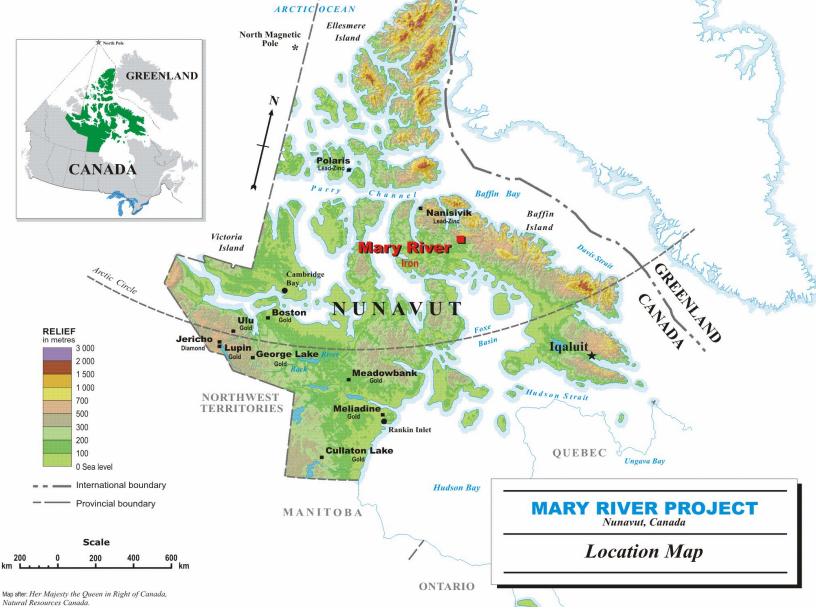
Exploration Update: Baffinland's Mary River Project, north Baffin Island, Nunavut

Thomas Iannelli PhD Head of Exploration

Nunavut Mining Symposium, Mav 11. 2022

### Where we work



2

### **Baffinland: Mary River Project History**

1962 - 1965

Discovery and initial work on Deposits 1, 2, 3 & 4. Project dormant 1966-2003.

2004-2010

 Project Reactivated 2004. Focus on Deposits 1, 2, & 3 (2004-09); Expanded work to include Deposits 4 & 5 and Exploration in vicinity of Mary River (2010)

2011 – 2016

2017 - 2022

affinland

 Exploration across North Baffin Island; discovery of several HG iron ore prospects; full scale mining of Deposit 1 begins (2015)

 Critical evaluation of land tenure and protection of potential future iron resources; resumption of drilling HGIF at Deposits 1 to 3 (2017-22); mining on-going

### The Mary River Mine

Baffinland is amongst the highest iron ore quality and quantity worldwide.

Deposit No. 1 is currently the largest known deposit of high grade iron ore in the Mary River area. The deposit has a total strike length of ~4KM. Resource estimates to date, in measured and indicated categories, total more than 350 million tonnes. Full scale mining began in 2015 (918 k tonnes HG ore mined).

Underground pits and tailings ponds are not required. Baffinland produces a Direct Ship Product (DSP) and Super Sinter Fines (SSF), both of which do not require processing.

Shipping results (2016-19):

	DSP		Fines		Total
Year	Tonnage	%Fe	Tonnage	%Fe	Tonnage
2016	1.9 M	68%	700 k	66.9%	2.6 M
2017	2.9 M	68.1%	1.2 M	67.1%	4.1 M
2018	3.28 M	67.7%	1.815 M	66.8%	5.095 M
2019	2.64 M	67.2%	2.19	67.2%	5.86 M



## 2020-21 Production & Shinning

Shipping
2020 Shipped 5,457,027 tonnes of HG iron

ore:

- 2,139,818 tonnes of DSP @67.9% Fe
- 3,317,209 tonnes of SSF @67.2% Fe
- Seventy two Panamax vessels were fully loaded, carrying an average of 75,792 tonnes of iron ore each
- <u>2021 Shipped</u> 5,610,895 tonnes of HG iron ore:
  - 1,769,230 tonnes of DSP @67.9% Fe
  - 3,841,665 tonnes of SSF @67.2% Fe
- Seventy three Panamax vessels were fully loaded, carrying an average of 76,861 tonnes of iron ore each





