is to support the News Release dated October 12, 2021 entitled: “Greenland Resources Announces Updated Mineral Resource Estimate on its Malmbjerg Molybdenum Project”. Hassan Ghaffari, P.Eng. and Sue Bird, P.Eng., both Qualified Persons (QPs) according to National instrument 43-101 (NI 43-101) guidelines, visited the Malmbjerg Project from August 16 to August 23, 2021. Hassan Ghaffari inspected the overall project site. Sue Bird verified previous drilling, the geologic interpretation, and the limits to the open pit resource boundaries, which at Malmbjerg is the lateral proximity to the glaciers. The International System of Units (SI), commonly known as the metric system, is used in this Technical Report, unless otherwise noted.

All currencies are expressed in United States dollars (USD\$) in this Technical Report, unless otherwise noted.

### 1.1 Mineral Resource Estimate

The Mineral Resource Estimate (MRE) has been prepared by Sue Bird, P.Eng., of MMTS. The MRE was done using the 2019 Canadian Institute of Mining, Metallurgy and Exploration (CIM) Best Practice Guidelines and are reported using the 2014 CIM Definition Standards (CIM, 2014). Table 1-1 below summarizes the total model resource for the Malmbjerg Project which has an effective date of October 12, 2021. The base case cut-off grade within the “reasonable prospects of eventual economic extraction” constraining pit is an MoS<sub>2</sub> grade of 0.08% which corresponds to a Net Smelter Return (NSR) of USD\$14.79/t. This base case cutoff grade more than covers the mineral processing, General and Administrative (G&A), and tailings costs of USD\$12.50/t milled and roasted.

Table 1-2 summarizes a range of MoS<sub>2</sub> cut-off grades to show the sensitivity of the resource estimate to variations in cut-off, with the base case highlighted. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. These mineral resource estimates include inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. It is reasonably expected that most inferred mineral resources could be upgraded to Indicated.

**Table 1-1: MRE at the Base Case Cut-off – Effective Date October 12, 2021**

Class	Tonnage	Tonnage	Grade	NSR	Mo
	(kt)	(Mt)	MoS <sub>2</sub> (%)	(USD\$/t)	(Mlbs.)
<b>Measured</b>	128,137	128	0.20	37.63	345
<b>Indicated</b>	153,310	153	0.16	28.90	317
<b>Measured &amp; Indicated</b>	281,447	281	0.18	32.87	661
<b>Inferred</b>	33,170	33	0.10	17.77	42

**Table 1-2: Sensitivity of the MRE to Cut-off Grade (Base Case Highlighted)**

Class	Cut-off	Tonnage	Tonnage	Grade	NSR	Mo
	(MoS <sub>2</sub> %)	(kt)	(Mt)	MoS <sub>2</sub> (%)	(USD\$/t)	(Mlbs.)
Measured	0.06	134,744	135	0.20	36.42	351
	0.07	131,724	132	0.20	36.98	348
	<b>0.08</b>	<b>128,137</b>	<b>128</b>	<b>0.20</b>	<b>37.63</b>	<b>345</b>
	0.09	125,017	125	0.21	38.18	341
	0.10	122,104	122	0.21	38.67	337
	0.12	115,478	115	0.21	39.72	328
	0.14	104,391	104	0.22	41.39	309
	0.16	91,958	92	0.23	43.25	284
Indicated	0.06	197,560	198	0.14	25.33	357
	0.07	177,182	177	0.15	26.86	340
	<b>0.08</b>	<b>153,310</b>	<b>153</b>	<b>0.16</b>	<b>28.90</b>	<b>317</b>
	0.09	132,804	133	0.17	30.96	294
	0.10	114,668	115	0.18	33.10	271
	0.12	93,487	93	0.20	36.07	241
	0.14	80,811	81	0.21	37.98	219
	0.16	67,363	67	0.22	40.03	193
Measured & Indicated	0.06	332,304	332	0.16	29.82	708
	0.07	308,906	309	0.17	31.18	688
	<b>0.08</b>	<b>281,447</b>	<b>281</b>	<b>0.18</b>	<b>32.87</b>	<b>661</b>
	0.09	257,821	258	0.19	34.46	635
	0.10	236,772	237	0.19	35.97	609
	0.12	208,965	209	0.21	38.08	569
	0.14	185,202	185	0.22	39.90	528
	0.16	159,321	159	0.23	41.89	477
Inferred	0.06	66,686	67	0.08	15.41	73
	0.07	52,738	53	0.09	16.32	61
	<b>0.08</b>	<b>33,170</b>	<b>33</b>	<b>0.10</b>	<b>17.77</b>	<b>42</b>
	0.09	20,724	21	0.10	19.07	28
	0.10	6,275	6	0.13	23.12	10
	0.12	1,727	2	0.18	32.83	4
	0.14	1,267	1	0.20	36.18	3
	0.16	1,154	1	0.20	37.03	3

Notes for Table 1-1 and Table 1-2:

1. Resources are reported using the 2014 CIM Definition Standards and were estimated using the 2019 CIM Best Practices Guidelines.
2. The Mineral Resource has been confined by a “reasonable prospects of eventual economic extraction” pit using the following assumptions to calculate the NSR: USD\$18/lb. Mo; 99% payable Mo, 0.15% losses and USD\$824/wmt off-site roasting costs (roasting, transport, and insurance); a 2.5% NSR royalty; and uses an 86.4% metallurgical recovery.
3. Costs for the “reasonable prospects of eventual economic extraction” pit are: mining costs of USD\$3.05/t for mineralized material and USD\$2.50/t for waste; G&A cost of USD\$3.00/t; and process costs of USD\$8.00/t. These parameters were derived from engineering studies carried out in the concept study in 2018 (DRA, 2018).
4. Average bulk densities used were 2.62 t/m<sup>3</sup> for intrusive host rocks and 2.67 t/m<sup>3</sup> for sedimentary rocks.
5. Pit slope angles are assumed at 45°.
6. A site inspection and core review were undertaken from August 15 to August 25, 2021 by Ms. Sue Bird, P.Eng. an "independent qualified person" as such term is defined in NI 43-101.
7. Conversion from MoS<sub>2</sub> to Mo is 0.599 based on the respective atomic weights 8. Numbers may not add due to rounding.
8. Numbers may not add due to rounding.

The following factors, among others, could affect the MRE: commodity price and exchange rate assumptions, pit slope angles and other geotechnical factors, assumptions used in generating the LG pit shell, including metal recoveries, and mining and process cost assumptions.

## 1.2 Terms of Reference

Mineral Resources and Mineral Reserves are estimated using the 2019 edition of the CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (CIM, 2019) and are reported using the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2014).

## 1.3 Project Description and Location

### 1.3.1 Location

The Malmbjerg Molybdenum Project is located in extremely rugged mountainous terrain in the central portion of the east coast of Greenland, approximately 30 km inland from the east coast of Greenland in an area bounded by latitudes 71° 57' N and 71 ° 59' N and longitudes 24° 14' W and 24° 19' W, as shown in Figure 1-1. The Project lies under Høstakken Mountain within a wedge-shaped exposure located at the confluence of the Arcturus and Schuchert glaciers as shown in Figure 1-2. The area is in an arctic environment with extreme relief. Elevations range from approximately 1,100 metres above sea level (masl) along the ridge top above the Project to 600 masl to 700 masl on the ice in the valleys.

### 1.3.2 Land Tenure

Property tenure consists of Exploration Licence No 2018/11, Addendum #2, granted to GRI in March 2019.

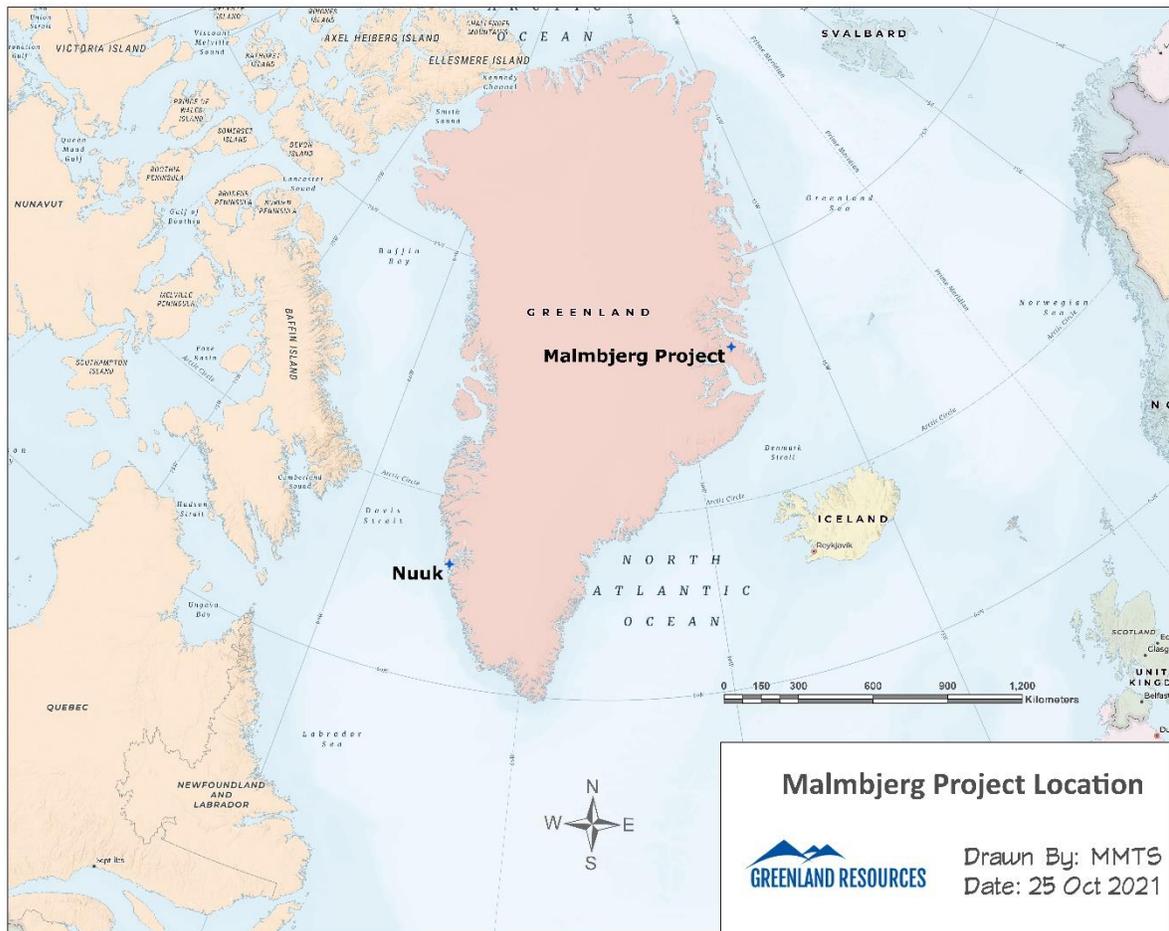
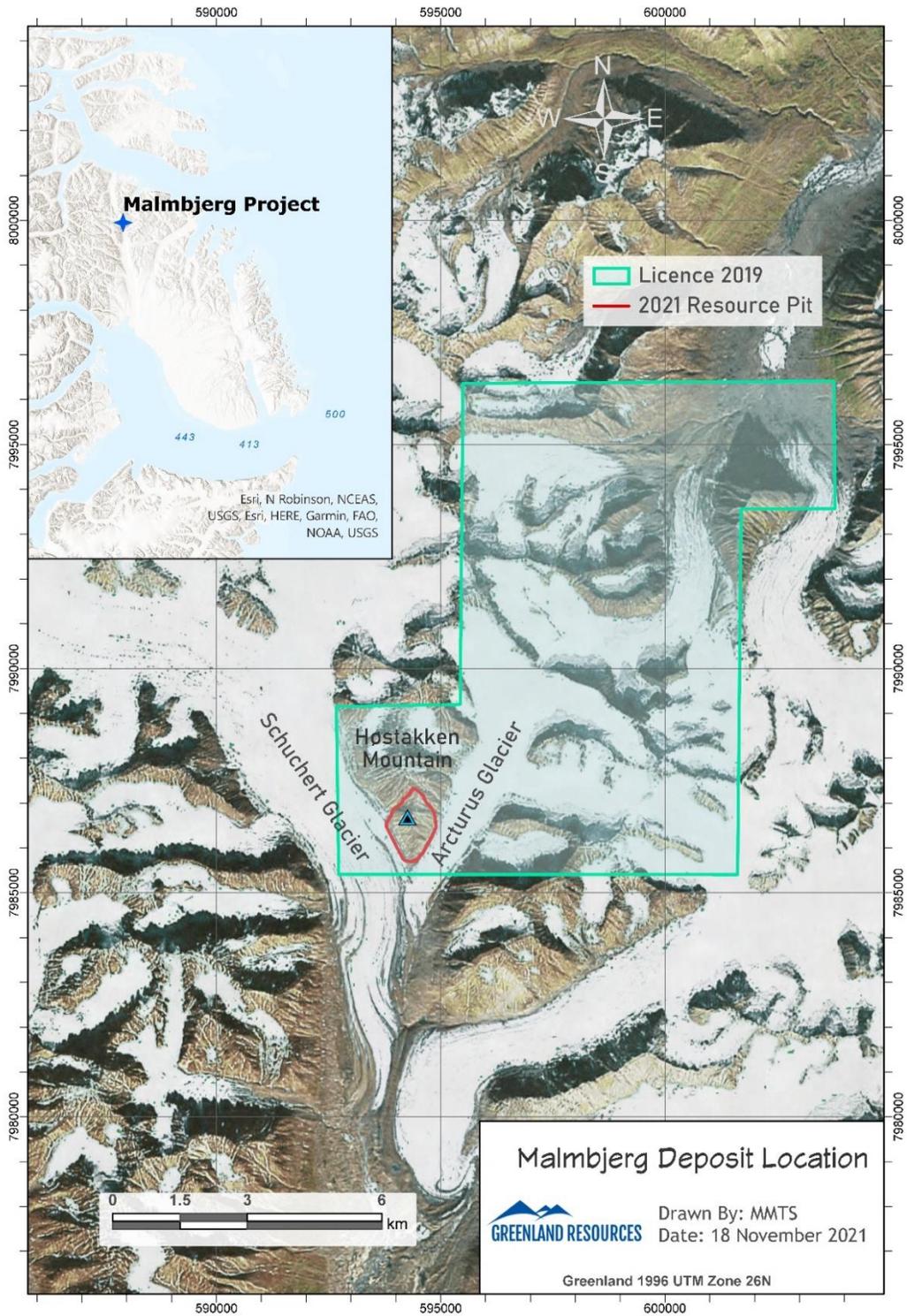


Figure 1-1: Malmbjerg Project Location (Source: MMTS)



Note: Licence was granted in 2018 and revised in 2019.

**Figure 1-2: Map View of the Malmbjerg Project at the Confluence of the Arcturus and Schuchert Glaciers (Source: MMTS)**

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

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The Project is located in the Schuchert River catchment (known as Schuchert Dal), which drains into Scoresbysund, the largest fjord system in the world. There are no roads to the Project and access is by rotary-wing aircraft only.

The closest settlement is Ittoqqortoormiit (Scoresbysund village) with about 310 inhabitants (Statistics Greenland 2019) located about 185 km south-east of the Malmbjerg Project. The closest international airport is at Nerlerit Inaat (Constable Point), located 150 km to the south-east of the Malmbjerg deposit, which is accessible by scheduled flights year round from Iceland. A closer gravel airstrip, at Mestersvig, 33 km northeast of the Project, is maintained by the Danish military. The nearest sources of logistical support are in Iceland, and supplies must either be shipped or flown to Mestersvig, and then airlifted by helicopter to the site.

In the project vicinity, there are wildlife protected areas. Access to some areas is restricted at certain times and requires special permission.

There is no infrastructure on the Project. During the 2005 work program, International Molybdenum Inc. (InterMoly) maintained a 40-person camp at site on a moraine on Schuchert Glacier, as well as a 15-person camp at Mestersvig. For the 2007 program, Quadra Mining Ltd. (Quadra) established a camp some distance south of Malmbjerg, in order to construct it on dry land. Current visits to site have employed hotel boats for crew accommodations.

The climate for the region is arctic. The mean annual temperature at Mestersvig is about -10°C; only in June, July, and August do the mean monthly temperatures rise above 0°C, with approximately 5°C mean temperature in August. February is the coldest month with -24°C mean temperature and -49°C as the extreme minimum recorded temperature. The average annual precipitation is approximately 300 mm to 400 mm reasonably well distributed throughout the year. The wettest month is usually March, with the drier months being April through to June. Snow typically occurs in every month except August.

The Malmbjerg Project lies under Høstakken Mountain within a wedge-shaped exposure located at the confluence of the Arcturus and Schuchert glaciers. Elevations range from approximately 1,100 masl along the ridge top above the Project to 600 masl to 700 masl on the ice in the valleys.

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## 1.5 History

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The Project history is summarized as follows:

- 1954 – Molybdenum mineralization discovered at Malmbjerg.
- 1955 – 1958 – Nordmine completed seven diamond drill holes totalling 1,200 m and 28 m of drift development.
- 1959 – 1961 – 70 diamond drill holes and 659 m of drifting were completed. Amax Inc. (Amax) participation in the Project began in 1960.

- 1962 – Arktisk Minekompagni A/S (Arktisk), a consortium of Amax and Nordisk Mineselskab A/S (Nordisk), the original Nordmine group, carried out 642 m of development, and 70 holes totalling 9,844 m.
- 1966 – Arktisk conducted a feasibility study for an open pit mine operation. The study concluded that the Project was only marginally profitable.
- 1973 – A pre-feasibility level sensitivity analysis was carried out by Amax, and concluded that the Project was not economic.
- 1975 – One 972 m hole drilled on the Project to look for a hypothesized deeper zone.
- 1980 – Amax terminated its interest in the Project.
- 1981 – Nordisk terminated its interest in the Project.
- 1994 – 1997 – Platinova A/S held an exploration licence over the Project but did not conduct any exploration work.
- 2004 – Galahad Gold Plc. acquired an exploration licence over the Project and the licence was transferred to InterMoly.
- 2005 – InterMoly initiated a feasibility study on the Project. Work in support of the study included diamond drilling and channel sampling to verify the MRE. RPA Inc. (now SLR Consulting Ltd.) was retained to prepare an estimate of the Mineral Resources in support of this feasibility study.
- 2007 – Quadra acquired the Project and resumed work on the feasibility study. Part of this work comprised diamond drilling from surface and underground to expand the known Mineral Resources. The feasibility study was not made public.
- 2017 – KGHM Polska Miedź S.A. (KGHM), having acquired Quadra FNX Mining Ltd. (Quadra FNX) in 2012, relinquished the licence.
- 2017 – GRI acquires the exploration licence covering the Malmbjerg Project.

## 1.6 Geology and Mineralization

The Malmbjerg Project is located within a north-northeast trending belt of Carboniferous to Lower Tertiary age sedimentary and intrusive units. Host rocks for the Malmbjerg Project comprise Mid-Tertiary alkalic leuco-granite stocks and clastic sedimentary rocks of the Lower Permian Rode Group. Intrusive rocks consist of four principal phases (listed in order of oldest to youngest): perthite granite, quartz porphyry (Arcturus porphyry), porphyritic aplite, and weakly feldspathic quartz porphyry (Schuchert porphyry). Post-mineralization basic and trachytic dikes have been mapped and occur within the Project. The basic dikes are quite narrow, usually decimetre-scale, are steeply dipping, and trend in a northeast-southwest direction. The trachytes occur as two 5 m to 15 m thick subvertical sheets, striking east-north Malmbjerg is a porphyry molybdenum deposit similar in style and morphology to the Climax deposit, Colorado, USA. Deposits of this type are typically large, measuring in the hundreds of millions of tonnes (Mt), with MoS<sub>2</sub> contents typically measuring less than 1% of the rock by weight. Late hydrothermal processes related to the intrusions were responsible for alteration and deposition of MoS<sub>2</sub> mineralization. The mineralization occurs as a diffuse zone of molybdenite ( $\pm$  accessory tungsten) in fractures and stockworks in both the intrusives and Molybdenite occurs as fracture-fillings and disseminations in association with hydrothermal alteration. The deposit is broadly

dome shaped with an outside diameter of up to 600 m and a height of approximately 150 m. Accessory pyrite occurs as a halo around the molybdenite zone. Other accessory minerals include minor amounts of wolframite, scheelite, and fluorite. Re-assays done in 2021 confirmed ICP results having below detection limit (<10ppm) uranium. There is also very minor galena, sphalerite, and chalcopyrite occur in veinlets at the periphery of the Project.

## 1.7 Exploration and Drilling

GRI has not yet conducted any field work on the Property. Exploration work conducted by previous operators principally comprises mapping, surface sampling, underground drifting, diamond drilling, and channel sampling. A total of 147 holes (22,284 m) were drilled during the exploration programs carried out between 1959 and 1979. Three exploration drifts were driven in the late 1950s through to the early 1960s totalling 1,329 m. Most of the holes were drilled from underground using conventional equipment.

InterMoly carried out drilling, channel sampling, and mapping in 2005 to both confirm the pre-2005 data and expand the resource base. The program comprised 31 holes totalling 4,988 m of NQ2 (4.76 cm core dia.), NQ3 (4.51 cm), and PQ (8.31 cm) diamond drilling, 1,824 m of diamond saw channel sampling along the drift walls, bulk sampling, and geological mapping. Five of the holes were intended as twins of all or parts of earlier holes. Holes were sampled on 3 m intervals. The sampling program also included measurements of bulk density, and collection of specimens for determination of oxide Mo content.

In 2007, Quadra drilled 17 NQ2 holes totalling 4194.7 m. Holes were drilled from both surface and underground to test for extensions of the known mineralization throughout the planned pit volume, as well as to determine acid generation potential of the waste material.

## 1.8 Sample Preparation, Analyses, and Security

For the early drill programs, samples were analyzed on site using a colorimetric method. Assay Quality Assurance and Quality Control (QAQC) protocols were neither reported nor applied.

All primary assaying in the 2005 and 2007 drill programs was done at Acme Laboratories (Acme) in Vancouver, B.C., an independent laboratory holding ISO9001 accreditation at the time, using 4-acid digestion followed by Inductively Coupled Plasma (ICP) spectrophotometry, with appropriate analytical QAQC protocols.

Both Quadra and InterMoly included QAQC samples in the assay stream at a somewhat lower rate than expected. However, the results of the blanks, Certified Reference Materials, and duplicates are acceptable.

The QP has determined that the sampling, analysis, and security programs are appropriate for resource estimation.

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## 1.9 Data Verification

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The QP concludes that data from all phases of drilling and channel sampling are of adequate quality and suitable for resource estimation.

Because 66% of the data available for modeling are historic and are not supported by certificates or QAQC, these historic data have been validated from multiple angles:

- In 2005, InterMoly collected and assayed 131 pulps from the historic sampling. Review of these results shows acceptable results.
- Quarter core duplicate samples collected by the QP in 2021 show acceptable results.
- The comparison of five holes drilled in 2005 as twins to the historic holes show comparable results.
- Statistical point validation was used to compare the Mo assays of the historic data to the 2005 and 2007 drilling, as well as the assays of channel samples to drill hole data. There was no bias observed between the two sets.

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## 1.10 Mineral Processing and Metallurgical Testing

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During the 2005 confirmation drilling program, InterMoly drilled five PQ size holes for the purpose of collecting metallurgical samples. In addition to the PQ core, bulk samples were blasted from underground and collected from NQ holes. Metallurgical testing carried out by SGS Lakefield Research Limited (SGS) indicates that recoveries in the order of 86% could be achieved using conventional crushing, grinding and froth flotation.

