

Proposed Hidden Quarry Air Quality Assessment

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GET Council Meeting

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Credentials

- ❖ 20 yrs experience in Air Quality Consulting
- ❖ BSc (HONS) Geology, PhD in air dispersion modelling (particulates)
- ❖ Qualified before the OMB for Air Quality
- ❖ Developed air regulatory system for Town of Oakville (particulates)
- ❖ Conducted assessments for aggregate proponents
- ❖ Reviewed other aggregate pit license applications in Ontario

Scope of Review

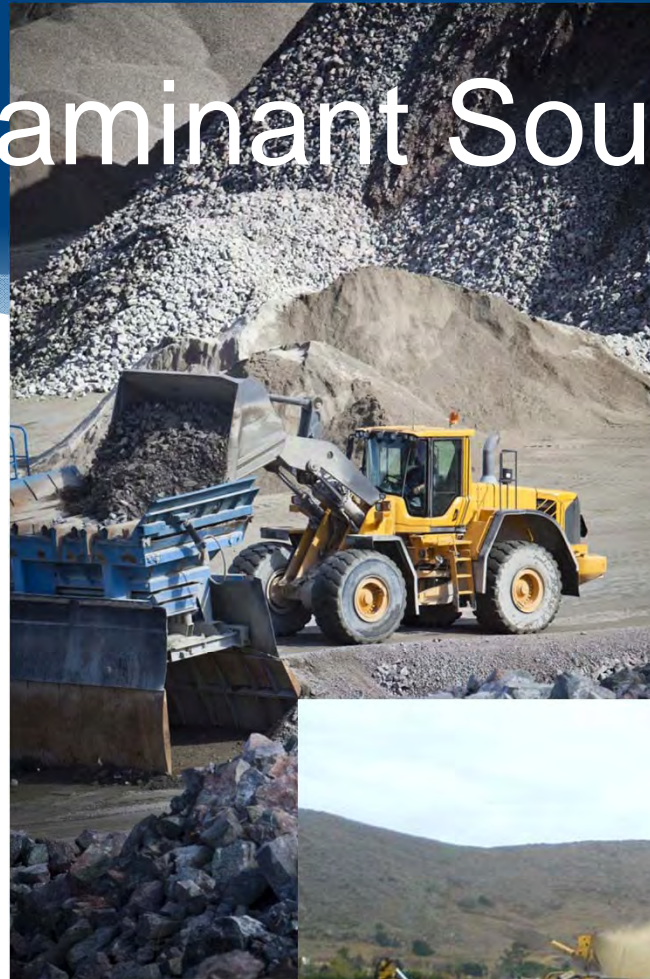
- Provide a “how-to” guide for AQA for aggregate operations
- Screening-level review of RWDI report
- Answer questions posed by CRC

Air Contaminant Sources

Dust

- * Aggregate handling
- * Aggregate crushing
- * Road dust

Diesel Engines



Airborne Contaminants from Dolostone Crushing and Road Dust



- * *“ Dolostone dust consists of a mixture of calcium and magnesium carbonates, which do not have any specification limitations under the O. Reg 41905” – RWDI*
Calcium carbonate has an air quality limit

Airborne Contaminants from Dolostone Crushing and Road Dust



- * “Dolostone dust may include small amounts of other non-metallic materials introduced from other aggregates contained as anomalies in the rock.”
- * *Introduced? Anomalies?*
- * **Small amounts still require assessment**

Airborne Contaminants from Dolostone Crushing and Road Dust



- * Crystalline silica (carcinogen) is low – no proof; vague monitoring intentions
- * Diesel combustion byproducts – assessment incomplete (*benzo-a-pyrene*)

Emission Rates

- * **Overburden**

- * Assessment on stripping and rehabilitation missing

- * **Storage Piles**

- * Wind Erosion frequency is not sufficiently supported

- * **Haul Routes (Internal Roads)**

- * Unsupported claims for road dust control by watering



Off-site Dispersion/Cumulative Impacts Modelling

Problematic Areas:

- Meteorological Data
- Estimation of current (baseline) air quality levels not based on local measurements
- Cumulative particulate not assessed in all off-site areas

Airzone Recommendations

- * ***Complete peer review required***
- * ***Major reworking of the report by RWDI:***
 - * *Use the corrected, preliminary modeling study to help identify locations for background monitoring*
 - * *Conduct background air monitoring and site-specific sampling for aggregate composition*
 - * *Revise modeling with site-specific data*
 - * *Assess need for mitigation and predict effectiveness of mitigation in a quantitative, conservative basis.*