Deposit No. 1 with Deposit No. 2 in foreground Looking south-westerly (ca 2006)

**Deposit No. 1** 

Deposit No. 2



### Deposit No. 1

#### **Completed Work:**

- Historical drill programs (1960s): 3,318 m in 26 holes
- Drill programs (2004-09) focused on ~70% of the deposit (i.e. "Saddle Zone" south along north limb and southeast across the south limb): 28,856 m in 130 holes

#### Resources Defined (2010):

418 million tonnes grading 66.3% Fe (M&I)

213 million tonnes grading 66.9% Fe (Inferred)

#### 2012, 2014, and 2017-19 drill programs:

- Waste rock characterization across FW (1290 m in 5 holes; 2012)
- Condemnation drilling, waste rock dump (688 m in 6 holes; 2014)
- Ore characterization drilling (1214 m in 10 holes; 2017-19)
- Ore Definition & condemnation drilling, N-Limb Extension (2018-19)

   2273 m in 11 holes
   Magnetite dominated UCUE hedw 2100m wide, disping 260% Extension

 $\odot Magnetite$  dominated HGIF body ~100m wide, dipping ~60° SE

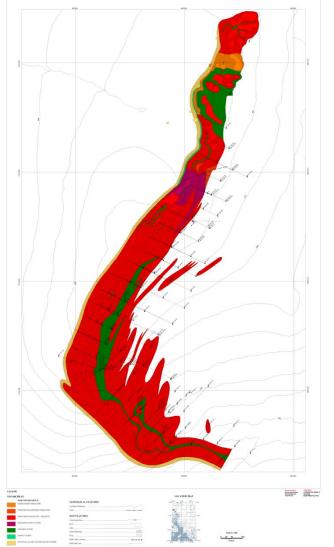
#### Current Program (2020 onwards):

 Multi-year drill campaign to upgrade resources and perform geotechnical drilling (pit slope design)

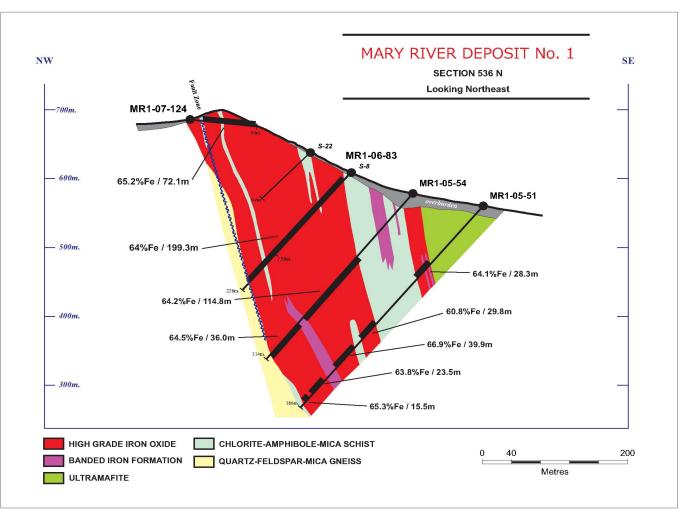




### Deposit No. 1







### Deposit No. 1 – Mining, August 2015





### Deposit No. 1 – Mining, July 2017





### Deposit No. 1 – Mining, August 2019





### 2020-21 Exploration Drill Program

Total of 15,267 m completed during the 2020-2021 seasons

#### 2020 Drilling:

• Most Metres Drilled at Mary River in a season:

Overall total of **9248 m** represents the most meters of diamond drilling ever executed on the Mary River Project during a single drill season.

• Greatest Consecutive 4 Weeks Production

July 2020 weekly production averaged **1035 m** with a consecutive 4 week project high of 4260 m.

• Thickest Continuous High Grade Ore Intercept:

Intercept of HG hematite ore, **217.6 m** thick, was drilled at west end of Deposit 3 (MR3-20-297). Represents the thickest continuous HG iron ore intercept ever drilled.

