Jericho Mine Site
Preliminary Economic Assessment
(Viability of Commercialization)

Petroleum and Minerals Management Directorate

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Canada

Current Status

- The Crown acquired the Jericho mineral leases and assets on November 25 2014 through a Court Order after the previous owner abandoned the mine and defaulted on its debenture agreement with the Crown.
- Tetra Tech-EBA Consulting is currently undertaking the development of an Remediation Options Analysis. This is intended to provide an evaluation of options, <u>including cost estimates</u>, for three possible scenarios which include:

  1. full remediation;
  2. limited remediation; and
  3. preserve site assets for possible resale - commercialization.

- The Crown is currently exploring its range of options for the site, which range from full remediation to resale of the property to a private sector entity - commercilization.

Commercialization

- Realize the potential economic benefits for Nunavut.

- Realize a positive outcome for mineral development in the North.
  - Nunavut's first mine and first project to go through regulatory process!

- Best manage environmental responsibilities at Jericho.
  - Financially secure the environmental liability that exists.

- This presentation is meant to provide an assessment of the commercial viability of the site for possible re-sale and development.

Mineral Leases

- The property held by the Crown consists of the 28 mineral leases.
- The mineral leases were cancelled on November 25, 2014, by application of S.67 (1) of the Nunavut Mining Regulations (NMRs) and will not be reopened for staking pursuant to S.67 (2) of the NMRs.
- By application of S. 67.(5) and (6) of the NMRs the Minister has the legislative authority to issue new leases that cover the same lands to a third party at a later date in the event that a private sector entity shows interest in buying and re-developing the mine.
- *The new owner would be responsible for the payment of any unpaid rent and royalties owing on the mining leases.
  - Unpaid rents are $163,013.00 plus applicable interest for the period Apr 1–Nov 25, 2014
  - Royalties are based on profit and no profits were generated by previous owners, therefore no royalties would be due and this amount will be nil.

Surface Leases

- Surface leases covered five of the mineral leases that were located on Crown Land, but have since been cancelled.
- The Jericho kimberlite and the JD-2 kimberlite plus most of the mine workings, buildings and equipment, are located on the former surface leases/Crown land.
  - A potion of the waste rock piles, the explosives magazine and the emulsion plant are located on IOL.
- The other 23 mineral leases are on Inuit Owned Land (IOL) with surface-rights-only administered by the Kitikmeot Inuit Association, mineral rights (subsurface) retained by the Crown. Three kimberlites have been identified on IOL.
- For any new activities to take place on this site a new land use permit would be required. A land use permit application would detail the activities.
- The NIRB would screen the proposal (application) to determine whether it has significant impact potential, and therefore whether it requires a review under Part 5 of the NLCA (Environmental Assessment).

Project Certificate and Water Licence

- Without a valid land use permit no exploration activities could occur unless they remain under the thresholds listed in s. 8 & s.9 of the *Territorial Land Use Regulations* - this means that only basic prospecting could take place.
- The land use permitting process would determine whether the proposed activities are within the scope of the previously reviewed project description and if the Project Certificate could be re-assigned under existing authorizations.
- The Type ‘A’ water license is valid until December 31, 2019.
- It is anticipated that the water license could be transferred (assigned) to a new owner.
- Depending on what activities have been screened-in on the existing license, a new owner may be able to carry out exploration and assessment work under the existing license, once a land use permit is in hand.
- If the activities which a new owner wishes to carry out are not part of the existing license, then they would be required to apply for a new Type ‘B’ license.

Outstanding Security

- According to estimates from the draft 2015 Remediation Options Analysis, full reclamation of the Jericho property would cost approximately $18.6 million.
- ~$5.5 million is currently held in security by AANDC. This leaves an outstanding security amount of approximately <u>$13.1 million</u>.
- The final security amount required will ultimately be determined by the Nunavut Water Board but may be informed by the cost estimate provided from the Remediation Options Analysis.
- This security amount may be used as a minimum amount that a potential new a private sector entity would have to put forward to have the mining leases transferred into their name by the Minister.
  - *Unpaid rents would also have to be paid.

- A new IIBA would also have to be negotiated with the Kitikmeot Inuit Association.
  - Or at the very least, existing IIBA revisited?

Kimberlite and Geology 1

- The main ore body on the property is the Jericho kimberlite and is the only one that has undergone sufficient exploration (and mining) to evaluate a mineral resource.
- Four other kimberlite intrusions have also been indentified within the lease boundaries: the JD-2 is of greatest interest as it lies immediately adjacent to the Jericho kimberlite and diamondiferous.
- The other 3 kimberlite intrusions (JD-3, OD and BD) require further exploration to determine their potential. A fourth kimberlite (TAH-1) lies immediately outside the current lease boundary, to the north of JD-3.
- The Jericho kimberlite intrusions are considered to be relatively small in size. The Jericho Kimberlite is approximately 200x300 m at surface and open at depth.
- The JD-2 kimberlite is smaller but is reported to be connected to the Jericho kimberlite below surface by dikes.

