



TSX.V: AXI

FSE: AE6



**ADVANCED EXPLORATIONS.:**  
*becoming a high quality Iron (98% Fe) Producer in Nunavut*

2010 Nunavut Mining Symposium, April 13-15 Iqaluit, Nunavut



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# ADVANCED EXPLORATIONS INC.

Advanced Explorations Inc (AEI). (TSX.V:AXI,FSE:AE6) is a resource development company focused on developing high quality iron ore opportunities.

Led by an experienced senior management team with technical, exploration and mining expertise the company is now positioned to advance its Roche Bay iron ore project and Tuktu iron ore project and explore other local and global opportunities.



# STRONG MANAGEMENT TEAM

- **John Gingerich\***, P.Geo Chairman, CEO, President (Noranda/Falconbridge, Founder East Asia Minerals Corp.)
- **James D. Excell\*** ( BHP,NAP) – built and ran EKATI mine (NWT)
- **Robert Collette\*** (DFAIT, CIDA), served as Ambassador to Switzerland
- **Lei (Eric) Guo\*** (CMFP). Asian Fund Manager
- **Bernie Swarbrick\*** ( SNC Lavalin, Falconbridge)
- **Gary Williams\*** M.Sc., P.Geo V.P. Environmental (Cameco, Noranda)
- **Louis Nagy**, C.A. C.F.O.
- **Joseph Chiumminto**, LLB Corporate Secretary
- **Florin Gheorghiu**, Ph.D. V.P. Engineering & Technology ( Min-Met Ltd.)
- **Steve Roebuck**, B.Sc. V.P. Exploration (BHP, Forest Gate Resources)

\*Denotes Board Member



# PROPERTIES

AEI currently has 2 iron ore properties located on the east coast of the Melville Peninsula, Nunavut.

Roche Bay and Tuktu both hold significant operational and development advantages due to their coastal location.

Other projects (national/international) under consideration.





# ROCHE BAY

## Highest quality (value) iron product to be shipped from Canadian Mine

Preliminary Economic Analysis shows potential for a US \$1.16 billion NPV

- 50 year operation (baseline environmental completed)
- Lower quartile cost producer of high value product (**>96%Fe**)

## Multi-Billion tonne potential

- 1.1 billion non-compliant resource
- C-Zone NI 43-101 report identified 357 Mt @28% Fe at 25% iron cut off
  - First 20 years ~5 mtpa mining ~ @30% Fe
- 4 more iron zones (+16 km) of strike to be drilled
- Iron formation strikes for over 100km



# ROCHE BAY

- June 2009 Preliminary Economic Assessment determined the following project economics:
  - OPEX : US \$ <200/tonne nugget
  - CAPEX: US \$ 1.11 billion (*modular design impact not included*)
    - At US \$500/tonne nugget freight on board
      - NPV: US \$1.16 billion, IRR: US 24.4%
    - At US \$750/tonne nugget freight on board
      - NPV: US \$2.76 billion, IRR: 39.5 %
    - At US \$380/tonne nugget freight on board
      - NPV: US\$ 397.9 million, IRR: 15.5%

