

RULE 403 IMPLEMENTATION HANDBOOK

**NOTE: TO SOUTH COAST AIR BASIN FUGITIVE DUST CONTROL
HANDBOOK USERS**

This handbook was updated in April 2004 to include the following changes:

- **Amended Rule 403 (amended 4/2/2004)**
- **Amended Rule 1186 (amended 4/2/2004)**

RULE 403 SUMMARY

General Requirements (applicable to all sources)

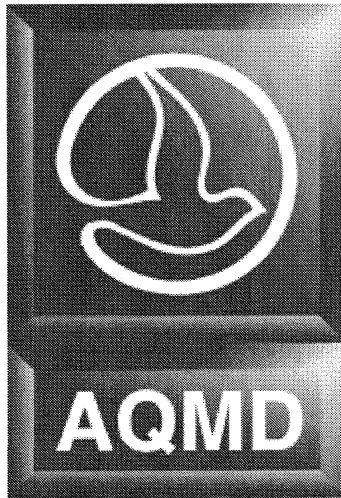
Rule Reference	Requirements Prior to April 2004	April 2004 Amendments
(d)(1)	Visible emissions prohibited from crossing any property line.	Basic requirement maintained. Emissions from vehicular-related traffic prohibited from exceeding 20 percent opacity. Rule 403 Implementation Handbook establishes procedures for measuring opacity.
(d)(2)	Requires all sources to implement best available control measures (BACM). List of BACM included in Rule 403 Implementation Handbook.	All sources continue to require implementation of BACM. BACM now included in Rule 403 as Table 1.
(d)(3)	Upwind/downwind PM10 differential prohibited from exceeding 50 $\mu\text{g}/\text{m}^3$ for any five hour period. AQMD responsible for sampling.	No change
(d)(4)	Remove track-out within one hour or install a track-out control device and remove track-out at anytime it extends more than 50 feet from site entrance and at the conclusion of the workday	Track-out prohibited from extending more than 25 cumulative feet from a site at any time.
(d)(5)		Beginning January 1, 2005 , sites greater than five acres or with a daily import or export in excess 100 cubic yards of bulk material must install at least one of the track-out control devices listed in subparagraphs (d)(5)(A) through (d)(5)(A).

Special Requirements for Large Operations (greater than 50 acres/5,000 C.Y. of daily earth-movement)

(e)(1)	Submit a large operation notification (LON) within seven days of qualifying as a large operation and implement Table 1 and 2 measures and maintain records or submit a dust control plan and pay fees.	LON still required within seven days of qualifying as a large operation and sources must implement Table 2 measures during routine activities and Table 3 measures when Table 2 measures are not sufficient to meet property line performance standard. Dust control plan submittal option removed.
(e)(1)(D)		Beginning January 1, 2005 , install and maintain project contact signage that meets minimum standards as identified in Rule 403 Implementation Handbook.
(e)(1)(E)		Beginning January 1, 2005 , identify a dust control supervisor that meets the standards of clause (e)(1)(E)(i) through (e)(1)(E)(iv).

Change added by June 2005 amendments for Confined Animal Facilities (CAF)

Rule Reference	Existing Requirements	June 2005 Amendments
(d)(6)		Beginning January 1, 2006 , any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.



South Coast Air Quality Management District
Office of Planning, Rule Development and Area Sources

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JUNE 2007

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Preface

South Coast Air Quality Management District (AQMD) staff has amended the Rule 403 Implementation Handbook to provide guidance consistent with the most recent amendments to the Rule language. Any reference to a specific product name is for informational purposes only and does not represent an AQMD endorsement for the product.

STATEMENT OF PURPOSE

STATEMENT OF PURPOSE

The purpose of Rule 403 is to reduce the amount of fugitive dust entrained as a result of human activities. Rule 403 applies to any activity capable of generating fugitive dust.

