



Mackenzie Valley Land and Water Board
7th Floor - 4922 48th Street
P.O. Box 2130
YELLOWKNIFE NT X1A 2P6
Phone (867) 669-0506
FAX (867) 873-6610

Technical Workshop - Summary Minutes

Kennady North Advanced Exploration Project – Kennady Diamonds Inc. (KDI) – Water Licence Amendment Application and New Land Use Permit Application (MV2013L2-0005 & MV2016C0030)

1) Attendees

In Person:

Julian Morse – MVLWB
Heather Scott – MVLWB
Rebecca Chouinard – MVLWB
Shelagh Montgomery - MVLWB

Marc Lange – KDI Consultant
Kathy Racher – KDI Consultant
Damian Panayi – KDI Consultant
Calvin Goldschmidt – KDI Consultant
Gary Vivian – Aurora Geosciences (KDI Contractor)

Todd Slack – Ni Hadi Xa
Clint Ambrose – GNWT Inspector
Joe Heron – GNWT Inspector
Rick Walbourne – ENR
Paul Green – ENR
Bill Pain – ENR
Andrea Patenaude – ENR
Kelly Fischer – ENR
Monica Wendt – ENR
Darren Campbell – Lands
Anusa Sivalingham – ITI
Mike Byrne – ITI
Shin Shiga – NSMA
Ruari Carthew – MVEIRB
Sarah Robertson – CANNOR
Umar Hasann – CANNOR
Gabriel Bernard-Lacaille - ECCC

On the Phone:

Shannon Shaw – MVLWB Technical Consultant
Rosy Bjornson – DKFN
Shawn Mackay - FRMC
Rej Ejeckam - ECCC
Brian Asher - ECCC
Trish Auger – ECCC

2) Project Description and Schedule

- KDI provided an overview of the Kennady North Project ([presentation](#) posted to the Board's Registry)
 - Location, leases, main areas where work is taking place
 - What stage the project is at – advanced exploration
 - Overview of activities the Applications propose – the changes from exploration to advanced exploration (Decline, Quarry, Airstrip, Bulk Sample Plant, expanded camp...)
 - Details regarding development of the Quarry, rock mgmt discussed
 - Explosives mgmt. discussed, potential issues with Ammonium Nitrate storage
 - Decline development discussed – potential for more than one decline – amount of rock generated by bulk sampling/decline development discussed – the need for more information regarding quantities of rock was highlighted
 - Rock mgmt. discussed
 - Waste mgmt. discussed – sewage, incineration
 - Closure and reclamation discussed
 - Waste rock/processed kimberlite management discussed – quarry water etc
 - Quarry water mgmt. discussed, quantity, how much water will cover processed kimberlite/waste rock etc.

----- Coffee Break -----

- Wildlife Mitigation and Monitoring Plan discussed
- Screening of impacts discussed
- Project schedule overview given by KDI - multiple declines unlikely given uniformity of deposits but uncertainty surrounds this, # of winter road loads approximately 100 per year
- Use of airstrip discussed, # of expected plane loads, helicopter time

3) Water Use

- Dust suppression discussed
 - Concern raised with quarry water not meeting EQC and then used for dust suppression – fresh water could potentially be used if necessary

4) Water and Processed Kimberlite Management

- Decline water discussed
 - Estimate of groundwater inflow into declines – some preliminary information has been collected, but until actual decline location identified, specific information not available. KDI suggested water mgmt. plan could be submitted once decline area identified
- Road construction
 - Stream crossings – clarification requested on structures for crossing streams – KDI clarified “crossings” are sedge wetland, not necessarily

- streams – no concerns related to fish-bearing water – roads not crossing fish-bearing streams
 - Clarification as to whether “wetlands” would be disturbed – KDI clarified this is sedge wetland, not migratory bird habitat
- Discussion related to whether Airstrip will block flow from M29 lake – KDI thinks it’s unlikely, water not consistently moving through
- KDI noted approximately 6000 m³ of PK would be produced by this project, much smaller scale than a mine, this would consist of fine and coarse-grained material
- Discussion on where ANFO leakage would go if it leaked – Kelvin Lake
- Discussion related to sewage sump, KDI treating with goal of discharging to environment without negative effects – monitoring discussed, Board staff noted sewage discharge is typically monitored
- ANFO mgmt. discussed – concerns related to issues identified at Gahcho Kue – KDI discussed risks and potential mitigations, problems with different mgmt. techniques – KDI has looked at covering options, there are issues with covering
 - ideally, well-sealed bags would provide adequate mitigation
 - KDI clarified that bags will be managed to ensure they spend as little time as possible in storage
 - Questions asked regarding water quality background data – KDI clarified data exists
 - KDI noted that bags will be regularly inspected/monitored

