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***USEPA Method 9 Visible Emissions
Certification &
Fugitive Dust Control Plans***

By Mitch Mariotti

Environmental and Lands Manger

VCNA Prairie LLC



USEPA Method 9

What is USEPA “Method 9” and why do we need it?

- **Here’s what Method 9 is:**
 - **USEPA test method for making observations of visible particulate emissions**
 - from stationary sources that generate a “*plume*”
 - created in 1974 revision of New Source Performance Standards (NSPS)
 - most commonly used for NSPS plant equipment certifications
 - also used for evaluating compliance of opacity limits in air permits
 - **Commonly referred to as “smoke school”**
 - **Requires recertification every 6 months**
 - **Certifies “observer” to give a “reading” of “opacity”**
 - as a percentage of light transmission **BLOCKED** through the plume
 - 100% opacity means smoke density blocks out all light
 - generally consists of 24 consecutive readings at 15 minute intervals
 - 6 minute test
 - **Training providers include private providers and government providers:**
 - Carl Koontz
 - Aeromet
 - Illinois EPA
- <https://www.epa.gov/emc/method-9-visual-opacity>





USEPA Method 9

Method 9 Certification Training generally consists of:

- **Initial classroom certification**
 - always required for first time certifications
 - generally not required for re-certifications
 - online classroom for certain providers
- **2 sets of smoke “readings”**
 - 25 white smoke
 - 25 black smoke
 - outdoors
- **Private providers are usually 1 day class**
 - half day recertifications
 - at provider selected location
 - at your facility for larger groups
 - some will provide meals
- **EPA training is a 2 day event starting with classroom each day**





USEPA Method 9

Method 9 Certification in practice: NSPS Testing for new equipment installation

- 6 minute observation for every “emissions point”
 - Crusher, screen, conveyor drop point



**EPA
VISIBLE EMISSION OBSERVATION FORM 1**

VEOF 1.1

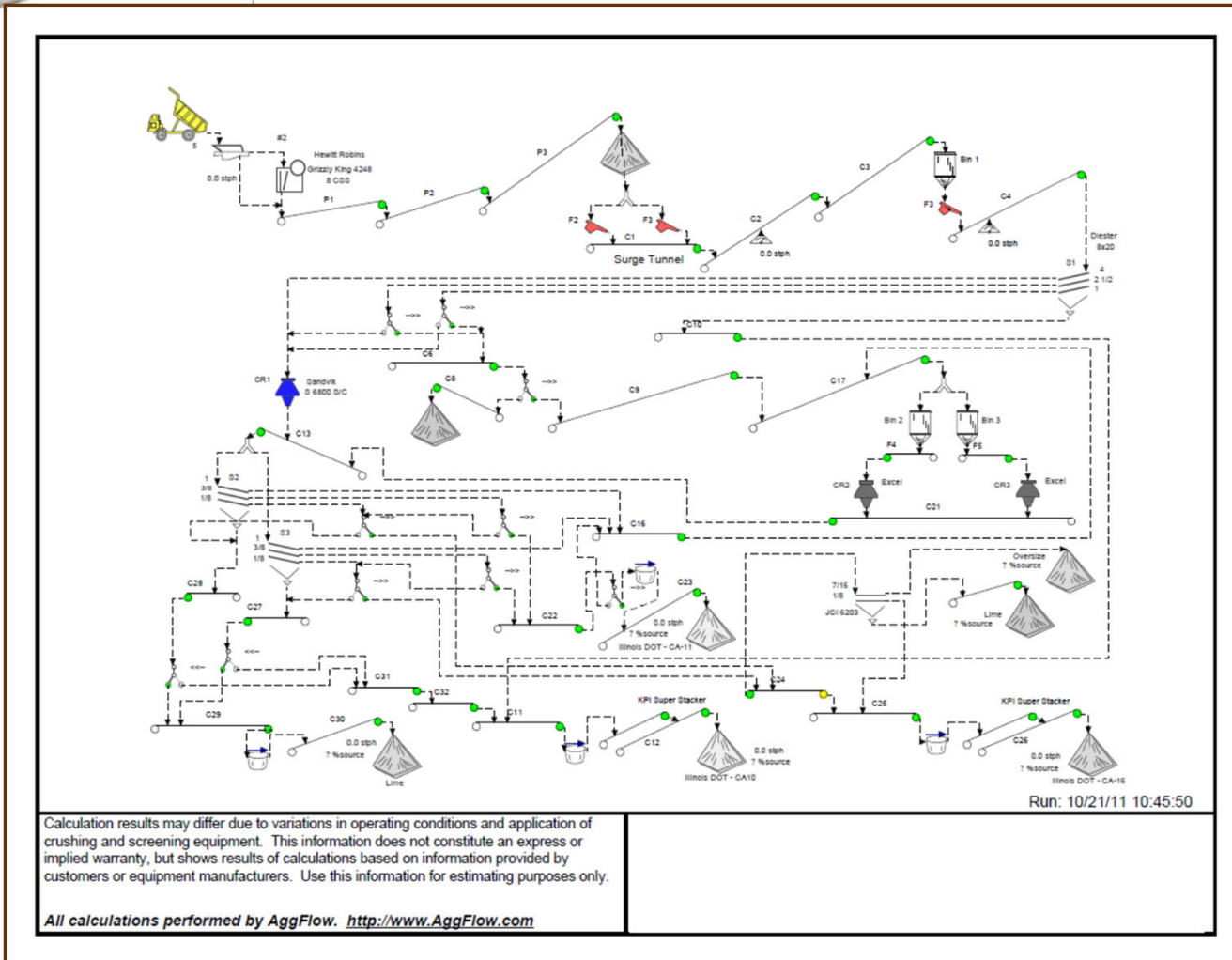
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Method 9 Certification in practice: NSPS Testing for new equipment installation