InterMoly personnel also took approximately 60 samples to test for degree of oxidation. The samples were collected from both underground and surface locations. The proportion of oxide Mo in these samples is observed to be highest on surface, diminishing with depth. Oxide Mo content varies from 60% of total Mo on surface to 47% between 0 m and 10 m from surface, to 17% between 10 m and 20 m from surface. RPA reduced the sulphide Mo grade by 33% to a depth of 20 m below surface to account for the impact of oxidation on metallurgical recovery.

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## 1.11 Conclusions and Recommendations

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The QP concludes that the MRE contained in this report is appropriate for the Project and the purpose of the report.

The following recommendations are made by the QP:

- Future drilling programs should employ QAQC sample inclusion rates consistent with current practice to include blanks, field duplicates, coarse duplicates, and Certified Reference Materials (CRMs).
- A collar survey should be done to comprise 10% of all collars with equal spatial distribution.
- Additional work on the current location of the edge of the glacier, and the extent of glacial ablation should be undertaken to determine the rate of change of melting.
- Additional sampling of historic core would be beneficial to add to the validation database.

- Complete an Environmental Impact Assessment and a Social Impact Assessment (required to obtain an exploitation licence for Malmbjerg).
- Update earlier Feasibility Study work conducted by previous operators, including geotechnical analysis, material handling design, and infrastructure requirements.
- A budget for the work is summarized in Table 1-3.

**Table 1-3: Budget for Feasibility Study, EIA, and SIA**

Item	Cost (\$ millions)
Field Programs	2.0
EIA and SIA	0.3
Feasibility Study	2.6
Project Management & Administration	1.4
<b>Total</b>	<b>6.3</b>

## 2.0 INTRODUCTION

MMS was retained by GRI to update and re-address an independent Technical Report on the Malmbjerg Molybdenum Project, located near Mestersvig on the east coast of Greenland. GRI is a Toronto-based exploration company which acquired the exploration licence on the Project in 2017. The purpose of this report is to support the News Release dated October 12, 2021 entitled: “Greenland Resources Announces Updated Mineral Resource Estimate on its Malmbjerg Molybdenum Project”.

The original Technical Report was prepared for InterMoly in 2005 by Scott Wilson Roscoe Postle Associates Inc., a predecessor company of RPA. The 2005 report was re-addressed in April 2007 to Quadra Mining Limited (Quadra), now KGHM. Following completion of a drilling program in 2007, the MRE and Technical Report were updated by Scott Wilson Roscoe Postle Associates Inc. (RPA) and issued in 2008. With no additional data, or changes to the model, RPA updated the MRE in 2018 to include a constraining pit shell. No further data has been collected since 2007, hence the 2008 and 2018 reports by RPA form the basis of this Technical Report.

This Technical Report conforms to National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects.

### 2.1 Terms of Reference

All currencies are expressed in USD\$. Mineral Resources and Mineral Reserves are estimated using the 2019 edition of the CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Best Practice Guidelines) (CIM, 2019) and are reported using the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves (2014 CIM Definition Standards) (CIM, 2014).

### 2.2 Qualified Persons

The following serve as the QPs for this Technical Report as defined in NI 43-101 Standards of Disclosure for Mineral Projects, and in compliance with Form 43-101F1:

Sue Bird, P.Eng., Moose Mountain Technical Services, for sections 1.1, 1.3, through 1.9, 1.11, 4.0 through 12.0, 14.0, 23.0, 25.0, 26.1 through 26.3, and 27.0.

Hassan Ghaffari, P.Eng., Tetra Tech Inc., for sections 1.2, 1.10, 2.0, 3.0, 15.0 through 22.0, 24.0 and 26.4.

Andre De Ruijter, P.Eng., Tetra Tech Inc., for section 13.0 and 27.0.

### 2.3 Site Visits and Scope of Personal Inspection

Sue Bird, P. Eng., a QP according to NI 43-101 guidelines, visited the Malmbjerg Project from August 16 to August 23 in 2021 and verified previous drilling, the geologic interpretation, and the limits to the open pit resource boundaries, which at Malmbjerg is the lateral proximity to the glaciers. To verify the drill hole database, a total of nine samples were collected on the site visit from two core storage areas for a total of 96 meters of core. These samples were shipped to Activation Laboratories Ltd. (ActLabs) for re-assaying which confirms the historic drilling grades. In addition, verification of the historic drillhole

collars in the Arcturus and South adits was completed and documented. The underground channel samples used for the Resource Estimate were confirmed to be consistent with sampling appropriate for resource estimation along the entire length of the adits. Field observations of the mineralized zone were made and verified the geologic interpretation used in the resource modelling. In addition, survey points were taken to adjust the effect the lateral extents of the glaciers had on the limiting resource shell used for the Resource Statement.

Hassan Ghaffari, a QP according to NI 43-101 guidelines, conducted a personal inspection of the Malmbjerg Property from August 16 to August 23, 2021 and inspected the overall project site.

## 2.4 Effective Dates

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This Technical Report has the following effective date:

- Effective Date of the MRE: October 12, 2021

## 2.5 Information Sources

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Information sources used in compiling this report are included in Section 27.

## 2.6 Previous Technical Reports

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The most recent technical report on the Project was filed on behalf of GRI in 2021 entitled: *Rennie, D., "Technical Report on the Mineral Resource Estimate for the Malmbjerg Deposit, Greenland"*.

## 3.0 RELIANCE ON OTHER EXPERTS

This Technical Report has been prepared by Tetra Tech for GRI. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to Tetra Tech and MMTS at the time of preparation of this Technical Report.
- Assumptions, conditions, and qualifications as set forth in this Technical Report.

For the purpose of this Technical Report, MMTS has relied on ownership information provided by GRI. GRI has relied on a title opinion letter dated February 2, 2018 from Anita Strauss Sorensen, lawyer for Nuna Law Firm in Nuuk, Greenland. This opinion is relied on in Section 4.0 and the summary of this Technical Report. Tetra Tech has not researched property title or mineral rights for the Malmbjerg Project and expresses no opinion as to the ownership status of the Property.

Except for the purposes legislated under Canadian securities laws, any use of this Technical Report by any third party is at that party's sole risk.

## 4.0 PROPERTY DESCRIPTION AND LOCATION

The Malmbjerg Molybdenum Project is located in extremely rugged mountainous terrain, in the central portion of the east coast of Greenland.

Exploration licences are issued and monitored by the Government of Greenland Mineral Licence and Safety Authority (MLSA). Cash payments must be made and assessment work completed to maintain the licence. A title opinion letter from Nuna Law Firm (2021) states that GRI is the sole owner of License No. 2018/11 and all payments due had been paid and that the licence was current.

The original licence, measuring 11 km<sup>2</sup> in area that encompasses the Malmbjerg deposit, was issued to GRI in December 2017, and became effective on January 18, 2018. In March 2019, GRI successfully applied to MLSA for an enlargement of the licence area to its present size of approximately 82 km<sup>2</sup>. The term of these licences is initially for two periods of five years which may be extended for three years at a time up to 22 years. An extension of up to ten years may be granted on modified terms (Nuna, 2021).

The Project is located 30 km from Greenland's east coast, near Latitude 72° north. The Malmbjerg licence area, as updated in March, 2019, is described in an agreement signed by GRI and the Government of Greenland (Licence No. 2018/11, Addendum no.2, 2019), and is located in the central portion of the east coast of Greenland, approximately 600 km north of Iceland (Note: Licence was granted in 2018 and revised in 2019).

Figure 1-2. The licence area encompasses the Malmbjerg Project and covers approximately 82 km<sup>2</sup>.

GRI has applied to MLSA for the transfer of ownership of License No. 2018/11 to a wholly-owned Greenland-based subsidiary, Greenland Resources A/S. The purpose for the transfer is to fulfill a legal requirement for conversion of the MEL to an Exploitation Licence. At the time of writing, the transfer request was awaiting approval from MLSA.

The QP does not provide opinions regarding property tenure. However, MMTS has reviewed the documentation provided by GRI and the documentation posted on the MLSA website ([www.govmin.gl](http://www.govmin.gl)) and has no reason to doubt the validity of the property tenure documentation.

The QP is not aware of any environmental liabilities on the Project. GRI has all required permits to conduct the proposed work on the Project. MMTS is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the Project.

In regards to the establishment of project infrastructure: in Greenland, there is no private ownership of land as all land belongs to the public. Pursuant to section 1407 of the Greenland Exploration Standard Terms, a licensee is entitled to establish buildings, production plants, installations, tailings, and waste disposal sites, etc. within and outside of the licence area provided they are approved in accordance with articles 10 (now section 19) and 25 subsection 1 (now section 86 subsection 1) of the Mineral Resources Act. (Nuna, 2021)

## 5.0 ACCESSIBILITY, LOCAL RESOURCES, INFRASTRUCTURE CLIMATE, AND PHYSIOGRAPHY

### 5.1 Accessibility

The Project is located approximately 30 km inland from the east coast of Greenland in an area bounded by latitudes 71° 57' N and 72° 03' N and longitudes 24° 00' W and 24° 19' W as shown in Figure 5-1. The Project is located in the Schuchert River catchment (known as Schuchert Dal), which drains into Scoresbysund, the largest fjord system in the world.

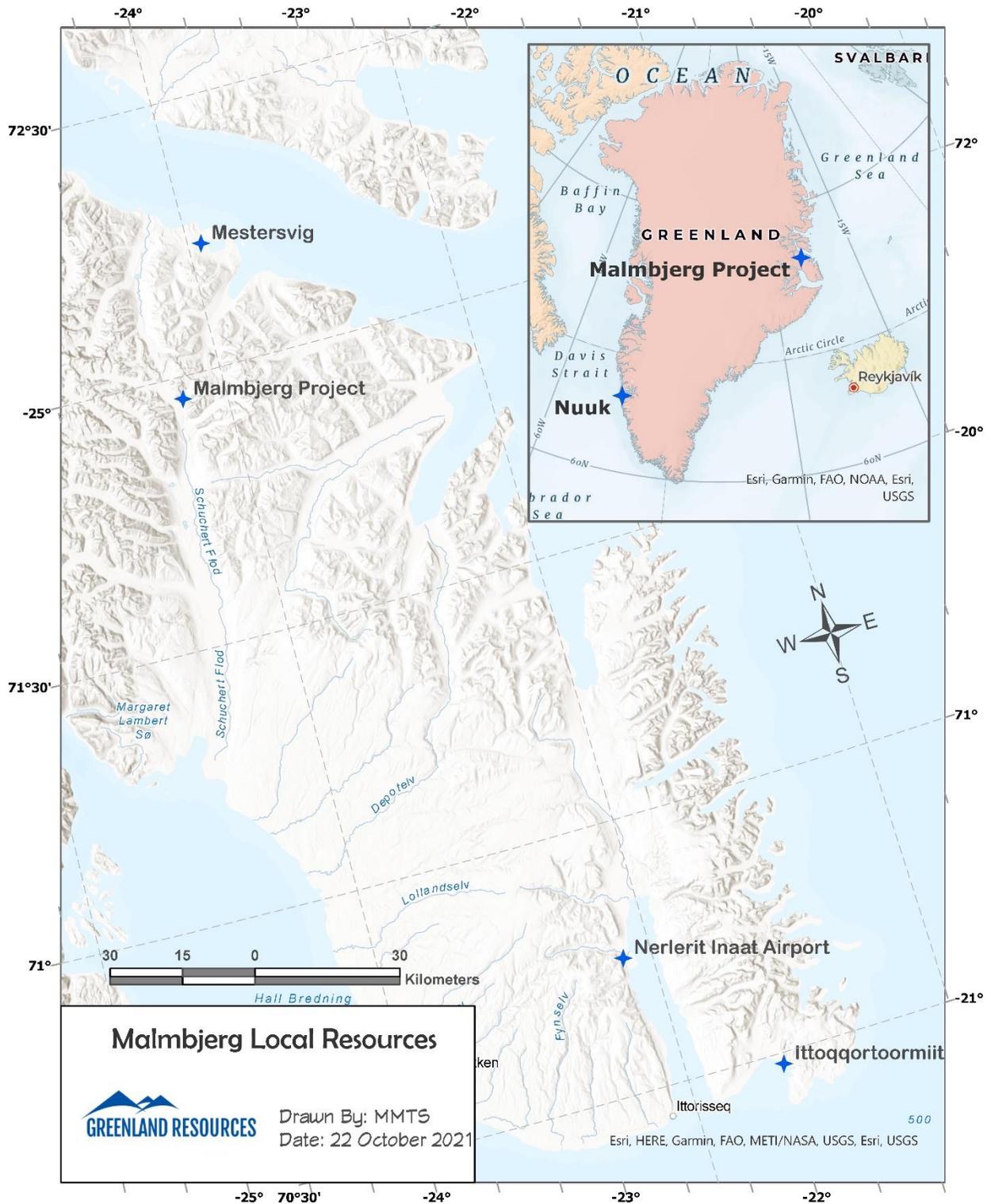
There are no roads to the Project and access is by rotary-wing aircraft only.

### 5.2 Local Resources

The closest settlement is Ittoqqortoormiit (Scoresbysund village) with about 310 inhabitants (Statistics Greenland 2019) located about 185 km south-east of the Malmbjerg deposit, as shown in Figure 5-1. The closest international airport is at Nerlerit Inaat (Constable Point), located 150 km to the south-east of the Malmbjerg deposit, which is accessible by scheduled flights year round from Iceland. A closer gravel airstrip, at Mestersvig, 33 km northeast of the deposit, is maintained by the Danish military. The nearest sources of logistical support are in Iceland, and supplies must either be shipped or flown to Mestersvig, and then airlifted by helicopter to the site.

The nearest sources of logistical support are in Iceland, and supplies must be either shipped or flown to Mestersvig, and then airlifted by helicopter to the site. At Mestersvig, located approximately 33 km to the northeast of the Project, there exists a gravel airstrip maintained by the Danish military. This airstrip is capable of handling Hercules C-130 aircraft or equivalent and serves as a principal entry point for the region.

In the Project vicinity, there are wildlife protected areas. Access to some areas is restricted at certain times and requires special permission. The only people who have free access are the Ittoqqortoormiit hunters who are allowed limited hunting access under certain circumstances.



**Figure 5-1: Malmbjerg Local Resources (Source: MMTS)**

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## 5.3 Infrastructure

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There is no infrastructure on the Project. During the 2005 work program, InterMoly maintained 40-person camp at site on a moraine on Schuchert Glacier, as well as a 15-person camp at Mestersvig. For the 2007 program, Quadra established a camp some distance south of Malmbjerg, in order to construct it on dry land. Current visits to site have employed hotel boats for crew accommodations.

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## 5.4 Climate

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The climate for the region is arctic. Weather records at Mestersvig were collected by the Danish Meteorological Institute between 1961 and 1985 and at Nerlerit Inaat Airport from 1996 to 2001. The mean annual temperature at Mestersvig is about -10°C; only in June, July, and August do the mean monthly temperatures rise above 0°C with approximately 5°C mean temperature in August. February is the coldest month with -24°C mean temperature and -49°C as the extreme minimum recorded temperature.

InterMoly and Quadra installed three automated weather stations in the Malmbjerg area to record weather data for the period of June 2005 to April 2014. During this period, the average annual temperature at an elevation of 700 masl was -8°C and the minimum temperature recorded was -28°C. Additionally, the maximum wind speed recorded during this period was 20 m/s.

The average annual precipitation is approximately 300 mm to 400 mm reasonably well distributed throughout the year. The wettest month is usually March, with the drier months being April through to June. Snow typically occurs from September until July. A maximum snow depth of approximately 150 cm is reached from March to May.

Wind data have been recorded on the Jameson Land between 1982 and 1988. Wind direction during winter is predominantly from the north-northeast, and in summer from the west and northwest. Highest wind speeds occur mostly in the winter, with maximum recorded speed of 52 m/s.

In the low land and open-sea areas fog appears frequently between June and September and may persist for several days.

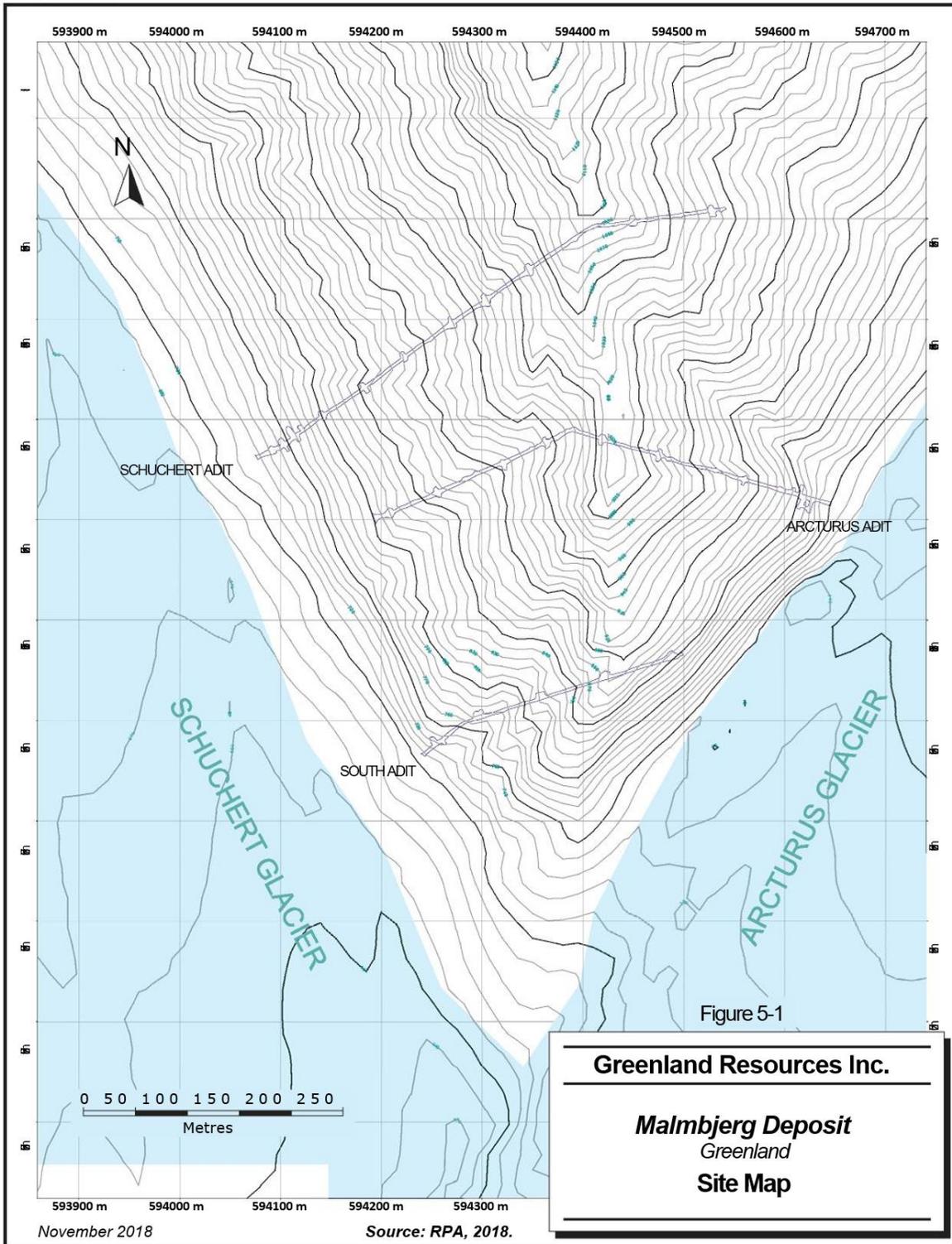
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## 5.5 Physiography

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The Malmbjerg Molybdenum Project lies under Høstakken Mountain within a wedge-shaped exposure located at the confluence of the Arcturus and Schuchert glaciers (Figure 5-2). Elevations range from approximately 1,100 masl along the ridge top above the Project, to 600 - 700 masl on the ice in the valleys.

The Project area is situated in the transition zone between the high arctic and the low arctic habitats. Several types of dwarf shrub heaths dominate the dry areas, while fens and grassland dominate the lower wet areas. More than 70% of the area is either snow, ice, bare ground or very sparsely vegetated. In the vicinity of the proposed mine area, there is no reported vegetation.



**Figure 5-2: Site Map (Source: RPA)**

## 6.0 HISTORY

### 6.1 Prior Ownership

The Malmbjerg Project was discovered in 1954 by geologists of the Danish East Greenland Expedition. From 1955 to 1958, the Project was operated by Nordmine, which in 1959, was restructured and renamed Nordisk Mineselskab A/S (Nordisk). Amax began participation in the Project in 1960 via a joint venture agreement and took over management of the exploration work. By 1962, Amax had fully earned into the Project under the terms of the joint venture, and the entire corporate structure was reorganized into Arktisk.

Amax dropped its interest in the Project in 1980. Nordisk continued with reconnaissance level mapping and sampling but terminated its interest in 1981.

No work is recorded on the Project from that time until 2004. Platinova A/S held an exploration licence on the ground from 1994 to 1997 but did not do any field work. In 2004, Galahad Gold Plc acquired an exploration licence and carried out a review of available data. The licence was transferred to InterMoly in December 2004.

On March 30, 2007, Quadra announced an offer to purchase InterMoly shares and warrants for one Quadra share for each 36.22 InterMoly shares, and one Quadra share for each 99.23 InterMoly warrants. The offer agreement officially closed on June 22, 2007, at which time Quadra had acceptances for approximately 82.47% of InterMoly shares and 90.82% of InterMoly warrants.

Quadra eventually merged with FNX Mining Company Inc. (FNX) in 2010 to form Quadra FNX Mining Ltd., and was acquired by KGHM in 2012. KGHM relinquished the licence in 2017. GRI applied for and acquired the present licence in December 2017.

The licence was extended in March 2019, under agreement with the government of Greenland (Naalakkersuisut, 2019).

### 6.2 Exploration and Development History

From 1955 to 1958, Nordmine carried out exploration work consisting of prospecting, surface sampling, geological mapping, and a modest amount of diamond drilling. Nordmine collared the Brinch (now Schuchert) adit and drove in 28 m. They also drilled seven holes totalling 1,200 m. Samples were taken at 5 m intervals in these holes and sent to Germany for analysis.

In 1959, Nordmine was restructured into Nordisk and exploration work resumed with an additional 182 m of advance on the Brinch adit. In addition, the Arcturus adit was collared on the east side of the mountain and driven westward for 477 m. Diamond drill holes were fanned from these drifts along sections spaced approximately 40 m to 50 m apart, oriented primarily NW-SE. A total of 70 holes were drilled from 1959 to 1961. Sampling was carried out on 10 m intervals and analyzed at a laboratory established on site. Amax began participation in the Project in 1960 via a joint venture agreement and took over management of the exploration work.

By 1962, Amax had fully earned into the Project under the terms of the joint venture. During that year, the South adit was collared and driven 277 m, and the Brinch adit was extended 365 m. Diamond drilling continued from underground with the completion of another 70 holes totalling 9,844 m.

Following the 1962 program, field work effectively ceased and, for the next decade or so, work focused on evaluation of the resource and feasibility studies.

In 1966, Arktisk conducted a feasibility study for a projected 8,500 tonnes per day (t/d) operation with a molybdenum price USD\$1.00 to USD\$1.50 per lb. The study concluded that the Project was only marginally profitable and little more was done on the Project until 1973. In that year, Amax retained a London-based engineering consortium to carry out a pre-feasibility level sensitivity analysis. This study contemplated three different sized open pit mines ranging in production rate from 10,000 tpd to 30,000 tpd, and a price per pound of molybdenum of USD\$1.70 per lb. The result of this study showed that the Project was marginally sub-economic and Amax decided not to proceed further.

In 1974, Amax embarked on a detailed review of the exploration data collected up to that point. This work included relogging of approximately 50% of the core. Based on this work, a single 972 m hole was drilled from surface to look for a possible second zone at depth. Another hole on a second target area was also proposed but was not drilled after the first hole was unsuccessful. By the end of 1979, diamond drilling on the Project totalled 22,284 m in 147 holes, along with 3 exploration drifts totalling 1,329 m.