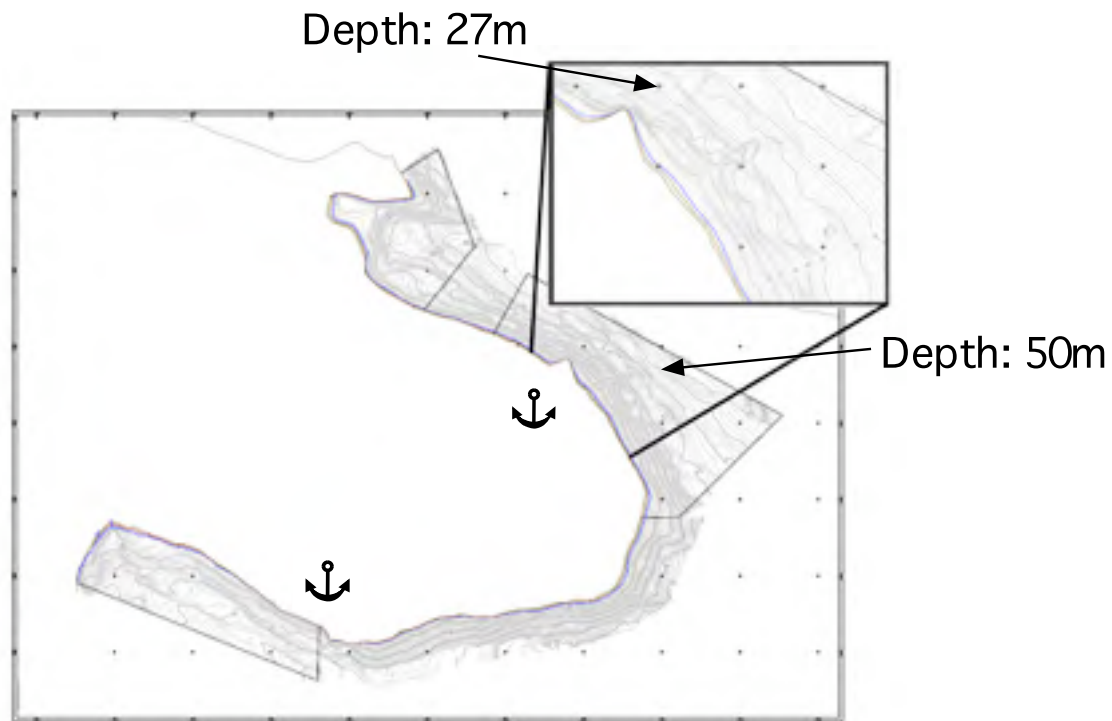
## PROPOSED SITE INFRASTRUCTURE



Natural  
harbour  
set aside –  
depth >23m



## HARBOUR



Soundings by Northern Oceandynamics

### Advantages

- Natural deep water harbour
- No dredging requirement
- Federal set-aside
- 170 day season for Type A ships
- 79 day season for Type E ships
- Potential ready supply of electricity



# TUKTU

The Tuktu claims cover approximately 22,000 ha on the Melville Peninsula on an exceptionally broad zone of magnetite mineralization exposed at surface extending over a strike of 2,700 m and up to 700 m in width. Initial spot sampling returned values as high as 50% magnetite with low contaminant concentration.

The short term objectives based on leverage Roche Bay development:

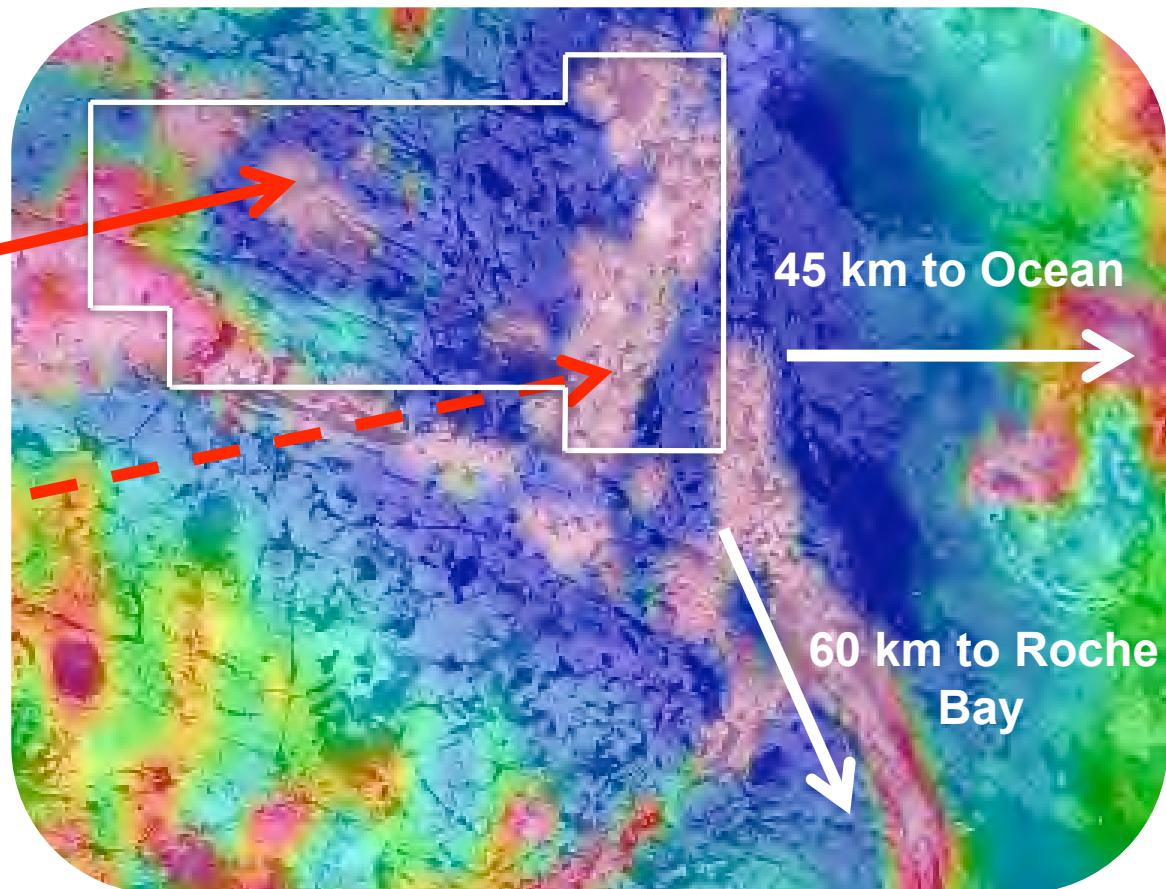
- Assess potential for 2mtpa +63% Fe product; trucking 60km
- Objective is to see if project can deliver product < \$35/t FOB

