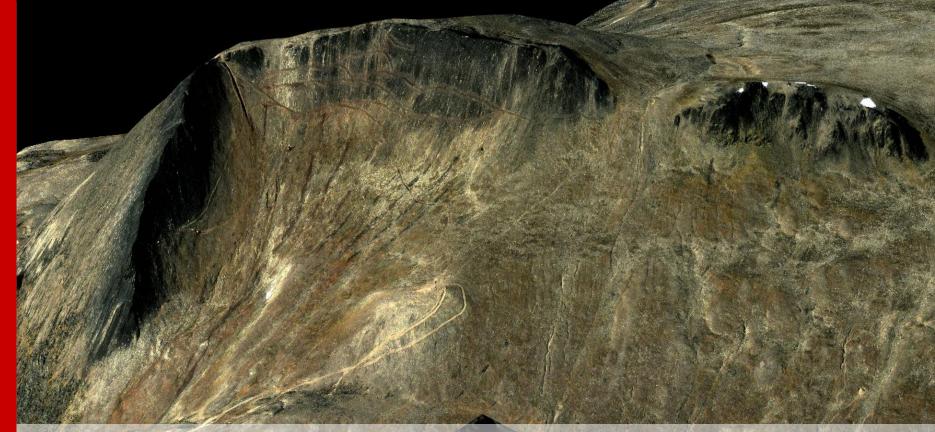




Mary River Project: 2013 Exploration Program Highlights and Outline of 2014 Program

Nunavut Mining Symposium, April 2014
Heather Campbell and Meghan MacLeod

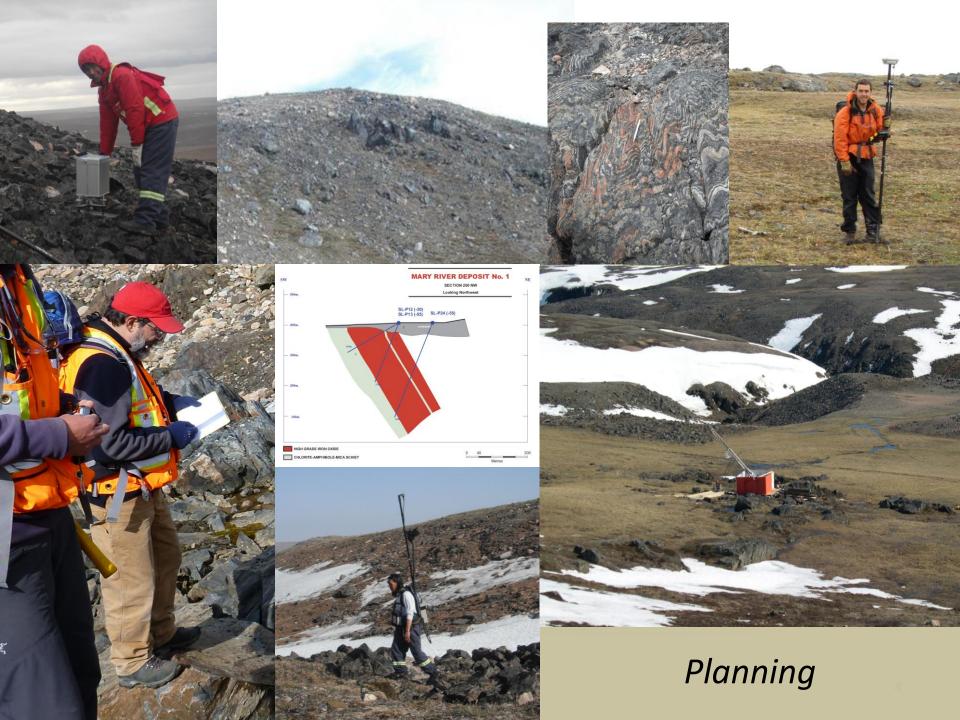




#### **Direct Shipping Ore (DSO)**

- High grade lump and fine ores-no processing!
- Homogeneous, consistent and predictable product
- Understanding physical, chemical and metallurgical properties important
- · Understanding where to find more...
- Exploration is the key to planning, processing and adding value to existing resources







#### **Current Land Tenure**

Existing land position consists of:

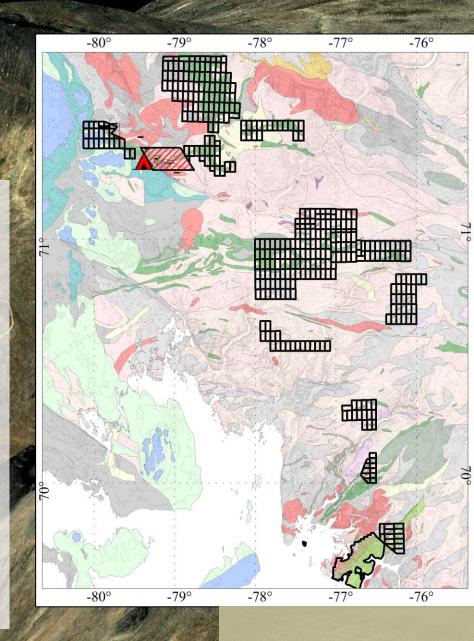
- Mining Leases (3): 1,593 ha

- Exploration Areas (3): 48,626 ha

- Mineral Claims (406): 390,282 ha

Total land position: 440,500 ha

Tenure is currently spread over
 ~250 km on northern Baffin
 Island within Mary River District