InterMoly initiated a pre-feasibility study for the Project in 2005. Work included diamond drilling and channel sampling to confirm the older drill data and the mineral resources. InterMoly completed 31 diamond drill holes totalling 4,988 m, 1,824 m of diamond saw channel sampling along the drift walls, bulk sampling, and geological mapping. Five of the holes were intended as twins of all or parts of earlier holes. The sampling program also included measurements of bulk density and collection of specimens for determination of oxide Mo content.

Beginning in 2007, Quadra continued with feasibility-level engineering studies, which included 4,195 m of diamond drilling to both expand the resource and support acid generation testing. Quadra also applied for and was granted an Exploitation Licence for the Project from the Greenland Bureau of Mines.

The drilling and sample work conducted by InterMoly and Quadra is discussed in more detail in Sections 9.0, 10.0, and 11.0 of this report.

## 6.3 Past Production

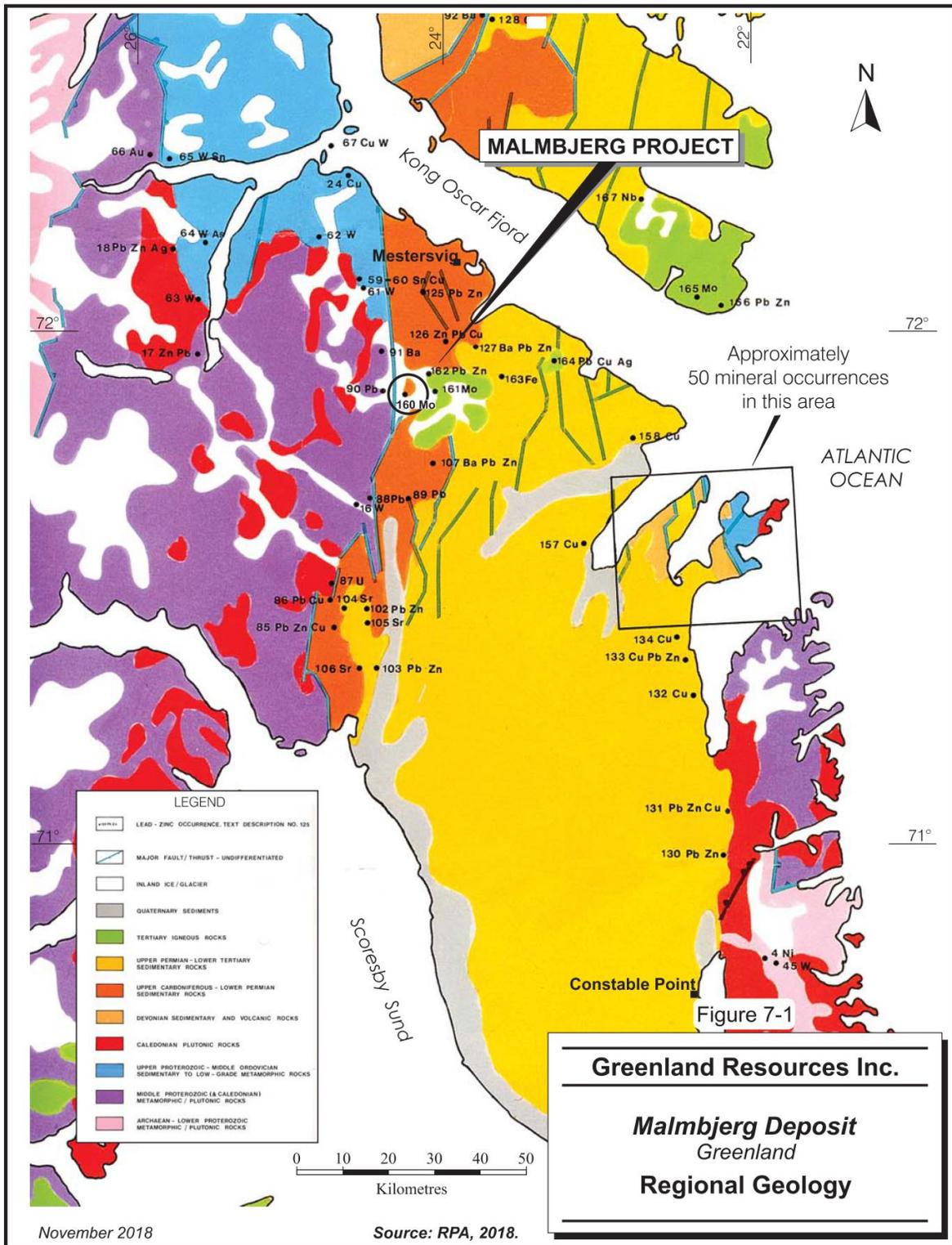
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There has been no production at Malmbjerg to date.

## 7.0 GEOLOGICAL SETTING

### 7.1 Regional Geology

The Malmbjerg Project is located within a north-northeast trending belt of Carboniferous to Lower Tertiary age sedimentary and intrusive units (Shonwandt and Dawes, 1992). This belt is bounded on the east and west by Archaean to Upper Proterozoic metamorphic and plutonic rocks (Figure 7-1). These rocks have been complexly folded and overthrust during Caledonian collisional tectonism. The contact with the younger Paleozoic-Tertiary strata is a steeply dipping fault which developed from mid-Atlantic rifting during the separation of Greenland from Europe in Tertiary times. Tensional stress resulted in development of grabens in post-Caledonian strata and has localized intrusion of Tertiary age plutons and dikes of the Werner Bjerge Complex. A portion of one of these plutons is host to the Malmbjerg Project.



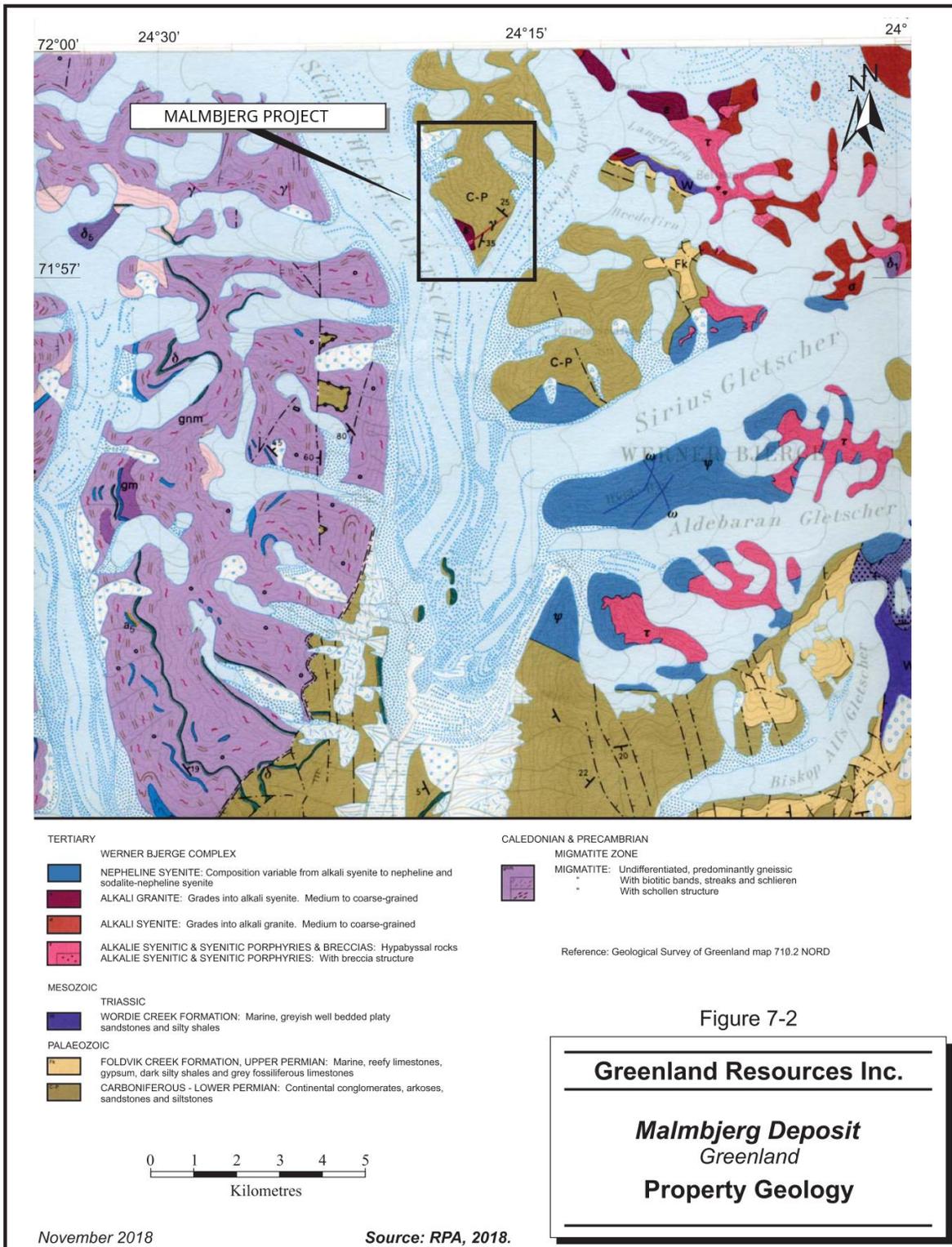
**Figure 7-1: Regional Geology (Source: RPA)**

## 7.2 Local and Property Geology

Host rocks for the Malmbjerg Project comprise Mid-Tertiary alkalic leuco-granite stocks and clastic sedimentary rocks of the Lower Permian Rode Group (Figure 7-2). The sedimentary rocks are primarily arkosic and conglomeratic sandstones that have been variously hornfelsed. Intrusive rocks consist of four principal phases: perthite granite, quartz porphyry (Arcturus porphyry), porphyritic aplite, and weakly feldspathic quartz porphyry (Schuchert porphyry). In the western cliff face of Høstakken Mountain, the intrusive/sediment contact is plainly visible, forming a broad arch with the Rode Group rocks draped over top.

Contact relationships within the intrusion are complex and are often ambiguous. The perthite granite is the most widespread phase and is believed to be the oldest. The perthite shows gradational contacts with the Arcturus porphyry, which is compositionally similar to the perthite and is discriminated primarily on the basis of texture. The Arcturus porphyry tends to occur at the top and on the northeast side of the intrusion. Its chemical similarity and complexly interlayered relationship to the perthite granite suggest that the Arcturus may just be another phase of the perthite granite. Following the Arcturus porphyry was the aplite, which occurs as both porphyritic and non-porphyritic variants. A late phase of the aplite is observed to be unmineralized. The final phase is the Schuchert porphyry, which occupies the northern portion of the Project. The Schuchert is observed to crosscut the perthite granite and the aplite. Silicification, noted in the perthite and aplite, is not seen in the Schuchert porphyry, indicating that it post-dates this alteration event.

Post-mineralization basic and trachytic dikes have been mapped and occur within the Project. The basic dikes are quite narrow, usually decimetre-scale, are steeply-dipping and trend in a NE-SW direction. The trachytes occur as two 5 m to 15 m thick subvertical sheets, striking east-northeasterly. Lamprophyre dikes have been noted in the area but have not been identified in the drift mapping or drillhole logs. K-Ar dates for the intrusives place the age of emplacement at around 25 Ma, which is late Oligocene.



**Figure 7-2: Project Geology (Source: RPA)**

A regional-scale north-south-trending fault traverses the area to the west of the Project, underneath the Schuchert glacier. This is the boundary between Archaean-Proterozoic units to the west and the Upper Paleozoic-Cenozoic package to the east. Another fault is thought to lie underneath the Arcturus glacier to the east. There are smaller scale faults observed in the underground workings, but they are not particularly numerous. Principal fracture strike directions are northwest-southeast, east-northeast, and near horizontal. Narrow, sub-horizontal greisen veins are commonly observed throughout the Project.

### 7.3 Mineralization

Molybdenite occurs as fracture-fillings and disseminations in association with hydrothermal alteration. The Project is broadly dome shaped with an outside diameter of up to 600 m and a height of approximately 150 m. Accessory pyrite occurs as a halo around the molybdenite zone. Other accessory minerals include minor amounts of wolframite, scheelite, and fluorite. Re-assays done in 2021 confirmed ICP results having below detection limit (<10ppm) uranium. There is also very minor galena, sphalerite, and chalcopyrite occur in veinlets at the periphery of the Project.

MoS<sub>2</sub> grades tend to level off at approximately 0.35% in the central high-grade core, although local grades of over 1% have been observed. The grades gradually taper off to ppm range with distance outwards and downwards. The mineralization continues up into the sedimentary rocks in the roof of the Project, but the grades are observed to diminish more rapidly than in the intrusives.

Alteration at Malmbjerg occurs as concentric zones of assemblages typical of many porphyry deposits. The innermost zone consists of a silicified zone, which is surrounded by a halo of sericite-K-feldspar alteration, and finally a biotite-magnetite-quartz zone. Extending for up to 500 m from the Project is a large zone of pyrite mineralization that has resulted in a large gossan over the surface exposures surrounding the Project.

## 8.0 DEPOSIT TYPES

Malmbjerg is a porphyry molybdenum Project similar in style and morphology to the Climax Project, in Colorado, USA. Projects of this type are typically large, measuring in the hundreds of millions of tonnes with molybdenite ( $\text{MoS}_2$ ) contents typically measuring less than 1% of the rock by weight. Late hydrothermal processes related to the intrusions were responsible for alteration and deposition of molybdenum sulphide mineralization. The mineralization occurs as a diffuse zone of molybdenite ( $\pm$  accessory tungsten) in fractures and stockworks in both the intrusives and overlying sandstones.

The mineralization occurs as a diffuse zone of molybdenite ( $\pm$  accessory tungsten) in fractures and stockworks in both the intrusives and sandstones. Molybdenite occurs as fracture-fillings and disseminations in association with hydrothermal alteration. The Project is broadly dome shaped with an outside diameter of up to 600 m and a height of approximately 150 m.

## 9.0 EXPLORATION

GRI has not conducted any field work on the Project to date. The work described in this section was carried out by previous companies.

### 9.1 Pre-2005

As stated in Section 6.0 of this Technical Report, the early exploration work was conducted by Nordmine/Nordisk and Amax. Work comprised surface sampling, mapping, prospecting, tunnelling, and diamond drilling. Three exploration drifts, totalling 1,329 m, were driven to facilitate diamond drilling, as the surface relief is too extreme to permit much surface drilling. A total of 22,284 m of drilling in 147 holes were completed in this period (Figure 10-1). Additional details of this work are provided in Section 10.0 of this Technical Report.

Records of the early work are available at the offices of the Danish Geological Survey (GEUS) in Copenhagen, Denmark. InterMoly collected several reports as well as logs and assay data for this work from GEUS. These reports provided the means to reconstruct the drill database and evaluate the early work.

The drilling data from the pre-2005 holes were compiled into a Gemcom database in 2004 by InterMoly personnel. The hole orientations were not recorded in the logs and so were measured from old plans and sections. No lithological data were entered.

GEUS has also stored a number of pulps from the early drill programs, and InterMoly was able to collect a suite of these pulps and re-assay them. The results of this work are discussed in more detail in the Section 12.0 of this Technical Report entitled Data Verification.

### 9.2 2005

InterMoly carried out drilling, channel sampling, and mapping in 2005 to both confirm the pre-2005 data, and expand the resource base. The program comprised 31 holes totalling 4,988 m of NQ2 (4.76 cm core diameter), NQ3 (4.51 cm core diameter), and PQ (8.31 cm core diameter) diamond drilling, 1,824 m of diamond saw channel sampling along the drift walls, bulk sampling, and geological mapping. Five of the holes were intended as twins of all or parts of earlier holes. The sampling program also included measurements of bulk density and collection of specimens for determination of oxide Mo content. The locations of the 2005 holes as well as the channels are shown in Figure 10-1.

Concurrent with the confirmation drilling program, InterMoly conducted geotechnical drilling on the proposed plant, port, and tailings impoundment sites, as well as exploration drilling. These holes do not impact the MRE and will not be discussed in any detail in this report.

### 9.3 2007

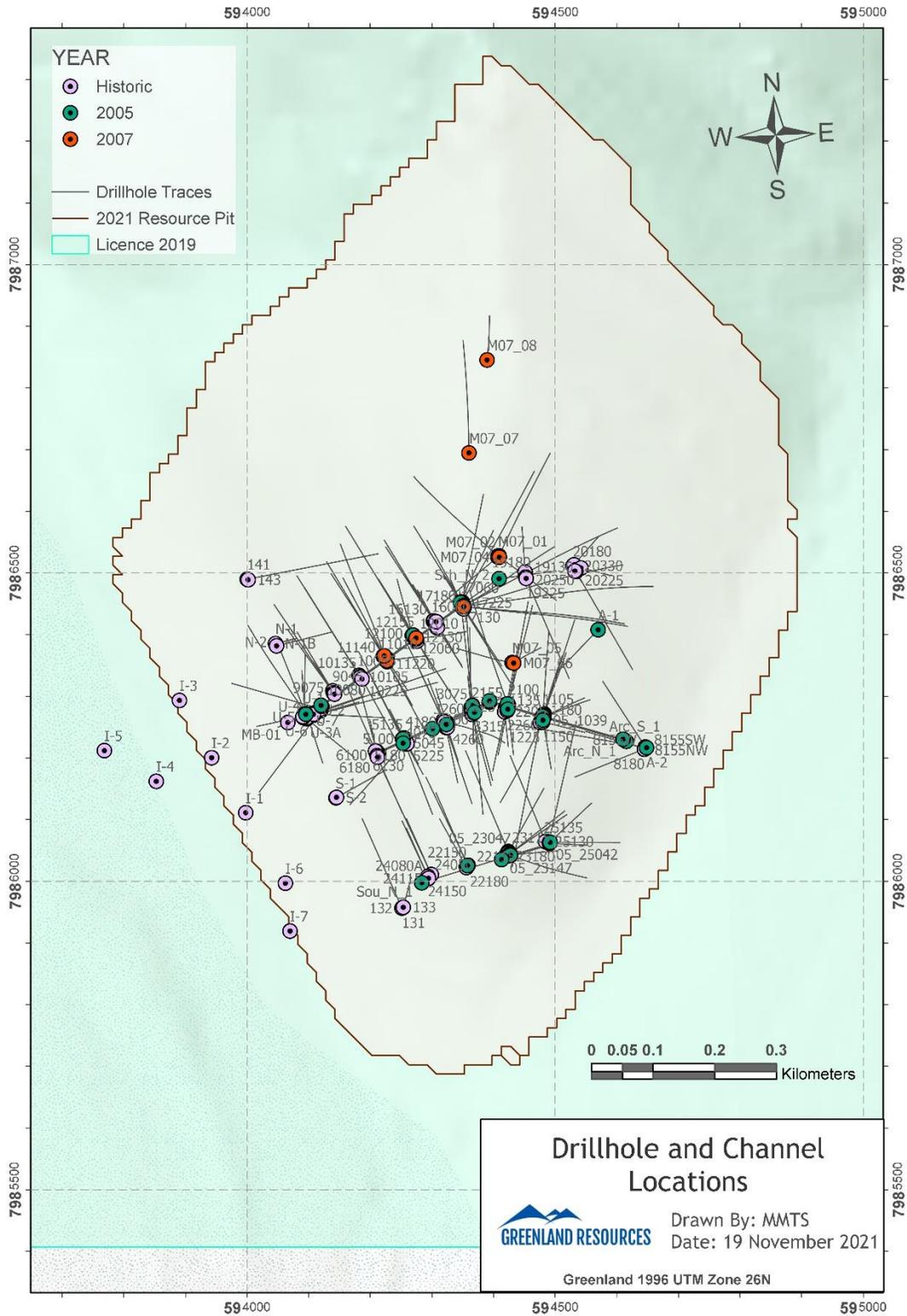
Quadra completed 17 diamond drill holes with an aggregate length of 4,195 m. The locations of these holes are shown in Figure 10-1. Details of this program are provided in Section 10.0 of this Technical Report.

## 10.0 DRILLING

The current database contains records for 195 diamond drill holes and 10 channel samples collected from the 3 adits (Schuchert, Arcturus, and South), which are treated as drill holes for the purposes of resource estimation. The total length of all drill holes and channels is 33,313.78 m, with 5,455 samples totalling 30,220.18 m of assayed length. The drilling and sampling span almost the entire working history of the Project. Much of it predates NI 43-101, so for review purposes, the work is broadly grouped into that done in the modern era by InterMoly and Quadra, for which NI 43-101 protocols were followed, and that which is considered historic (or pre-2005) and includes exploration by Nordisk (as Nordmine or Nordisk) and Amax (as Amax or Arktisk) as described in Section 6.0 of this Technical Report. All drilling is summarized in Table 10-1. Drillhole locations and traces are shown in Figure 10-1.

**Table 10-1: Summary of Drilling at Malmbjerg**

Year of Drilling	Owner	Channel	DDH	Total Length
Historic	Nordisk or Amax	--	147	22,284
2005	InterMoly	--	31	4,988
		10	--	1,824
2007	Quadra	--	17	4,218
<b>Total</b>		<b>10</b>	<b>195</b>	<b>33,314</b>



**Figure 10-1: Drill Hole and Channel Locations (Source: MMTS)**

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## 10.1 Historic Drilling by Nordisk and Amax

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A total of 147 holes for 22,284 m are recorded in the database from exploration between 1959 and 1979. Most of the holes were drilled from underground by conventional equipment. Core size was not recorded but from site investigations it appears to have been approximately equivalent to AX (3.5 cm) or BQ (4.0 cm). Collar surveys and acid dip-tests were carried out for the holes, but no downhole azimuth measurements are available in the GEUS archive.

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## 10.2 2005 Drilling by InterMoly

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The 2005 drilling included 31 diamond drill holes drilled underground from the 3 adits for 4,988 m. The program was intended as confirmation of the historic drilling, as well as collection for metallurgical and geotechnical data and in-fill gaps of the earlier drilling. 5 holes were twinned to historic holes and the results are discussed in Section 12.0, 20 holes were standard NQ2 (5.05 cm) core drilled for resource estimation only, 5 holes were PQ (8.5 cm) core drilled for metallurgy as well as resource estimation, and 6 holes were NQ3 (4.5 cm) with triple walled core tube drilled for geotechnical data as well as resource estimation. Drilling was carried out by Heath and Sherwood Drilling Inc., of Kirkland Lake, Ontario, using two Boyles 15A underground rigs.

InterMoly also collected 10 diamond saw cut channel samples along both ribs of the development headings for a total of 1,824 m. Channel samples volumes approximated an NQ hole volume by making parallel cuts approximately 3 cm apart to form a slot approximately 0.5 m to 1.0 m above the floor of the drift. Samples were chipped out in 3 m intervals using a hammer and maul. The QP inspected the channels and determined that the sampling was performed in a manner consistent with industry standards.

The 2005 program was successful in confirming the results of the historic drill programs. MoS<sub>2</sub> mineralization was intersected in most of the holes with grades and distribution similar to that encountered in the historic drilling.

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## 10.3 2007 Drilling by Quadra

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17 NQ2 holes were drilled in 2007 for a total of 4,218 m. Drilling was from surface by Geotech Drilling of Prince George, British Columbia and underground by Heath and Sherwood of Kirkland Lake, Ontario. The surface holes were testing for material captured in the preliminary pit design, just outside of the interpreted project boundary. The underground holes were primarily testing for extensions of higher grade material on the northeast margin of the Project.