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Method 9 Certification in practice: Permit Compliance

 ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19506, SPRINGFIELD, ILLINOIS 62794-9506 - (217) 782-2113
ROD R. BLAGOJEVICH, GOVERNOR DOUGLAS P. SCOTT, DIRECTOR

217/782-2113

AUTHORIZATION TO OPERATE
UNDER A GENERAL PERMIT - REVISED


PERMITTEE

VCNA Prairie Inc.
Attn: Mitchell Mariotti
7601 West 79th Street
Bridgeview, IL 60455

General Permit No.: G1400A
Application No.: 91030060 I.D. No.: 091806AAJ
Applicant's Designation: YD9SAIR0107 Date Received: January 26, 2007
Type of Source: Small Aggregate Processing Plant
Date Issued: March 29, 2007 Expiration Date: See Condition 1.
Revised Date Issued: March 31, 2008
Source Location: 8215-C North Route 45/52, Manteno, Kankakee County

Authorization is hereby granted to the above-designated Permittee to operate the above source, consisting of an aggregate processing plant comprised of up to ten (10) crushers, up to fifteen (15) screens, and up to 120 conveyors and bins with associated transfer points under a General Permit for a small aggregate processing plant, pursuant to the above-referenced application.

If you have any questions regarding this authorization, please contact a Permit Analyst at 217/782-2113.


Edvin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

ECB:KJL:jws
cc: Region 1

Date Signed: 3/31/08

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- i. Pursuant to 40 CFR 60.670(a)(2), the provisions of 40 CFR 60 Subpart 000 do not apply to the stand-alone screening operations without crushers or grinding mills.
- ii. Pursuant to 40 CFR 60.670(c), Facilities at the following plants are not subject to the provisions of 40 CFR 60 Subpart 000:
 - A. Fixed sand and gravel plants and crushed stone plants with capacities, as defined in 40 CFR 60.671, of 23 megagrams per hour (25 tons per hour) or less; and
 - B. Portable sand and gravel plants and crushed stone plants with capacities, as defined in 40 CFR 60.671, of 136 megagrams per hour (150 tons per hour) or less.
- iii. On and after the date on which the performance test required to be conducted by Condition 5(a)(1) (see also 40 CFR 60.8) is completed, no owner or operator subject to the provisions of Condition 2(a) (see also 40 CFR 60 Subpart 000) shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any stack emissions which contain particulate matter in excess of 0.05 g/dscm (0.022 gr/dscf) [40 CFR 60.672(a)(1)].
- iv. Pursuant to 40 CFR 60.672(b), no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in 40 CFR 60.672(c), (d), and (e).
- v. Pursuant to 40 CFR 60.672(c), no owner or operator shall cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.
- vi. Pursuant to 40 CFR 60.672(d), truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of 40 CFR 60.672.
- vii. Pursuant to 40 CFR 60.672(e), if any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in Conditions 2(a)(iii), 2(a)(iv), and 2(a)(v) (see also 40 CFR 60.672(a), (b) and (c)), or the building enclosing the affected facility or facilities must comply with the following emission limits:

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iv. Pursuant to 40 CFR 60.672(b), no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from **any transfer point on belt conveyors or from any other affected facility any fugitive emissions** which exhibit greater than **10 percent opacity**, except as provided in 40 CFR 60.672 (c), (d), and (e) .

v. Pursuant to 40 CFR 60.672(c), no owner or operator shall cause to be discharged into the atmosphere from **any crusher**, at which a capture system is not used, fugitive emissions which exhibit greater than **15 percent opacity**.

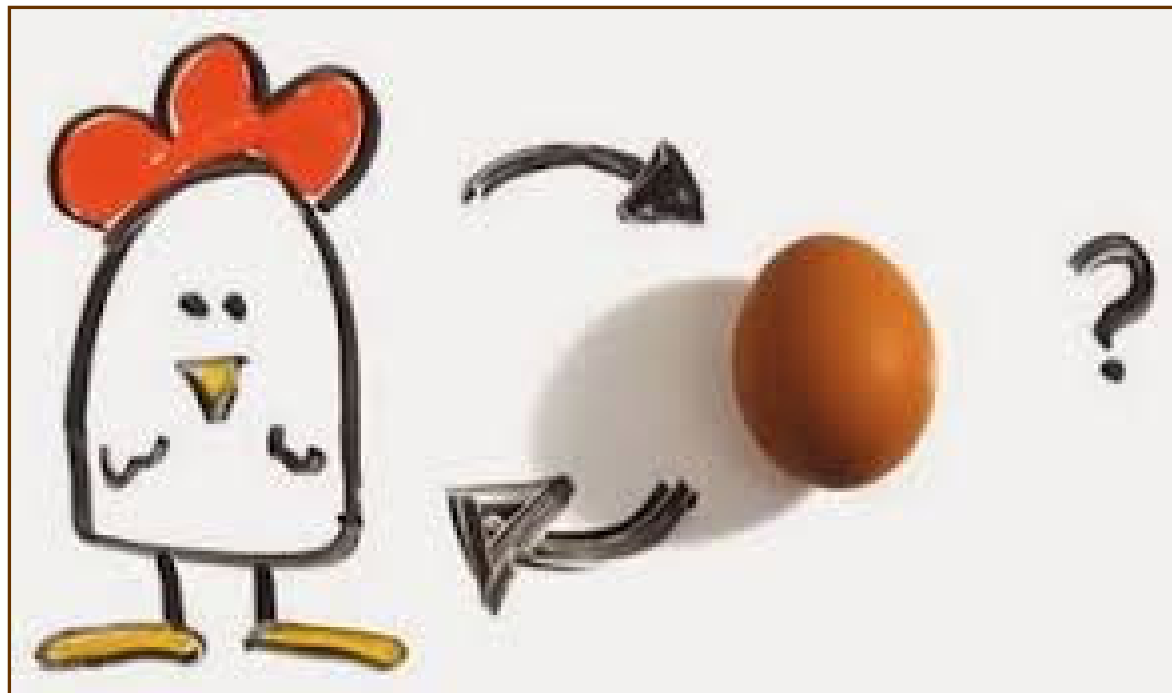
- “Opacity” mentioned 18 times throughout entire permit
- How do you know what the opacity is if not Method 9 certified?
- What about Method 22?