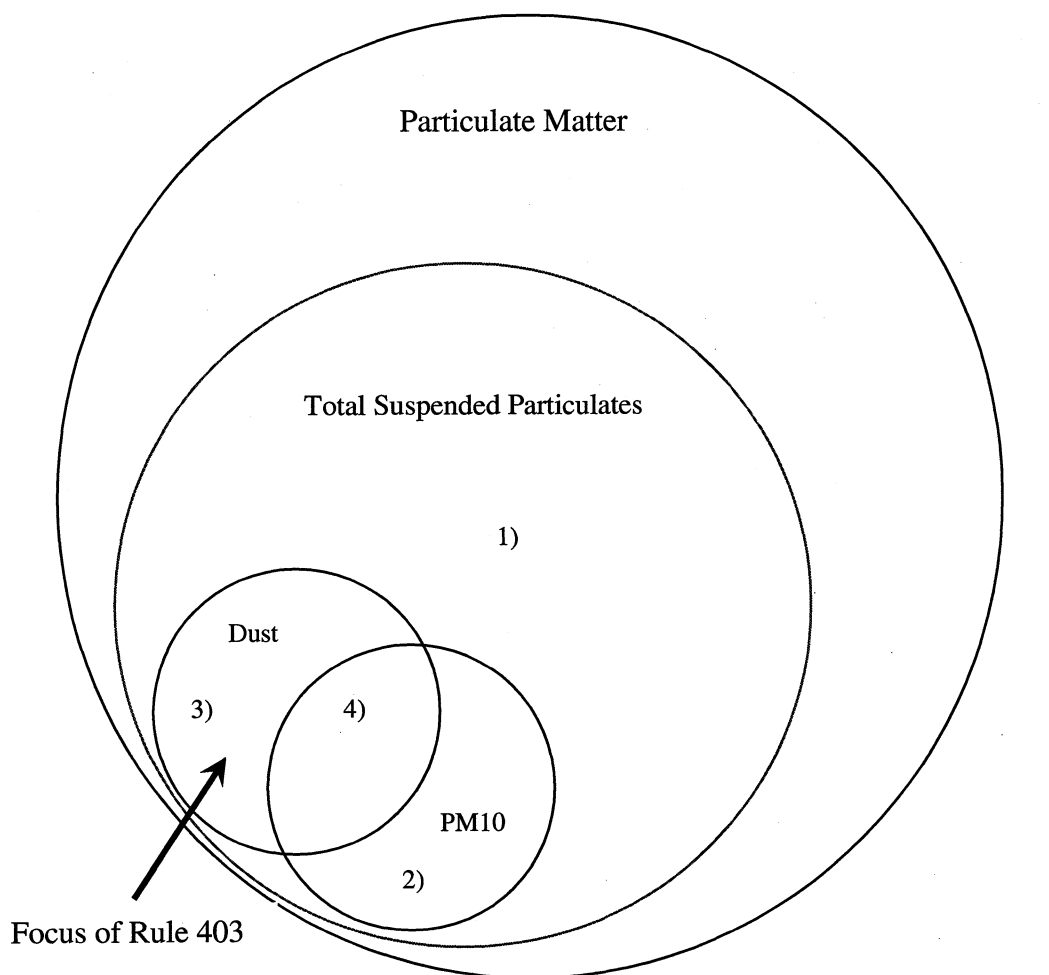
This Handbook has been developed by District staff to assist affected persons and activities in complying with Rule 403. Throughout this Handbook, several terms are used to describe various categories of dust or fine particulate matter. While all of the terms represent a form of particulate matter, each has a specific meaning. The following definitions should help the reader understand the differences between these terms. Figure 1-1 illustrates the relationship of these terms based on size.

PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions (defined in Rule 102).

TOTAL SUSPENDED PARTICULATE MATTER (TSP) is any airborne particulate matter as measured by applicable State and federal reference test methods. (A subset of **PARTICULATE MATTER**).

FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of human activities. (A subset of **TOTAL SUSPENDED PARTICULATES**).

PM10 is particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and federal reference test methods. Studies have indicated that appropriately 50 percent of total suspended particulate matter, by weight, is of PM10 size or less. (A subset of **TOTAL SUSPENDED PARTICULATES**).



- 1) TSP larger than 10 microns originating from exhaust stacks
- 2) PM10 not related to fugitive dust sources, such as sulfates, nitrates, and organic particles
- 3) Dust particles larger than 10 microns
- 4) Portion of ambient PM10 which can be reduced through fugitive dust emission controls