## NEW TARGET AREA

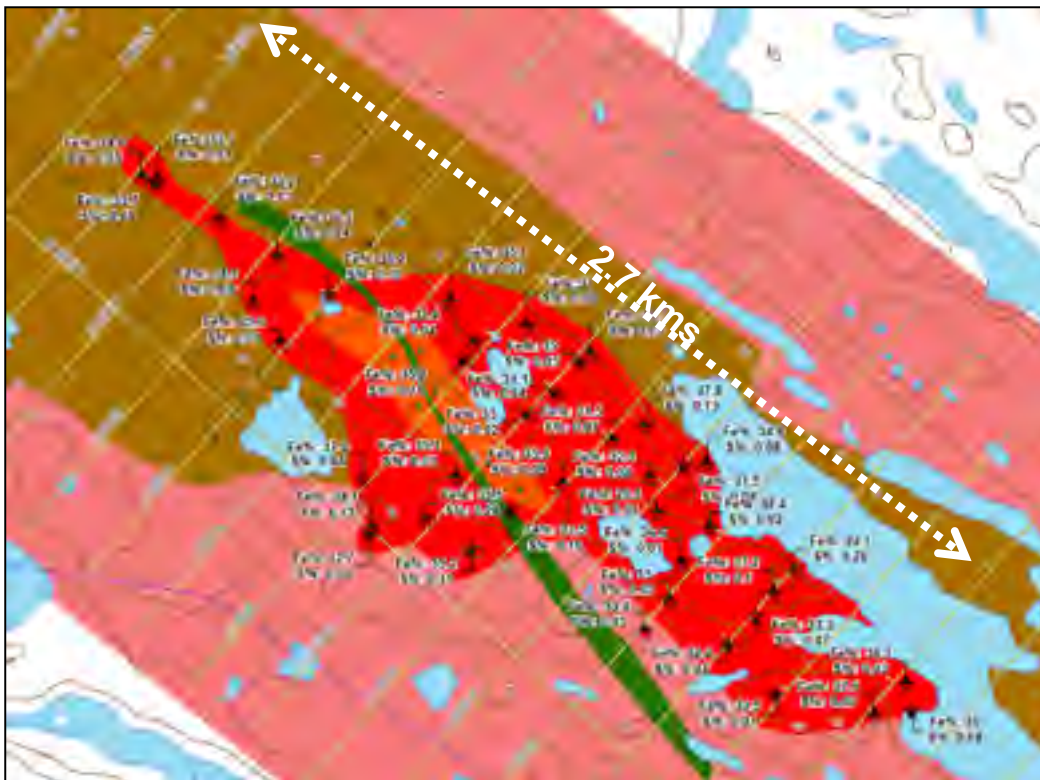
High Grade Fe  
- 2,700m long,  
up to 700m wide

5km Zone  
- Potential unknown

Au/Ag Potential?



**AVERAGE OF 34% IRON** - *low deleterious elements*



 Banded Iron Formation

 Gabbro

 Gossan

 Granite

 Metasediments

 Banded Iron Formation

Iron% (Fe) : 38.6

Sulphur% (S) : 0.01



# THE OPPORTUNITY

AEI is now positioned to fast track the Roche Bay project towards a production decision. The Definitive Feasibility Study (DFS) is expected to begin May 2010.

The initiation of the DFS and the commencement of the drill campaign with a targeted 15,000 m of infill drilling on the C-Zone and additional site engineering is to commence June 2010 with a final DFS Q1 2011.