For both surface and underground, core recovery was excellent, averaging better than 95% and usually better than 97%. Rock quality was observed to be very good with relatively few broken zones. Drill hole collars were surveyed and a majority subject to downhole surveys with a Reflex or Icefield instrument. Some holes were surveyed at 50 m downhole intervals and some had only one reading taken at the bottom of the hole. Both instruments take measurements based on magnetics and are therefore susceptible to errors in the presence of magnetic materials, however the Icefield tool included a magnetometer to help detect anomalous magnetic field effects. The downhole surveys showed slight to moderate deflections and any measurements deemed as clearly spurious were discarded (Rennie, 2007).

## 11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

### 11.1 Historic Sampling Programs

The sample preparation protocols used historically are not available to the QP and are not described in any provided reports; however, some information is available by inspection of the database and the historic core seen during the site visit as discussed in Section 12.0. During the pre-2005 drilling, sampling was primarily conducted on 10 m intervals of split core. It does not appear as though breaks were made in the sampling for changes in lithology. Remnants measuring less than 10 m at the end of the holes were sometimes samples at that remaining interval and sometimes combined with the preceding 10 m sample.

During the early drill programs, samples were analyzed on site using a colorimetric method, an accepted method at that time. QAQC protocols are also not described in any available reports and may or may not have been applied. Rennie (2018) reports that a number of duplicate analyses were carried out at commercial laboratories in Germany and Golden, Colorado, however these results are not available to the QP for review.

A discussion of site security during this period is not available, however the site is very remote with very limited and restricted access.

### 11.2 2005 and 2007 Sampling Programs

All drill core from the underground program was logged noting rock-types, alteration, structure, and mineralization. Samples were cut by diamond core saw at site. From site, samples were flown to Iceland and then to Acme in Vancouver, B.C. for sample preparation and analysis. Acme, now Bureau Veritas, is an independent laboratory holding ISO 9001 accreditation.

QAQC samples of blanks, field duplicates, and CRMs were included in the sample stream at the planned rate of 1:30 for each. The CRM used was provided by WCM Materials of Vancouver, BC and known as MM-1. Duplicate pulps at the rate of 1 in every 30 were also submitted to International Plasma Labs Ltd. (IPL) in Vancouver for check assays.

Sample analysis was done by ICP spectrophotometry following 4-acid digestion. Additionally, every 10<sup>th</sup> sample was subjected to whole rock analysis as well as 36 element ICP.

Specific gravity measurements were taken from 10 cm to 15 cm samples approximately every 50 m in 2005 drill holes, 15 m in 2005 channel samples, and 90 m in 2007 drill holes.

### 11.3 Quality Assurance and Quality Control 2005-2007

QAQC data were obtained from InterMoly archives on August 10, 2021 and provided from GRI on August 23, 2021. The total number of QAQC samples to include blanks, duplicates, and CRMs available in the provided databases is given in Table 11-1, which shows the overall rate of included QAQC samples to be 6.8%, somewhat lower than the current recommended rate of 12.5%, and lower than the intended rate of 10%. The lower rate is affected by the fact that duplicates and blanks were not included in the channel samples, and CRMs were not included in the 2007 drilling.

**Table 11-1: QAQC Sample Summary**

	Primary Samples	Blanks	CRMs	Duplicates	% QAQC samples
2005	2,194	52	80	50	7.7%
2007	1,237	33	0	35	5.2%
<b>Total</b>	<b>3,431</b>	<b>85</b>	<b>80</b>	<b>85</b>	<b>6.8%</b>

## 11.4 Blanks

The database contains 85 blanks included blindly in the 2005 and 2007 drilling. The Mo assay results of these are compared to the Detection Limit (DL) of 0.001% for Mo in the 4-acid digestion with ICP-ES test. Of these only one sample fails at the 5\*DL level and none at the 10\*DL as shown in Table 11-2.

**Table 11-2: Summary of Blanks 2005-2007 Results**

Year	Samples	Fails at 5*DL	% Fail at 5*DL	Fails at 10*DL	% Fail at 10*DL
2005	52	1	1.9%	0	0.0%
2007	33	0	0.0%	0	0.0%
<b>Total</b>	<b>85</b>	<b>1</b>	<b>1.2%</b>	<b>0</b>	<b>0.0%</b>

A plot of the assays in order of year and sample number is given in Figure 11-1 and shows the single failure at the 5\*DL level. The results are not indicative of contamination the Mo assays.

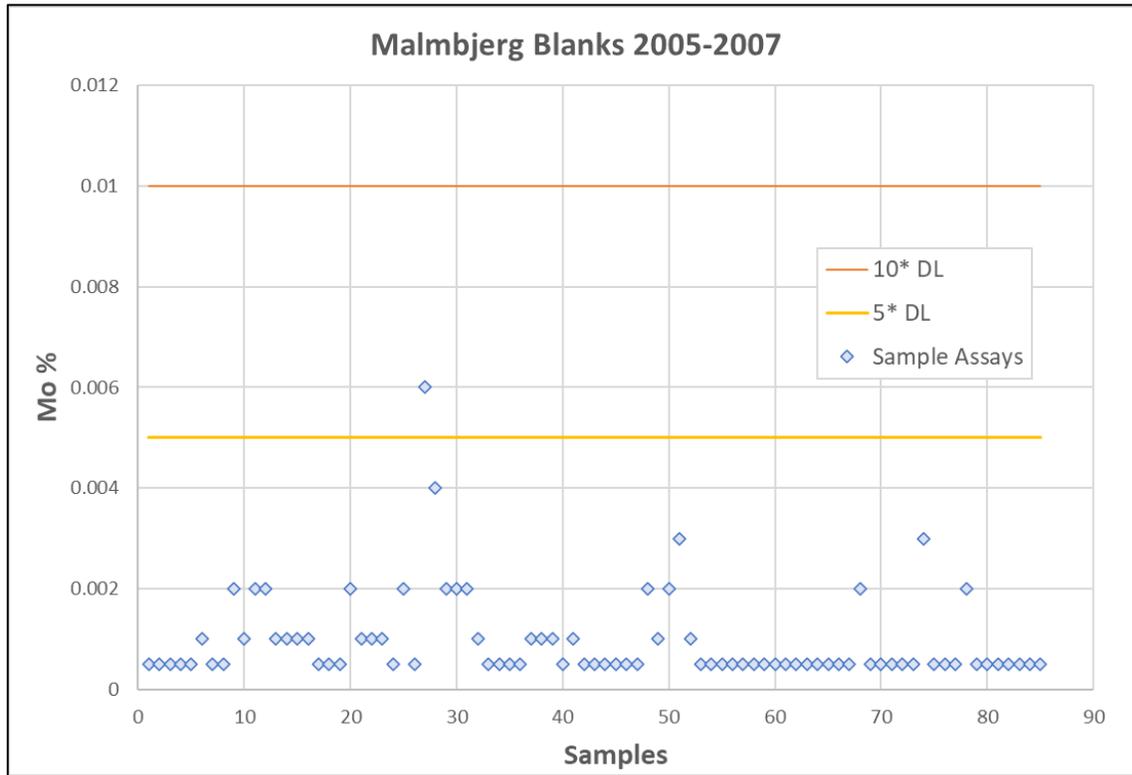


Figure 11-1: Malmbjerg Blanks 2005-2007 (Source: MMTS)

## 11.5 Certified Reference Materials

Only one CRM was included in the 2005 drilling, material MM-1 provided by WCM Materials of Vancouver, BC. MM-1 has an expected value of 0.116% Mo, with standard deviation of 0.005.

There are 80 documented samples of CRM MM-1 included in the 2005 drilling. There are sample numbers for CRM samples in the 2007 drilling submittals, however, the laboratory certificates indicate that no samples were received; apparently the samples were not included despite good intentions.

The process control chart for CRM MM-1 in 2005 is given in Figure 11-2 in order of certificate number and sample number. The mean of the CRM assays is slightly below the expected value and there appears to be an overall decreasing trend. It shows no samples at the warning or failure level. There are nine samples in the CRMs from three different certificates with notes indicating they are re-assays. On one of these pairs of certificates it is clear that the original values for MM-1 are in the failure range indicating the QAQC samples were properly monitored and re-assays were completed when required.

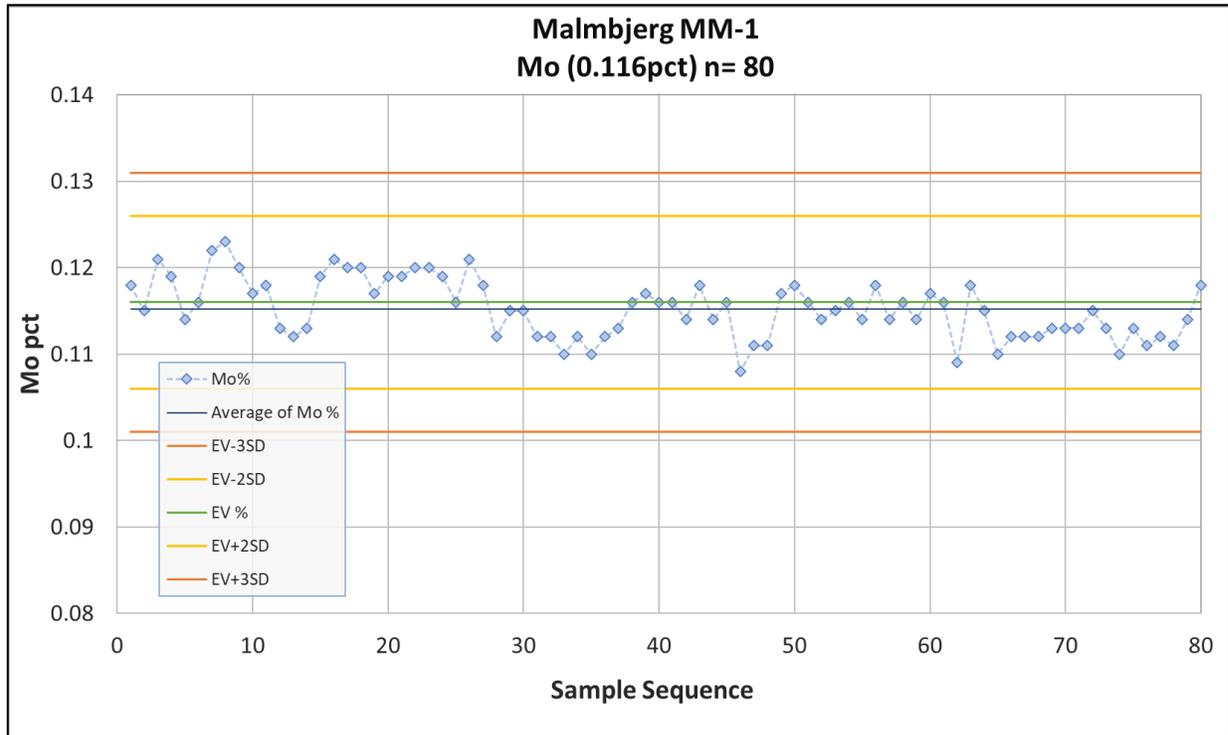


Figure 11-2: Malmbjerg CRM MM-1 (Mo = 0.116%) (Source: MMTS)

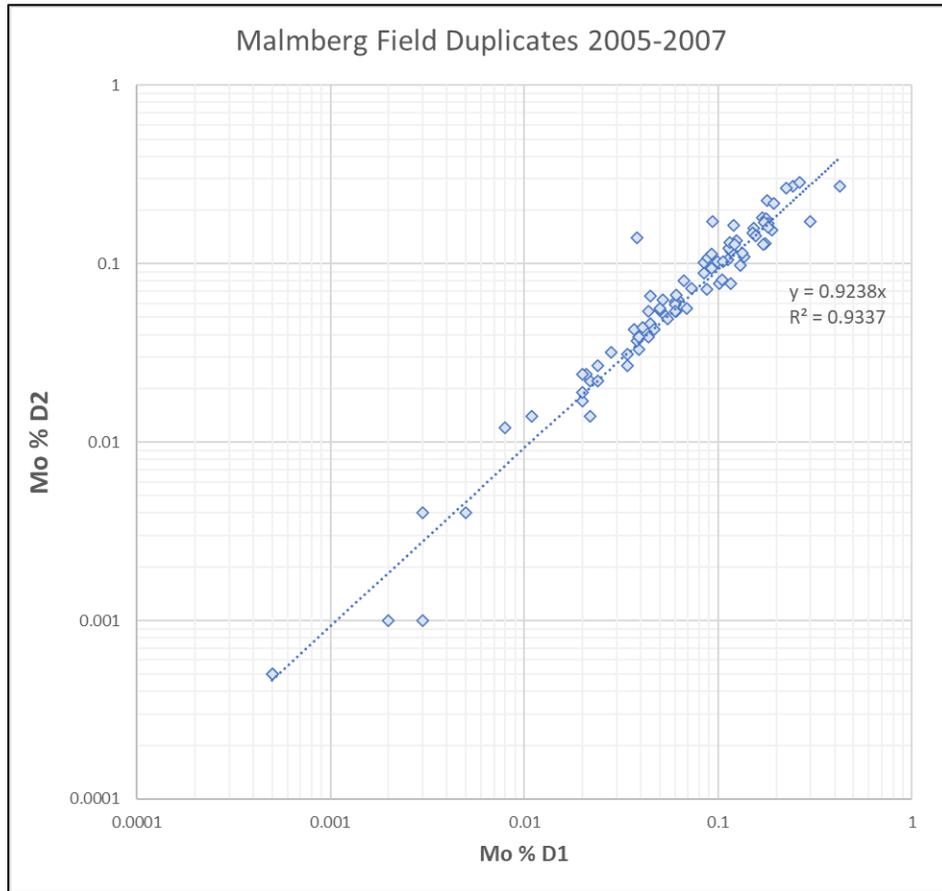
## 11.6 Duplicates

There are 85 pairs of quarter-core field duplicates collected from drilling in 2005-2007. The simple statistics of these are given in the table below and show little difference in average value.

Table 11-3: Statistics of Quarter-Core Field Duplicates Collected from Drilling in 2005-2007

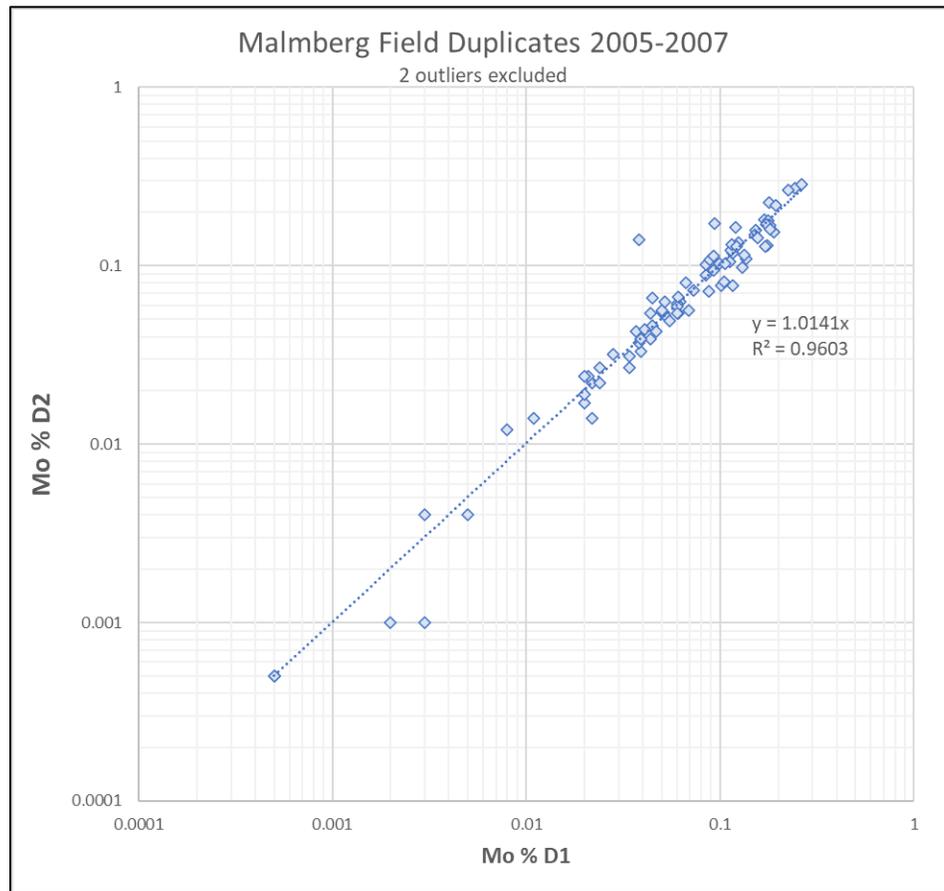
Duplicate Pairs	Average of Mo % (D1)	Average of Mo % (D2)	Std. Dev. of Mo % (D1)	Std. Dev. of Mo % (D2)
85	0.091	0.090	0.076	0.069

A scatter plot of all duplicates pairs is given in Figure 11-3 and shows good agreement between sets with a small positive bias to the primary assay set (D1).



**Figure 11-3: Malmberg Field Duplicates, All (Source: MMTS)**

This bias is influenced by two outlier pairs and when these are excluded a 1:1 slope with high R-squared value results as shown in Figure 11-4.



**Figure 11-4: Malmberg Field Duplicates, outliers excluded (Source: MMTS)**

Analysis of the Half Absolute Relative Difference (HARD) values show that 70% have less than 10% HARD, indicating acceptable field duplicates and a relatively homogenous mineralization.

## 11.7 Conclusions

Upon review of the sampling, preparation, analysis, and QAQC program at Malmberg, the QP concludes the following:

- The sampling, analysis, and security programs are appropriate for resource estimation.
- The analysis of the QAQC samples indicate the analyses are of acceptable accuracy, show a reasonable QAQC program was in place at the time of drilling, and do not give indication of contamination or other errors in laboratory processing.
- The inclusion rate of QAQC samples is lower than current industry standards. For any future drilling, it is recommended that in each batch of 40 samples, QAQC samples comprise two CRMs of different grades, one field duplicate and one preparation duplicate, to comprise 12.5% of the total sample database.

## 12.0 DATA VERIFICATION

### 12.1 Site Visit

Sue Bird, a QP according to NI 43-101 guidelines, visited the Malmbjerg Project from August 16 to August 23 in 2021 and verified previous drilling, the geologic interpretation, and the limits to the open pit resource boundaries, which at Malmbjerg is the lateral proximity to the two bounding glaciers. To verify the drill hole database, a total of nine samples were collected on the site visit from two core storage areas for a total of 96 m of core. These were shipped to Bureau Veritas (Acme Labs) in Vancouver, Canada in which results confirmed the historic drilling grades. In addition, verification of the historic drillhole collars in the Arcturus and South adits was completed and documented. The underground channel samples used for the resource estimate were confirmed to be consistent with sampling appropriate for resource estimation along the entire length of the adits. Field observations of the mineralized zone were made and the geologic interpretation used in the resource modelling was verified. In addition, survey points were taken to adjust the effect the lateral extents of the glaciers had on the limiting resource shell used for the Resource Statement.

Hassan Ghaffari, a QP according to NI 43-101 guidelines, conducted a personal inspection of the Malmbjerg Property from August 16 to August 23, 2021 and inspected the overall project site.

### 12.2 Database Verification Performed by the QP

The assay database was provided by the client in August 2021. It was checked when it was loaded into MineSight for geological and grade modeling. There were no rejected data, no missing or zero depth surveys, and no overlaps.

The total number of assay samples in the database, and the percentage and length of sampled intervals is given by year in Table 12-1. Because 66% of the data available for modeling are not supported by certificates or QAQC, it is important that the historic data be validated from multiple angles, including statistically and in comparison to modern assay results.

**Table 12-1: Percent of Samples and Assayed Length by Year**

Year	Samples in Database	Total Length of Sampled Intervals (m)	% By Length
Historic	2,023	20,024.81	66%
2005	2,194	6,571.20	22%
2007	1,237	3,624.17	12%
<b>Total</b>	<b>5,454</b>	<b>30,220.18</b>	<b>100%</b>

## 12.3 Certificate Checks and Database Corrections

The original certificates in .pdf file format were obtained from Bureau Veritas for the Mo assays in the database from assays by Acme in 2005 and 2007. All assays above cut-off grade of 0.08% Mo were checked, comprising greater than half the assays for which certificates are available. There were 1,644 assay certificates checked and no errors were discovered.

The following corrections are noted to the database:

- 592 values from channel samples in the adits had no sample or certificate numbers attached. These were updated using 2005 Access database (malmbjerg.mbd) provided by the client for sample numbers and Channel Samples\_interval.xls for the certificate numbers.
- The certificate number in database reading A25081R is corrected to be A502581R.

## 12.4 2005 IPL Check Assays

Although the QAQC program indicates 1 in 30 pulp samples were sent to IPL for outside laboratory check assays in 2005 and 2007, only samples from 2005 were available to MMTS. The simple statistics of the 69 duplicate pairs assayed by both the primary laboratories, Acme, and IPL are given in Table 12-2. The mean of the Acme results is approximately 4% higher than the mean of the IPL results.

**Table 12-2: 2005 IPL Check Assays**

Number of Samples	Acme Avg Mo%	IPL Avg Mo %	Acme Std. Dev. Mo%	IPL Std. Dev. of Mo
69	0.124	0.119	0.077	0.072

A scatter plot of duplicate pairs is given in Figure 12-1 and shows reasonable correlation between the pairs with an excellent R-squared value. The slope slightly below 1:1 confirms the slightly higher results in the Acme analyses. There are 97% of pairs with less than 10% HARD, exceeding the expectation of 90% for pulp duplicates. The QP does not find the slight high bias to the Acme results to be of great concern, and the Acme assays have been shown to be of acceptable accuracy based on CRM analysis in the previous section.

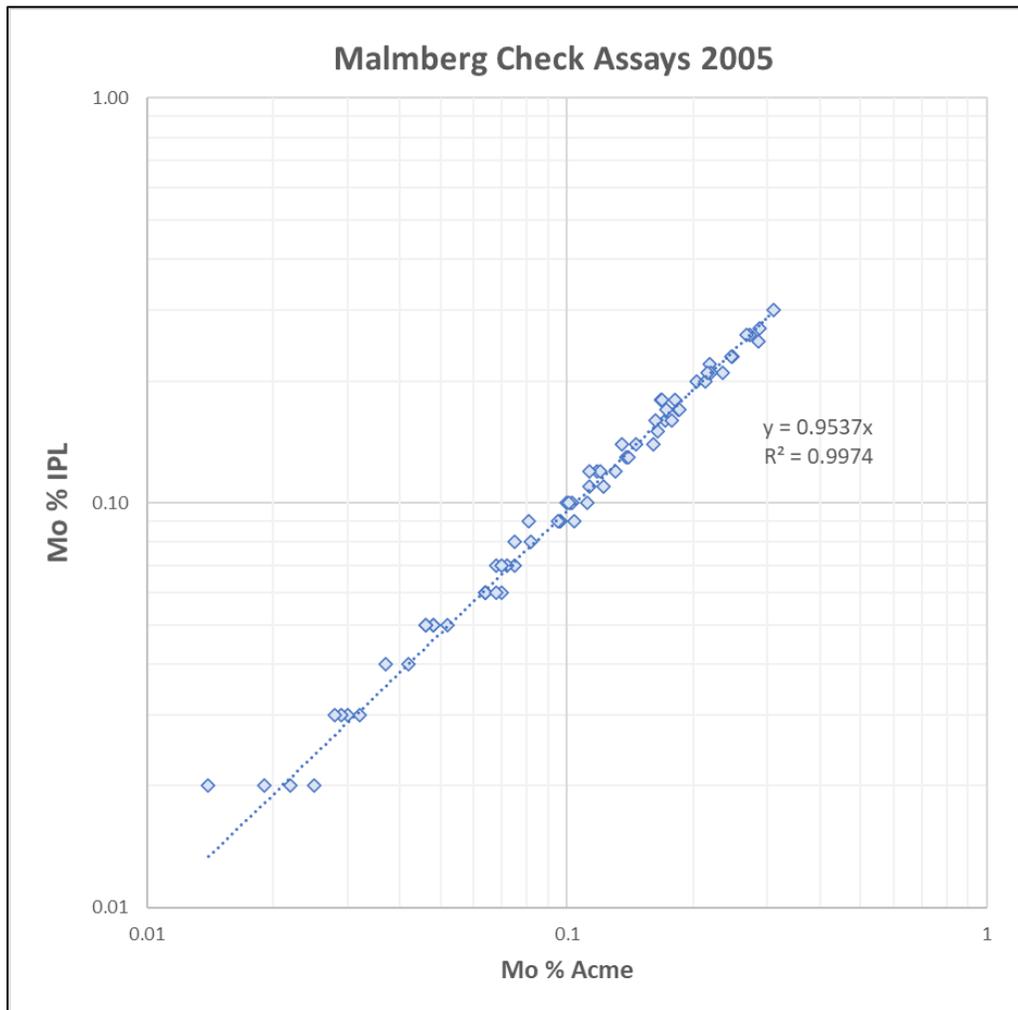


Figure 12-1: 2005 IPL Check Assay Scatter Plot

## 12.5 2005 GEUS Pulps Re-Assays

In 2005, InterMoly collected 131 pulps from the historic sampling and had them assayed for comparison to the historic data. Initially the assays were done with Aqua Regia digestion, but based upon a significant low bias, the samples were re-assayed using 4-acid digestion followed by ICP analysis (Rennie, 2018).