Method 22

METHOD 22—VISUAL DETERMINATION OF FUGITIVE EMISSIONS FROM MATERIAL SOURCES AND SMOKE EMISSIONS FROM FLARES

- **Method 22 is not a substitute for Method 9 observations**
- **Method 22 observations generally written into permit for fugitive dust emissions**





Method 22

- **Why not “Method 22”?**

- *“This method is applicable for the determination of the frequency of fugitive emissions from stationary sources ...”*
 - Omits any reference to “plume”
- **Method 22 is a qualitative technique that checks only the presence or absence of visible emissions**
 - makes no reference to “opacity”
 - only records the presence of any visible emissions over time
- **Does not require any certification unlike Method 9**
- **Method 22 references Method 9 throughout text**
- **Method 22 or a similar method is often used in the regulation of fugitive emissions**
- **Unlike with Method 9, Method 22 users don’t have to be certified.**
- **However, a knowledge of observation techniques is essential for correct use of the method.**
- **Therefore, Method 22 requires the observer to be trained by attending the lecture and field practice session of the Method 9 smoke school.**
- https://www.epa.gov/sites/production/files/2019-08/documents/method_22_0.pdf



Method 22

From USEPA METHOD 22 Fact Sheet:

NOTE: This method is not inclusive with respect to observer certification. [Some material is incorporated by reference from Method 9](#)

- This method is applicable for the determination of the frequency of fugitive emissions from [stationary sources](#), only as specified in an applicable subpart of the regulations
- Fugitive emissions produced during material processing, handling, and transfer operations or smoke emissions from flares are visually determined by an observer without the aid of instruments
- 2.3 This method determines the amount of time that visible emissions occur during the observation period (i.e., the accumulated emission time).
 - This method does not require that the opacity of emissions be determined. Since this procedure requires only the determination of whether visible emissions occur and does not require the determination of opacity levels, observer certification according to the procedures of Method 9 is not required.
 - ***However, it is necessary that the observer is knowledgeable with respect to the general procedures for determining the presence of visible emissions.***
 - At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions.
 - ***This training is to be obtained from written materials found in References 1 and 2 or from the lecture portion of the Method 9 certification course.***
- https://www.epa.gov/sites/production/files/2019-08/documents/method_22_0.pdf



Method 22

Method 22 referenced twice in permit:

- In determining compliance with Condition 2{a) (vi) (see also 40 CFR 60.672(e)), **the owner or operator shall use Method 22 to determine fugitive emissions.** The performance test shall be conducted while all affected facilities inside the building are operating. The performance test for each building shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes [40 CFR 60.675{d)].
- **For both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, incorporated by reference in 35 IAC 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 IAC 212.301 [35 IAC212.107]**



Fugitive Dust Control Plans

- Commonly referred to by EPA as an “FPOP”
 - Fugitive Particulate Operating Program
 - Experience indicates approved at local level
 - by IEPA field personnel
 - FPOP becomes a negotiation of sorts
 - know what’s required and what’s only being requested
 - often times “guidance” is offered
 - may or may not be necessary



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 - may or may not be necessary
 - let 35 IAC 212.310 Subpart K of Section 212 Fugitive Particulate Matter be your guidance



Fugitive Dust Control Plans

SUBPART K: FUGITIVE PARTICULATE MATTER

Section 212.301 Fugitive Particulate Matter

Section 212.302 Geographical Areas of Application

Section 212.304 Storage Piles

Section 212.305 Conveyor Loading Operations

Section 212.306 Traffic Areas

Section 212.307 Materials Collected by Pollution Control Equipment

Section 212.308 Spraying or Choke-Feeding Required

Section 212.309 Operating Program

Section 212.310 Minimum Operating Program

Section 212.312 Amendment to Operating Program

Section 212.313 Emission Standard for Particulate Collection Equipment

Section 212.314 Exception for Excess Wind Speed

Section 212.315 Covering for Vehicles

Section 212.316 Emission Limitations for Emission Units in Certain Areas



Fugitive Dust Control Plans

Section 212.310 Minimum Operating Program

As a minimum the operating program shall include the following:

- a) The name and address of the source
- b) The name and address of the owner or operator responsible for execution of the operating program
- b) A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source
- d) Location of unloading and transporting operations with pollution control equipment



