



The Qilalugaq Project A Large Tonnage Diamond Deposit

Nunavut Mining Symposium April 2014

**TSX-V: NAR** 





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### **Presentation Summary**



- **1.** About North Arrow Minerals
- 2. Current status and history of Qilalugaq Project
- 3. 2014 Qilalugaq exploration program
- 4. Timing of Qilalugaq work, results and future potential.





# North Arrow Minerals

Who Are We?

- A Vancouver, BC based public company; trades on TSX Venture Exchange; NAR : TSXV
- Explores for purely for diamonds in Canada.
- Management and Board of Directors have discovered / developed many important kimberlites in Canada and Africa including the **Diavik Diamond Mine** in the NWT.
  - Gren Thomas Chairman
  - Ken Armstrong President and CEO
  - Eira Thomas Advisor
  - Chris Jennings Director
  - William Lamb Director
  - > Blair Murdoch Director
- Management was also involved in the largest exploration agreement negotiated by Nunavut Tunngavik Incorporated.





# **Principal Diamond Projects**



### Redemption (NT)

- Near Diavik & Ekati mines
- Unexplained KIM trains
- >\$12M dataset
- Earning a 55% interest from Arctic Star

### Lac de Gras (NT)

- Near Diavik & Ekati mines
- 1<sup>st</sup> \$5M funded by Dominion Diamonds

### Pikoo (SK)

- Diamondiferous kimberlite field discovered in 2013
- 80/20 JV with Stornoway

### – Qilalugaq (NU)

- Large tonnage resource
- Potential for high value stones
- Bulk sample in 2014
- Under option from Stornoway

### Mel (NU)

- KIM targets
- 100% NAR
- Luxx (NU)
  - KIM targets
  - 100% NAR

### Timiskaming (ON/QC)

- Six kimberlites
- Additional targets
- 80/20 JV with Stornoway



# Qilalugaq Project History



2000-2005 (BHP Billiton)
Eight kimberlite pipes discovered;
Q 1-4 is the largest ; 9 km from Repulse Bay.

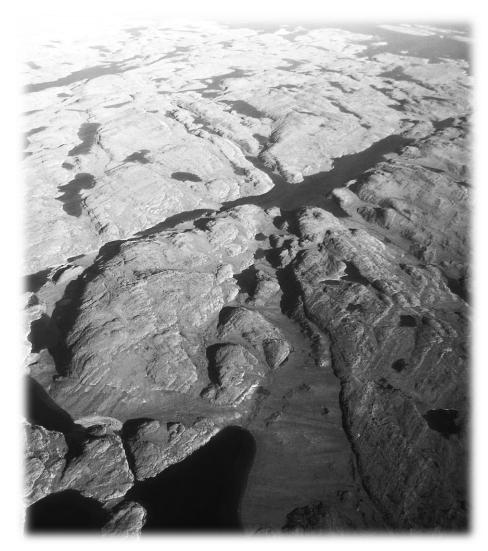
#### > 2006-2012

Stornoway acquired 100% interest from BHP; discovered eight kimberlite dikes; established an inferred resource estimate for Q1-4.

#### > 2013-2014

Stornoway focused on building Renard diamond mine in Quebec; North Arrow/Stornoway agreement; North Arrow can earn an 80% interest by paying for a bulk sample of the Q1-4.

2014 Objective: to collect a parcel of ~500 carats of diamonds to determine value





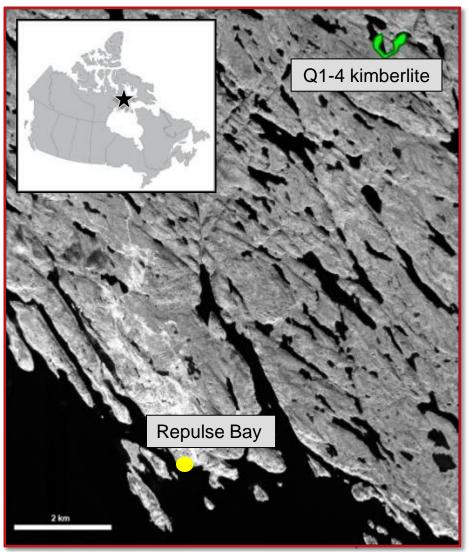
# Qilalugaq Project - NU



- Can earn 80% from Stornoway by completing mini-bulk sample.
- SWY retains one time back-in right to 40% by paying 3X exploration costs.