19 of the pulps were collected from a single hole, U-3A, and recorded as two separate 5 m halves of the 10 m interval recorded in the database. These samples were analyzed separately as a check on whether sampling half the interval on site in 2021 could yield reasonable results. The other 117 samples indicate they are from full 10 m intervals and are compared separately.

### 12.5.1 2005 GEUS Pulps Re-Assay Half Interval Analysis

The GEUS Pulps collected by InterMoly from pre-2005 sampling contained 19 samples from a single drillhole (U-3A) which were collected from half the interval noted in the assay database. A table of these samples and assays is given in Table 12-3 for clarity.

**Table 12-3: 2005 Pulp Re-Assay Half Interval Samples**

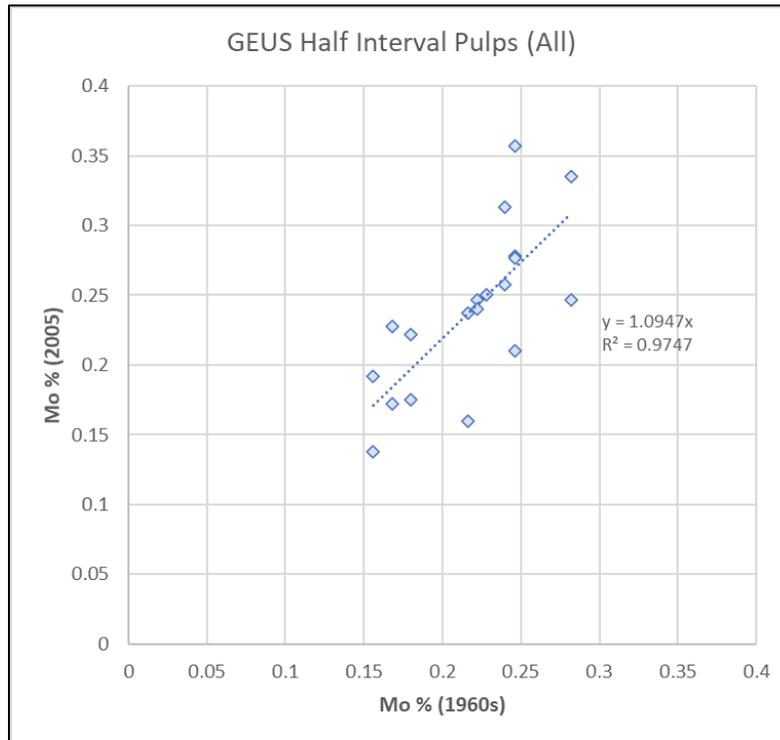
Half Interval Pulp Re-assay Sample	1960s Assay Interval	1st or 2nd Half	Mo (%) (2005)	Mo(%) 1960s (Assay Database)
U-3A 00-5 m	U-3A 0-10 m	1	0.138	0.156
U-3A 05-10 m	U-3A 0-10 m	2	0.192	0.156
U-3A 10-15 m	U-3A 10-20 m	1	0.16	0.216
U-3A 15-20 m	U-3A 10-20 m	2	0.237	0.216
U-3A 20-25 m	U-3A 20-30 m	1	0.335	0.282
U-3A 25-30 m	U-3A 20-30 m	2	0.247	0.282
U-3A 30-35 m	U-3A 30-40 m	1	0.25	0.228
U-3A 40-45 m	U-3A 40-50 m	1	0.247	0.222
U-3A 45-50 m	U-3A 40-50 m	2	0.24	0.222
U-3A 50-55 m	U-3A 50-60 m	1	0.222	0.18
U-3A 55-60 m	U-3A 50-60 m	2	0.175	0.18
U-3A 60-65 m	U-3A 60-70 m	1	0.313	0.24
U-3A 65-70 m	U-3A 60-70 m	2	0.258	0.24
U-3A 70-75 m	U-3A 70-80 m	1	0.21	0.246
U-3A 75-80 m	U-3A 70-80 m	2	0.357	0.246
U-3A 80-85 m	U-3A 80-90 m	1	0.278	0.246
U-3A 85-90 m	U-3A 80-90 m	2	0.277	0.246
U-3A 90-95 m	U-3A 90-101 m	1	0.228	0.168
U-3A 95-100 m	U-3A 90-101 m	2	0.172	0.168

The simple statistics of the two half-interval sets and the entire set is given in Table 12-4 below. It is seen that there is very little difference between the means of the sets which indicates little error would be expected from sampling of half intervals. Because only one hole is considered in this analysis, this may not hold true for all mineralogies and the lithology of this hole should be considered. It is notable that the means of the 2005 assays, done by 4-acid digestion with ICP-ES finish, are approximately 9% higher than the historic assays, done by a colorimetric method.

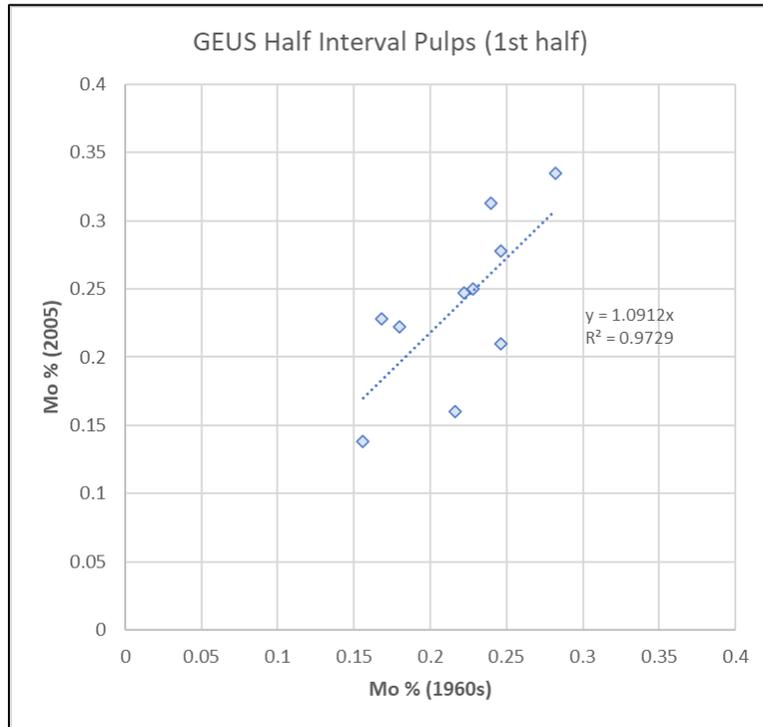
**Table 12-4: 2005 GEUS Pulps Half Interval Simple Statistics**

Samples	Average of Mo (%) (2005)	Average of Mo (%) 1960s	Std. Dev. of Mo (%) (2005)	Std. Dev. of Mo (%) 1960s	Count of Mo (%) (2005)
1st half of interval	0.238	0.218	0.062	0.040	10
2nd half of interval	0.239	0.217	0.058	0.042	9
All	0.239	0.218	0.058	0.039	19

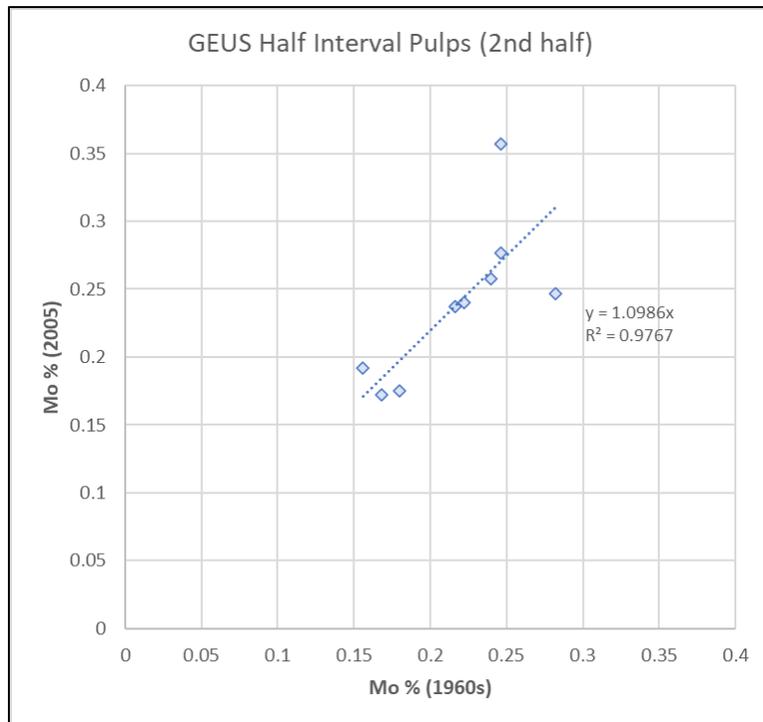
The scatter plots of the entire set and each half interval set are given in Figure 12-2 through Figure 12-4, and it is seen that there is negligible difference in the slope of the best fit line or the R-squared value between each set.



**Figure 12-2: 2005 GEUS Pulps Half Interval (All) (Source: MMTS)**



**Figure 12-3: 2005 GEUS Pulps Half Interval (1<sup>st</sup> Half) (Source: MMTS)**



**Figure 12-4: 2005 GEUS Pulps Half Interval (2<sup>nd</sup> Half) (Source: MMTS)**

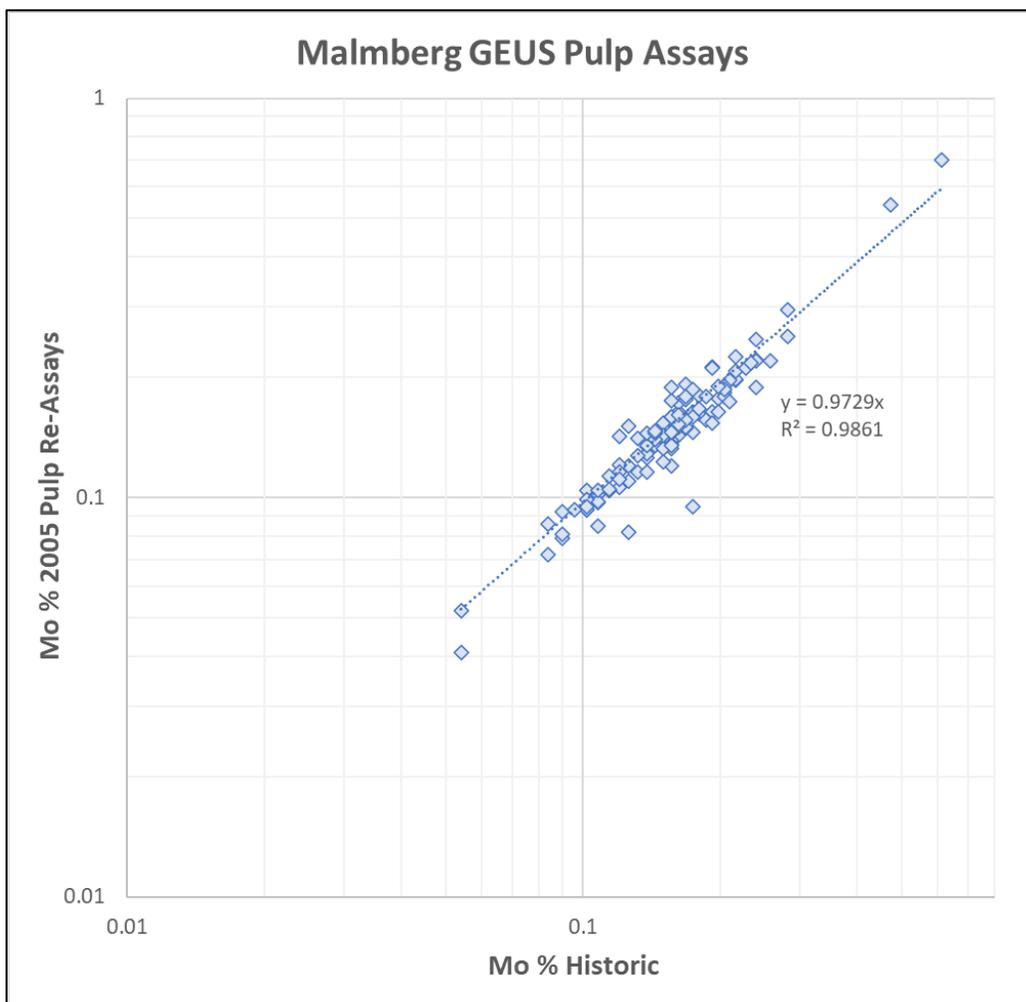
## 12.6 2005 GEUS Pulps Re-Assays

There are 117 samples of pulps identified as 10 m intervals matching the 10 m intervals in the database re-assayed in 2005. The simple statistics of the duplicate pairs is given in Table 12-5. For this set the mean of the historic data is approximately 5% higher than the 2005 re-assays.

**Table 12-5: 2005 GEUS Pulps Re-Assay Simple Statistics**

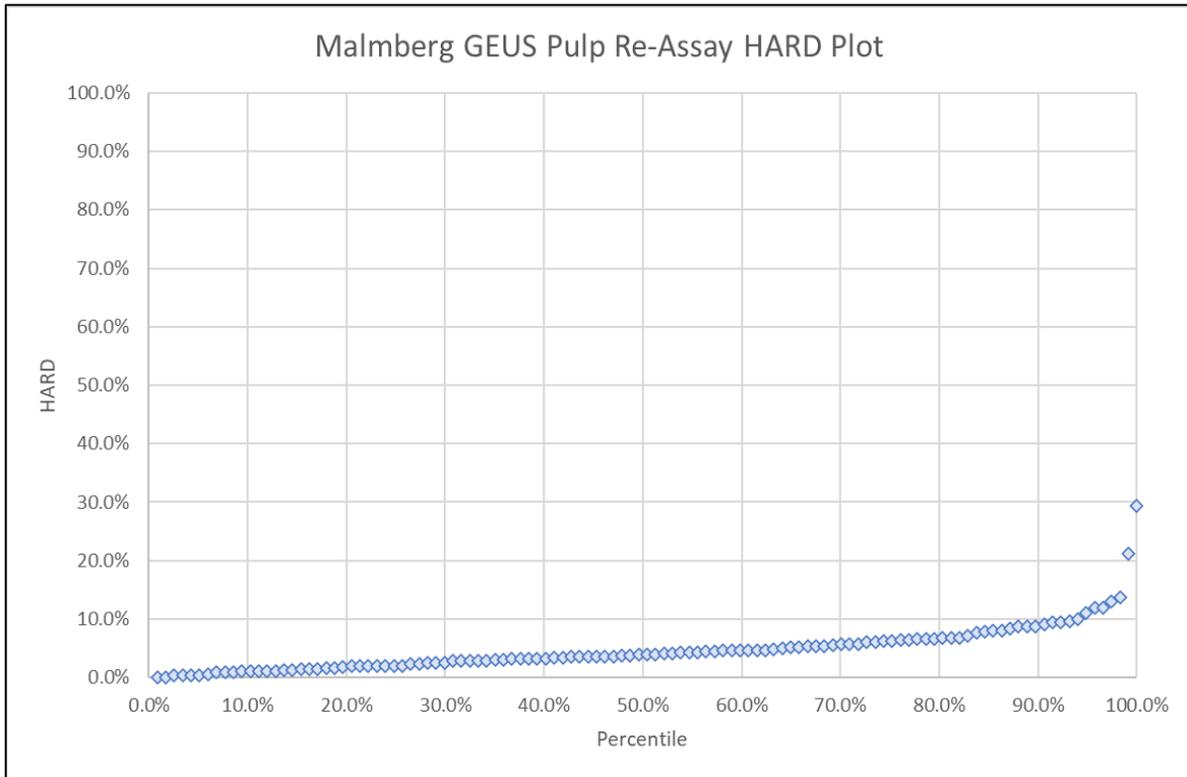
Number of Pairs	Average of Mo(%) 1960s	Average of Mo (%) (2005)	Std. Dev. of Mo(%) 1960s	Std. Dev. of Mo (%) (2005)
117	0.163	0.156	0.067	0.076

A scatter plot of the duplicate pairs is given in Figure 12-5, the slope slightly less than 1 confirms the lower results in the 2005 assays. The R-squared value is good.



**Figure 12-5: 2005 Pulp Re-Assay Scatter Plot (Source: MMTS)**

Analysis of the HARD values shows 94% with less than 10% HARD which exceeds the criteria for pulp duplicates of 90%. The HARD plot is shown in Figure 12-6.



**Figure 12-6: 2005 Pulp Re-Assay HARD Plot (Source: MMTS)**

## 12.7 2021 Core Re-Sample

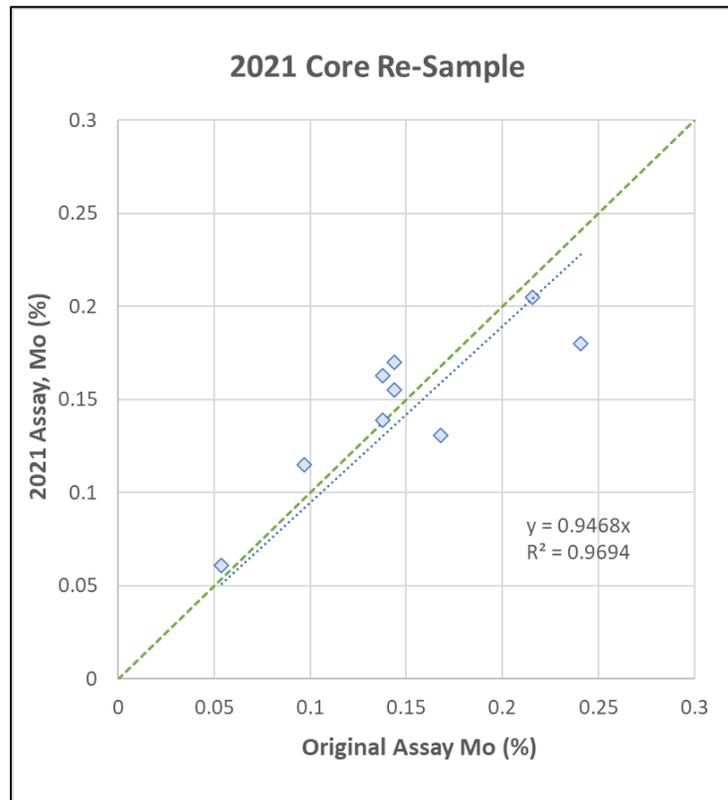
Upon site visit, Sue Bird, the QP, collected quarter core samples from stored drill core for nine holes. Intervals were selected for significant Mo grades across various lithologies and domains. Two samples were the remainder from historic core from 2007 drilling. Although analysis of the 2005 GEUS pulp half intervals showed acceptable results for half interval comparisons, the entire length of each interval was sampled, totalling 75.7 m. The results of the laboratory analyses as compared to database assay values are presented here.

The simple statistics of the paired samples is given in Table 12-6 and shows good agreement between the average and standard deviation of both sets, with the relative difference of the means approximately 1.4%.

**Table 12-6: 2021 Core Re-Sample Simple Statistics**

Number of Pairs	Average of Mo (%) Original	Average of Mo (%) 2021	SD of Mo (%) Original	SD of Mo (%) 2021
9	0.149	0.147	0.056	0.042

A scatter plot of the assay results for Mo is given in Figure 12-7 and shows the results fall generally upon the 1:1 line shown in green. The best fit line is plotted in blue and shows a nearly 1 slope with good R-squared value.



**Figure 12-7: 2021 Core Re-Sample Scatter Plot, Mo (Source: MMTS)**

Analysis of the HARD statistic gives 78% with less than 10% HARD which exceeds the 70% criteria for field duplicates. The QP finds that the results of the core re-sampling are acceptable and does not indicate bias or any other issue with the assay database.

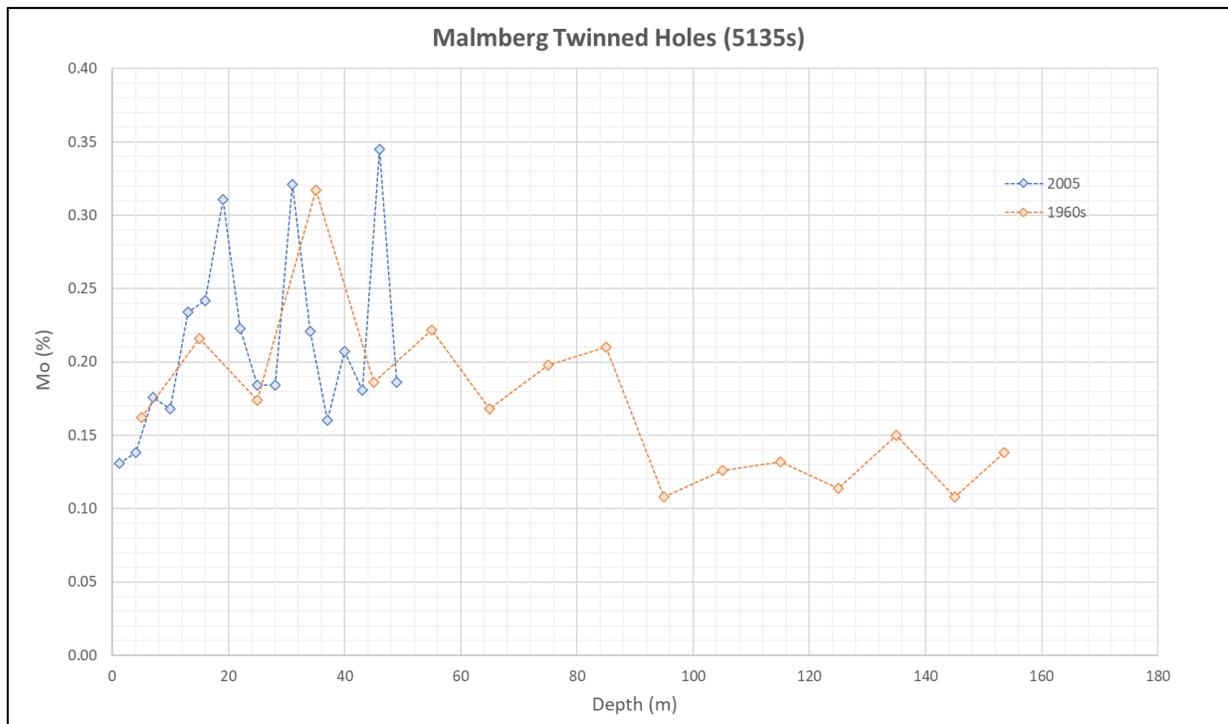
## 12.8 Twinned Holes

The 2005 drilling included five holes intentionally twinned to historic holes. The table of twinned holes is given Table 12-7 and shows close agreement between the collar locations. For four of the five pairs, the historic hole is significantly longer than the 2005 hole, the exception is pair 3, where the 2005 hole is 202.5 m and the historic hole is 140 m.

