



Air Quality in Idaho:

Supplemental Fugitive Dust Control Information

Developing a Dust Prevention and Control Plan

Keeping potential fugitive dust problems under control is an everyday job. Plan ahead by developing a dust prevention and control plan as follows:

1. **Identify all potential fugitive dust emission sources.**
 - **Start with a facility site plan map.**

Record all paved haul roads, unpaved haul roads, stockpiles, material transfer points, material conveyances, parking lots, staging areas, and other open areas subject to wind erosion. Indicate prevailing wind direction on your map.
 - **Study daily traffic volumes.**

Determine whether roads and open areas are used frequently or occasionally. Consider daily routine modifications that will reduce traffic in some areas or eliminate it altogether.

2. **Assign dust control methods.**

Determine the appropriate dust control method for each source identified from your facility. If desired, color-code your map to indicate which dust control method to apply where.

3. **Determine frequency of application.**

For each source and each control method identified, determine how frequently dust control treatments should be applied. Develop a Self-Inspection Checklist to record the scheduled applications. (See below.)

4. **Record all dust control activities.**

It is a good practice to record your dust control activities on your checklist, along with the daily weather information, such as average wind speed and direction, temperature, rainfall, etc. Recording this information will enable you to monitor and evaluate the success of your efforts.

5. **Monitor your dust control efforts.**

You will need to monitor your dust control activities on a regular basis to ensure that the measures taken are adequately controlling fugitive dust.

Self-Inspection Checklist

Use a self-inspection checklist to help incorporate the routine tasks of fugitive dust control into your daily schedule. The checklist serves as a job reminder on a daily basis and as a record of your efforts to keep dust problems to a minimum. You can identify problem areas before they get out of hand, and anticipate

adjustments for seasonal changes or unforeseen circumstances. (For tips on how to prevent and control fugitive dust, link to *Air Quality in Idaho: Controlling Fugitive Dust*.)

The sample checklists on the following pages can be used to document dust control methods as well as weather conditions. It is recommended that you use a checklist for each source of fugitive dust emissions.

Example Dust Control Plan

Fugitive Dust Source: Unpaved Haul Roads	
Control Method:	Chemical Dust Suppressant
Frequency of Application:	Every three months or as needed
Record-Keeping:	Date suppressant applied and area covered
Monitoring of Control Efforts:	Roads monitored daily
Special Considerations:	<ul style="list-style-type: none"> • Traffic limited on haul roads by placing product near the entrance of facility; • Speed limit of 10 miles per hour on facility grounds

Example Self-Inspection Checklist: Fugitive Dust Control Method Log

Fugitive Dust Source: Unpaved Haul Roads

Date	Time	Control Method	Comments
4-1-02	7 am	Magnesium Chloride applied	All haul roads on facility grounds
6-1-02	7 am	Magnesium Chloride applied	Entrance of facility/stock pile area only
8-1-02	7 am	Magnesium Chloride applied	All haul roads on facility grounds
10-1-02	-	See weather log	
12-1-02	-	See weather log	

Self-Inspection Checklist: Weather Log

Date	Temperature	Wind Speed/Direction	Amt. of Rainfall	Comments
10-1-02	55 F (high)	5 mph	0.10 inch	Wet, cloudy, cold
10-8-02	50 F (high)	8 mph	0.0 inch	Wet, cloudy, cold
10-15-02	56 F (high)	8 mph	0.05 inch	Wet, cloudy, cold
10-22-02	52 F (high)	7 mph	0.0 inch	Wet, cloudy, cold

Best Management Practices: Fugitive Dust Control Methods

To control fugitive dust emissions, the Idaho Department of Environmental Quality (DEQ) and representatives of the rock crushing industry have developed Best Management Practices (BMPs) for the following fugitive dust generating sources:

- paved public roadways;
- unpaved haul roads;
- conveyor transfer points and screening operations;
- crushers and grinding mills; and
- stockpiles.

Although directed at the rock crushing industry in particular, many of these practices are applicable to mining and mineral processing facilities, sand and gravel operations, and concrete and asphalt batch plants as well.

(Refer to Glossary for definitions of terms used within this document.)

Paved Public Roadways

Control methods for trackout on to paved roads include:

- Promptly remove mud, dirt, or similar debris from the paved road;
- Water flush and/or water flush and vacuum sweep the paved road. Control runoff so it does not saturate the surface of the adjacent unpaved haul road and enhance trackout. If runoff is not or cannot be controlled, apply gravel to the surface of the adjacent unpaved haul road over an area sufficient to control trackout;
- Apply gravel to the surface of the adjacent unpaved haul road. Make sure the area of application is sufficient to control trackout; and
- Apply an environmentally safe chemical soil stabilizer or chemical dust suppressant to the surface of the adjacent unpaved haul road. Make sure the area of application is sufficient to control trackout.

Unpaved Haul Roads

Fugitive dust control methods from unpaved haul roads include:

- Limit vehicle traffic on unpaved haul roads;
- Limit vehicle speeds on unpaved haul roads. If a speed limit is imposed, post signs along the haul road route, clearly indicating the speed limit. Place signs so they are visible to vehicles entering and leaving the site of operations;
- Apply water to the surface of the unpaved haul road. Control runoff so it does not saturate the surface of the unpaved haul road and cause trackout. If runoff is not or cannot be controlled, try applying gravel to the surface of the unpaved haul road over an area sufficient to control trackout;
- Apply gravel to the surface of the unpaved haul road; and
- Apply an environmentally safe chemical soil stabilizer or chemical dust suppressant to the surface of the unpaved haul road.

Conveyor Transfer Points and Screening Operations

Fugitive dust control methods from conveyor transfer points and screening operations include:

- Limit drop heights of materials to assure a homogeneous flow of material; and
- Install, operate, and maintain water spray bars to control fugitive dust emissions at crusher drop points as necessary.

Apply controls on a frequency that prevents visible fugitive emissions from exceeding applicable opacity limit.

Crushers and Grinding Mills

Fugitive dust control methods from crushers and grinding mills include:

- Limit drop heights of materials to assure a homogeneous flow of material; and
- Install, operate, and maintain water spray bars to control fugitive dust emissions at crusher drop points as necessary.

Stockpiles

Fugitive dust control methods from stockpiles include:

- Limit the height of the stockpiles;
- Limit the disturbance of the stockpiles; and
- Apply water to the surface of the stockpile.

Glossary of Terms: Fugitive Dust Control

Best Management Practice (BMP): a recommended technique designed to assist industries to comply with environmental regulations.

Fugitive dust: fugitive emissions composed of particulate matter.

Fugitive emissions: emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

Particulate matter: any material, except water in uncombined form, which exists as a liquid or a solid at standard conditions.

Paved public roadway: a roadway with a surface of asphalt or concrete that is accessible to the general public.

Screening operation: a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the surfaces.

Stockpile: any nonmetallic mineral storage pile, reserve supply, or similar accumulation.

Trackout: the deposition of mud, dirt, or similar debris onto the surface of a paved road from tires and/or undercarriage of any vehicle associated with the operations of a facility.

Transfer point: a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor, except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping: the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include, but are not limited to, trucks, front-end loaders, skip hoists, and railcars.

Unpaved haul road: an unsurfaced roadway within the physical boundary of a nonmetallic mineral processing facility that is used as a haul road, access road, or similar means of ingress or egress.

Vent: an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.