• Greatest Cumulative High Grade Ore Intercept:

Greatest cumulative intercept of high grade ore ever drilled, was recovered at MR1-20-296 on Deposit 1. The **324 m** thick intercept included 4 ore zones

#### 2021 Drilling:

<u>Deepest hole drilled on the Mary River project:</u>

West end of Deposit 3 hole MR3-21-325 drilled to **451 m**, shows ore zone expanding at depth.





### 2020-21 Exploration Program: Deposit 1 Drilling

#### **Deposit 1 Drill Program Results**

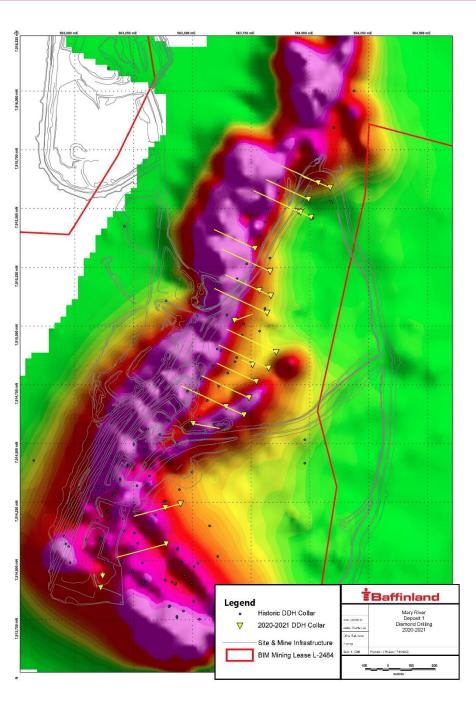
#### <u>North Limb:</u>

- Drilling performed on north limb to help define the northern extents of the mineralized zone and allow for the updating of the current geological model.
- Work was also done to determine whether waste rock can be placed here (as currently planned).
- 7737 m drilled in 28 holes

#### Axial Zone:

- Drilling was focused over the "Axial" zone to characterize ore types across this transition area and down-dip continuity of the ore zones.
- 1517 m drilled in 10 holes

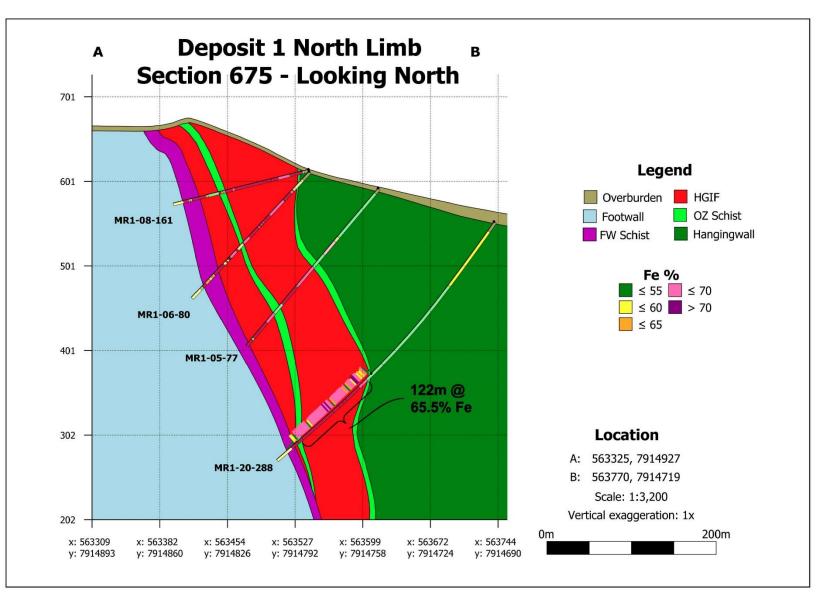






Infill Drilling, Deposit 1, North Limb (2020)





Hole MR1-20-288 intersected a magnetite dominated ore zone grading 65.5% Fe over 122 m intercept