**Table 12-7: 2005 Twinned Holes**

Pair	YEAR	HOLE	Easting UTM	Northing UTM	Elevation (m)	Length (m)
1	Historic	3135	594,365.2	7,986,284.6	801.3	230.5
	2005	05_3135	594,365.7	7,986,284.8	800.8	63.0
2	Historic	5135	594,252.4	7,986,230.7	800.3	157.0
	2005	05_5135	594,253.1	7,986,231.0	801.8	50.5
3	Historic	12155	594,271.3	7,986,397.1	717.3	140.0
	2005	05_12155	594,269.4	7,986,399.3	718.7	202.5
4	Historic	23180	594,421.2	7,986,043.6	702.9	171.5
	2005	05_23180	594,422.9	7,986,041.1	703.0	21.0
5	Historic	17155	594,347.5	7,986,452.8	717.3	270.6
	2005	05_17155	594,346.6	7,986,451.9	718.6	99.0

Plots of all pairs were made to assess the Mo assay value agreement along depth of the hole. An example of these plots is given in Figure 12-8 and shows that for the pair 5135 (historic) and 05\_5135 (2005) there is reasonable agreement between the pairs considering that the assay interval for the historic holes is approximately 10 m and the interval for the 2005 holes is generally 3 m.



**Figure 12-8: Malmbjerg Twinned Holes (5135s) (Source: MMTS)**

All data were filtered to include just the intervals common to both twins, for example in the previous plot, only data to 50 m depth would be considered. The simple statistics of the historic and 2005 data is given in Table 12-8 below. The relative different of the averages is less than 7% with the 2005 assay data biased slightly high. The maximum value of 0.345% is approximately 9% higher in the 2005 data compared to 0.317% in the historic data. There are three intervals with assay values of “0” in the historic data that correspond to intervals with significant Mo values in the 2005 data. There is no way to confirm if these intervals were assayed or if they are below detection limit in the historical data. When these the interval pairs are excluded, the difference drops to 4.4%.

**Table 12-8: Twinned Hole Assay Comparison**

Drilling Year	Assay Intervals	Average Interval Length (m)	Mo % Average	Mo % Std. Dev.	Mo % Maximum	Mo % Minimum
2005	103	2.9	0.150	0.062	0.345	0.037
Historic	36	9.4	0.140	0.063	0.317	0.000

The QP concludes that the analysis of the twinned hole assay data indicates that the 2005 assays are comparable to the historic data, and that the historic data may be biased slightly lower.

## 12.9 Surveys

No additional surveys have been done since 2007 as described in Rennie, 2018. The QP has accepted the collar locations and survey as provided in the database. There is potential for error in the historic collar locations due to the change from mine grid to UTM in 2005, and it is recommended this be investigated in detail and corrected as necessary.

### 12.10 QAQC Conclusions and Recommendations

The QP concludes that:

- The historic data is acceptable based upon analysis of twinned hole analysis and re-assays.
- The channel samples are acceptable based upon point validation.
- The database is adequate and sufficient in quality for resource estimation.

The QP recommends that:

- A collar survey be done to comprise 10% of all collars with equal spatial distribution.

## 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

### 13.1 Introduction

Several metallurgical tests on samples from various zones of the Malmbjerg Molybdenum Project have been conducted to support the process plant design. Test programs were conducted by SGS in 2005, 2006, and 2007. In 2005, flotation tests, comprehensive grindability tests, and mineralogical characterization studies were conducted on 33 samples. In 2006, another set of laboratory flotation tests were conducted on a master composite and five variability composites constituted from the 2005 samples. In 2007, laboratory and pilot plant flotation tests were performed using a 13-tonne bulk sample. Results and interpretations of these metallurgical tests are discussed in the following sections.

### 13.2 Mineralogy

The Mineral Resource at Malmbjerg is molybdenum disulphide (molybdenite) associated with a granitic intrusion into overlying sediments. Molybdenite is the primary mineralized mineral occurring within the Project. Bulk Modal Analysis shows that quartz and feldspar are the dominant silicate species throughout the Project, comprising between 70% and 95% of each sample tested. Pyrite is the major sulphide gangue mineral with occasional trace amounts of sphalerite and galena. All of the samples also contained minor quantities (between 2% and 10%) of amphiboles and mica/clay minerals. The final major (between 1% and 20%) mineral group present was the fluoride minerals, fluorite, topaz, and gearsutite. The Malmbjerg master composite was ground to about 220  $\mu\text{m}$ , separated into +/- 53  $\mu\text{m}$  size fractions and submitted for Quantitative Evaluation of Minerals by Scanning Electron Microscopy (QEMSCAN™) Trace Mineral Search. The analysis shows that the molybdenite was present in a bimodal distribution with about 51% of the molybdenite classified as “free” (more than 80% liberation) and about 26% of the molybdenite as “locked” (less than 20% liberation).

Most molybdenum associations are with quartz, feldspar, and mica, with very few associations with sulphides. The mineralogical results conclude that a coarse primary grind (about 200  $\mu\text{m}$ ) followed by a moderately fine regrind (about 30  $\mu\text{m}$ ) should yield satisfactory results.

The QEMSCAN modal analysis and particle mapping of cleaner flotation concentrate indicate that the gangue present in the concentrate had less than 13.4% association with molybdenite and it was split evenly between non-sulphide gangue (NSG), pyrite, and other sulphide minerals. The NSG was predominantly quartz (about 67%) with lesser feldspar, amphibole, mica, various trace oxide, and carbonate minerals. The NSG most likely entered the concentrate through entrainment and would be rejected in the cleaner column flotation stages, if cleaner flotation were used during testing.

A mineralogical study of products obtained from the pilot plant flotation test show that the liberation of molybdenite is good to excellent (more than 88%) in both tested size fractions (+/- 37  $\mu\text{m}$ ). Molybdenite formed middling particles mainly with NSG minerals and rarely with pyrite. Molybdenite inclusions in NSG minerals were minor and primarily in the + 37  $\mu\text{m}$  size fractions. The main gangue minerals included pyrite and NSG minerals. It is concluded that the first cleaner concentrate requires a regrind to P80 of 30  $\mu\text{m}$  (100% passing 50  $\mu\text{m}$ ).

### 13.3 Comminution Test Program

Grindability tests, including Bond ball mill work index (BWi), Bond rod mill work index (RWi), Bond abrasion index (Ai) and Semi-Autogenous (SAG) mill comminution (SMC) test, were performed on all of the samples submitted in 2005. The SMC tests report the average  $A \times b$  value of 40.7, indicating a moderately hard sample. The variability in RWi and BWi is relatively low, with average values of 12.6 and 12.7 kWh/t, respectively, indicating a moderately soft sample. The Ai are more widely spread, with average and median values of 0.69 g and 0.76 g, respectively, indicating a relatively abrasive sample.

As part of the variability study, Julius Kruttschnitt drop weight tests were also performed on three composite samples. The drop weight test results on the three composite samples are similar, with  $A \times b$  values ranging from 30 to 34, indicating the composite samples were hard with respect to resistance to impact breakage ( $A \times b$ ), and very hard in terms of resistance to abrasion breakage.

The grindability data was used to develop a standard SABC circuit computer model in JKSimMet software for a 15,000 t/d process plant and a primary grind size P80 of 140  $\mu\text{m}$ . The scoping simulations show that a 10.36 m by 4.57 m (34' x 15') Effective Grinding Length (EGL) SAG mill with 10 MW installed power and a ball mill with 5 MW installed power would be adequate for a 15,000 t/d grinding circuit.

### 13.4 Metallurgical testing

In 2005 and 2006, several batch and locked cycle flotation tests were performed on the master composites and the variability samples. The test results show that the flowsheet should incorporate grinding to P<sub>80</sub> of 140  $\mu\text{m}$ , followed by rougher flotation using a reagent scheme comprising diesel fuel as a collector, pine oil as a frother, and ethoxylated tall oil as a surfactant, with a 3-stage cleaner circuit. A rougher molybdenum recovery of approximately 92% was obtained to a mass pull of between 4% and 7%, with an overall circuit molybdenum recovery of 88% to a concentrate grade of 50% Mo (about 84% MoS<sub>2</sub>) at 0.13% Mo feed grade. A few of the variability samples behaved poorly to rougher flotation, primarily due to the presence of molybdenum in oxide form.

In 2007, approximately 13 t of potential plant feed samples were made available to SGS for confirming the process flowsheet and metallurgy in a pilot-plant environment. Laboratory testing supports that the sample's response was consistent with the previously tested samples from the Project. A minimal impact on the rougher recovery was observed by varying primary grind size from 145  $\mu\text{m}$  to 180  $\mu\text{m}$ . It was also observed that fuel oil additions to the mill and stage additions in rougher cells were also beneficial to the rougher recovery. A MIBC/DF250 frother combination enhanced selectivity over gangue flotation and improved rougher kinetics without negatively affecting molybdenum recovery, compared with pine oil frother.

A pilot flotation plant was then configured to demonstrate the process up to producing the first cleaner concentrate. Six 8-hour and a final 48-hour pilot plant trial runs were performed. The pilot plant tests were followed by column flotation of the plant concentrate and characterization of the pilot plant products. The pilot plant achieved the average metallurgical results as listed in Table 13-1.

**Table 13-1: Average Metallurgical Results from 48-Hour Pilot Plant Run**

Description	Weight (%)	Assay (%)		Recovery (%)	
		Mo	S	Mo	S
Feed	100.0	0.22	0.19	100.0	100.0
First Cleaner	0.8	24.40	13.80	87.8	57.1
First Cleaner scavenger Tailings	4.6	0.18	0.39	3.8	9.5
Pyrite Concentrate	2.5	0.05	1.26	0.5	16.4
Pyrite Tailing	92.2	0.018	0.035	7.8	17.1

Note: Sums may not add up due to rounding.

Batch laboratory column flotation tests were performed on the pilot plant concentrate to obtain conditions for producing a final molybdenum concentrate. A regrind  $P_{80}$  of less than 30  $\mu\text{m}$  with no reagent addition and two stages of bulk column cleaning of the first cleaner concentrate from the pilot plant tests produced a final concentrate with a grade of 52% Mo. There is no penalty element in the detailed smelter package that would be considered detrimental to marketability. Approximately 0.5% Cu and 0.5% Zn were present in the final concentrate, which are considered non-detrimental.

A Flotation Economic Evaluation Tool simulation study was used to develop a proposed plant flowsheet and equipment design. The circuit was designed to treat 30,000 t/d of rougher feed at a primary  $P_{80}$  grind size of about 180  $\mu\text{m}$ . The model predicts that a high-grade molybdenum concentrate of 54% Mo (91%  $\text{MoS}_2$ ) at 83.6% molybdenum recovery could be achieved.

Gravity sedimentation tests were performed on the final column concentrate. The best settling characteristics, 0.024  $\text{m}^2/\text{t/d}$  thickener underflow unit area and 0.005  $\text{m}^2/\text{t/d}$  thickener hydraulic unit area at 15% feed solids content (by weight), were obtained using approximately 50 g/t of Magnafloc 455 flocculant. Pressure filtration tests produced a filtered cake with approximately 19.5% moisture (by weight) at a dry solid capacity between 760  $\text{kg}/\text{m}^2/\text{h}$  and 1000  $\text{kg}/\text{m}^2/\text{h}$  and a filtrate capacity between 1400  $\text{L}/\text{m}^2/\text{h}$  and 1800  $\text{L}/\text{m}^2/\text{h}$ , which varied inversely proportional to the cake thickness. Due to limited sample availability, filtration tests were only completed at a low feed solid density (52% by weight).

The major design criteria obtained from the test programs and used in the process plant design are listed in Table 13-2.

**Table 13-2: Major design criteria**

Description	Unit	Value
Bond Rod Mill Work Index	kWh/t	12.6
Bond Ball Mill Work Index	kWh/t	12.7
Abrasion Index	g	0.76
Rougher Feed, P <sub>80</sub>	µm	180
Final Cleaner Feed, P <sub>80</sub>	µm	25
Number of Cleaner Stages	--	3
Cleaner Recovery	% Mo	86.4
Final Concentrate Grade	% Mo	54.0

### 13.5 QP's Opinion

The metallurgical test program results indicate that a mill feed with 0.15% Mo head grade, processed using a circuit consisting of crushing, SABC grinding, rougher flotation, and three stages of cleaner flotation and press filtration, can be expected to yield a molybdenum recovery of 86.4% and a concentrate grade of 54% Mo. The QP is satisfied that the results of the metallurgical test program are suitable to be used for the current process plant design.

## 14.0 MINERAL RESOURCE ESTIMATE

The MRE has been prepared by Sue Bird, P.Eng., of MMTS. The MRE has been done using the 2019 CIM Best Practice Guidelines and is reported using the 2014 CIM Definition Standards. Table 14-1 below summarizes the total model resource for the Malmbjerg Project, which has an effective date of October 12, 2021. The base case cut-off grade within the “reasonable prospects of eventual economic extraction” constraining pit is an MoS<sub>2</sub> grade of 0.08%, which corresponds to NSR of USD\$14.79/t using the base case prices and smelter terms as defined later in the section. This base case cutoff more than covers the processing, G&A, and tailings costs of USD\$12.50/t milled and roasted.

The MineSight program of Hexagon Inc. has been used to interpolate the modelled grades using Ordinary Kriging (OK). Table 14-2 summarizes a range of MoS<sub>2</sub> cut-off grades to show the sensitivity of the resource estimate to variations in cut-off, with the base case highlighted.

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. These mineral resource estimates include inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. It is reasonably expected that most inferred mineral resources could be upgraded to Indicated.

The following factors, among others, could affect the MRE: commodity price and exchange rate assumptions; pit slope angles and other geotechnical factors; assumptions used in generating the LG pit shell, including metal recoveries; and mining and process cost assumptions.

**Table 14-1: Malmbjerg MRE (Effective Date October 12, 2021)**

Class	Tonnage	Tonnage	Grade	NSR	Mo
	(kt)	(Mt)	MoS <sub>2</sub> (%)	(\$/t)	(Mlbs.)
<b>Measured</b>	128,137	128	0.20	37.63	345
<b>Indicated</b>	153,310	153	0.16	28.90	317
<b>Measured &amp; Indicated</b>	281,447	281	0.18	32.87	661
<b>Inferred</b>	33,170	33	0.10	17.77	42

**Table 14-2: Sensitivity of the MRE to Cut-off Grade (Base Case Highlighted)**

Class	Cut-off	Tonnage	Tonnage	Grade	NSR	Mo
	(MoS2 %)	(kt)	(Mt)	MoS2 (%)	(\$/t)	(Mlbs.)
Measured	0.06	134,744	135	0.20	36.42	351
	0.07	131,724	132	0.20	36.98	348
	<b>0.08</b>	<b>128,137</b>	<b>128</b>	<b>0.20</b>	<b>37.63</b>	<b>345</b>
	0.09	125,017	125	0.21	38.18	341
	0.10	122,104	122	0.21	38.67	337
	0.12	115,478	115	0.21	39.72	328
	0.14	104,391	104	0.22	41.39	309
	0.16	91,958	92	0.23	43.25	284
Indicated	0.06	197,560	198	0.14	25.33	357
	0.07	177,182	177	0.15	26.86	340
	<b>0.08</b>	<b>153,310</b>	<b>153</b>	<b>0.16</b>	<b>28.90</b>	<b>317</b>
	0.09	132,804	133	0.17	30.96	294
	0.10	114,668	115	0.18	33.10	271
	0.12	93,487	93	0.20	36.07	241
	0.14	80,811	81	0.21	37.98	219
	0.16	67,363	67	0.22	40.03	193
Measured & Indicated	0.06	332,304	332	0.16	29.82	708
	0.07	308,906	309	0.17	31.18	688
	<b>0.08</b>	<b>281,447</b>	<b>281</b>	<b>0.18</b>	<b>32.87</b>	<b>661</b>
	0.09	257,821	258	0.19	34.46	635
	0.10	236,772	237	0.19	35.97	609
	0.12	208,965	209	0.21	38.08	569
	0.14	185,202	185	0.22	39.90	528
	0.16	159,321	159	0.23	41.89	477
Inferred	0.06	66,686	67	0.08	15.41	73
	0.07	52,738	53	0.09	16.32	61
	<b>0.08</b>	<b>33,170</b>	<b>33</b>	<b>0.10</b>	<b>17.77</b>	<b>42</b>
	0.09	20,724	21	0.10	19.07	28
	0.10	6,275	6	0.13	23.12	10
	0.12	1,727	2	0.18	32.83	4
	0.14	1,267	1	0.20	36.18	3
	0.16	1,154	1	0.20	37.03	3

Notes for Table 14-1 and Table 14-2:

1. Resources are reported using the 2014 CIM Definition Standards and were estimated using the 2019 CIM Best Practices Guidelines.
2. The Mineral Resource has been confined by a "reasonable prospects of eventual economic extraction" pit using the following assumptions to calculate the NSR: USD\$18/lb. Mo; 99% payable Mo, 0.15% losses and USD\$824/wmt offsites roasting costs (roasting, transport, and insurance); a 2.5% NSR royalty; and uses an 86.4% metallurgical recovery
3. Costs for the "reasonable prospects of eventual economic extraction" pit are: mining costs of USD\$3.05/t for mineralized material and \$2.50/t for waste; G&A cost of USD\$3.00/t; and process costs of USD\$8.00/t. These parameters were derived from engineering studies carried out in the concept study in 2018.
4. Average bulk densities used were 2.62 t/m<sup>3</sup> for intrusive host rocks and 2.67 t/m<sup>3</sup> for sedimentary rocks.
5. Pit slope angles are assumed at 45°.
6. A site inspection and core review was undertaken during August 15 to August 25, 2021 by Ms. Sue Bird, P.Eng. an "independent qualified person" as such term is defined in NI 43-101.
7. Conversion from MoS<sub>2</sub> to Mo is 0.599 based on the respective atomic weights .
8. Numbers may not add due to rounding.

## 14.1 Key Assumptions and Data used in the Estimate

The total Malmbjerg Project area comprises a database of 195 drillholes and 10 channel samples, totalling more than 30,000 m of assayed length. A summary of the drillholes by year is provided in Table 14-3. Data prior to 1960 did not have certificate of QAQC information available. This historic data has been validated by comparisons of pulps and core, as detailed in Section 12.0.

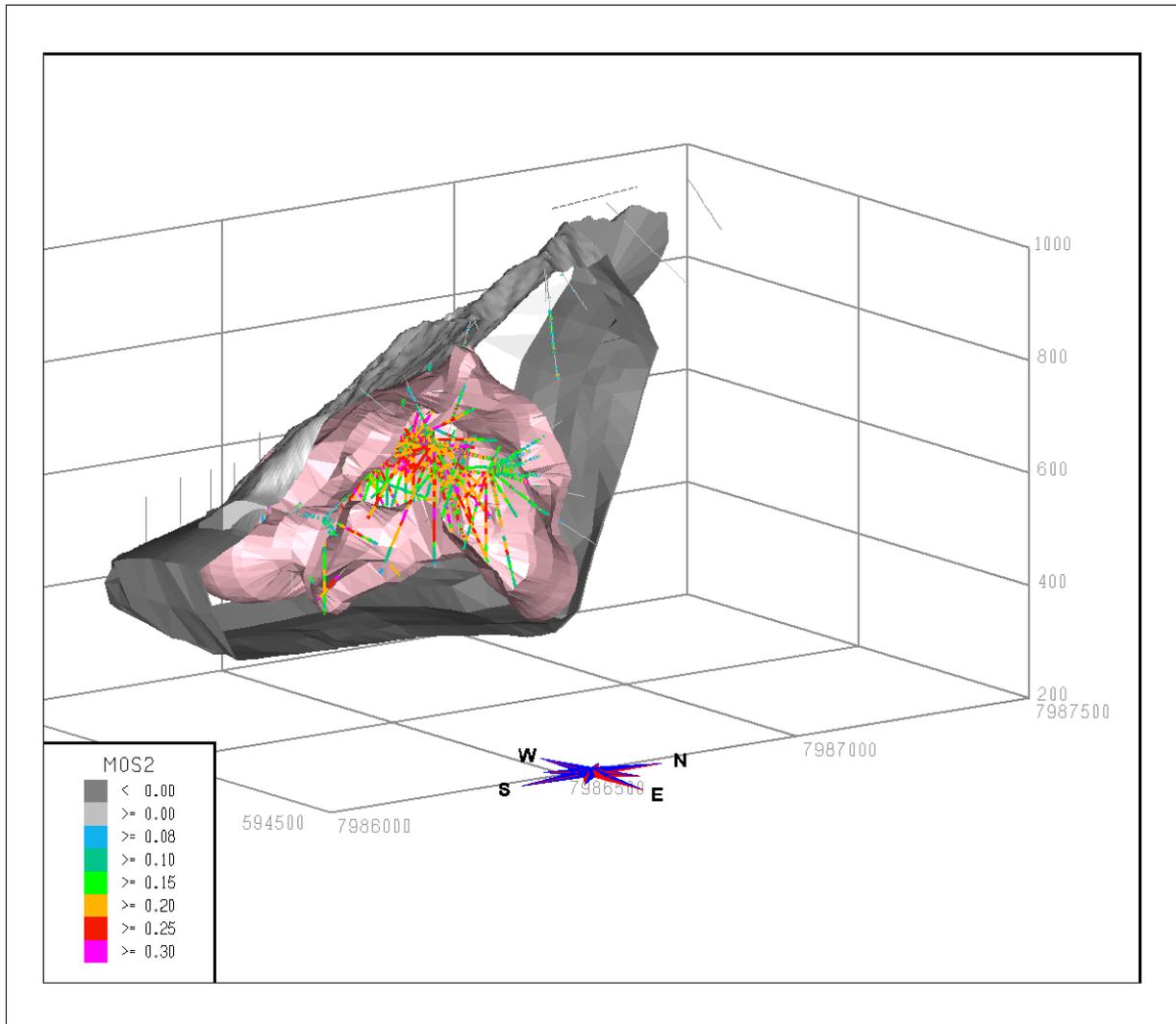
**Table 14-3: Summary of Assay Data used for the Resource Estimate**

Year	Channels			DDH			Total		
	Number	Length (m)	Interval (m)	Number	Length (m)	Interval (m)	Number	Length (m)	Interval (m)
Historic - 1960s	--	--	--	147	22,284	19,968	147	22,284	19,968
2005	10	1,824	1,758	31	4,988	4,795	41	6,812	6,553
2007	--	--	--	17	4,218	3,511	17	4,218	3,511
Total	10	1,824	1,758	195	31,490	28,274	205	33,314	30,032

## 14.2 Geologic Modelling

Three-dimensional (3D) wireframe solids based on geology have been used to constrain the grade interpolations and to define the orientation of mineralization. A high grade central core and lower grade halo is based on the deposit type and geology as Climax style porphyry Mo deposit with overlying sediments. Several post-mineral dikes between 5 m to 15 m thickness have been modelled in 3D and are assumed to have zero grade with their volume removed from the resource. Figure 14-1 below illustrates a N-S slice through the center of the Project to show the high and low grade zones modelled and used in the interpolations. The mineralized shapes have been clipped to the bedrock surface.