Adding Value

#### **Exploration Focus 2004-2010**

- 2004 to 2010: Exploration was focused on resource/reserve definition on existing ("historical") deposits, all of which have significant surface exposure and geophysical expression
- Work mainly comprised drilling HQ core and all core underwent detailed physical, analytical and metallurgical testwork
- Deposit No. 1 has been drilled the most

Deposit No. 1

- 28,856 metres in 130 drill holes (Baffinland)

- 3,318 metres in 26 drill holes (Historical)

To date: 369 composited lump test on core/19 channel samples

Bulk sample in 2008 to characterize ore to be shipped in the initial production

#### Have mapped and modeled the Deposit metallurgically

Deposit No. 2

-1,798 metres in 11 drill holes (2006, 2007)

Deposit No. 3

- 2,715 metres in 13 drill holes (2006-07, 2010)

Deposit No. 4

- 3,170 metres in 20 drill holes (2010)

Deposit No. 5

- 2,669 metres in 16 drill holes (2010)

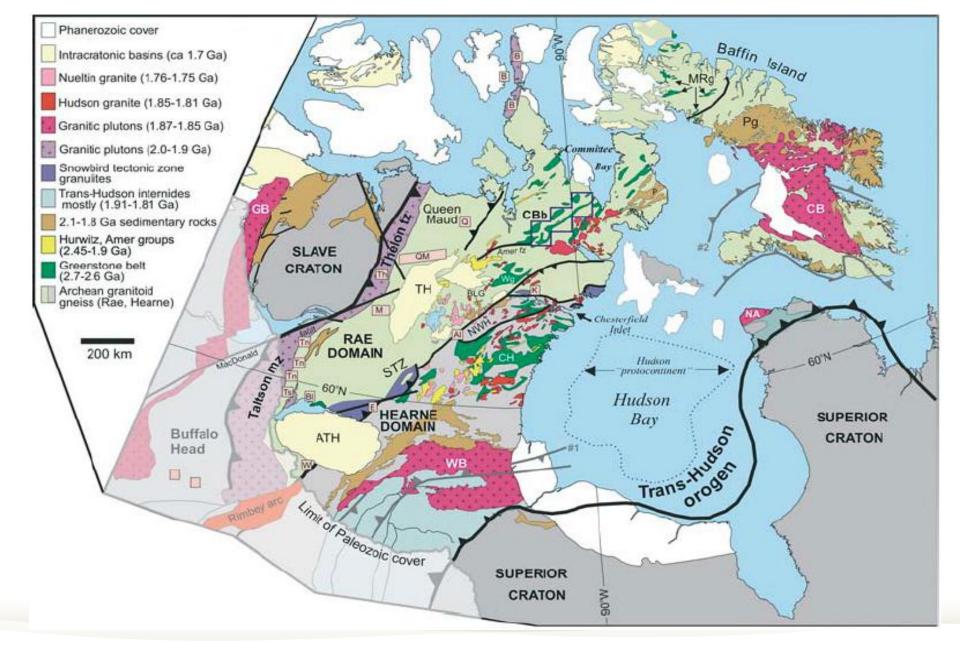
- 2010 Exploration: first regional prospecting resulted in the discovery of four major prospects of high-grade iron (60+% Fe) associated with large fold belts with cumulative strike >90 km. Including No. 1,2,3 -more than 160 km strike length of BIF with a protore of ~40% Fe
- Staking programs were performed to protect the prospects and related fold belts

#### Exploration 2011 to 2013

- Exploration work in 2011, focused on geological mapping, geophysical surveying and surface sampling of the 2010 high-grade prospects
- Prospecting resulted in discovery of significant high-grade mineralization ("potential deposits") at two additional sites and several minor zones at locations distributed across the northern Mary River District
- New claims were staked to provide a "buffer" zone around the major prospects ("potential deposits") discovered in 2010, and to protect 2011 discoveries and associated Mary River Group fold belts
- 2012-13 Work has been focused upon:
  - Land tenure management of mineral claims to ensure "assessment work" is completed, covering prospective claims across the entire Mary River District
  - Prospecting, geology, geophysics and geochemistry have been used to identify and evaluate high-grade iron and other mineral prospects
  - A new Exploration Area was added to the NTI Exploration Agreement to allow access to the SW part of the prospective fold belt at Eqe Bay and complement the claim parcel staked in 2011