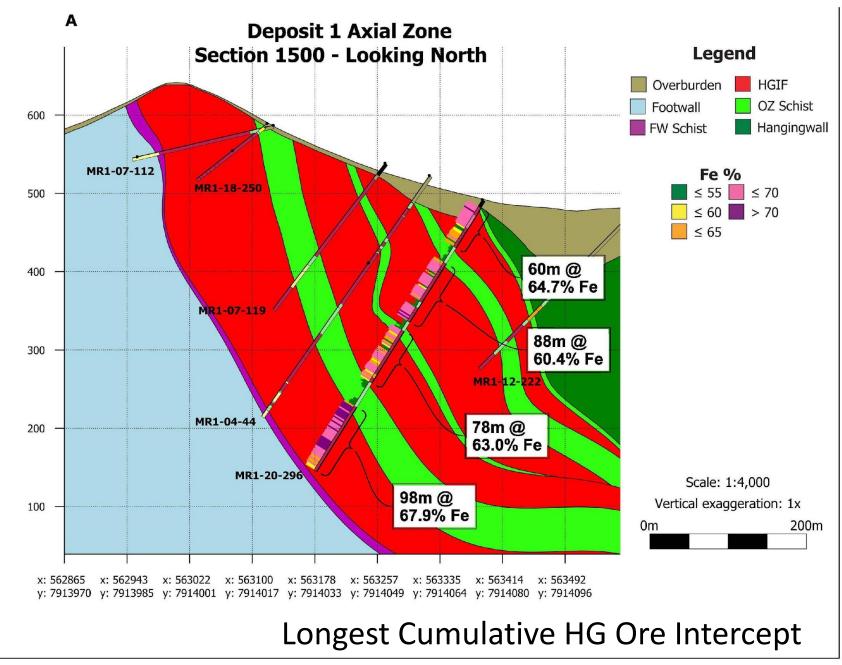
Follow-up drilling planned to test down dip extension of the HGIF ore zone

Drill Hole MR1-20-288 on section 675, North Limb

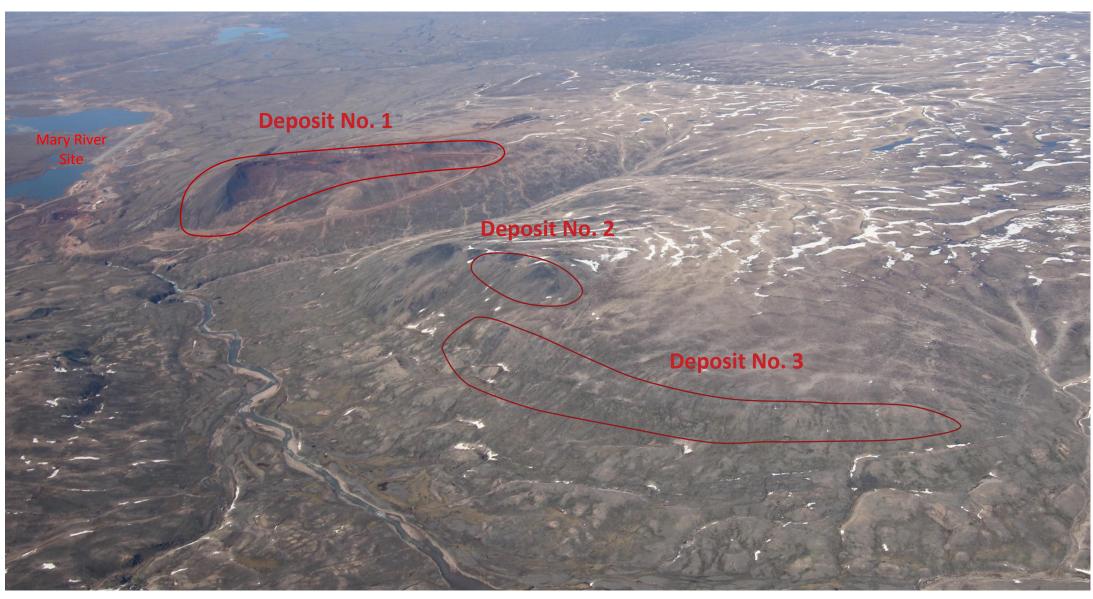


Deposit 1: Axial Zone – 2020 drilling. Looking ESE toward Deposit 2





- Hole MR1-20-296 intersected a cumulative total of 324m HGIF across 4 ore zones.
- Hole lost in ore at 407m
- Follow-up drilling planned to establish true thickness + ultimate FW contact