Fugitive Dust Control Plans

Section 212.310 Minimum Operating Program

- As a minimum the operating program shall include the following:
 - e) A detailed description of the best management practices utilized to achieve compliance with this Subpart, including an engineering specification of particulate collection equipment, application systems for water, oil chemicals and dust suppressants utilized and equivalent methods utilized
 - f) Estimated frequency of application of dust suppressants by location of materials; and
 - g) Such other information as may be necessary to facilitate the Agency's review of the operating program

Section 212.312 Amendment to Operating Program

- The operating program shall be amended from time to time by the owner or operator so that the operating program is current. Such amendments shall be consistent with this Subpart and shall be submitted to the Agency for its review.



Fugitive Dust Control Plans

<p><i>Facility Logo</i></p> <p align="center">FUGITIVE DUST CONTROL PLAN <i>Facility Name</i></p> <hr/> <p>The purpose of this dust control plan is to provide a written outline of steps for limestone quarries and CCDD operations to follow in order to control fugitive dust. This Fugitive Dust Control Plan requires COMPANY NAME FACILITY NAME to comply with the minimum operating conditions of the Illinois Environmental Protection Act, Subpart K of Section 212 Fugitive Particulate Matters (35 IAC 212.310).</p> <p>Section 212.310 requires the operating program to include the following as a minimum:</p> <p>a) The name and address of the source:</p> <p align="center">COMPANY NAME LLC – FACILITY NAME Address</p> <p>b) The name and address of the owner or operator responsible for execution of the operating program:</p> <p align="center">COMPANY NAME LLC Company HQ Attn: Environmental Manager – Aggregates Division</p> <p>c) A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source: <i>See Attached Diagram/Map</i></p> <p>d) Location of unloading and transporting operations with pollution control equipment: <i>See Attached Diagram/Map</i></p> <p>e) A detailed description of the best management practices utilized to achieve compliance with this Subpart, including an engineering specification of particulate collection equipment, application systems for water, oil chemicals and dust suppressants utilized and equivalent methods utilized: <i>See the Following Fugitive Dust Control Plan starting on page 2 which outlines Prairie's best management practices utilized to achieve compliance.</i></p> <p>f) Estimated frequency of application of dust suppressants by location of materials: <i>See the Schedule Outlined in Paragraphs 1-5 below.</i></p> <p>During those days when the plant is operating and/or other heavy truck traffic is present in the yard you are required to comply with the following procedure to minimize emission to the atmosphere and to ensure compliance with federal, state, and local environmental regulations requiring control of fugitive dust at permitted facilities:</p> <p><i>COMPANY NAME LLC Fugitive - Dust Control Plan Aggregate's Facilities</i> <i>Created : May 30, 2017 / Revised : February 1, 2018</i> <i>Page 1 of 6</i></p>



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Fugitive Dust Control Plans

Facility Logo

FUGITIVE DUST CONTROL PLAN

Facility Name

1. Upon commencing operations at the start of the day, the Area Manager/Site Manager, **Employee Name** (hereinafter collectively the "Site Manager") shall inspect the yard for the presence of fugitive dust, and the potential for tracking dust and/or mud at the plant. Consideration shall be given to weather conditions including: temperature, precipitation and wind conditions. (Note: generally wind conditions exceeding 24 miles per hour are outside of permit guidelines for enforcement purposes, however preventative measures should still be utilized to minimize the dust generated).
2. If the potential exists for fugitive dust to be created and/or migrate across property lines, the Site Manager will commence watering the yard. The Site Manager will ensure use of a watering truck to provide required moisture content necessary to minimize dust generated.
3. Water will be applied to the following areas:
 - All material delivery truck haul roads
 - All plant access roads and drive aprons
 - Any paved roads not otherwise identified above, within the confines of the plant property lines
4. Water will be applied a minimum of once per day, with exceptions being made as required for weather conditions. Specifically, on extreme moisture/rainy days the Site Manager shall assess the moisture content to determine if the potential for fugitive dust exists. Similarly, in dry or high heat weather conditions additional water applications will be made to achieve an appropriate moisture content to minimize fugitive dust. On extremely dry and/or windy days, the Site Manager will ensure water is applied a minimum of twice per day, with additional applications based on weather conditions.
5. The Site Manager will ensure that all applications of water are recorded in the log book or on the log sheet and kept on file in a binder or uploaded to the Agg Drive in the site specific folder, and the recorded information shall include the name of the person who applied water. NOTE: The Site Manager must complete the log book for EACH application of water during the day, noting the time of application. The Site Manager must also enter notes in the log book for the days (specifying day of week and date), when watering did not occur due to weather conditions or due to the site not being in operation. The log book shall also contain notes concerning the following:
 - a. specific date, if any, when the watering truck was not in service, including the cause of pulling the equipment out of service;
 - b. the corrective action taken to fix the equipment; and
 - c. the date when the equipment was placed back in service.