Primary target is the Q1-4 kimberlite (Repulse Bay, NU)

- 7 km from tidewater; 9 km from town.
- Largest diamondiferous kimberlite in eastern Arctic (12.5 ha).
- May 2013 inferred resource estimate of 26.4 million carats, modeled to 205m.
- Yellow diamonds could significantly impact value.
- Needs large tonnage mini-bulk sample for preliminary evaluation (estimate \$3.7 million to collect/value 500 carats).





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# View looking south-southwest from Q1-4 kimberlite towards Repulse Bay







#### May 2013 resource estimate<sup>1</sup>

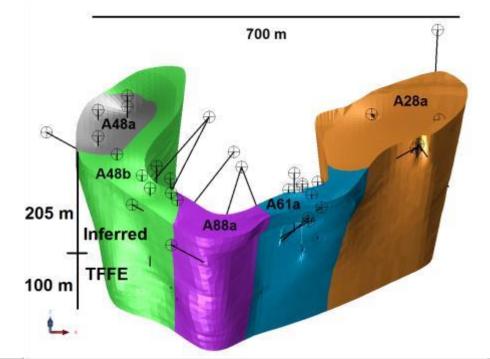
- Inferred Resource = 48.8 Mt, 26.1 Mcts, total diamond content<sup>2</sup> 53.6 cpht.
- TFFE<sup>3</sup> = 14.1 to 16.6 Mt, 7.9 to 9.3 Mcts, total diamond content<sup>2</sup> 56.1 cpht.

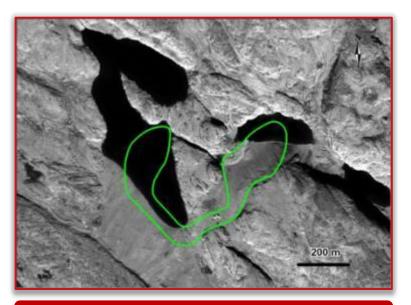
#### • Size/grade compares favourably to other current advanced/development projects.

<sup>1</sup>Mineral resources are not mineral reserves and do not have demonstrated economic viability

<sup>2</sup>Defined as 100% recovery of +1 to +23 DTC diamonds

<sup>3</sup>Target for further exploration - The potential quantity and grade of the TFFE referred to above is conceptual in nature and it is uncertain whether further exploration will result in the target being delineated as a mineral resource





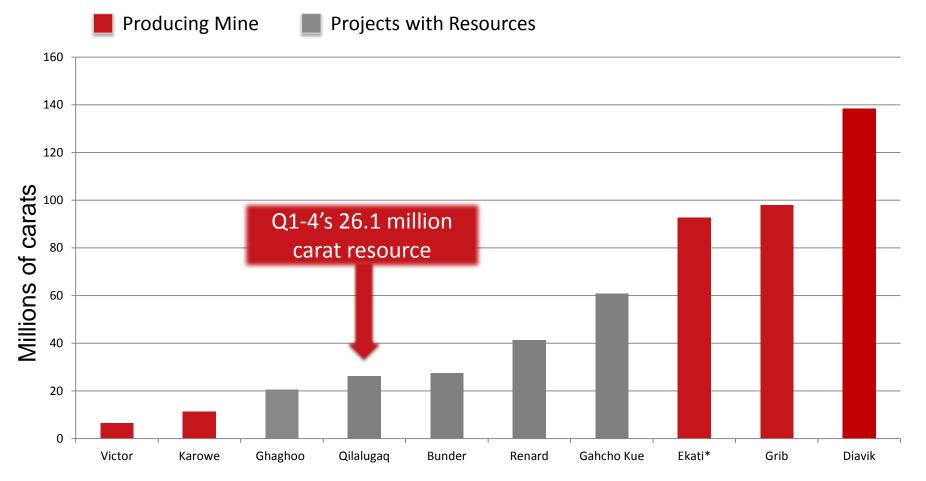
12.5 ha surface area kimberlite



### **Resource Comparison**



### **Resource Comparison of Mines at Startup and Current Projects with Resources\*\***



\*Ekati millions of carats numbers are based on the initial reserve. Information on the initial resource was not available. \*\*Compares the Q1-4 Inferred resource to more advanced projects to show its potential relative size/diamond content 10

