

Air Quality at Opencut Operations

Keeping Our Air Clean:

Montana's gravel operations play a vital role in building and maintaining our roads and infrastructure. But dust from these operations can impact air quality. The Montana Contractors Association (MCA) is committed to minimizing dust emissions and protecting the public's health. This fact sheet explains how gravel operations are regulated and what steps are being taken to control dust.

What You Should Know:

- **Air Quality Regulations:** Montana has air quality regulations in place to ensure responsible operations and the Montana Department of Environmental Quality (MTDEQ) oversees these regulations.
- **Permits and Registrations:** Depending on the size and type of operation, a permit or registration may be required from the MTDEQ.
- **Key Dust Concerns:** The main air pollutant of concern from gravel operations is particulate matter, especially PM₁₀ (particles less than 10 micrometers in size).

Potential Green House Gas Emissions:

- Opencut operations can contribute to greenhouse gas (GHG) emissions through various activities involved in the extraction and processing of materials. The primary sources of GHGs in these operations include the use of heavy machinery and equipment, which typically run on diesel fuel, leading to emissions of carbon dioxide (CO₂) and other pollutants. Additionally, the transportation of materials to and from the site further contributes to GHG emissions due to fuel consumption by trucks and other vehicles. For example, the GHG emissions for a 10-yard haul truck can vary based on factors like the truck's engine efficiency, load, and driving conditions. However, on average, a heavy-duty truck emits about 1.617 kg (3.564 pounds) of CO₂ per mile
- Efforts to mitigate these emissions could include adopting more efficient machinery, implementing fuel management practices, and exploring alternative energy sources such as electric or hybrid equipment. Some operations could also focus on reducing emissions through improved site management practices, such as optimizing the layout to minimize transportation distances and using conveyors instead of trucks where possible. These measures not only help in reducing the carbon footprint of gravel pit operations but also contribute to overall environmental sustainability, however reducing GHG emissions to zero or near zero is not a reasonable goal or target. Locating Gavel pits near the point of use inherently reduces the miles traveled therefore reducing the GHGs produced.

How Gravel Operations Reduce Dust:

- **Watering:** Gravel operations use water sprays to suppress dust on haul roads, processing areas, and stockpiles.
- **Dust Suppressants:** In some cases, chemical dust suppressants may be used alongside water.
- **Control Equipment:** Crushing and screening equipment often has dust suppression equipment like spray bars, while asphalt plants use baghouses and scrubbers to capture dust emissions.
- **Best Practices:** Many gravel operations go beyond the minimum requirements by implementing additional non-required dust control measures such as:
 - Minimizing crushing activities during high winds
 - Maintaining haul roads
 - Implementing speed limits for haul trucks
 - Organizing employee training on dust suppression

Working Together for Clean Air:

The MCA and Montana gravel operations are committed to responsible practices that protect public health and air quality. By working together, we can ensure a healthy environment for everyone.