Pre-development project financing is expected to begin in Q2 2011 with a target date of full production to begin 2015. (New Streamlined Permitting Process)



# FAVOURABLE MARKET DYNAMICS

## UNIQUE LOCATION

- Avoid transportation logistics of moving product to ocean: No pipeline, no rail-reduced product handling
- Only 13 ship loads required to move 1 MTPY iron nuggets (current fleet).
- Enables off-site construction/on-site assembly
- Modular construction estimate 20%-30% savings
- Operational: Water cheapest form of service: ships only way of transportation required (plan based on Inuit accepted shipping cycle)

## INNOVATIVE BUSINESS MODEL

### Traditional mine with value-added product:

- Produce 1 MTPY of 96-98% high value iron nuggets: value-added on-site
  - Nuggets sold directly to end users in the electric arc furnace & steel industry of North America, Europe and Asia
  - Nuggets price >7 times value of concentrate
- Reduced mine foot print (lower CAPEX & OPEX): < 5million tonnes a year of 30% Fe





# FAVOURABLE MARKET DYNAMICS

## INNOVATIVE BUSINESS MODEL

- Potential 50+ year mine life
- Bi-product steam electrical power through heat capture from the DR exhaust furnace.
  - Waste heat capture supplies heat to industrial plants and camp buildings.
  - Potential 5-10 MW of capacity for power supply to external customers.
  - Greenhouses and other industrial park benefits





# COMPETITIVE ADVANTAGE

## LOCATION, LOCATION, LOCATION

Plus \$100 Cost Advantage

- No Rail
- Capture Mine Profit Margins
- Eliminate Fe Shipping
- Free backhaul of coal
- Reduced product handling

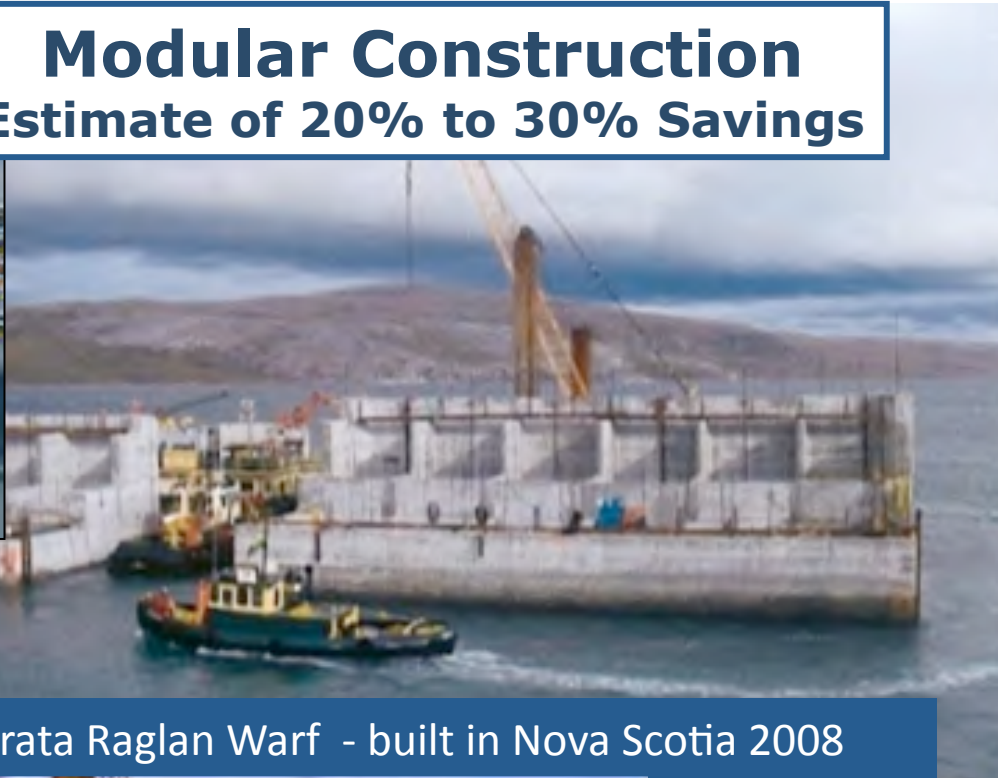
Unit Fe Cost comparison for Nugget producers

|                              | On Site Producer Base case | Merchant Producer Base Case | On Site Producer Peak Cost | Merchant Producer Peak Cost |
|------------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| Cost to Produce Con          | 1.5 \$X                    | 1.5 \$X                     | 1.5 \$X                    | 1.5 \$X                     |
| Rail and handling cost       | 0                          | \$22.50                     | 0                          | \$22.50                     |
| FOB profit margin            | 0                          | \$52.50                     | 0                          | \$105.00                    |
| Shipping Cost (mid distance) | 0                          | \$30.00                     | 0                          | \$75.00                     |
| Total extra Fe unit cost     | 0                          | \$105.00                    | 0                          | \$202.50                    |

Assumes; Rail etc. @ \$15/t, FOB profit \$35/t, Shipping \$20/t

# Modular Construction

Estimate of 20% to 30% Savings



Xstrata Raglan Warf - built in Nova Scotia 2008



18,000 MT platform Technip



130 MW Power Plant



## HALL BEACH, U.S RADAR BASE



Community of ~800 located 60 km NE of Roche Bay.  
Obvious synergies with respect to Federal and Regional Government development objectives.

