

**Appendix A.7:  
Tiller Dust Control Plan**

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Tiller Corporation  
Zavoral Mine Dust Control Plan

Scandia, MN

09/19/11



SUNDE ENGINEERING, PLLC.  
10830 Nesbitt Avenue South  
Bloomington, MN 55437-3100  
Phone: (952) 881-3344  
Fax: (952) 881-1913

## I. Dust Control Plan

### Introduction

The following dust control plan for the Zavoral Mining and Reclamation Plan has been prepared to address potential impacts to air quality resulting from fugitive dust associated with the proposed Project. The Plan identifies several mitigation measures which will be implemented at the Site to eliminate or reduce fugitive dust emissions. Stripping operations, extraction, aggregate loading and hauling on unpaved haul roads are the largest sources of dust creation during the project operation. The following measures will be taken to limit and reduce the amount of dust created during operations.

#### 1. Stripping Operations and Reclamation Grading Operations:

Elevated fugitive dust emissions can occur during stripping operations. Topsoil and overburden have already been removed from the majority of the Site during previous mining operations. In the areas that remain to be stripped, stripping operations will be performed in a sequence of phases, which minimizes the amount of exposed open areas. Topsoils that are not immediately used for reclamation activities will be stockpiled or shaped into berms and seeded within 14 days to establish vegetation. Berms will be inspected periodically and areas reseeded as necessary to ensure establishment of vegetation. Existing berms as well as new screening berms located along the perimeter of the Site further act to reduce emissions by trapping/containing a portion of the fugitive dust emissions within the Site.

Reclamation activity will proceed as timely as possible as areas of mining are completed (exception is Phase 1 Reclamation which is not proposed to be mined). Perimeter areas will be sloped and the interior areas backfilled and graded to reclamation grades. Topsoil application, seeding and mulching of the graded area will be performed in accordance with the approved Reclamation Plan. The approved Reclamation Plan will contain specifications and schedules for these activities. The schedule will be developed with the intent of reducing the exposure of the applied topsoils, thereby reducing the potential for fugitive dust emissions. Seeded areas will be inspected to assure establishment of vegetation and reseeded as necessary.

#### 2. Active Mining Area:

##### A. Main Haul Road

1. Paving: The main haul road will be paved with asphalt for the first 300 feet into the site.
2. Millings: Asphalt millings will be applied to the main haul road, starting from the end

of the paved portion of the main haul road down to the base of the mine or approximately 660 feet. Once asphalt millings are applied and graded, truck traffic will compact the material so that after approximately two to five days the millings surface may be swept and washed.

3. Calcium chloride: Calcium chloride will be applied to the internal haul roads from the edge of the milled portion of the haul road throughout the unpaved haul roads within any given active phase.
4. Watering: Water application to the unpaved haul roads will be conducted as needed between applications of calcium chloride. Any secondary haul roads that are in use will be watered on a daily basis (unless there has been precipitation in the last 24 hours). Water trucks will be available onsite whenever there is a hauling event or reclamation activity.
5. Washing: The paved and milled portion of the main haul road will be washed with a high pressure low volume wash twice a day during haul events. This reduces the accumulation of silts on the road surface significantly reducing fugitive dust emissions.
6. Sweeping: The Site entrance and the paved portion of the haul road, including that portion surfaced with asphalt millings will be swept one to two times per week to remove accumulated sediments. (Washing the paved sections of the haul road twice a day during haul events will reduce the frequency of sweeping needed.)

#### B. Excavation Area:

The sand and gravel deposit naturally contains some moisture which helps control fugitive dust emissions associated with the excavation and loading activities. However, during extended dry periods, this may not be sufficient to adequately control fugitive dust. In the event of an extended dry period, water will be applied to the area in the immediate vicinity of the excavation area.

#### C. Hauling Operations:

Haul trucks hauling from the Site during haul events will be covered with tarps to reduce wind-blown dust. In addition, haul trucks traveling throughout the Site are required to limit their speed to 15 mph or less which contributes to the reduction of fugitive dust emissions.