#### **2013** Exploration Program

- Exploration program was based out of Steensby camp; field program focused upon the following main work:
  - Land tenure management
    - Coverage of claim parcels not fully evaluated during 2011-12; focused on claim parcels across the central and southern Mary River District
    - Included portions of the following claim groups: Cockburn-Rowley, SE Rowley,
       North Isortoq, South Isortoq, and Eqe Bay
  - Exploration work
    - First look at the newly acquired EA parcel at Eqe Bay
    - Reconnaissance prospecting, pXRF surveys, and property scale mapping
      performed to characterize the geology of the fold belt and ground truth + expand
      upon historical sites of HG iron and related mineralization
  - Major Geophysical Surveys
    - Ground gravity survey across Cake Lake iron formation in the Eqe Fold belt
    - Geophysical modelling at Deposit No. 4 (M.Sc. research project)
    - Completion of the ground gravity survey across the Deposit Nos. 2 + 3 area on the north limb of the Mary River synform

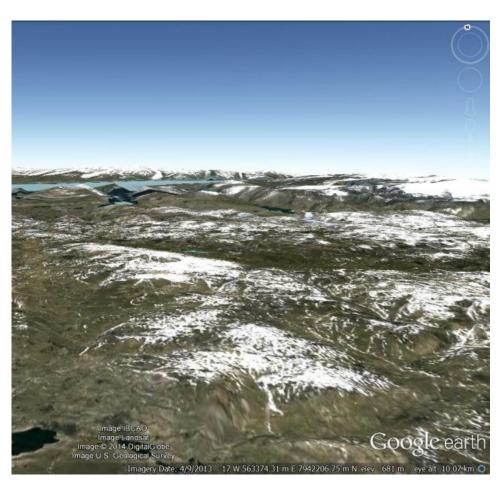




Geology of Nunavut showing the Mary River Group (MRG) and the Committee Bay Belt (CBB) (Berman et al., 2005)

#### **Tectonic Framework**

- The Mary River District has been variably affected by 3 Archean and 1 Proterozoic crust building events:
- 1) Overprinting of Mesoarchean basement *ca.* 3.9-2.8 Ga
- 2) Deposition of Mary River Group *ca.* 2759-2718 Ma
- A cryptic high-grade event ca.
   2.55-2.5 Ga
- 4) The *ca.* 1.9-1.8 Ga Baffin Orogen