FIGURE 1-1

PICTORIAL RELATIONSHIP OF TERMINOLOGY

Rule 403

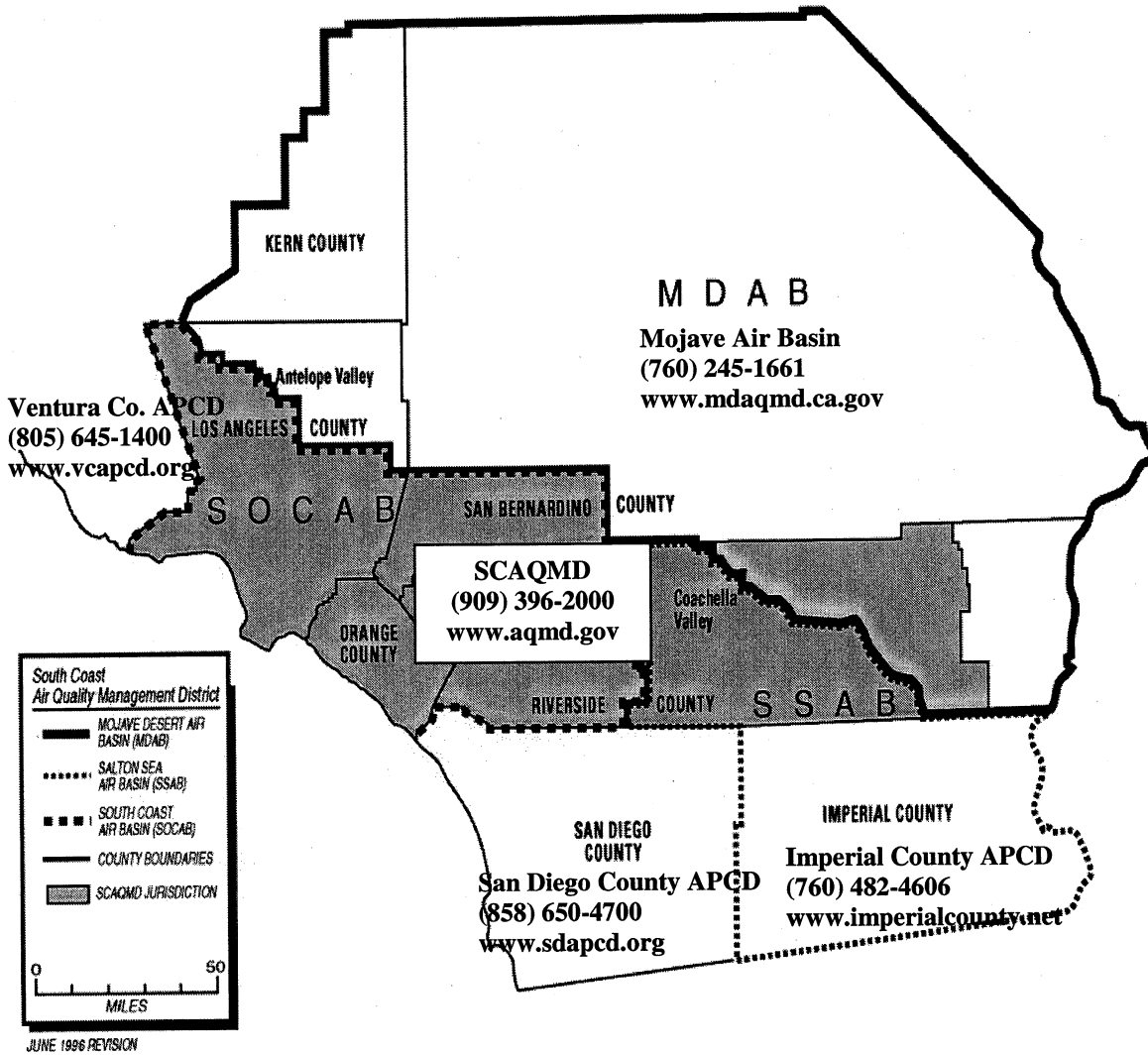


FIGURE 2 - 1

BOUNDARIES OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AND THE SOUTH COAST AIR BASIN

APPLICABLE DISTRICT RULES

Fugitive Dust (Rule 403)

APPLICABLE DISTRICT RULES

Fugitive Dust (Rule 403)

Rule 403 requires the implementation of best available fugitive dust control measures during active operations capable of generating fugitive dust. Table 1 of Rule 403 lists best available control measures (BACM) by source. Figure 2-1 identifies the jurisdictional boundaries of the South Coast Air Quality Management District.

Rule 403 also requires activities defined as "large operations" to notify the AQMD by submitting Form 403N, implement the Rule 403 Table 2 and 3 control actions, and maintain records of control measure implementation. Rule 403 defines large operations as:

"any active operations on property which contains in excess of 50 acres of disturbed surface area; or any earth-moving operation which exceeds a daily earth-moving or throughput volume of 3,850 cubic meters (5,000 cubic yards) three times during the most recent 365-day period."

Additional guidance for large operations is included in Section 5 of the Handbook.