Aerial View of Deposits 1, 2 and 3: Looking West



### Deposit Nos. 2 + 3

### Completed work:

- Drill programs (2006, 2007, 2010, 2018-19): Deposit No. 2: 2440.5 m in 14 holes Deposit No. 3: 5449.5 m in 26 holes
- Resources defined (2010):
  - 26 million tonnes grading 65.0% Fe (Indicated) 336 million tonnes grading 65.9% Fe (Inferred)
- 2011-13 Ground magnetic + gravity surveys performed
- 2017 Ground gravity program to increase station density over area of Deposit 2

#### Current Program (2020 onwards):

 Multi-year drill campaign to upgrade resources and perform geotechnical drilling (pit slope design)

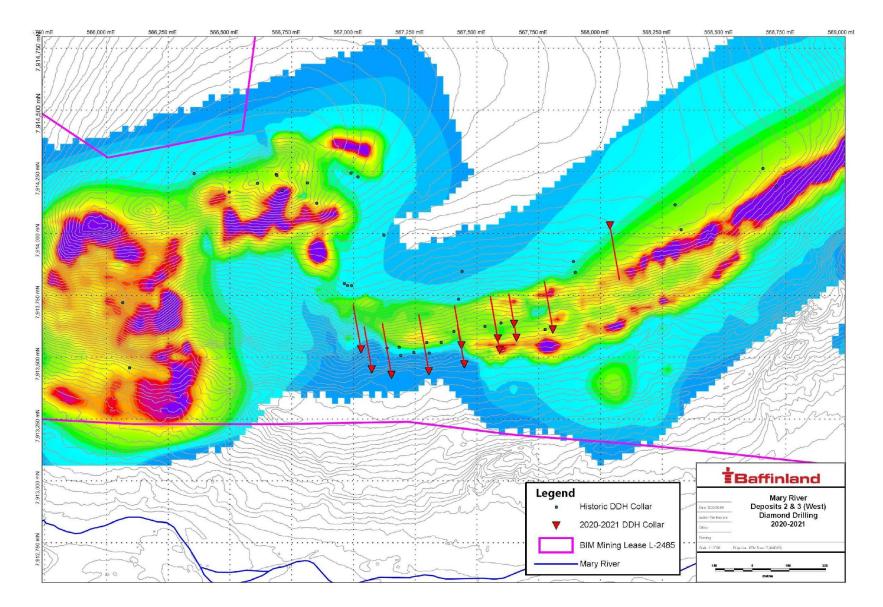


Deposit No. 2: High grade hematite

### 2020-21 Exploration Program: Deposit 3 Drilling

#### **Deposit 3 Program Goals**

- Infill drilling was focused across the western portion
- Focus on upgrading of HGIF tonnes from inferred to indicated
- 6013 m drilled in 21 holes