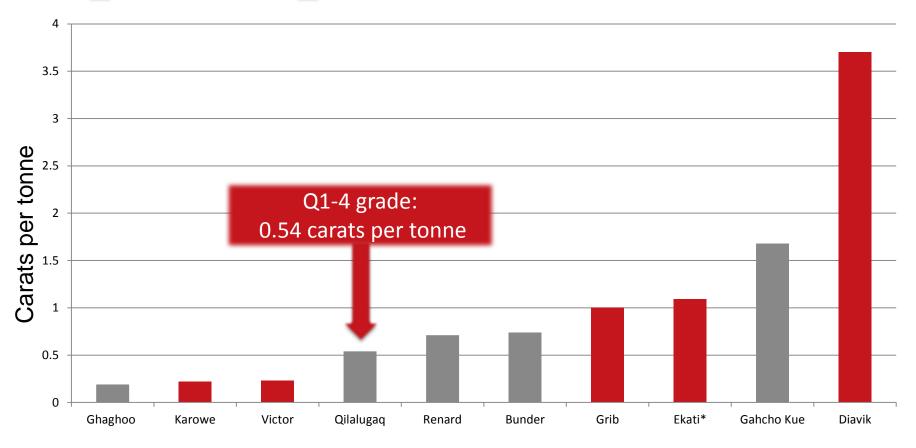


### **Resource Comparison**



### **Grade Comparison of Producing Mines at Startup and Current Advanced Projects\***

Producing Mine 📃 Projects with Resources



\*this chart compares the Q1-4 Inferred resource grade to more advanced projects to show its relative potential diamond grade



## Assessing the Q1-4 Kimberlite



Determine the amount of kimberlite...

#### =48.8 million tonnes

Determine the number of carats of diamonds...

=53 carats of diamonds per hundred tonnes of kimberlite

Determine the value of the diamonds in the kimberlite...







- Size and grade on par with other operating mines; diamond value still unknown.
- 64 carat parcel recovered to date suggests a value on par with 'typical Canadian smalls'.
- Need a larger diamond parcel (+500 cts) for a more robust valuation.
- Qilalugaq's northern locale will require a higher than average diamond value to demonstrate potential economic viability - a 'sweetener'.





# Q 1-4 Yellow Diamonds



- Q1-4 diamond parcel includes a population of yellow diamonds described as 'fully saturated'.
- Presence of yellow diamonds could have a significant positive impact on diamond valuations for Q1-4.
- Potential to bring up a modeled average value into the upper end of Canadian and World diamond values.



\*Note: Additional possible upside due to breakage in early sampling - 10-30% of +3DTC showed >50% breakage in RC samples (A48, A88 and A61). Almost 50% breakage for + 3DTC in the drill-core samples processed by DMS (A28). Could have an additional positive impact on grade, value and size distribution.



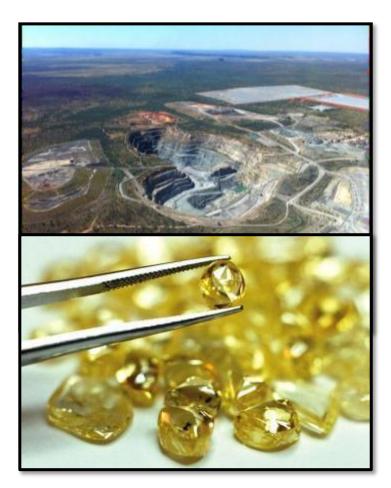
Yellow Diamonds - Supply



### The Ellendale Mine – Australia

- Kimberley Diamonds (the producer) has an off-take agreement with Laurelton Diamonds (Tiffany's) to sell the yellow stones so information is public.
- Produces ~50% of the world's yellow fancies.
- > Yellow fancies make up ~80% of Ellendale's revenue.
- Yellows comprise ~9-16% of total run of mine production (Q1 2013 – 13%).
- Q1 2013 US\$/carat for yellows sold to Tiffany: \$5,486 Q1 2013 US\$/carat for all diamonds sold: \$880.
- Recovered grades achieved at Ellendale are 3.67 carats per hundred tonnes (June 2013). On track for 140,000 carats total in 2013 from ~6 million tonnes ore.
- As of Jan. 2012, 578,000 carats remain in the reserve and are included in the 3.97 million carats that remain in the resources (indicated & inferred).