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

- (1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.
- (2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.
- (3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.
- (4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.
- (5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

- (6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.
- (7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.
- (8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.
- (9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.
- (10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.
- (11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.
- (12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.
- (13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

- (14) **DISTURBED SURFACE AREA** means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:
 - (A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;
 - (B) been paved or otherwise covered by a permanent structure; or
 - (C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.
- (15) **DUST SUPPRESSANTS** are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.
- (16) **EARTH-MOVING ACTIVITIES** means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.
- (17) **DUST CONTROL SUPERVISOR** means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.
- (18) **FUGITIVE DUST** means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.
- (19) **HIGH WIND CONDITIONS** means that instantaneous wind speeds exceed 25 miles per hour.
- (20) **INACTIVE DISTURBED SURFACE AREA** means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.
- (21) **LARGE OPERATIONS** means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

- (22) **OPEN STORAGE PILE** is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.
- (23) **PARTICULATE MATTER** means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.
- (24) **PAVED ROAD** means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.
- (25) **PM₁₀** means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.
- (26) **PROPERTY LINE** means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.
- (27) **RULE 403 IMPLEMENTATION HANDBOOK** means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.
- (28) **SERVICE ROADS** are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.
- (29) **SIMULTANEOUS SAMPLING** means the operation of two PM₁₀ samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.
- (30) **SOUTH COAST AIR BASIN** means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

- (31) **STABILIZED SURFACE** means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.
 - (32) **TRACK-OUT** means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
 - (33) **TYPICAL ROADWAY MATERIALS** means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.
 - (34) **UNPAVED ROADS** means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.
 - (35) **VISIBLE ROADWAY DUST** means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
 - (36) **WIND-DRIVEN FUGITIVE DUST** means visible emissions from any disturbed surface area which is generated by wind action alone.
 - (37) **WIND GUST** is the maximum instantaneous wind speed as measured by an anemometer.
- (d) **Requirements**
- (1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

- (A) the dust remains visible in the atmosphere beyond the property line of the emission source; or
 - (B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.
- (2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.
- (3) No person shall cause or allow PM₁₀ levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM₁₀ monitoring. If sampling is conducted, samplers shall be:
- (A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM₁₀.
 - (B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.
- (4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.
- (5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.
- (A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

- (B) Pave the surface extending at least 100 feet and at least 20 feet wide.
 - (C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
 - (D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
 - (E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).
- (6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.
- (e) **Additional Requirements for Large Operations**
- (1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:
 - (A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;
 - (B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;
 - (C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

- (D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;
 - (E) identify a dust control supervisor that:
 - (i) is employed by or contracted with the property owner or developer;
 - (ii) is on the site or available on-site within 30 minutes during working hours;
 - (iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;
 - (iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and
 - (F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).
- (2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).
- (f) **Compliance Schedule**
The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

- (1) The provisions of this Rule shall not apply to:**
 - (A) Dairy farms.**
 - (B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.**
 - (C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.**
 - (D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:**
 - (i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;**
 - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and**
 - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.**
 - (E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:**
 - (i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and**
 - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and**
 - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.**

- (F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.
 - (G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.
 - (H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.
 - (I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.
 - (J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:
 - (i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and
 - (ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.
 - (K) sandblasting operations.
- (2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:
- (A) When wind gusts exceed 25 miles per hour, provided that:

- (i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;
 - (ii) records are maintained in accordance with subparagraph (e)(1)(C).
 - (B) To unpaved roads, provided such roads:
 - (i) are used solely for the maintenance of wind-generating equipment; or
 - (ii) are unpaved public alleys as defined in Rule 1186; or
 - (iii) are service roads that meet all of the following criteria:
 - (a) are less than 50 feet in width at all points along the road;
 - (b) are within 25 feet of the property line; and
 - (c) have a traffic volume less than 20 vehicle-trips per day.
 - (C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.
- (3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.
 - (4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:
 - (A) Blasting operations which have been permitted by the California Division of Industrial Safety; and
 - (B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.
 - (5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

- (6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.
- (7) The provisions of subdivision (e) shall not apply to:
 - (A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.
 - (B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.
 - (C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.
- (8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM₁₀ pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