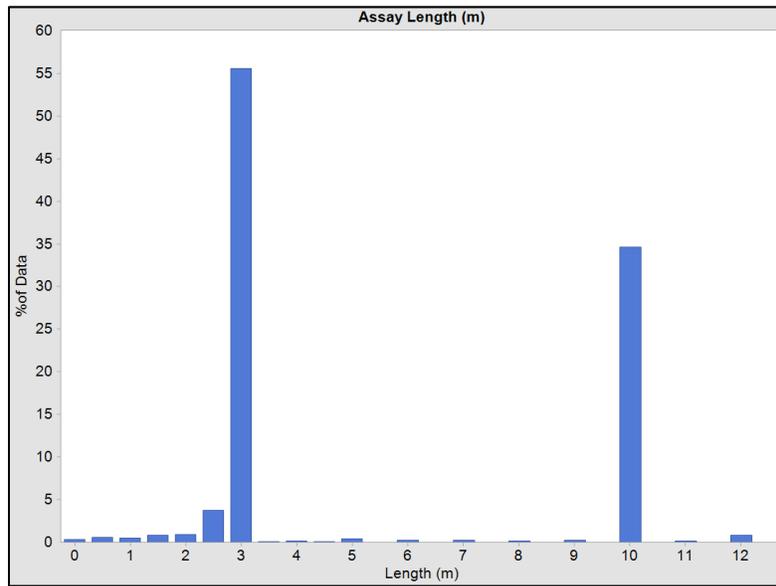
Domains with soft boundaries have also been used to adjust the variogram and search orientations to follow the domed structure of the Project. In addition, an oxide layer has been created 20 m below the bedrock surface to account for potentially oxidation, with the recoverable sulphide MoS<sub>2</sub> grade within this zone lowered by 33%.



**Figure 14-1: Illustration of the Modelled High Grade Core and Lower Grade Mineralized Halo (Source: MMTS, 2021)**

### 14.3 Compositing and Outlier Restrictions

Compositing of MoS<sub>2</sub> grades have been done as 10 m fixed length composites. Small intervals less than 5 m are merged with the up hole composite if the composite length is less than 5 m. The length of 5 m is chosen to be half the size of the block height, and longer than the majority of assay lengths, as illustrated in Figure 14-2. Zone and dike boundaries are honored during compositing.



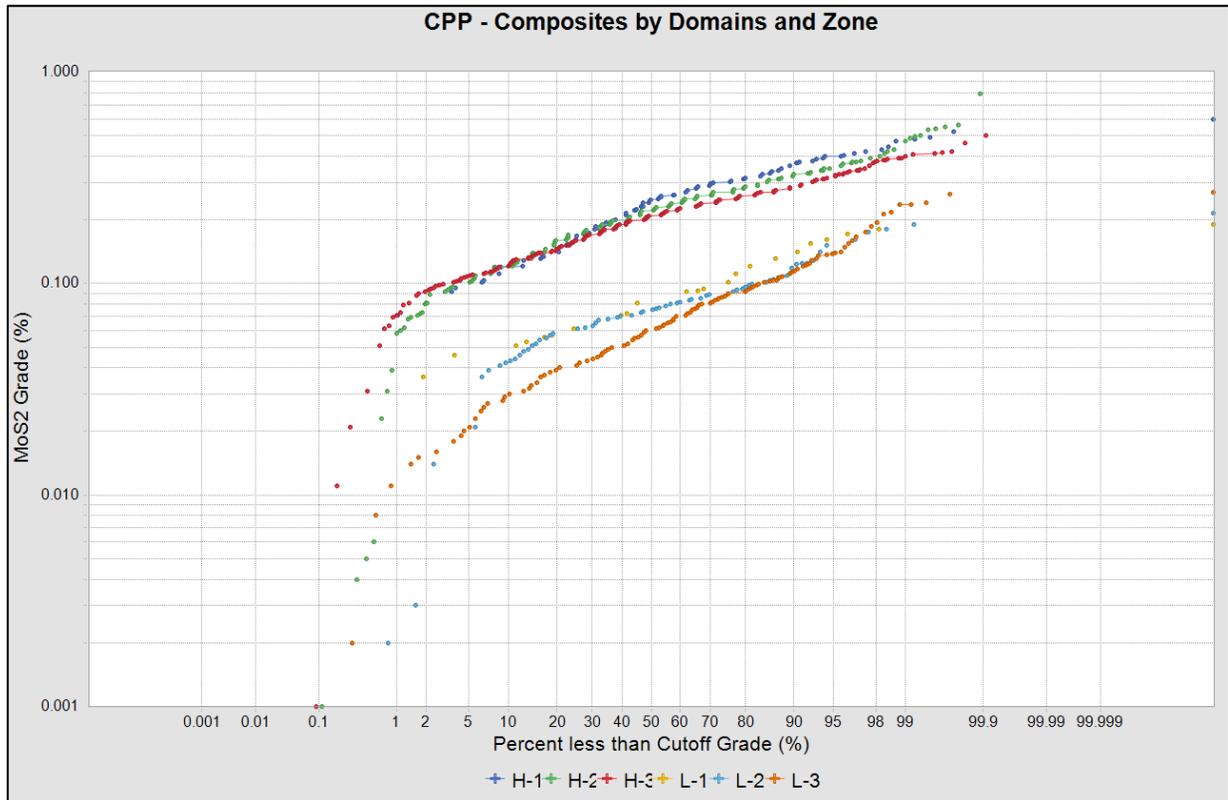
**Figure 14-2: Histogram of Assay Lengths (m)**

To ensure that compositing did not introduce a bias, the composite statistics have been compared to the assay statistics, as summarized in Table 14-4. The weighted mean grades of MoS<sub>2</sub> remain virtually identical after compositing, meaning that no bias has been introduced.

**Table 14-4: Assay and Composite Statistic Comparison**

Source	Parameter	High Grade Core			Lower Grade Halo			Dikes
		Domain 1	Domain 2	Domain 3	Domain 1	Domain 2	Domain 3	
Assays	# Samples	516	1303	2115	68	320	949	133
	# Missing	1	11	17	3	9	41	2
	Min	0.065	0	0	0.03	0	0	0
	Max	0.789	1.02	3.075	0.309	0.305	0.512	0.38
	Wtd mean (%)	0.241	0.226	0.209	0.092	0.079	0.069	0.147
	Wtd CV	0.409	0.405	0.445	0.438	0.503	0.718	0.734
Composites	# Samples	394	913	1111	53	125	352	95
	# Missing	5	8	3	97	4	84	1
	Min	0.07	0	0	0.035	0.001	0.001	0
	Max	0.6	1.02	1.111	0.19	0.215	0.27	0.38
	Wtd mean (%)	0.241	0.226	0.209	0.092	0.080	0.068	0.147
	Wtd CV	0.391	0.381	0.356	0.399	0.423	0.590	0.722
<b>Difference (%)</b>		0%	0%	0%	0%	1%	-1%	0%

Cumulative probability plots (CPPs) are used to define capping values and potential outlier restrictions during interpolations. As shown in the above table, the Coefficient of Variation (CV) values are very low within each of the modelled zones. Therefore, capping of the assay values was not considered to be necessary. Outlier restriction of the composited data was used instead to limit high grade outliers during interpolation. Figure 14-3 illustrates the CPPs of the composites by domain and zone (H = high grade core, L = lower grade halo). Table 14-5 summarizes the outlier restriction values, as well as the distances that the outliers are capped for each zone, domain, and each pass of the interpolation.



**Figure 14-3: CPP plots of the Assays MoS<sub>2</sub> Grade Distribution by Domain and Zone**

**Table 14-5: Summary of Outlier Restriction during Interpolations**

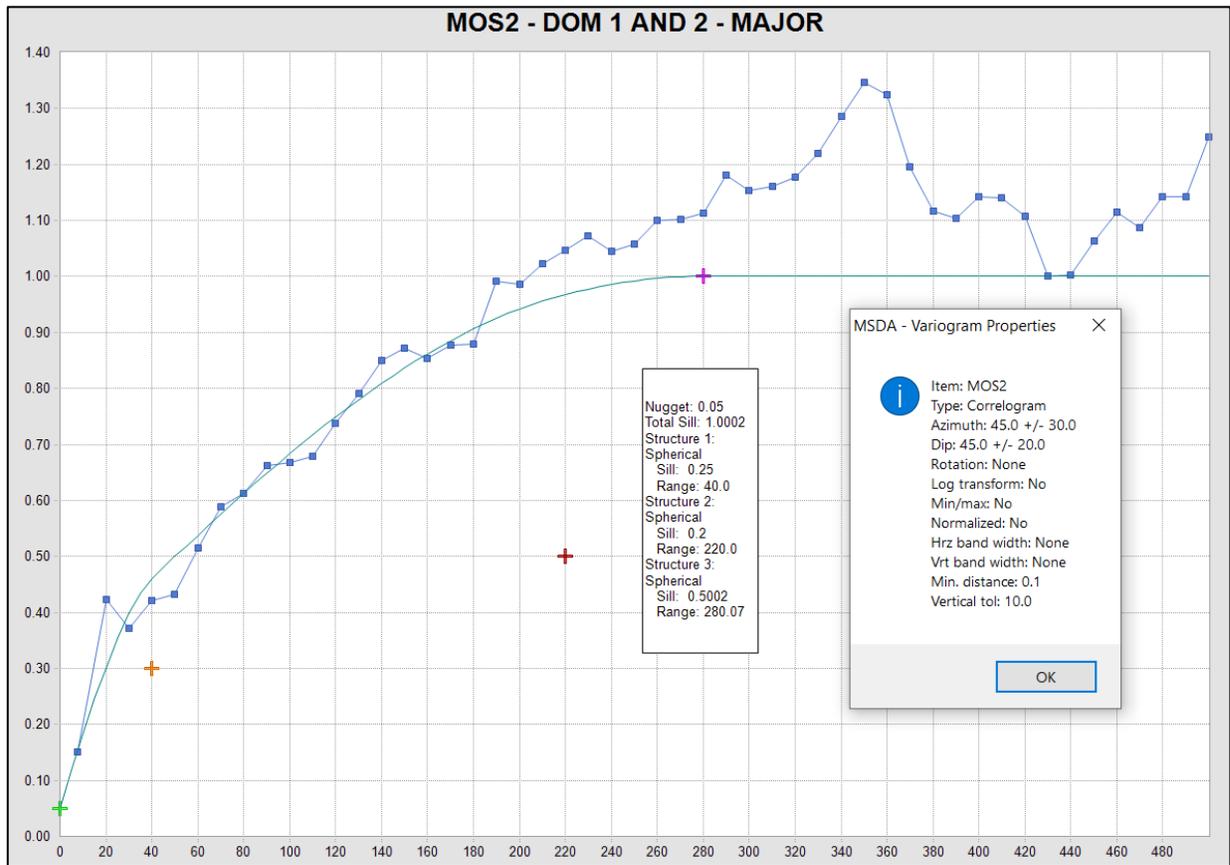
Zone	Domain	Outlier Restriction (%)	Distance (m)	
			Pass 1-3	Pass 4-5
High Grade core	1	0.55	15	5
	2	0.6	15	5
	3	0.6	15	5
Lower grade halo	1	0.2	15	5
	2	0.2	15	5
	3	0.25	15	5

## 14.4 Variography

Correlograms have been created for each domain within the Project. Figure 14-4 and Figure 14-5 illustrate the variogram models for Domains 1 and 3 respectively. These illustrate the low nugget and good structure of the variograms, as well as the changing orientation of the major axis from dipping southwest in the southern “nose” of the Project to dipping northeast into the mountain in the north portion of the Project. A summary of the spherical correlogram parameters is given in Table 14-6.

**Table 14-6: Summary of Variogram Parameters by Domain**

DOMAIN	Rotation (GSLIB-MS)		Axis	Total Range (m)	Nugget	Sill1	Sill2	Sill3	Range 1 (m)	Range 2 (m)	Range 3 (m)
1	ROT	45	Major	280	0.05	0.25	0.2	0.5	40	220	280
	DIPN	45	Minor	220					20	120	220
	DIPE	0	Vert	120					15	80	120
2	ROT	0	Major	220	0.18	0.3	0.2	0.32	50	120	220
	DIPN	0	Minor	220					50	120	220
	DIPE	0	Vert	220					50	120	220
3	ROT	50	Major	300	0.05	0.3	0.3	0.35	100	120	300
	DIPN	-45	Minor	180					20	120	180
	DIPE	0	Vert	200					30	180	200



**Figure 14-4: Correlogram for Domain 1 – Major Axis**

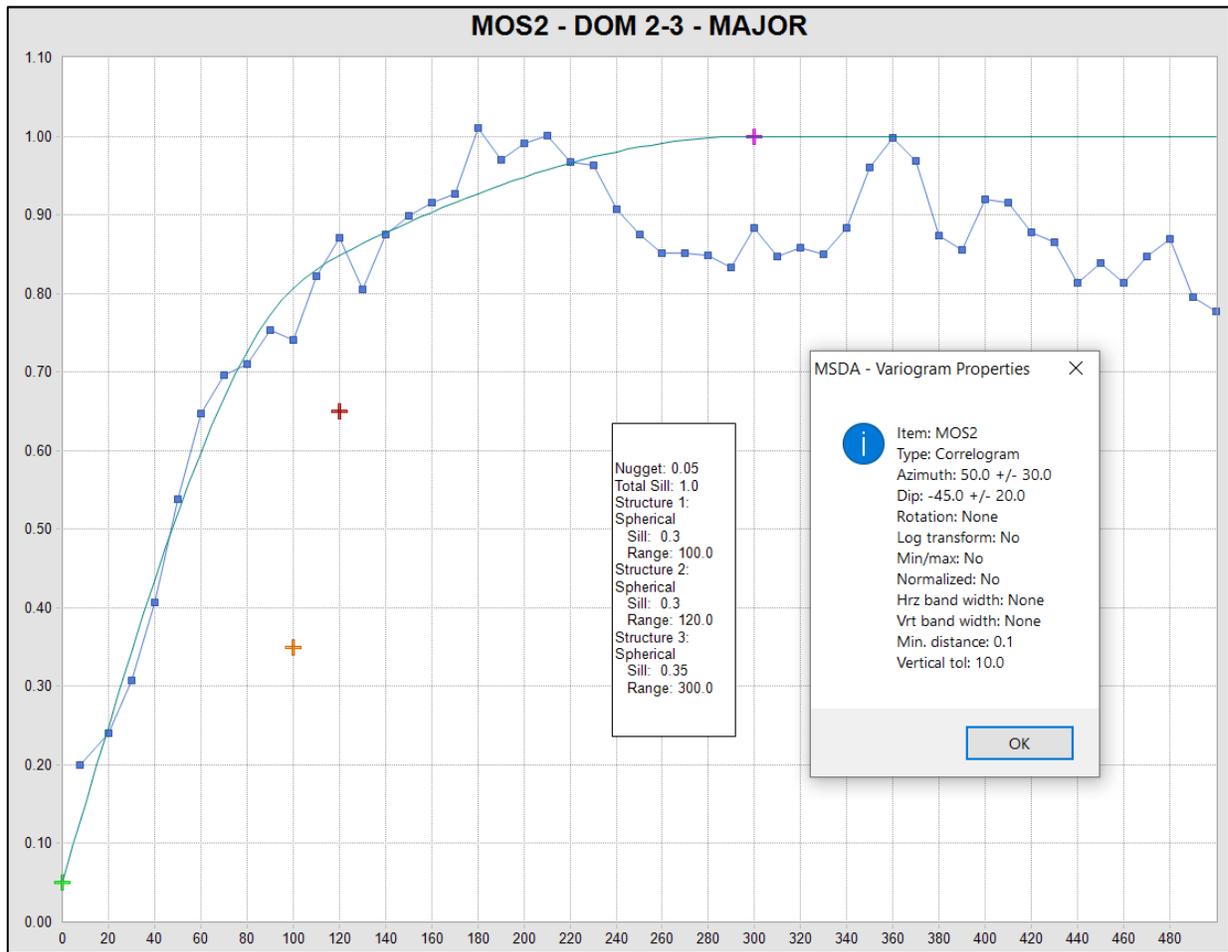


Figure 14-5: Correlogram for Domain 3 – Major Axis

## 14.5 Block Model Interpolations

The block model limits and block size for each deposit are as given in Table 14-7. Units are in UTM Zone 26.

Table 14-7: Block Model Limits

Direction	Minimum	Maximum	Distance (m)	Block Size (m)	# blocks
<b>Easting</b>	593,595	595,245	1650	15	110
<b>Northing</b>	7,985,590	7,987,510	1920	15	128
<b>Elevation</b>	282	1,422	1140	12	95

Interpolation of MoS<sub>2</sub> values is done by OK in five passes based on the variogram parameters. Interpolations used soft boundaries between the domains, with composites shared across domain boundaries. Between the high grade core and lower grade surroundings, composites and block codes

are required to match to reduce smoothing. Search parameters are summarized in Table 14-8 by domain.

**Table 14-8: Search Rotation and Distances**

DOMAIN	Rot	Dist1	Dist2	Dist3	Dist4	Dist5
1	45	40	80	160	280	450
	45	20	40	80	220	300
	0	15	30	60	120	180
2	0	50	100	165	220	450
	0	50	100	165	220	300
	0	50	100	165	220	180
3	50	75	150	225	300	450
	-45	20	40	80	180	300
	0	30	60	120	200	180

Additional search criteria on composite selection are summarized in Table 14-9. Search criteria are used to ensure that more than one drillhole is used for all passes, and more than one quadrant is used for the first two passes, as well as to limit smoothing of grade by limiting the maximum number of composites to be used.

**Table 14-9: Additional Search Criteria**

Search Criteria	Pass(es)		
	1-2	3-4	5
Minimum # composites	4	4	4
Maximum # composites	16	16	6
Maximum per Drillhole	3	3	3
Maximum per Quadrant	3	8	16

## 14.6 Classification

Classification is based on the variogram parameters, with the required average distance to the nearest two drillholes required to be less than the distance of the range at 80% of the sill (R80 value) of the major axis for each domain as summarized in Table 14-10. For Measured, the required distances if 50 m between drillholes, relating to the range at about 50% of the sill (R50) for the major axis of each domain. An illustration of the block classification is provided in Figure 14-6.

**Table 14-10: Classification Criteria**

Deposit	1	2	3
Measured	120	80	90
Indicated	50	50	50

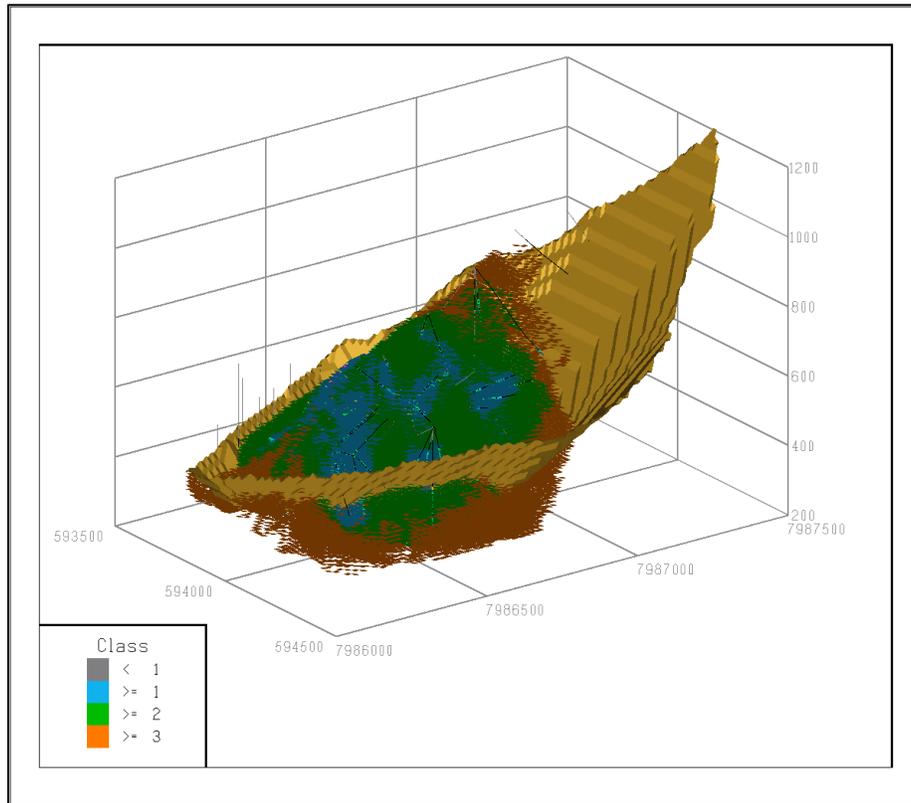


Figure 14-6: Three-dimensional View of the Classification, Drillholes and Resource Pit

## 14.7 Block Model Validation

### 14.7.1 Comparison of Global Grades

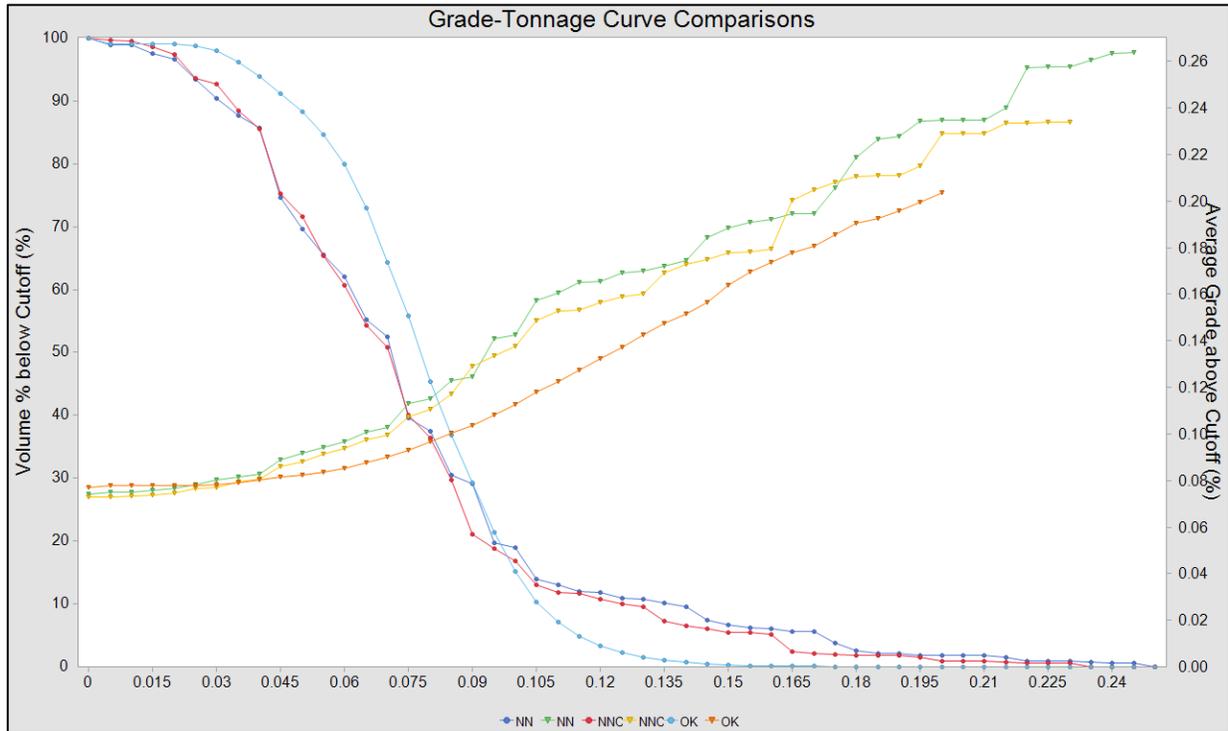
Interpolations have also been completed using the nearest neighbour method in order to essentially de-cluster the composite data for grade comparisons with the modelled grades. Table 14-11 gives a summary of the mean grades for de-clustered composites (NN interpolation), and OK grades at a zero cut-off. The comparison shows a difference in grades of less than 1% between the model and the de-clustered data.