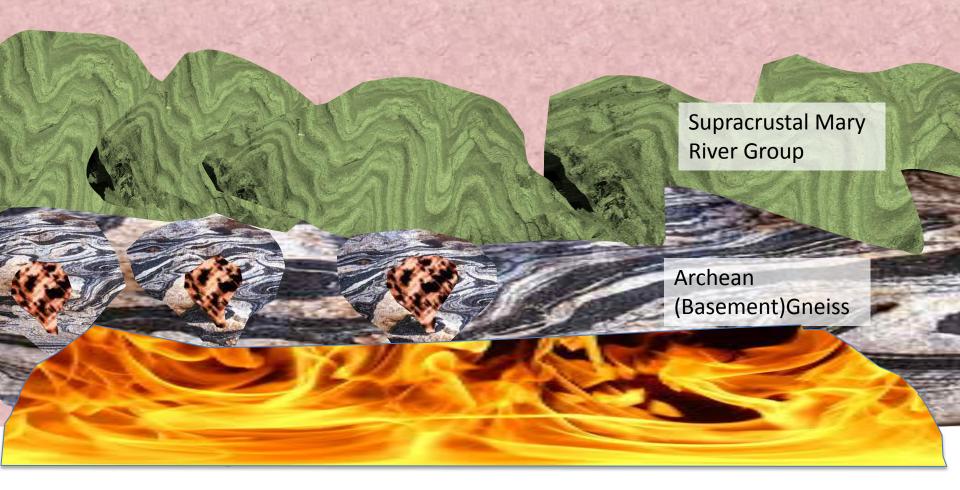




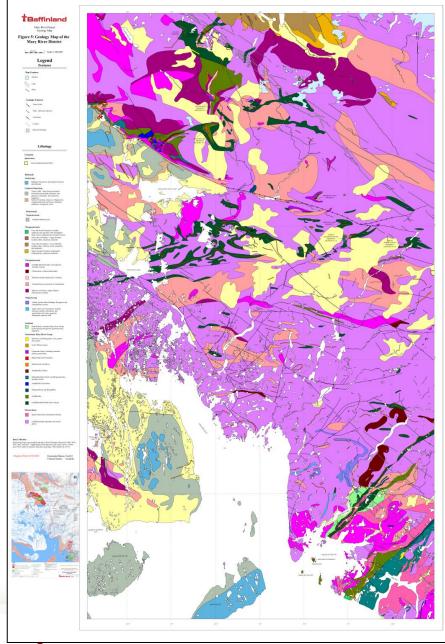
# Baffin Orogen

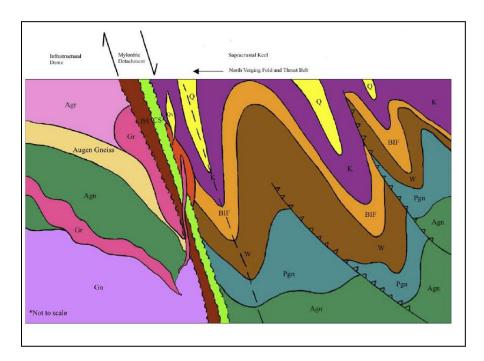
- Represents the major regional metamorphic overprint forming the northeastern portion of Transhudson orogeny
- Tectonothermal deformation across the entire Mary River District; main event associated with enrichment of BIF to high-grade iron formation
- Bethune and Scammell (2003) divided the event into three main stages:
  - Stage 1 (ca. 1850-1845 Ma): contractional deformation and early northwest-directed thrusting
  - Stage 2 (ca. 1830-1820 Ma): continual contractions and peak metamorphism was attained at 1825 Ma, reaching upper amphibolite to granulite facies.
     During this time, burial occurred, and there was significant crustal anatexis accompanied by tectonic thickening of crust
  - Stage 3 (<ca. 1819 Ma): a period of extension and exhumation characterized by brittle faulting

#### Baffin Orogen

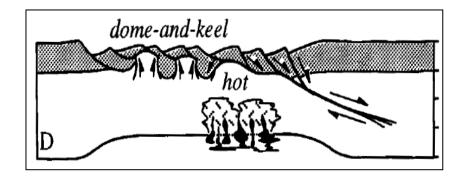








(MacLeod, 2012)



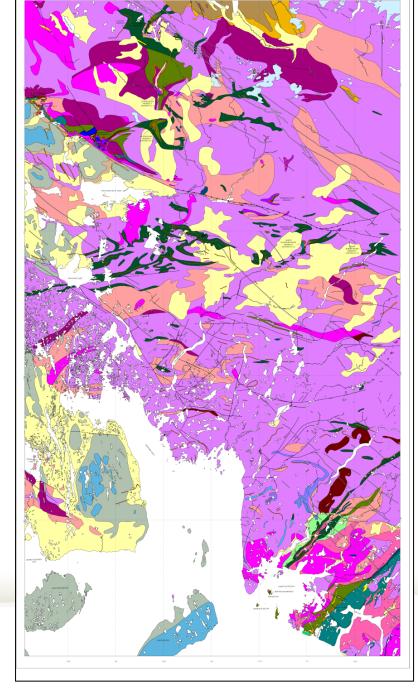
(Marshak et al., 1997)



#### **2013 Exploration Results**









# 2013 Exploration Results – Central MRD

- Mary River Group fold belts associated with major structures across NE Mary River District (CBFZ – TSC) and central Mary River District (Central Steensby FS)
- Newly defined high-grade iron formation/massive iron oxide prospects:
- 37F/42a, 42d Prospects
- Massive iron oxide (coarse magnetite + granular martite) associated with belts of granular oxide BIF
- Belts exceed 1 km in strike and up to 300 m in width
- Maino Lake Prospect:
- Newly discovered MRG Iron Formation belt, 5 x 15 km, in the vicinity of the Rowley River
   Prospect
- Zones of high-grade iron formation preserved within thick MRG assemblage characterized by ultramafic / amphibolitic rocks, BIF, PEGM / granitic intrusive suite





# 2013 Exploration Results – Central MRD Maino Lake Prospect: high-grade magnetite/martite iron formation at base of oxide BIF unit AM11:00 JUL/29/2013

Isortoq Fold Belt: High-grade iron formation prospects within the volcano- sedimentary Mary River assemblage associated with the Isortoq structural corridor

#### **Knob Hill Prospect:**

- Massive magnetite, minor BIF /SIF
- Channel sample results: cumulative sample length of 20 m; Fe range = 54 70 %; grade = 64% Fe

#### **River Bend Prospect:**

- Massive magnetite, minor BIF / SIF
- Channel sample results: cumulative sample length of 22 m; Fe range = 58 70; grade = 64%

#### **BIM Island Prospect:**

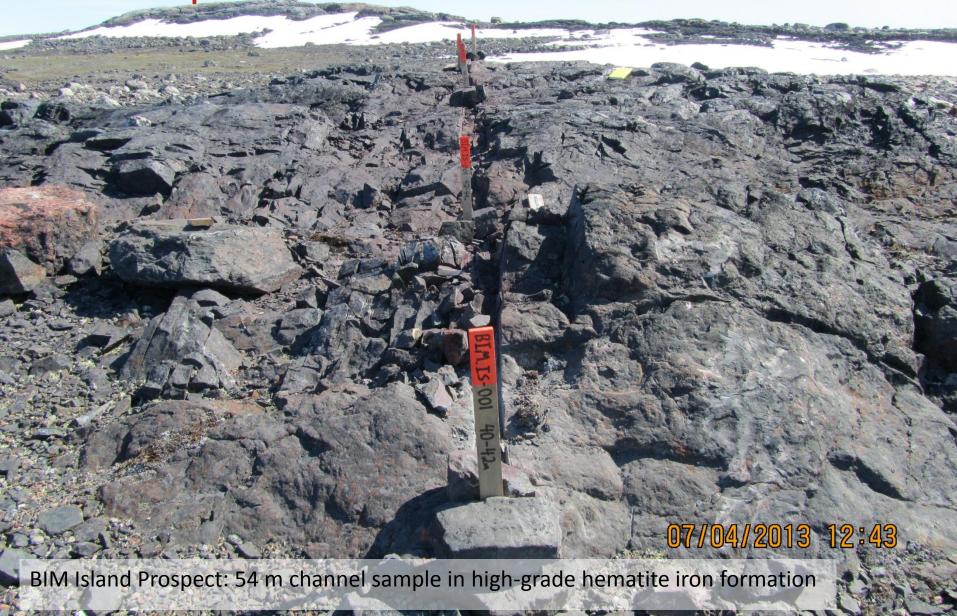
- Hard massive hematite; with minor oxide BIF and pegmatite
- Channel sample results: 54 m wide outcrop; Fe range = 58 69 %; grade = 65% Fe