A look at the biggest single producer of yellow diamonds in the world

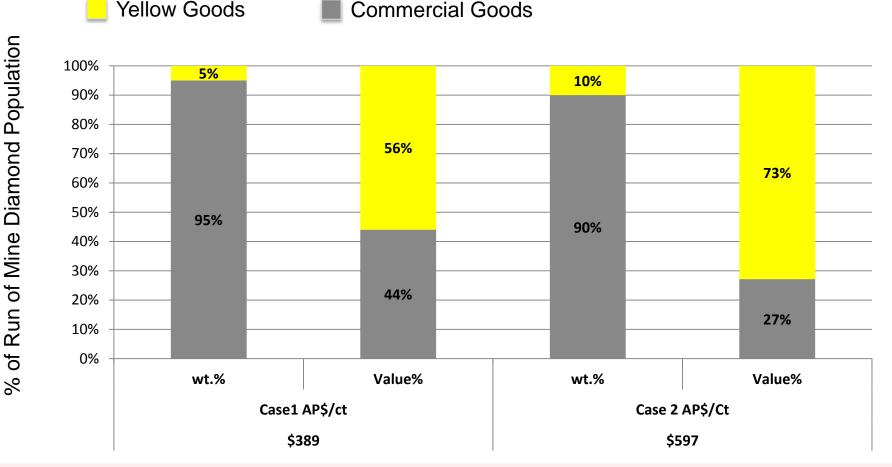






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### Case Study: Potential Impact of Fancy Yellows on Average Diamond Price



Each case assumes a world average price of commercial goods (~US\$139/carat based on rough import average price into Antwerp in 2012) and an average price for yellow diamonds of \$4350/ct (price achieved for yellows from Ellendale in Q1 2012)



# Qilalugaq 2014 Program Overview



- 1,500 tonne sample from the Q1-4 kimberlite, July and August, 2014.
- Taken at surface using a small helicopter portable mini-excavator.
- Filled one tonne bags flown daily to a drop-off area to await shipping south by sealift.
- All crew will be staying in town and flying out daily.
  Local hires can live at home.











### Sample Location Logistics



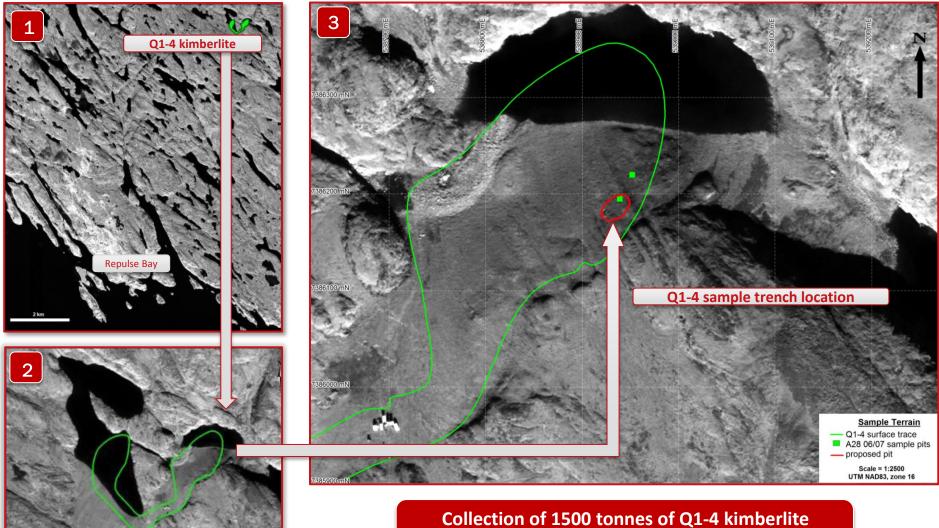
- A28a sample location is on land; minimal overburden.
- Stornoway extracted just over 20 tonnes by hand in 2008; (sample grade of ~ 30 cpht).
- 1500 tonne sample is very achievable with an excavator.





### 2014 Sample Location





Q1-4 kimberlite zoomed in

Collection of 1500 tonnes of Q1-4 kimberlite from one, 30 metre long, 20 metre wide trench

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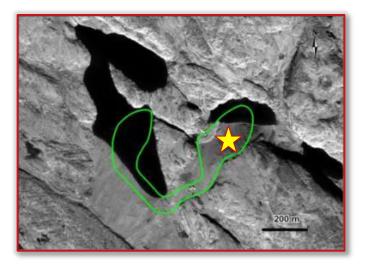


## Sample Location is Representative

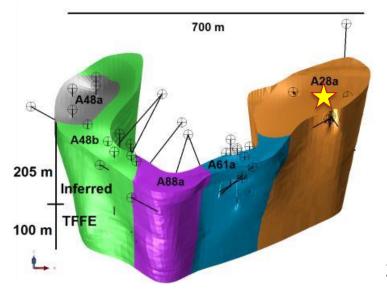


- Q1-4 Diamond population observed by diamantaires considered to be consistent; limited grade variability
- KPK units make up 73% of the total deposit volume; A28a 41%.
- If diamond value at A28a is not high the deposit most likely won't be viable.