Table 14-11: Comparison of Model Grade with De-clustered Composites within the Resource Pit

Source	Parameter	High Grade Core	Lower Grade Halo	All
OK Model	Num Samples	31,419	39,777	71,196
	Wtd mean MoS (%)	0.203	0.072	0.130
	Wtd CV	0.278	0.356	0.598
De-clustered Composites	Num Samples	31,419	39,777	71,196
	Wtd mean MoS (%)	0.201	0.071	0.129
	Wtd CV	0.399	0.605	0.700
<b>Difference</b>		0.5%	1.1%	0.8%

### 14.7.2 Comparison of Tonnage and Grades

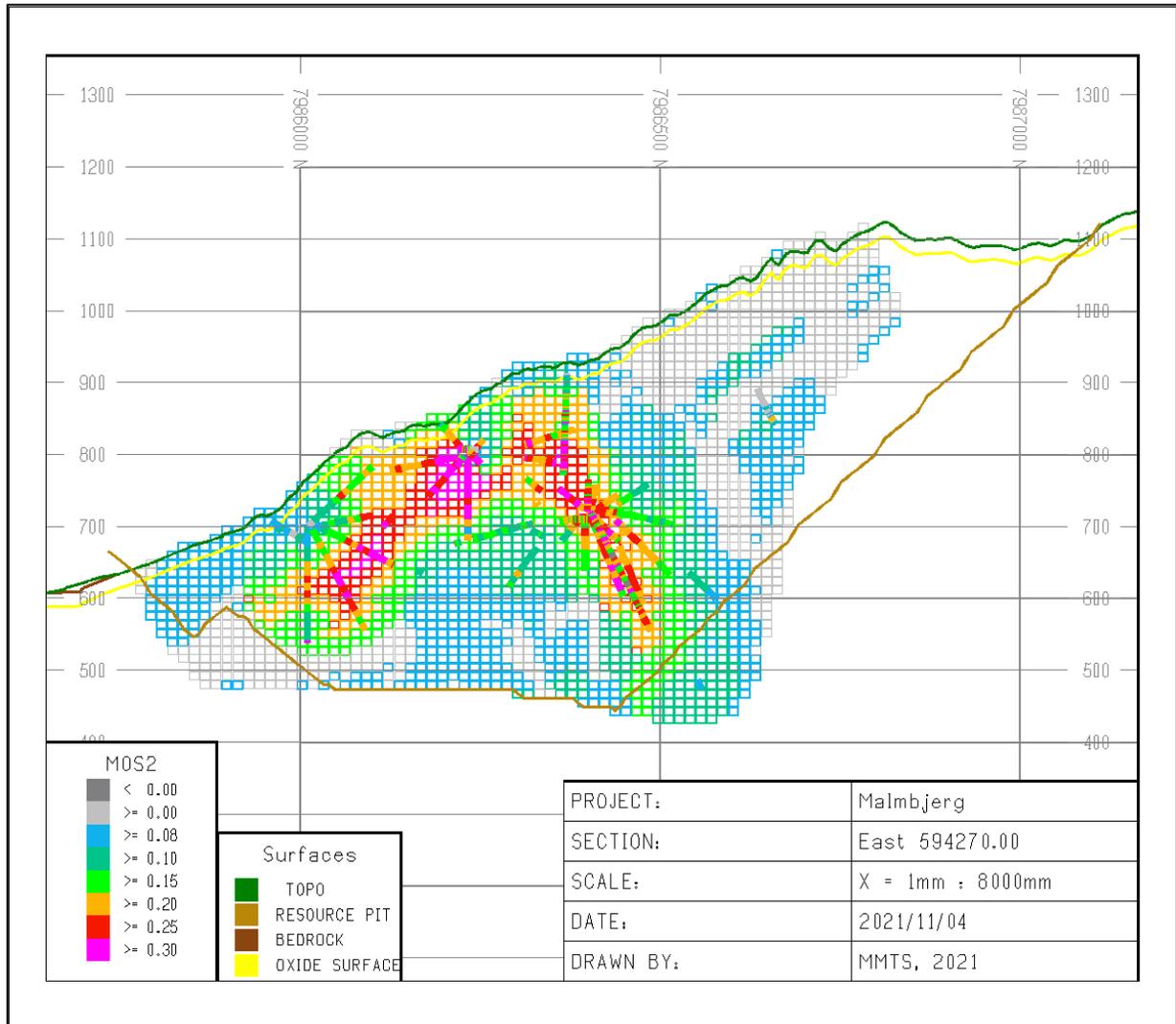
The comparison of tonnage and grade is illustrated succinctly in the plots of tonnage-grade curves. The NN values for MoS<sub>2</sub> are plotted and compared to the modelled OK values in Figure 14-7. The distributions show good correlation, confirming that the modelled grades and change of support are not bias.



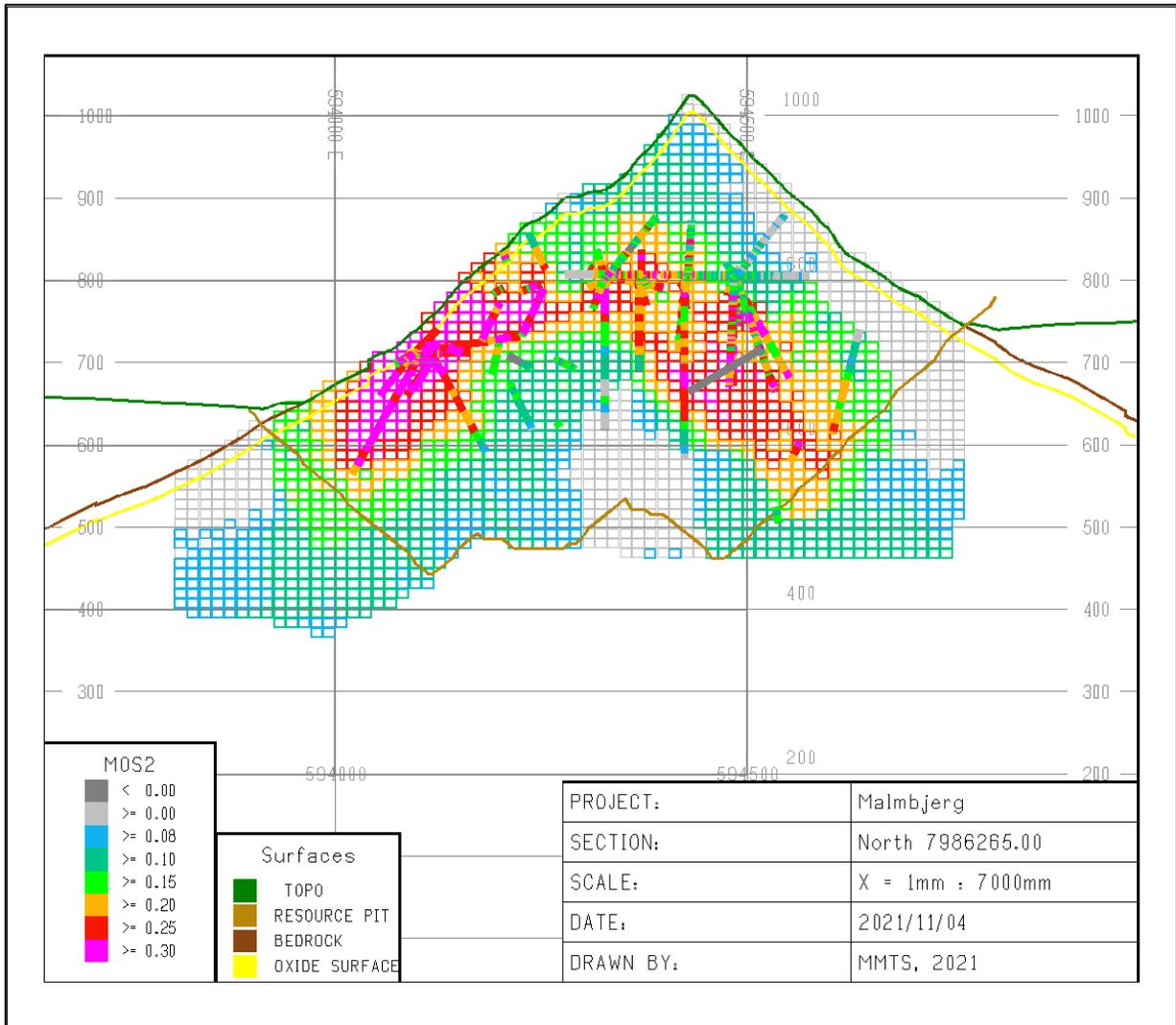
**Figure 14-7: Tonnage-Grade Curves for Mo – Comparison of Interpolation Methods (Source: MMTS, 2021)**

### 14.8 Visual Validation

A series of E-W, N-S sections and plans have been used to inspect the OK block model grades with the original assay data. Figure 14-8 is a N-S section through the center of the Project, and Figure 14-9 is an E-W section through the center. Both sections plot the assay grades, the modelled grades, the resource pit, topography, bedrock, and oxide surfaces. The figures demonstrate the climax type dome geometry of the mineralization, with the modelled MoS<sub>2</sub> grades matching the assay grades. It can also be seen that the resource is limited by the glaciers laterally and by the extent of drilling both laterally and at depth. Plots throughout the model confirmed that the block model grades corresponded well with the assayed grades.



**Figure 14-8: Visual Validation of MoS<sub>2</sub> at 594270E – Drillholes +/- 25m**



**Figure 14-9: Visual Validation of MoS<sub>2</sub> at 7986265N – Drillholes +/- 25m**

## 14.9 Reasonable Prospects of Eventual Economic Extraction

As defined by NI 43-101, the resource confining pit and/or underground shapes define a boundary for continuous mineralization with suitable grades and with a reasonable expectation that an engineered plan will produce an economic plan. The NSR calculation prices and all economic inputs to determine the open pit resources, as well as the metallurgical recoveries, are summarized in Table 14-3.

**Table 14-12: Economic Inputs and Metallurgical Recoveries**

Parameter	Value
Base Case Mo Price	USD\$18/lb.
Recovery	86.40%
Overall Pit Slope	45°
Mining Cost	USD\$3.05/t mineralized material
Mining Cost - waste	USD\$2.50/t waste
Processing Costs	USD\$8.00/t milled
Rehandle Costs	USD\$1.50/t
G&A	USD\$3.00/t milled
Royalty	2.50%
Payable	99.00%
Roasting Loss	0.15%
Off-site Costs	USD\$824/t milled
Net Smelter Price Mo	USD\$16.20/lb.
Pit Case used for the Confining Shape	100% price case
Base Case Cut-off Grade	0.08% MoS <sub>2</sub>

The pit delineated resource is given in Table 14-1 and Table 14-2 for the Malmbjerg Project. Process recoveries, as well as mining, processing, and off-site costs have been applied in order to determine that the pit resource has a reasonable prospect of economic extraction. The 0.08% MoS<sub>2</sub> cut-off yields a measured and indicated resource of 281 Mt at 0.18% MoS<sub>2</sub> for a total measured and indicated Mo content of 661 Mlbs.

## 14.10 Third Party Review of the Block Model

Mr. Michael O'Brien, P.Geo., a senior geologist of Tetra Tech, has completed a third party review of the Mineral Resource block model. No major discrepancy was found in the block model.

## 14.11 Factors That May Affect the Mineral Resource Estimate

Areas of uncertainty that may materially impact the MRE include:

- Commodity price assumptions
- Metal recovery assumptions
- Mining and processing cost assumptions

There are no other factors or issues known to the QP that materially affect the estimate other than normal risks faced by mining projects in terms of environmental, permitting, taxation, socio-economic, marketing, and political factors.

## 14.12 Risk Assessment

A description of potential risk factors is given in Table 14-13 along with either the justification for the approach taken or mitigating factors in place to reduce any risk.

**Table 14-13: List of Risks and Justifications / Mitigations**

#	Description	Justification / Mitigation
1	Classification Criteria	Classification based on the Range of the Variogram and therefore the variability of the mineralization within each deposit.
2	Mo Price Assumptions	Based on current price and projected price (Merchant Research and Consulting, 2021).
3	Capping	Mean grade comparisons, CPP, and grade-tonnage curves show model validates well with assay and composite data throughout the grade distribution.
4	Processing and Mining Costs	Based on current and previous PFS study.

## 15.0 MINERAL RESERVE ESTIMATE

There are no Mineral Reserves estimated.

## 16.0 MINING METHODS

This section is not applicable.

## 17.0 RECOVERY METHODS

This section is not applicable.

## 18.0 PROJECT INFRASTRUCTURE

This section is not applicable.

## 19.0 MARKET STUDIES AND CONTRACTS

This section is not applicable.

## 20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

This section is not applicable.

## 21.0 CAPITAL AND OPERATING COSTS

This section is not applicable.

## 22.0 ECONOMIC ANALYSIS

This section is not applicable.

## 23.0 ADJACENT PROPERTIES

Malmbjerg property is border on all sides by mineral exploration claims held by Longland Resources Limited. The authors of this report have not independently verified the information pertaining to the adjacent claims.

## 24.0 OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

## 25.0 INTERPRETATION AND CONCLUSIONS

MMTS provides the following conclusions:

- The assay QAQC data demonstrates that the assaying for the 2005 and 2007 programs was carried out properly and has yielded valid information appropriate for use in mineral resource estimation.
- Quarter core duplicate samples collected by the QP in 2021 show acceptable results to validate the historic drilling.
- Re-assays of old pulps from pre-2005 sampling programs showed good agreement following a change in assay protocol to a four-acid digestion method.
- The analysis of the twinned hole assay data indicates that the 2005 assays are comparable to the historic data, and that the historic data may be biased slightly lower.
- Confirmation drilling and sampling demonstrates that the assay data collected by pre-2005 operators is valid and appropriate for use in estimation of mineral resources.
- Conversion from the mine grid to the UTM coordinate system may have resulted in errors in location of some pre-2005 drill hole collars of as much as 3 m to 4 m.
- The mineralization at Malmbjerg consists of fracture-filling and disseminated MoS<sub>2</sub> that, in the QP's opinion, is of a style amenable to block modelling with OK.
- Statistical analysis suggests that there are a few outliers to the grade distribution. Outlier restriction of the high grade composites of between 0.2%MoS<sub>2</sub> and 0.6% MoS<sub>2</sub> was employed during interpolations.
- Post-mineralization dikes are known to be barren and represent sources of internal dilution. The basic dikes are too narrow to segregate from the other rock types and in the QP's opinion, will likely be negligible. The trachyte dikes are much thicker and will impact on local block grades. Wireframe models of known trachyte dikes were constructed to distinguish them from the surrounding rock mass and assigned zero grade to this material.
- Oxidation of the sulphide mineralization has occurred and is particularly intense near surface. Oxide molybdenum will not be recoverable in the mill so, in the QP's opinion, it is appropriate to make an allowance for it in the block model. All blocks within 20 m of surface have been reduced in grade by a factor of 1/3 to account for oxidation.
- Bulk density testing conducted by previous operators indicates that reasonable bulk density values for the principal rock types at Malmbjerg are 2.62 t/m<sup>3</sup> for the intrusive rocks and 2.67 t/m<sup>3</sup> for the sedimentary rocks and trachyte dykes.
- There is a significant tonnage of mineralized material outside of the resource pit shell that might be extractable by underground methods.
- The mineralization appears to be open-ended to the north and at depth. In the QP's opinion, potential additional Mineral Resources warrant further exploration. In addition, there is potential for discovery of other deposits in the area.

Tetra Tech provides the following conclusion:

- The metallurgical test program results indicate that a mill feed with 0.15% Mo head grade, processed using a circuit consisting of crushing, SABC grinding, rougher flotation, and three stages of cleaner flotation and press filtration, can be expected to yield a molybdenum recovery of 86.4% and a concentrate grade of 54% Mo.

## 26.0 RECOMMENDATIONS

The QP makes the following recommendations to advance the Project:

### 26.1 QAQC and Data Validation

- Future drilling programs should employ QAQC sample inclusion rates consistent with current practice to include blanks, field duplicates, coarse duplicates, and CRMs.
- A collar survey should be done to comprise 10% of all collars with equal spatial distribution.
- Additional work on the current location of the edge of the glacier, and the extent of glacial ablation should be undertaken to determine the rate of change of melting.
- Additional sampling of historic core would be beneficial to add to the validation database.

### 26.2 Geology

- A complete study of the geology, including mineralization, geochemistry, alteration, and host lithologies, be undertaken to fully understand the project. All geological data should be compiled to produce detailed property-scale maps of the surface and underground geology.
- Continuation of lithologic and alteration data collating so that 3D modelling of the four phases of intrusions is possible to further refine the block model and grade interpolations.

### 26.3 Exploration

- No further exploration work is planned for the Malmbjerg area at this time. The resource is limited by the extent of the current drilling at depth and is open in each of the valleys. Exploration to extend the resource may occur later.

### 26.4 Additional Studies

- Complete an Environmental Impact Assessment and a Social Impact Assessment (required to obtain an exploitation licence for Malmbjerg).
- Update earlier Feasibility Study work conducted by previous operators, including geotechnical analysis, material handling design, and infrastructure requirements.
- A budget for the work is summarized in Table 26-1.

**Table 26-1: Budget for Feasibility Study, EIA, and SIA**

<b>Item</b>	<b>Cost (\$ millions)</b>
Field Programs	2.0
EIA & SIA	0.3
Feasibility Study	2.6
Project Management & Administration	1.4
<b>Total</b>	<b>6.3</b>

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## 28.0 QP CERTIFICATES

## CERTIFICATE OF QUALIFIED PERSON

### Sue Bird, P.Eng.

I, Sue Bird, P. Eng. , do hereby certify that:

- This Certificate applies to the Technical Report entitled “Mineral Resource Estimate Update, NI 43-101 Technical Report, for the Malmbjerg Property, Greenland”, with an effective date of October 12, 2021 (the “Technical Report”).
- I am currently employed as Vice President and Principal Engineer with Moose Mountain Technical Services (MMTS) with an office address of #210-1510 2nd Street, North Cranbrook, BC V1C 3L2.
- I graduated with a Geological Engineering degree (B.Sc.) from the Queen’s University in 1989. I graduated with a M.Sc. in Mining from Queen’s University in 1993.
- I have worked as an engineering geologist for over 25 years since my graduation from university. I have worked on precious metals, base metals and coal mining projects, including mine operations and evaluations. Similar resource estimate projects specifically include those done for Desert Fox’s Van Dyke Project, Artemis’ Blackwater gold project, Ascot’s Premier Gold Project, Spanish Mountain Gold, all in BC; O3’s Marban and Garrison, gold projects in Quebec and Ontario, respectively, as well as numerous due diligence projects in the southern US done confidentially for various clients.
- I am a member in good standing of Engineers and Geoscientists British Columbia (#25007).
- My recent personal inspection of the Property was from August 16 to August 23, 2021 and conducted a review of the drill cores and a general overview of the topography.
- I am responsible for Sections 1.1, 1.3, through 1.9, 1.11, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 14.0, 23.0, 25.0, 26.1 through 26.3, and 27.0.
- I am independent of Greenland Resources Inc. as Independence is defined by Section 1.5 of NI 43-101.
- I have had no prior involvement with the Malmbjerg Property that is the subject of the Technical Report.
- I have read NI 43-101 and the sections of the Technical Report that I am responsible for have been prepared in compliance with NI 43-101.
- As of the date of this certificate, to the best of my knowledge, information and belief, the section of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: October 12, 2021

Signing Date: November 26, 2021

*“Sue Bird, P. Eng.” (Original signed and sealed)*

---

Sue Bird, P. Eng.

Vice Principal

Moose Mountain Technical Services

## CERTIFICATE OF QUALIFIED PERSON

### Hassan Ghaffari, P.Eng., M.A.Sc.

I, Hassan Ghaffari, P.Eng., M.A.Sc., do hereby certify that:

- I am a Director of Metallurgy with Tetra Tech Canada Inc. with a business address at Suite 1000, 10<sup>th</sup> Floor, 885 Dunsmuir Street, Vancouver, BC, V6C 1N5.
- This Certificate applies to the Technical Report entitled “Mineral Resource Estimate Update, NI 43-101 Technical Report, for the Malmbjerg Property, Greenland”, with an effective date of October 12, 2021 (the “Technical Report”).
- I am a graduate of the University of Tehran (M.A.Sc., Mining Engineering, 1990) and the University of British Columbia (M.A.Sc., Mineral Process Engineering, 2004).
- I am a member in good standing of the Engineers and Geoscientists British Columbia (#30408).
- My relevant experience includes over 30 years of experience in mining and mineral processing plant operation, engineering, project studies and management of various types of mineral processing, including hydrometallurgical processing for porphyry mineral deposits.
- I am a “Qualified Person” for the purposes of National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) for those sections of the Technical Report that I am responsible for preparing.
- I conducted a personal inspection of the Malmbjerg Property from August 16 to August 23, 2021 and inspected the overall project site.
- I am responsible for Sections 1.0 (except 1.1, 1.3, through 1.9 & 1.11), 2.0, 3.0, 15.0, 16.0, 17.0, 18.0, 19.0, 20.0, 21.0, 22.0, 24.0, 26.4 and 27.0 (only references from sections for which I am responsible).
- I am independent of Greenland Resources Inc. as Independence is defined by Section 1.5 of NI 43-101.
- I have no prior involvement with the Malmbjerg Property that is the subject of the Technical Report.
- I have read NI 43-101 and the sections of the Technical Report that I am responsible for have been prepared in compliance with NI 43-101.
- As of the date of this certificate, to the best of my knowledge, information and belief, the section of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: October 12, 2021

Signing Date: November 26, 2021

*“Hassan Ghaffari, P.Eng., M.A.Sc.” (Original signed and sealed)*

---

Hassan Ghaffari, P.Eng., M.A.Sc.  
Director of Metallurgy  
Tetra Tech Canada Inc.

## CERTIFICATE OF QUALIFIED PERSON

### Marinus (Andre) De Ruijter, P.Eng

I, Marinus (Andre) De Ruijter, P.Eng., do hereby certify that:

- I am a senior metallurgist with Tetra Tech Canada Inc. with a business address at Suite 1000, 10<sup>th</sup> Floor, 885 Dunsmuir Street, Vancouver, BC, V6C 1N5.
- This Certificate applies to the Technical Report entitled “Mineral Resource Estimate Update, NI 43-101 Technical Report, for the Malmbjerg Property, Greenland”, with an effective date of October 12, 2021 (the “Technical Report”).
- I am a graduate of the University of the Witwatersrand, South Africa, holding M.Sc. and B.Sc. (Metallurgical Engineering), and B.Sc. (Physics, Mathematics) degrees.
- I am a member in good standing of the Engineers and Geoscientists British Columbia (#31031).
- I have practiced my profession for more than 35 years. I have been directly involved in mining and mineral processing plants and projects in Canada, United States of America, Australia, Mexico, Chile, Argentina, Peru, Namibia, Burkina Faso, South Africa, Ethiopia, and Russia..
- I am a “Qualified Person” for the purposes of National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) for those sections of the Technical Report that I am responsible for preparing.
- I have not visited the Malmbjerg Property.
- I am responsible for Sections 13.0, 25.0 (metallurgy only) and 27.0 (only references from sections for which I am responsible).
- I am independent of Greenland Resources Inc. as Independence is defined by Section 1.5 of NI 43-101.
- I have no prior involvement with the Malmbjerg Property that is the subject of the Technical Report.
- I have read NI 43-101 and the sections of the Technical Report that I am responsible for have been prepared in compliance with NI 43-101.
- As of the date of this certificate, to the best of my knowledge, information and belief, the section of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: October 12, 2021

Signing Date: November 26, 2021

*“Marinus (Andre) De Ruijter, P.Eng. ” (Original signed and sealed)*

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Marinus (Andre) De Ruijter, P.Eng.  
Senior Metallurgist  
Tetra Tech Canada Inc.