## Wealth Creation for Nunavut

- Jobs (long term employment)
- Leveraging existing infrastructure ( Hall Beach, Igloolik, Repulse Bay)
  - Inuit owned enterprises
- Revenue – IBA, Taxation
- Partnerships in development ( investor, etc.)
- Possible Churchill routing- Western Economic Diversification Projects





## Developing a workforce

- Hiring Locally
- Providing Training
- Working with local contractors and suppliers

## EMPLOYMENT DEMAND

- Estimated employment once Roche Bay moves into production:

| Position                      | Employment |
|-------------------------------|------------|
| Management                    | 8          |
| Engineers and other graduates | 24         |
| Shift Leaders                 | 50         |
| Administrative                | 14         |
| Skilled and unskilled workers | 404        |
| <b>Total Employment</b>       | <b>500</b> |

- Estimates include mining operations, concentration and direct reduction plants, port and power facilities. Expected variance from this estimate  $\pm 20\%$
- Already in 2008 season AEI employed more than 40 Inuit from regional communities and has assisted local workforce in training and skill development



## REGIONAL/GOVERNMENT SYNERGIES

### Potential Partnership for Regional Power Distribution

- Nunavut Power Corporation Potential clients
- Hall Beach & Radar base
- Naval Facility
- Igloolik and Repulse Bay

### Social Economic Considerations

- Industrial Park Potential (fishery, etc.)
- Road network (Hall Beach request)
- Broad base of derivative jobs remain in communities
- Coastal development aligns with coastal culture
- Green Project-reduced impact for iron project

# GEOGRAPHICAL SYNERGIES



Active Mines meeting coal composition requirements within chosen regional boundaries



-- Shipping Route

..... Rail road

"Coal Deposits In Canada." The Coal Association of Canada, Sept. 19, 2008:  
[http://www.coal.ca/content/index.php?option=com\\_content&task=view&id=32&Itemid=55](http://www.coal.ca/content/index.php?option=com_content&task=view&id=32&Itemid=55)





# MARKET INFORMATION

AEI is publicly traded on the TSX Venture Exchange and listed on the Frankfurt Stock Exchange.(average combined volume 200,000 shares/day)

|                                       |                             |
|---------------------------------------|-----------------------------|
| Equity raised to date (\$0.11-\$2.83) | C\$ 39.5 mm                 |
| Common Shares Outstanding*            | 79.8 mm                     |
| Share Price                           | 12 mo range:\$0.105-\$0.285 |
| Market Capitalization**               | C\$13.96 mm                 |

Strong Management, Insider and Institutional Support: Insiders hold approx.15% of the company in shares, options etc.

\* 02/01/10

\*\* 03/30/10



# Achievements

## Recent Events

- To date total invested capital \$40MM
- NI 43-101 compliant Technical Report & PEA
- 26,000 m drilled, 8 drills on site
- 60 man camp fully supplied
- Off-take contract with China
- Four years of environmental baseline studies completed
- Government negotiations (registered lobbyist, Agent: Global Public Affairs)



# The Plan Going Forward

(TO BE COMPLETED BY Q1/2011)

## Q2 /2010

- Initiate steps toward mine permit
- Commence IBA negotiations, new Inuit partnerships
- Strategic investor/partner, off take agreements

## **Definitive Feasibility Study (DFS) to be completed by Q1/2011\***

- 15,000 m of infill drilling on C-Zone
- Geotechnical work on-site
- Preparation of project road network
- Planning for permanent camp.

*~June Startup of Summer Program*



# SUMMARY

## **Strong project economics**

- Lower quartile cost producer-World class
- modular expansion, satellite operations

## **Unique Location**

- Large iron resource located adjacent to the ocean

## **Innovative Business Model**

- Iron Nugget Operation with a business model capturing transportation, development and operational efficiencies
- Potential low cost, high quality producer

## **Senior Management Group**

- Excellent management team with Canadian Arctic experience
- Significant local and territorial support



## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

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