
DE BEERS GAHCHO KUÉ MINE
NHX on-the-land meeting
September 26, 2017

2017 MINE UPDATE

- Construction completed (2014-2016)
- Operations Year 1 completed
- Dyke construction continues (K,A1,D,E,L etc.)
- Mining continues in 5034 pit
- Pre-stripping of Hearne Pit anticipated in 2018
- AN Building is currently in construction
- Downstream flow mitigation initiated
- All environmental monitoring programs continue
 - Aquatic effects monitoring program
 - Arctic Grayling Action Level Triggered – no grayling observed in immediate downstream this year. Action response plan in development for submission in 90 days.
 - Air Quality
 - Vegetation and Soils/ Wildlife
 - Surveillance Network Program
- No instances of non-compliance with w.l. or l.u.p.
- Completed de-watering (18.65 Mm³/year) and annual discharge from WMP to N11 (3.45 Mm³/ year) continues

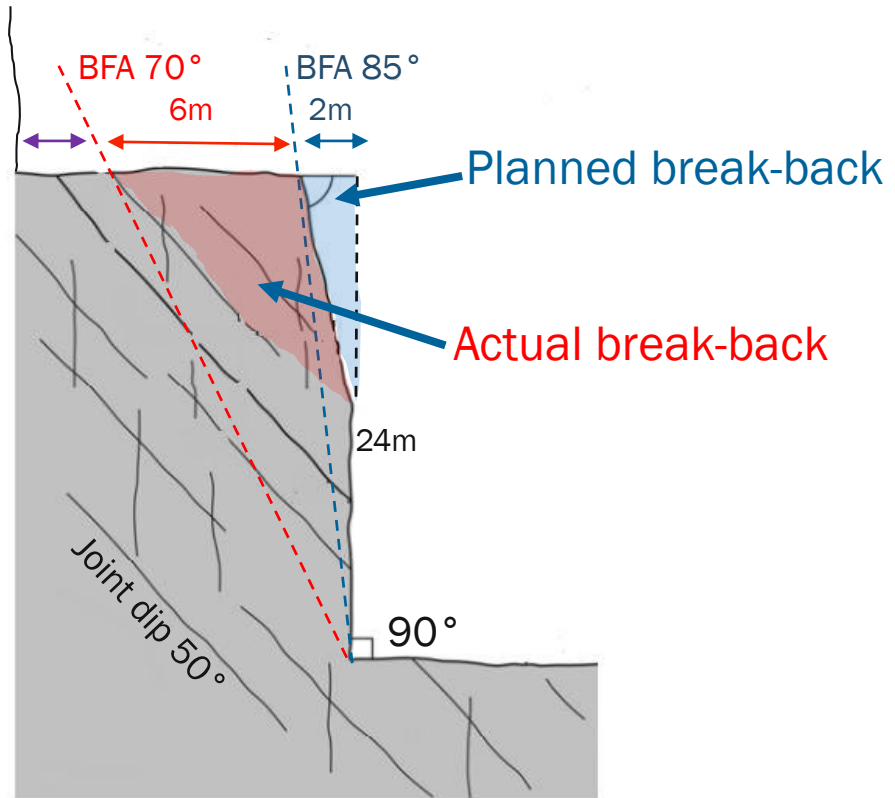


A NEW CHALLENGE – JOINT SETS AT 5034 PIT

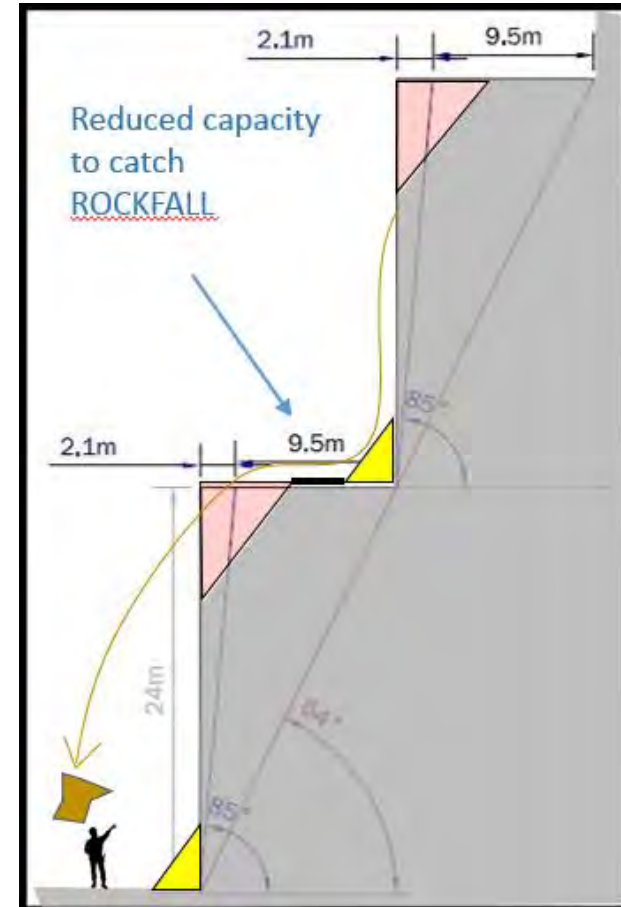
- 5034 Pit has ‘joint sets’ on the eastern wall
- A **joint** is a break (fracture) of natural origin in the continuity of either a layer or body of rock that lacks any visible or measurable movement parallel to the surface (plane) of the fracture
- A **joint set** is a family of parallel, evenly spaced joints that can be identified through mapping and analysis of the orientations, spacing, and physical properties
- When joint sets are blasted, the blast pattern is affected by the joints, therefore changing the way the rock breaks.
- Rock is not breaking cleanly along vertical blast lines, but is breaking up also along the joint lines.
- Issue extends to Tuzo and Hearne
- Result is a reduction of the catch benches – leading to a safety issue for our workers below