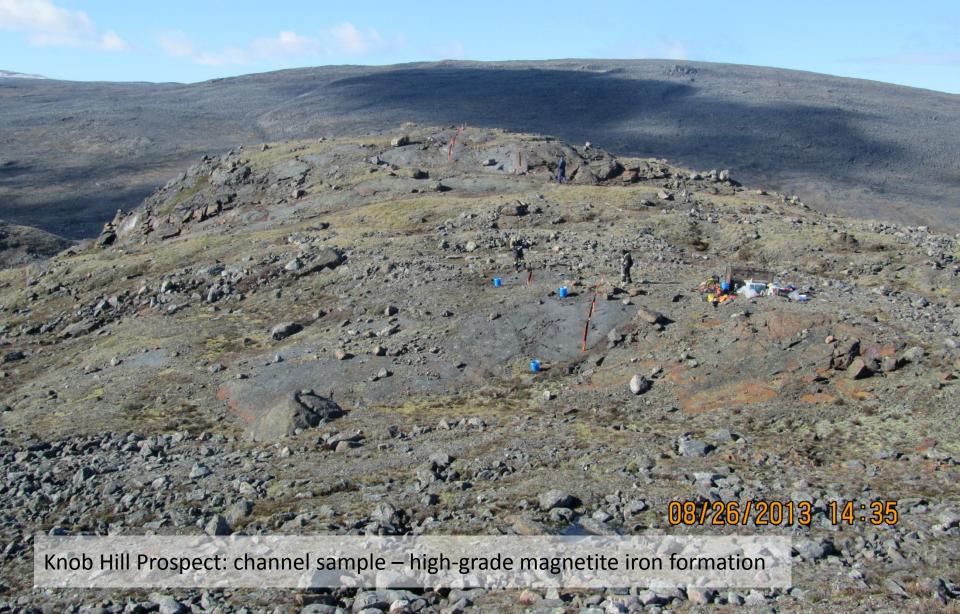


Confidential

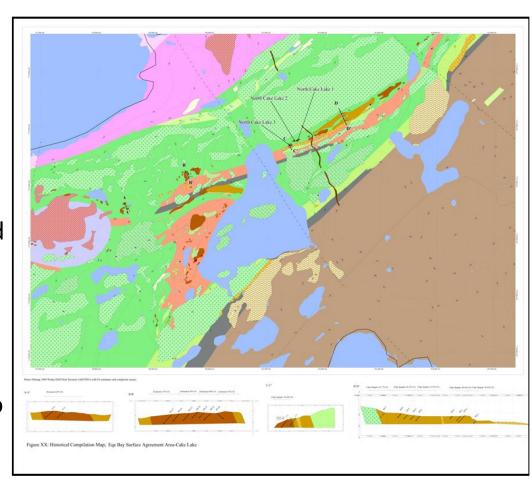
20







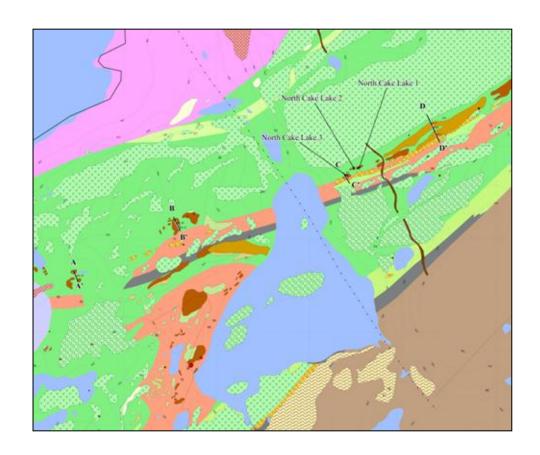
- Eqe Bay Fold Belt: Well preserved Mary River assemblage associated with an unnamed structural system
- Lower volcanic dominated succession (Cake Lake terrain) and upper sedimentary dominated succession (Eqe Terrain) separated by an intra-group uncomformity characterized by a polymictic conglomerate which contains clasts of iron formation
- Historical exploration work: Patino Mining (1969) performed channel sampling, shallow drilling, geophysical surveys, and property scale mapping