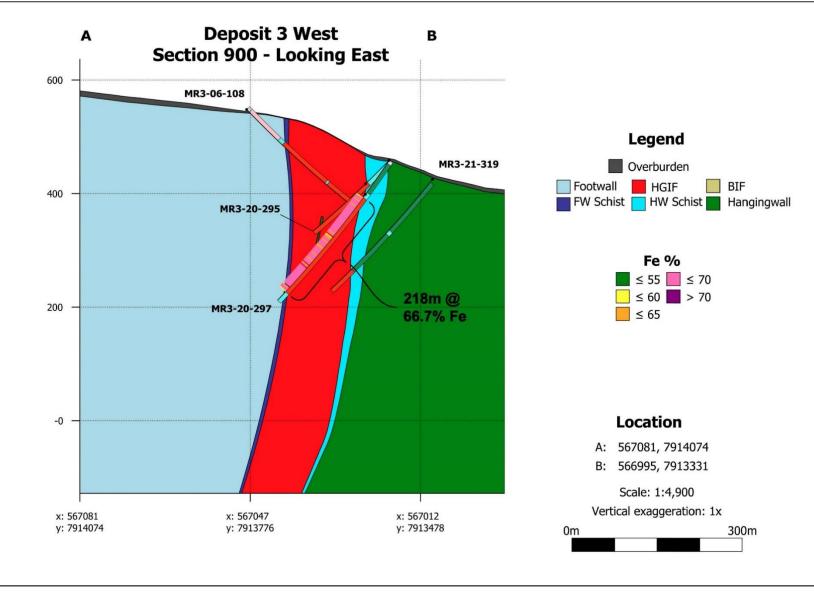






Drill at Western end of Deposit 3



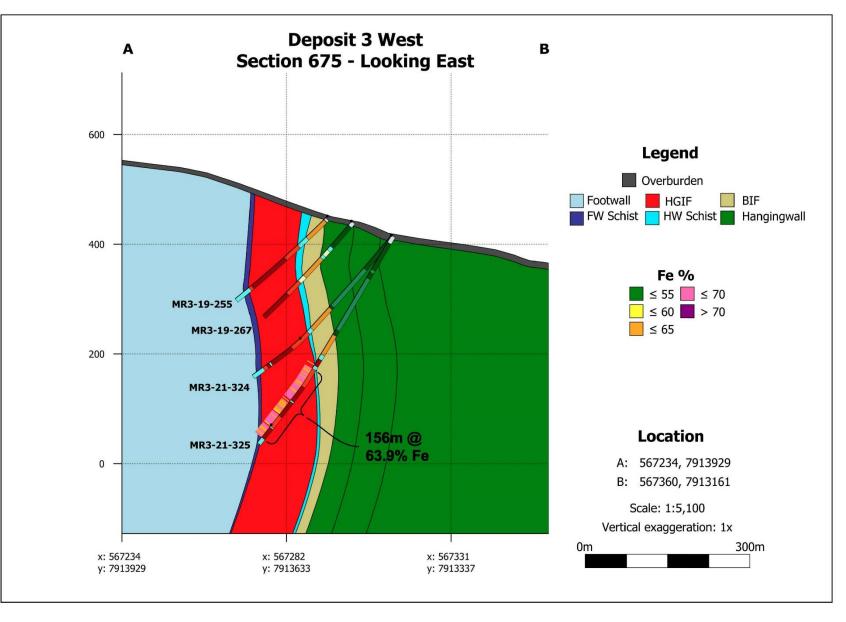


- Hole MR3-20-297 intersected 218m of HG Hematite averaging 66.7% Fe
- Longest continuous HGIF interval drilled to date at Mary River
- Includes:

60m @68.8% Fe and 44m @69.4% Fe

 Follow-up drilling planned to test down dip extension of HG ore zone

Drill Hole MR3-20-297 on section 900



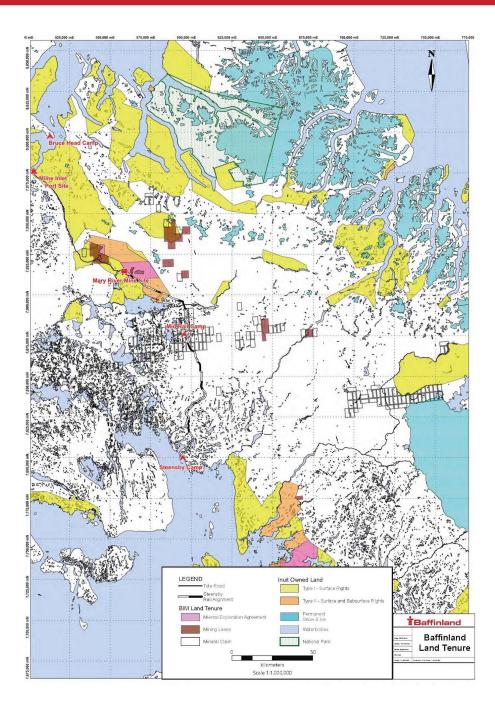
Hole MR3-21-288: Deepest hole drilled on MR Project; HG Hematite dominated ore zone thickening at depth