5034 Pit - East wall



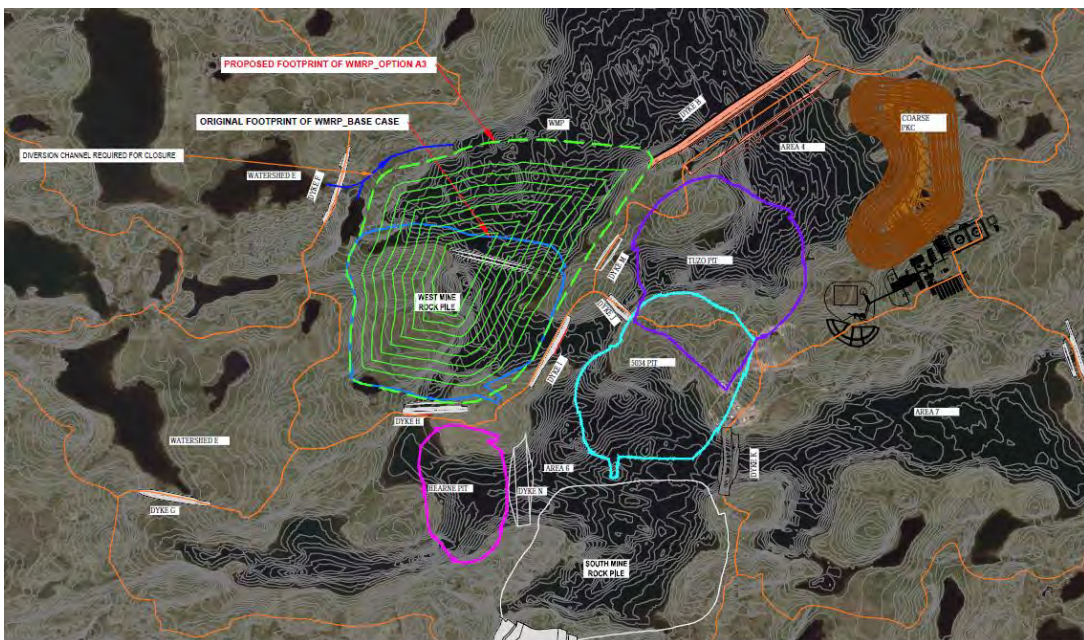
5034 Pit – East wall



PERMITTING: ADDITIONAL MINE ROCK

- Joint sets at 5034 Pit, Tuzo, and Hearne pits necessitate pit expansions and the extraction of up to 100Mt of additional mine rock
- A water license amendment is required prior to placement of the waste rock
- Analysis of placement options and timing considerations completed, decision to place rock on northern side of west mine rock pile
- Engagement has been conducted with regulators, communities regarding design options for the west mine rock pile
- Water licence amendment application to be submitted in Q1 2018.

Proposed location of additional mine rock on the west mine rock pile
(new design in green, former approved design in blue)



UPDATED PROJECT DESCRIPTION

- Up to 100Mt of additional mine rock mined and placed at the west mine rock pile