COMPANY NAME LLC Fugitive - Dust Control Plan Aggregate's Facilities

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Fugitive Dust Control Plans

Facility Logo

FUGITIVE DUST CONTROL PLAN

Facility Name

6. The Site Manager* shall also note in the log book or on the log sheet any other dust suppression efforts applied at the site (specifying day of week and date and name of person who applied the other dust suppression).

7. Contact Responsible Manager for at phone number or via e-mail if you have any questions regarding this Fugitive Dust Control Plan.

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Fugitive Dust Control Plans

Facility Logo

FUGITIVE DUST CONTROL PLAN
Facility Name

DEFINITIONS

Fugitive Dust – Any dust that migrates, or has the potential to migrate across property lines, whether from conveyors, crushers, storage piles, or truck traffic.

Haul Roads – All roads used as part of a normal traffic pattern by trucks entering and exiting the plant area.

MAIN SOURCES OF FUGITIVE DUST EMISSIONS

The main sources of dust at Prairie Aggregates plants are from the following:

1. **On site traffic** – Loaders and Aggregates trucks moving about the yard disturb deposits of dust.
2. **Paved roads and yard** – The accumulated dust on the roads from everyday operations is disturbed as traffic moves across the areas, suspending it in the air;
3. **Unpaved roads and yard** – Gravel surfaces contain a certain amount of fine material. As traffic moves across the areas it suspends the fine material in the air;
4. **Material stockpiles** – Fine material generated as part of the aggregate stockpile process is removed by wind erosion;
5. **Aggregate handling** – Dust is generated from the movement of materials for the Aggregate production process; and
6. **Conveyors** – Emission of particulate matter from conveyors that are handling all particle sizes of material, including a certain portion of fines.

If an issue arises, attempt to resolve it with practical means available to minimize air emissions and health and safety hazards. Even if the issue has been resolved in a quick manner, please report corrective action taken to Environmental and Lands Manager to ensure proper records are kept.

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Fugitive Dust Control Plans

Facility Logo

FUGITIVE DUST CONTROL PLAN
Facility Name

FACILITY NAME FACILITY MAP

* Heavy traffic - normal/daily load
 ☆ Concrete Transfer Points
 1. Concrete Stone (CM11)
 2. S/W Chip (CM30)
 3. Stone Sand (SM20)
 4. Aggregate
 5. 3/4 (CA5)
 6. PAF (CM01)
 7. Stone Sand (SM22)
 8. Road Rock (CR6)
 9. A/S (RM1)

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Fugitive Dust Control Plans

Facility Logo

FUGITIVE DUST CONTROL PLAN
Facility Name

DAILY EMISSION (DUST) CONTROL ACTIVITY LOG REQUIRED

START DATE	START TIME	END TIME	VISIBILITY INSTRUCTIONS	WATER TRUCKS / WAGERS	CIRCLER DUST SUPPRESSION (5-GAL. BUCKETS)	EQUIPMENT OUT OF SERVICE USE EQUIPMENT	DATE EQUIPMENT OUT OF SERVICE	ACTION TAKEN TO FIX EQUIPMENT	DATE EQUIPMENT BACK IN SERVICE	NAME

COMPANY NAME LLC Fugitive - Dust Control Plan Aggregate's Facilities
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