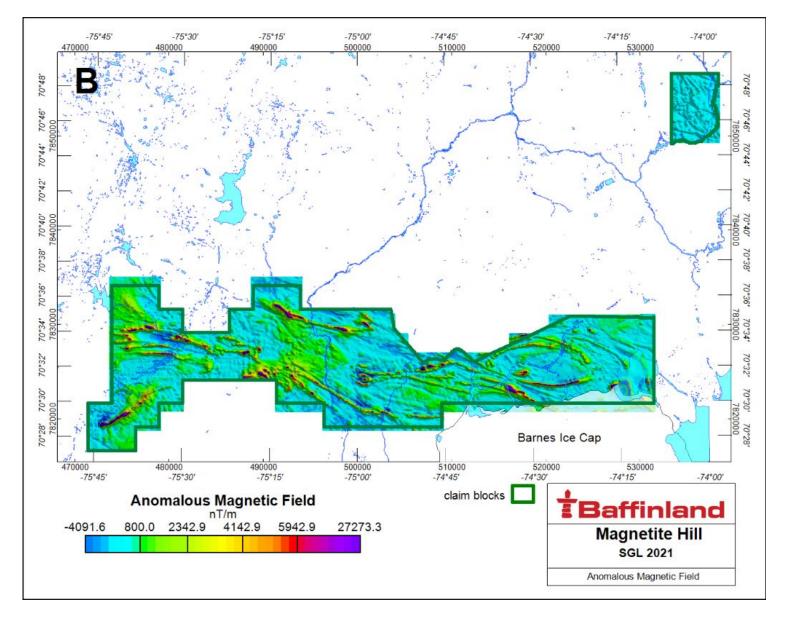
Follow-up drilling planned to test down dip extension of the HGIF ore zone

### Drill Hole MR3-21-325 on section 675

## Baffinland: 2020-21 Exploration on Current Land Tenure

- 2020: Key mature claims, on the Turner River prospect claim parcel, were surveyed to support transition to mining leases (13 claims surveyed).
- 2021: 3,555 line-km (covering 580 km2) of combined airborne magnetic and gravity surveys performed across the Magnetite Hill claim parcel.





Magnetite Hill 2021 Airborne Magnetic Survey





MAGNETITE HILL FOLD BELT:

<u>Hematite Hill Prospect</u>: Outcrop of high grade granular Hematite



### **2022 Exploration Drill Program**

~12000 m program: ongoing execution of multi-year resource + geotechnical drill program at Deps 1 to 3

#### Deposit 1 Program

#### <u>North Limb</u>

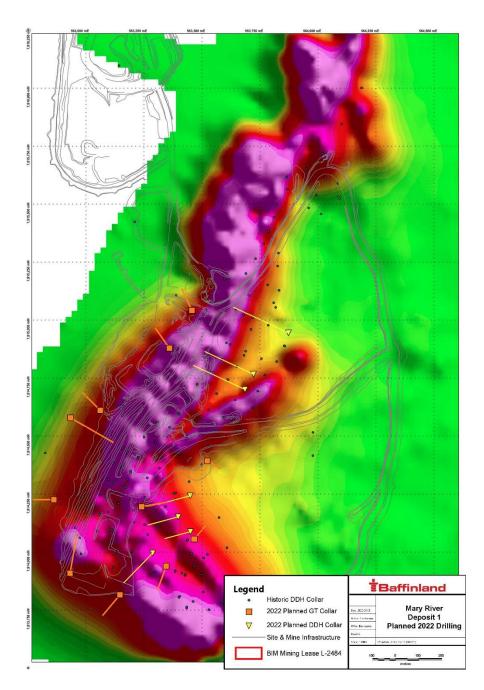
- Continued drilling of the north limb to define northern extents of the mineralized zone and allow for an upgrade of total resources.
- Up to 1595 m in 4 holes.