Kimberlite and Geology 2

- The composition and geometry of the Jericho kimberlite is complex, with three lobes (multi-phased intrusions) identified, and further sub-divided into 5 geologic domains.
- Each domain has its own particular diamond characteristics, some being better endowed with diamonds (more economic) than others.
- The Central Lobe is considered to have the best diamond grades and is the area that has been the most adequately evaluated to determine the <u>indicated</u> mineral resource.
- The other lobes of the kimberlite need further work in order to determine a resource.
- The JD-2 kimberlite is considered to be highly diamondiferous, but the economic potential cannot be assessed due to inadequate sampling.

Mining and Resources

- Approximately 1.5 million tonnes of kimberlite have been processed resulting in the sale of approximately 780,000 carats of diamonds (2006-2008, 2012).
- Global reconciliation by SRK (2010) showed that only 71% of grade estimations where achieved by Tahera, possible causes are thought to be:
  - inaccurate resource estimation;
  - mining contamination and grade dilution; and
  - poor processing plant efficiency.
- SRK (2010) produced a Mineral Resource Statement and considers the remaining Jericho mineralization to be classified as a resource.
  - Indicated resource: 1,617,000t -1.06 c/t - 1,818,000 carats
  - *Inferred resource: 1,724,000t - 0.65 c/t - 1,125,000 carats
  - For a total "in-situ" resource potential of - 2,943,000 carats
- *Inferred resources are not acceptable for inclusion in mineral reserve calculations by financial reporting standards, but we have included them in our scenario calculations for demonstration purposes only.
- In order to bring the current estimated mineral resources to reserve status, an updated engineering report of bankable feasibility detail is required!

Challenges and Opportunities

- Any potential restart of the mine should be re-evaluated as economic conditions change and new information becomes available.
- Some of the changes may be seen as challenging, while others can represent opportunities.
- Current favorable factors include:
  - High diamond prices;
  - a weak CAD dollar;
  - low oil (energy) costs;
  - an enhanced geological and economic understanding of the deposit;
  - the existence of important physical infrastructure on site: and
  - the exploration potential of known and undiscovered kimberlite pipes on leases
- However, the 2010 study also identified some challenges such as:
  - much of the <u>reserves</u> defined in the 2004 Technical Report have been mined;
  - mining method, metallurgical and processing analysis needs to be undertaken;

Economic Analysis

- The results of a preliminary analysis demonstrated highly variable economic outcomes across 3 variables:
  - – diamond valuations;
  - – administrative expenses; and
  - – mining expenses.
- Three scenarios were analyzed. In each scenario, the net present value (NPV), internal rate of return (IRR) and the payback period (PP) were analyzed.
  - – Scenario 1 – Optimistic: NPV - $179,101,606.05; PP – Year 1; IRR - 168%
  - – Scenario 2 – Neutral: NPV - $62,647,004.93; PP – Year 2; IRR - 64%
  - – Scenario 3 – Pessimistic: NPV - $(-74,622,693); PP - NEVER; IRR – negative
- The Jericho kimberlite may have significant economic potential particularly under current scenarios that include:
  - – strong diamond prices in conjunction with a weak Canadian dollar.

Economic Analysis Conclusion

- Based on the assessment undertaken by the Petroleum and Mineral Resources Directorate, there may be significant value held in the Jericho mineral leases.
- This potential value could attract significant interest from private sector entities interested in acquiring the mineral tenure and mining assets from the Crown for the purpose of exploration and re-developing the mine.
- Before any decisions are made about implementing full reclamation for the site, the option of finding a private sector entity to buy the property needs to be fully explored.

Goals of Commercialization

- Realize the potential economic benefits for Nunavut.
- Realize a positive outcome for mineral development in the North.
- Best manage environmental responsibilities at Jericho.

Steps

- Stage 1 – Done
  - Acquire Leases and Assets, Preliminary Economic Assessment,
  - Remediation Options Analysis - Cost Estimates

- Stage 2 – In Progress
  - Preliminary discussions with landowners (KitIA) and stakeholders (Chamber of Mines)
  - Informal conversations with mining industry – assess interest(s)

- Stage 3 – Next Steps
  - Determine landowners (KitIA) interests - discussion
  - Develop commercialization plan to solicit interest and facilitate sale
  - Draft purchase sale agreement (set parameters and criteria)
  - Solicit interest – tender bids – accept/reject offers