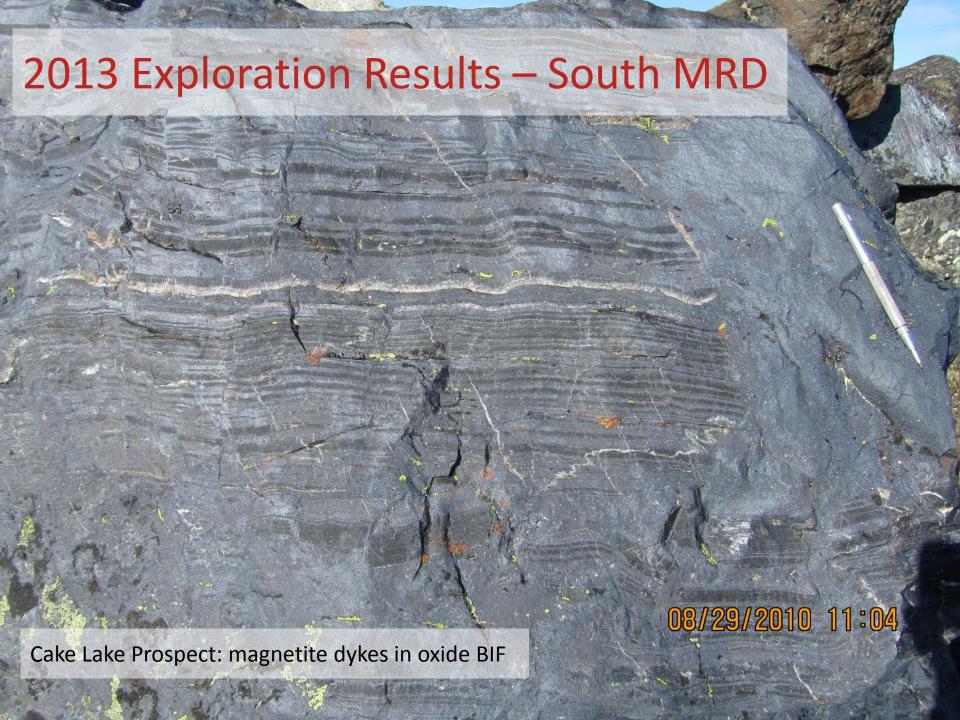


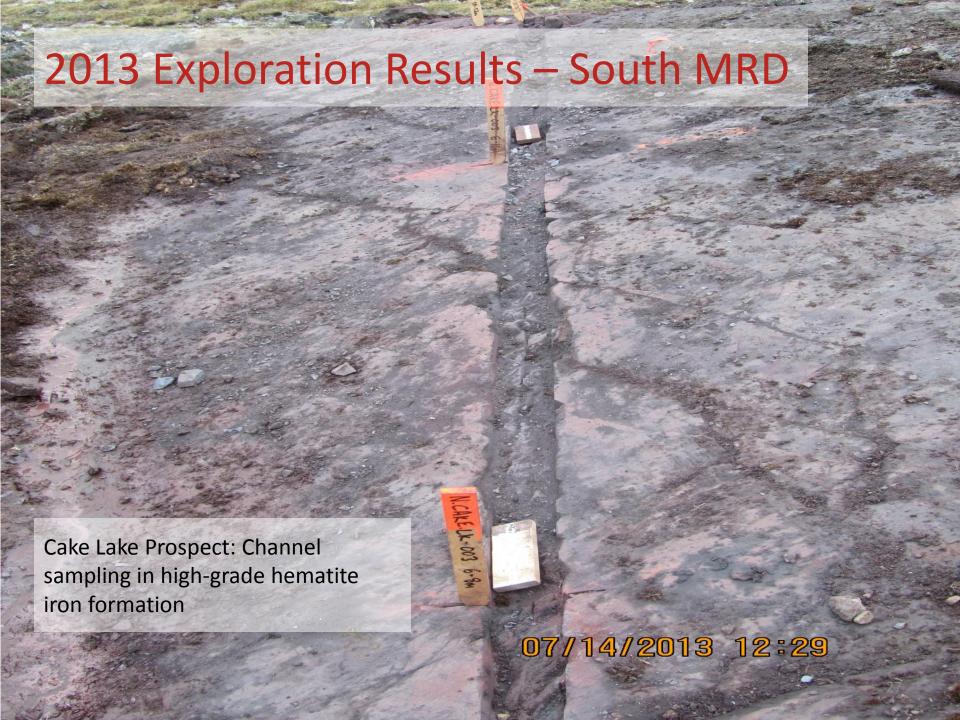
#### Cake Lake Prospect

- Associated with complexly folded oxide BIF belt ~10 km in strike preserved in the Cake Lake terrain
- Enriched BIF (with magnetite dykes) and hard massive hematite; minor oxide BIF + quartz veining
- Channel sample results:
   hard massive hematite
   zones; cumulative sample
   length (3 sites) of 48 m; Fe
   range = 55 67 %; grade =
   64 % Fe