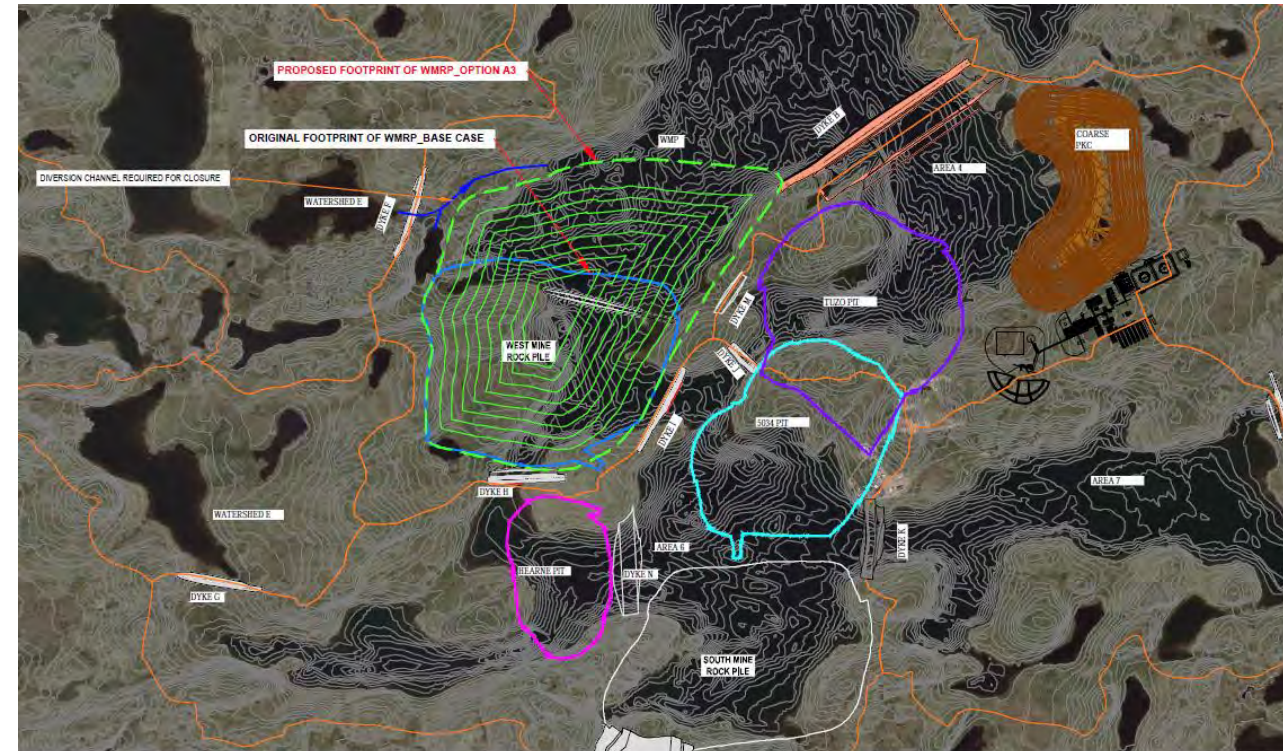
Associated updates:

- Potential increase in annual discharge volume for 1-2 years to maintain sufficient storage capacity within the Water Management Pond
- Additional footprint associated with placement of mine rock
- Adjustments to sequencing and timing of mining
- Construction of the A1 North perimeter berm at the Fine PK Facility (see I.u.p. permit)
- Adjustment to the volume of material placed in the pits
- Increase in annual water intake to accommodate slightly larger work force
- Larger pits affecting capacity of Kennady Lake at closure



RELEVANT ENVIRONMENTAL ASPECTS TO BE CONSIDERED

- Water quality at closure
 - WQ model (site and closure) verified and predictions updated
- Water storage capacity during operations
 - Water balance verified and predictions updated
 - Loss of storage capacity in Water Management Pond off-set by increased pit sizes
- Wildlife use and movement
 - Rock pile extension mostly within the Water Management Pond
 - Movement continued to be facilitated along western side (consistent with caribou trails)
 - Ramps will be incorporated to facilitate wildlife movement
- PAG Rock
 - PAG storage options remains the same, only volume increases
 - Inputs incorporated into water quality model
- Fish-Offsetting
 - Fish off-setting plan updated with new habitat unit calculations
 - Red knife River Bridge to continue to serve as off-setting project



WATER LICENCE AMENDMENT APPLICATION – PROPOSED TABLE OF CONTENTS

Section	Section
1	Introduction <ul style="list-style-type: none"> • Corporate policies • Regulatory review
2	Project Description <ul style="list-style-type: none"> • Based on Updated Project Description (2013) • Options analysis
3	Description of the Environment <ul style="list-style-type: none"> • Air, Land, Water, Resource Use
4	Engagement <ul style="list-style-type: none"> • Record of Engagement • Issues
5	Environmental Screening <ul style="list-style-type: none"> • Introduction • Issues • Potential impacts, mitigation, and monitoring for the environmental aspects: <ul style="list-style-type: none"> • Air quality • Groundwater • Surface water • Water quality • Water quantity • Aquatic resources • Wildlife • Vegetation • Resource Use • Cumulative Effects Assessment
6	Updated Management Plans <ul style="list-style-type: none"> • Processed Kimberlite and Mine Rock Management Plan • West Mine Rock Pile CMP and Detailed Construction Plan • Operational Water Management Plan • Groundwater Monitoring Plan
7	Listing of Existing, Approved Management Plans
8	Acronyms and units of measure



Foreground: South Mine Rock Pile in development; Background: 5034 Pit and Mine Site

ENGAGEMENT - WHAT ARE YOUR PREFERENCES FOR MINE ROCK PLACEMENT?

- Several Options considered for placement of mine rock so far:
 - Addition to West Mine Rock Pile, mostly higher
 - Addition to West Mine Rock Pile, split partly on land, partly in water management pond
 - Addition to West Mine Rock Pile, mostly in water management pond
 - New Mine Rock Pile in Area 6
 - New Mine Rock Pile around the Coarse PK Pile
- De Beers preferred option is on West Mine Rock Pile
- Community feedback to date (feedback provided during site visits & community visits) is that spreading the pile out more, rather than increasing the height more is preferred
- What do you think?
- Planned engagement going forward is to host a workshop in Q4 2017 with regulators, reviewers, and community members to discuss the design and placement options.





Thank You