----- Lunch Break -----

5) Monitoring

- Kennady asked to give summary of baseline monitoring
 - Kennady referred to Appendix D of screening document – information of what’s been done at GK – Kennady wants to ensure that KDI baseline monitoring works with info already gathered for GK
 - Recommendation made that KDI start collecting baseline info now, in anticipation of requirements of a possible future EA
 - KDI noted that it’s in their best interest to collect good baseline data, and they will be doing so
- Monitoring proposed for current activities discussed
 - Process water, sewage effluent, groundwater mgmt. plan will describe monitoring, rock mgmt. plan describes monitoring, wildlife monitoring.
 - Quarry water would be tested prior to use for road watering
 - Trigger for monitoring decline water discussed – groundwater mgmt. plan will lay out triggers and series of actions related to water encountered in decline
- Closure discussed – how closure options for waste rock etc will be identified
- Surrounding lakes not proposed to be monitored for this current project, as KDI is not discharging into the lake
- Discussion about quarry water, whether it will be monitored – if only used for watering roads, EQC likely not needed – quarry mgmt. plan could be a place to contain information related to quarry water

- Water may need to be discharged from quarry to land prior to establishment of quarry sump – water would be discharged to land
 - Quarry will have two segregated areas for water – process water and quarry water
 - Quarry mgmt. plan should likely be updated when process plant is commissioned
 - Concern raised regarding water quality in quarry sump – KDI reiterated quarry mgmt. plan could outline criteria
- 6) Quarry Development/Waste Rock/ARD Concerns
- KDI noted a quarry mgmt. plan could be submitted as a requirement of the Licence which would give greater detail about quarry development
 - Overburden from quarry development – where will it be stored?
 - Overburden storage will occur adjacent to the quarry
 - Snow dump discussed – it will be stored adjacent to the quarry, will likely seep into quarry
 - Containment between quarry sump water and non-sump quarry water discussed – quarry will be designed to keep these separate
 - Monitoring of laydown areas discussed - PAG rock before it's finally placed – rock mgmt. plan will need to be updated prior to decline development, once location is selected
- 7) Decline Development/Waste Rock/ARD Concerns
- Estimate as to how much PAG rock will be encountered? – studies underway – host rock is fairly well understood
 - Total amounts of waste rock discussed – question to Board about submission deadline for Kennady to provide additional information – no established deadline but Kennady should submit as soon as they can – KDI noted they plan to get information in within a week or two.
 - Rock characterization discussed – rock mgmt. plan discusses characterization and segregation
 - Quarry discussed – whether water could escape from quarry – KDI doesn't expect ground flow to happen – permafrost expected to mitigate water movement – permafrost expert believes this won't be a concern
- 8) Explosives Storage, Other/Miscellaneous
- Question related to ANFO storage pad – will water be captured and treated? AN bags will be sealed – they shouldn't leak. If they did leak, it would be captured, and could be placed into the blasts or quarry sump
 - Truck maintenance – trucks need to be washed due to risk of hydrocarbons interacting with AN. Trucks will be washed in lined facility – that water will go into quarry sump
- 9) Wildlife Impact Mitigation
- Migratory birds – clarification requested regarding whether clearing will occur during nesting season
 - KDI unsure whether this will occur during this time
 - KDI has proposed nest search, ECCC unsure whether this will be sufficient
 - KDI noted that clearing will be planned for prior to nesting season
 - Cumulative effects to caribou discussed

- Regional study area for KDI likely to be same as GK
- ECCC noted concern regarding bank swallows nesting in quarry walls – they will suggest mitigations for this in their comments
 - KDI will be monitoring for wildlife, including nesting birds
- Wildlife mitigations for caribou discussed
 - Procedures for caribou sightings reported
 - Monitoring will report back to mine manager, who will adjust site activities appropriately
 - Other programs have committed to not commence activity when caribou present – it was suggested that KDI do the same
 - KDI noted that drilling is concentrated in a very small area, so concerns related to flights, disturbing caribou as operations commence not as much of a concern – however if caribou are resident in an area, they won't commence activity.
 - Suggestions for improvements to Wildlife mitigation and monitoring plan discussed
- Closure objectives discussed, potential updates to closure plan were suggested
- Caribou discussed – suspension of activity discussed again

10) Reclamation Security

- Rehandling PAG rock discussed – this should be accounted for
- Staging of security discussed
- Hazardous waste removal allowance discussed
- Interim Care & Maintenance – no allowance accounted for
 - If needed – KDI should include
- Winter road – 15 km spur accounted for, GK not
 - Negotiation of “toll” for road currently occurring
 - Current Permit does account for 100km road up to Mackay Lk.
- Discussion of what ENR intends to submit to the Board regarding security – analysis of KDI's estimate will be provided

11) Closing Remarks

- Participants mutually agreed meeting was productive and helpful

----- 4:00 pm Meeting Closed -----