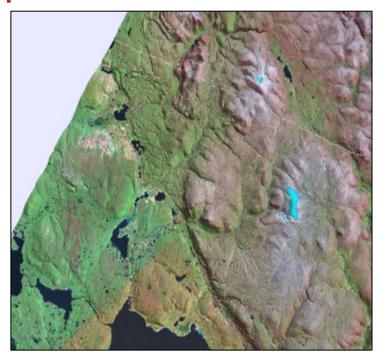




#### 2014 Exploration Program

- Exploration program will be based out of Mary River; field program focused upon the following main work:
  - Small drill program (1000 m)
    - Condemnation drilling at Deposit No. 1; 4 to 5 holes; one drill
  - Land Tenure Management
    - Perform geological base line mapping, sampling, etc. to keep key claims in good standing; focus across north portion of the Mary River district
    - Includes portions of the following claim groups: McOuat Lake, West Long Lake, East Long Lake, Central TSC, and Cockburn-Rowley
  - Baseline geological work on Major Prospects
    - Perform remaining geological / geophysical work on major prospects including: Deposit No. 5, North Cockburn River, Rowley River, Long Lake
    - Follow-up work on HG IFM prospects in the Isortoq and Eqe Bay Fold belts
  - Major geophysical surveys (ground gravity and magnetics):
    - Support of condemnation drilling and mapping at Deposit No. 1
    - South limb of McOuat Lake Synform (across area of Deposit No. 5)

#### Deposit No. 5





#### **Exploration Focus 2014**

2014 work will focus on geophysical surveying and additional surface sampling:

- Ground gravity survey to cover south limb of the McOuat Lake Synform
- Surface (channel) sampling at Zones C, I and J
- Completion of property scale mapping, north limb of fold structure east of Deposit No. 4

**Future Exploration-** drill program will be performed to complete infill drilling and bring major high-grade zones to reserve status

Final drill program to be planned pending results of the ground gravity survey

Total future exploration drilling:
 Estimated @ 3000 m in 10 to 12
 holes (on 200 m sections)





#### GEOLOGY MAP OF MCOUAT LAKE SYNFORM

5 Notes 1:25,000 Scale 1:25,000

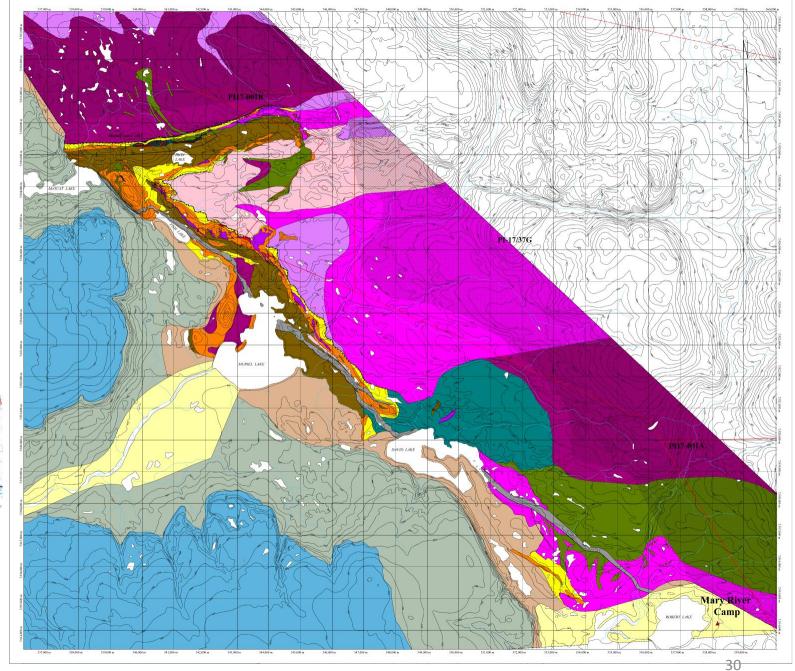




#### DATA COLLECTION Deposit No. 4 and 5 Geology May compiled and drawn from flish draw outbrend in 2010 and 2011, supplement of with Japa Sens CD. Judgeon field series and maps. 1965.

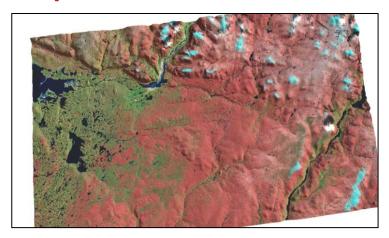


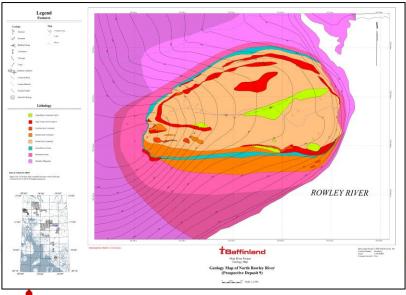
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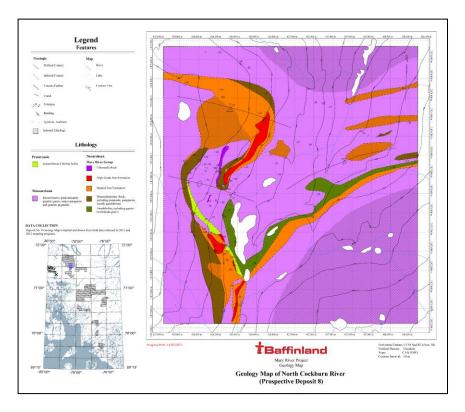


