

# Presentation to the Joint Review Panel for the Marathon Palladium Project

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Topic: Noise Assessment

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# Presentation outline

- MECP's Role in the Environmental Assessment
- Technical Review of the Proponent's:
  - Acoustic Impact
  - Proposed Mitigation Measures
  - Proposed Monitoring Program
- MECP's Recommendations

# MECP'S Role in the Environmental Assessment

- MECP mandate for acoustic review / comments stems from the purposes of the:
  - *Environmental Assessment Act (EAA)*
  - *Environmental Protection Act (EPA)*

# Ontario Environmental Noise Guidelines

- Environmental Noise Guideline, Stationary and Transportation Sources, Approval and Planning, MECP Publication NPC-300
- Environmental Sound and Vibration Guideline, Blasting, MECP Publication NPC-119
- Protocol for Dealing with Noise Concerns, Ministry of Transportation/MECP (applied by the Proponent)

# Exclusion Limits for Steady and Varying Sound

Table B-1

Exclusion Limit Values of One-Hour Equivalent Sound Level  
( $L_{eq}$ , dBA)  
Outdoor Points of Reception

Time of Day	Class 1 Area Urban	Class 2 Area Semi-Urban	Class 3 Area Rural	Class 4 Area Urban (High Background)
07:00 — 19:00	50	50	45	55
19:00 — 23:00	50	45	40	55

# Exclusion Limits for Steady and Varying Sound

Table B-2

Exclusion Limit Values of One-Hour Equivalent Sound Level  
( $L_{eq}$ , dBA)

Plane of Window of Noise Sensitive Spaces

Time of Day	Class 1 Area Urban	Class 2 Area Semi-Urban	Class 3 Area Rural	Class 4 Area Urban (High Background)
07:00 — 19:00	50	50	45	60
19:00 — 23:00	50	50	40	60
23:00 — 07:00	45	45	40	55

# Blasting Sound and Vibration Considered Contaminants

- Sound and vibration that cause or may cause an adverse effect are defined as contaminants in section 1 of the EPA; related prohibitions are found in sections 9 & 14
- Blasting limits from MECP Publication NPC-119

Limits	Concussion (dB Lin)	Vibration mm/s
Cautionary	120	10
Peak Level (routine monitoring)	128	12.5

# MECP'S Technical Review

- Sources of Noise:
  - Mining extraction and processing
  - Mining impulsive noise events
  - Road traffic noise from mining activities
  - Rail Loadout Area
- Blasting sound (concussion) and blasting vibration

# MECP'S Analysis of Noise Predictions

MECP is of the view that the Proponent has:

- ✓ Used appropriate sound level limits
- ✓ Included all relevant noise sources
- ✓ Used valid noise predictions for:
  - facility construction noise and vibration
  - mining extraction and processing
  - blasting sound and vibration

MECP is uncertain about the rail load-out facility noise impact and requires further details from the Proponent

# Proposed Mitigation Measures

Proponent has proposed mitigation measures and Best Management Practices to reduce:

- Noise impact at night:
  - Mining operations at Process Solids Management Facility at night have restricted equipment operations, (no compactors, no southern bulldozer, 4 haul trucks per hour)
- Noise impact at rail loadout facility receptors
  - Rail Loadout facility building doors always closed when concentrate delivery trucks are positioning and dumping inside
  - Rail Loadout facility will have no truck idling outdoors and inside the rail loadout building
- Blasting sound and vibration impact
  - Blasting charge size limit for construction and mining operations to ensure compliance with NPC-119 cautionary limit

# Proposed Monitoring

Proponent is proposing to monitor:

- Blasting sound and vibration
- Construction blasting at North Lake Hare Cottage, Laughing Moose Eatery Restaurant and Residence, Peninsula Inn and May's Gifts

# MECP Recommendations

1. Proponent should provide more details about the rail loadout facility trucking and transloading operations for the worst-case hours 7am to 8am, and 7pm to 8pm when 10 trucks arrive at the rail loadout facility. This information can be provided as part of the Proponent's application for an environmental compliance approval (ECA) under the EPA, should the Project be given approval to proceed under the EAA.
2. Proponent should complete an acoustic audit of the rail loadout facility by an independent acoustical consultant after rail loadout facility start-up.

## MECP Recommendations Cont'd

3. Proponent should install ambient noise adjusted backup beepers or broadband backup beepers for all mobile heavy equipment including loaders, track drills, bulldozers, compactors, excavators, production shovels, graders, pit trucks, and shipping trucks.
4. Proponent should routinely monitor blasting vibration and blasting sound concussion at the nearest blasting sensitive receptor if peak levels are above the MECP cautionary limits specified in MECP Publication NPC-119 or if a blasting sensitive receptor is located within 1,000 m of a blasting charge. Sensitive receptor means residences, or facilities where people sleep (nursing homes, hospitals, trailer parks, camping grounds, etc.), schools and child care centres.