#### <u>Axial Zone:</u>

- Drilling focused across the "Axial" zone to continue the characterization of ore types and down dip extension of the ore zones.
- Up to 1074 m in 4 holes.

#### Geotechnical Drilling:

- Geotechnical investigation in support of pit slope design study
- Up to 3425 m in 11 holes







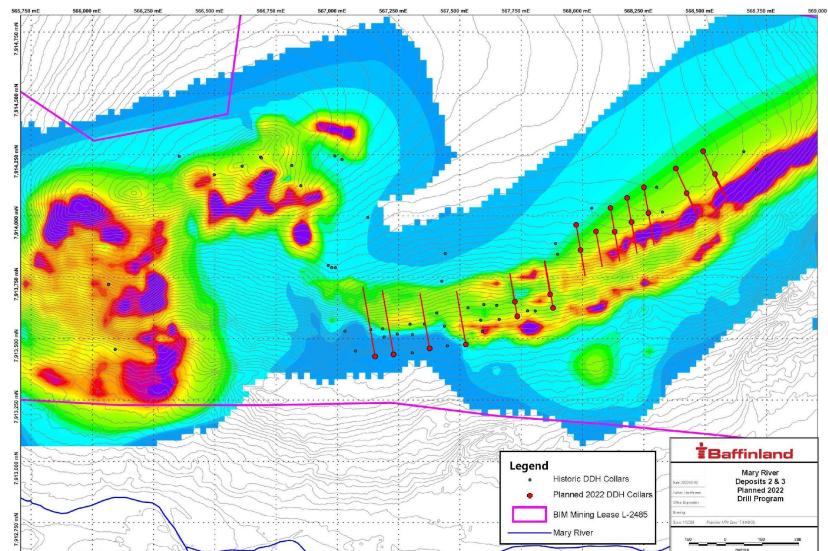
Deposit 1: Continued drilling of North Limb and across the Axial Zone



### 2022 Exploration Program: Deposit 3 Drilling

#### **Deposit 3 Program Goals**

- Infill drilling: Continue drilling across the western portion of the deposit (upgrade tonnes from inferred to indicated)
- Drill deep holes at west end to test down dip extension of the ore zone.
- 6230 m in 22 holes







**Baffinland**Outcrop of massive HG Hematite IFM, Deposit 3 West (view WNW towards D1)

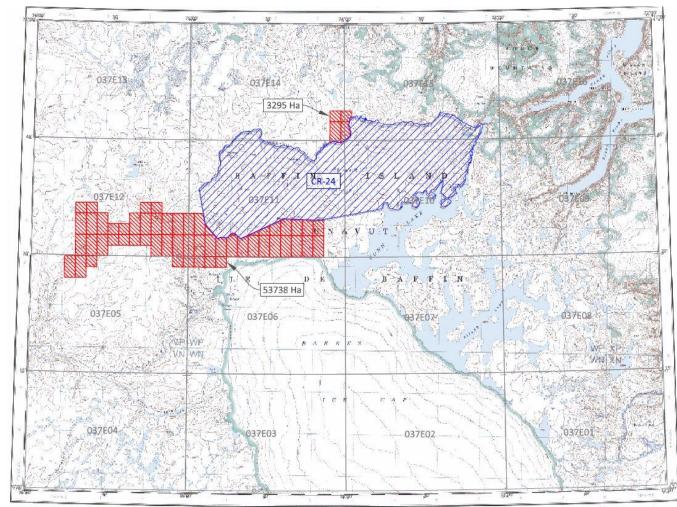
### 2022 Exploration: Regional Program

#### **Regional Exploration Objective:**

Develop and maintain value in high grade iron ore prospects across the Mary River district.

#### Methods:

- Prospecting traverses + channel sampling (if time + opportunity permits) across Magnetite Hill claim block: follow-up of 2021 airborne geophysical survey
- Completion of ground gravity survey across the Turner River prospect.





# **BIM EXPLORATION:**

Focused on Resource Expansion across the Mary River District

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