| Unit | Model<br>Colour<br>Code | % of Total<br>Volume<br>of Q 1-4 | Kimberlite<br>Classification | NI 43-101<br>Model<br>Grade |
|------|-------------------------|----------------------------------|------------------------------|-----------------------------|
| A28a | Brown                   | 41                               | КРК                          | 52                          |
| A48b | Green                   | 20                               | КРК                          | 52                          |
| A48a | Grey                    | 14                               | НК                           | 44                          |
| A61a | Blue                    | 13                               | НК                           | 77                          |
| A88a | Purple                  | 12                               | КРК                          | 52                          |





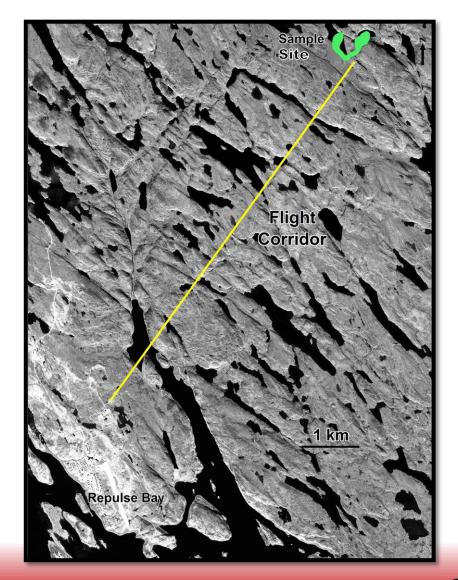




## Helicopter Use and Flight Path



- Daily transport of personnel to and from the sample site.
- Transport of excavator to and from the sample site. Once at start of program, once at end.
- Transport of one tonne sample bags from sample site to location near the hamlet's quarry.
- Fuel for helicopter and excavator located near the quarry in a permitted location; stored in an industry approved berm.





### Sample Transport on Annual Sealift



- Sample bags will be stored at drop off site.
- Will be shipped south on the Desgagnés annual sealift arriving August 25, 2014.
- Sample will be transported to the beach by loader and flatbed truck.
- Estimate 3-4 days to load the sample as the sealift is unloaded.
- Empty fuel drums will be loaded in sea containers and shipped south for disposal.





### Abandonment and Restoration



- All fuel and equipment will be removed from the land at the end of the six week program.
- The trench will be re-contoured to match the surrounding terrain.
- There will be no piles of rock left at the site as all of the rock that is dug up will be taken away for testing.





# Timing of Work at Qilalugaq



- July / August 2014 Extraction and transport of sample to Repulse Bay.
- Late August 2014 loading and shipping of sample to Montreal by Sealift.
- September / October Trucking of sample to Thunder Bay for diamond recovery at Microlithics throughout the fall.
- October / December shipping of concentrate to Stornoway Flow Sort and picking facility in North Vancouver for final diamond recovery.
- January / February 2015 Valuation of ~ 500 carats in Antwerp, Belgium.



Diamond values in Canada range from US\$90 / carat to over US\$500 / carat. If diamond values end up on the higher side of this range the Qilalugaq Project could very quickly become a new and important development track project in Nunavut



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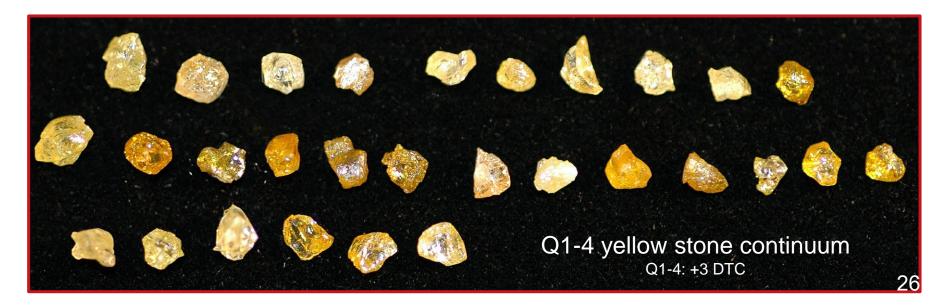
Determine the value of the diamonds in the kimberlite...







- WAY FORWARD: collect ~1,500 tonnes of kimberlite from surface pits planned for summer 2014 in a 6-8 week program.
- **COST:** \$3.7 million.
- GOAL: to recover a +500 carat diamond parcel to determine grade, size distribution and the potential for fancy yellows in commercial sizes. Also, to get a preliminary sense of yellow's impact on the overall diamond value.







### **TSXV: NAR**

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