#### North Cockburn/Rowley River Prospect –

Deposit No. 8, No. 9







#### North Cockburn Prospect – Deposit No. 8



19 Channel / Chip Samples (2 m long + 20-25 kg each): Ave. Fe grade @ 68 %

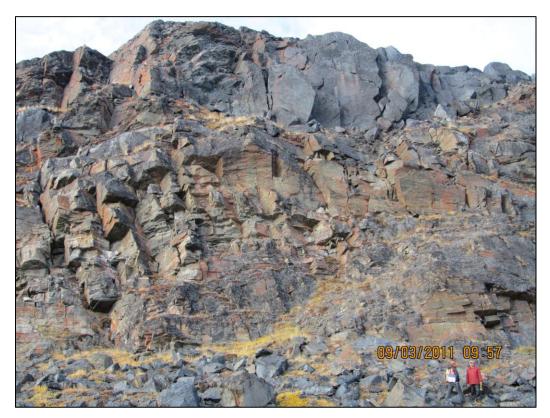
#### **Exploration Focus 2014**

2014 work will focus on geophysical surveying:

- Completion of ground magnetic and gravity surveys across the central and eastern portion of the north fold limb (Eastern prospect)
- Ground magnetic survey across ground on south central portion of claim parcel
- Future Exploration: drill program to define high-grade mineralization and (if warranted) bring the prospect to inferred status
  - Drill across a cumulative strike length of ~2.4 km (Western prospect)
  - Total future exploration drilling:
     Estimated @ 4000 m in 15 to
     18 holes (on 200 m sections)



### Rowley River Prospect – Deposit No. 9



Surface channel + chip sampling program (2012): 119 samples collected from 15 separate channel sites with composite grade of 66% Fe

#### **Exploration Focus 2014**

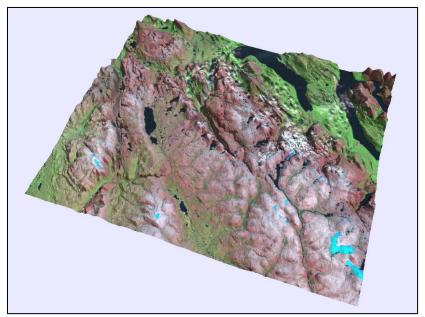
2014 work will focus on geophysical surveying (time permitting) and recon prospecting:

- Ground gravity survey across the prospect and across the linear fold belts east and west of the prospect
- Follow-up reconnaissance prospecting of site of high-grade iron formation noted in 2013 (due east of prospect)

**Future Exploration:** drill program to further define high-grade mineralization and (if warranted) bring the prospect to inferred status

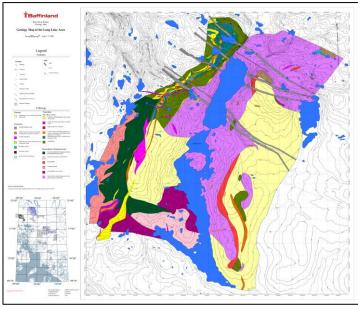
- Drill across a cumulative strike length of ~2 km
- Total future exploration drilling: Estimated @ 3000 m in 12 to 15 holes (on 200 m sections)







#### **Long Lake Prospect**







#### Long Lake Prospect







2014 exploration work will focus on:

- Geochemical base line surveying across the southwestern portion of the fold belt
- Follow-up reconnaissance rock sampling to be expanded beyond the scope of the 2012 program to cover the remaining exposed portions of the fold belt
- Surface channel sampling program to be expanded beyond the 2012 scope to cover additional zones of HG magnetite
- Evaluation of sulphidized BIF and altered amphibolite for additional mineral prospects

#### **Future exploration:**

- Geophysical work: EM survey (airborne or ground) across the mineralized belt
- Exploration drilling of key sites across the 10+km strike length of the fold belt; drill sites will be chosen pending results of geochemical base line work, geophysical surveys and the surface sampling program



#### Summary - Why Exploration?

- Exploration creates wealth that can be exploited by operations to create revenue
- An active current exploration team is essential for optimal and effective exploitation of direct shipped ores; this is magnified at Mary River Deposit No. 1:
  - Due to its high lump content;
  - Changing matrix with variable Mn, magnetite (FeO) content and sulphur;
  - The necessity to maximize value by mining, blending and shipping a consistent and predicable sale product that is not primarily driven by its payable commodity iron, but by deleterious elements and physical attributes;
  - Direct shipping ore lack of a processing plant so no opportunity to modify product.
- Land selection has been driven by high-grade iron oxide targets, but additional potential
  exists within the Mary River group for other styles of mineralization which can be
  evaluated during current exploration programs
- BIMC controls key land parcels across the Mary River District which represents the NW portion of the Committee Fold belt – an area of minimal historical exploration
- Current in-house expertise is well positioned to define another site of mineralization of the magnitude of the Mary River Site (i.e. billion ton resource) and to perform evaluation of other mineral potential within the MRG