Tables

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	Mix backfill soil with water prior to moving Dedicate water truck or high capacity hose to backfilling equipment Empty loader bucket slowly so that no dust plumes are generated Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	Maintain live perennial vegetation where possible Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	Follow permit conditions for crushing equipment Pre-water material prior to loading into crusher Monitor crusher emissions opacity Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	For large sites, pre-water with sprinklers or water trucks and allow time for penetration Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	Limit vehicular traffic and disturbances on soils where possible If interior block walls are planned, install as early as possible Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	Grade each project phase separately, timed to coincide with construction phase Upwind fencing can prevent material movement on site Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	Use tarps or other suitable enclosures on haul trucks Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage Comply with track-out prevention/mitigation requirements Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	Apply water to materials to stabilize Maintain materials in a crusted condition Maintain effective cover over materials Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	Dedicate water truck or high capacity hose to screening operation Drop material through the screen slowly and minimize drop height Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	Limit size of staging area Limit vehicle speeds to 15 miles per hour Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	Add or remove material from the downwind portion of the storage pile Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	Apply grave/paving to all haul routes as soon as possible to all future roadway areas. Barriers can be used to ensure vehicles are only used on established parking areas/haul routes.
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching. Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment.
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	Empty loader bucket such that no visible dust plumes are created. Ensure that the loader bucket is close to the truck to minimize drop height while loading.
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	Haul waste material immediately off-site.

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Unpaved roads/parking lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

**Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS**

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Earth-moving (except construction cutting and filling areas, and mining operations)	<p>(1a) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR</p> <p>(1a-1) For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.</p>
Earth-moving: Construction fill areas:	<p>(1b) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.</p>

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Earth-moving: Construction cut areas and mining operations:	(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b) Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c) Apply chemical stabilizers within five working days of grading completion; OR (2d) Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a) Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR (3b) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (3c) Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR (3d) Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Unpaved Roads	(4a) Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR (4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR (4c) Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a) Apply chemical stabilizers; OR (5b) Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR (5c) Install temporary coverings; OR (5d) Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

**TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS**

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
<p>Manure Handling</p> <p>(Only applicable to Commercial Poultry Ranches)</p>	<p>(1a) Cover manure prior to removing material off-site; AND</p> <p>(1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND</p> <p>(1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d).</p> <p>(1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.</p>
<p>Feedstock Handling</p>	<p>(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.</p>
<p>Disturbed Surfaces</p>	<p>(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR</p> <p>(3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR</p> <p>(3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.</p>
<p>Unpaved Roads</p>	<p>(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR</p> <p>(4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR</p> <p>(4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.</p>
<p>Equipment Parking Areas</p>	<p>(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR</p> <p>(5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).</p>

Additional Rules

(Adopted February 4, 1977)(Amended April 1, 1977)(Amended August 4, 1978)
(Amended September 7, 1979)(Amended February 1, 1980)(Amended July 11, 1980)
(Amended October 15, 1982)(Amended March 2, 1984)(Amended February 5, 1988)
(Amended April 7, 1989)(Amended September 11, 1998)
(Amended November 9, 2001)

RULE 401. VISIBLE EMISSIONS

(a) Definitions

For the purpose of this rule, the following definitions shall apply:

- (1) KEROSENE FUEL is petroleum distillate fuel meeting diesel grade 1-D per ASTM D975-78, fuel oil grade No. 1 per ASTM D396-79, or kerosene by conventional commercial specifications.
- (2) AN APPROVED SMOKE-REDUCING FUEL ADDITIVE is as approved by the Executive Officer.
- (3) A SYNTHETIC ENGINE LUBRICATING OIL is as approved by the Executive Officer.

(b) Requirements

- (1) A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:
 - (A) As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or
 - (B) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (b)(1)(A) of this rule.
- (2) Notwithstanding the provisions of paragraph (b)(1) of this rule, a person shall not discharge into the atmosphere from a commercial charbroiler, excluding those operating with control equipment and those which are chain-driven, or equipment for melting, heating, or holding asphalt or coal tar pitch for on-site roof construction or repair; any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

- (A) As dark or darker in shade as that designated No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines; or
 - (B) Of such an opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (b)(2)(A) of this rule.
- (3) Notwithstanding the provisions of paragraph (b)(1) of this rule, a person shall not discharge into the atmosphere from any diesel pile-driving hammer, operating exclusively using kerosene fuel, containing approved smoke-reducing fuel additives, as the sole fuel, and using only synthetic engine lubrication oil, or other method deemed technologically and economically feasible by the Executive Officer, any air contaminant for a period or periods aggregating more than four minutes during the driving of a single pile which is:
- (A) As dark or darker in shade as that designated No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines; or
 - (B) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (b)(3)(A) of this rule.

(c) Exemptions

- (1) The provisions of this rule shall not apply to the following operations:
 - (A) Asphalt pavement heater operations;
 - (B) Abrasive blasting operations;
 - (C) The use of visible emission generating equipment in training sessions conducted by governmental agencies necessary for certifying persons to evaluate visible emissions for compliance with this rule and with the California Health and Safety Code, Section 41704 (1).
 - (D) Visible emissions from ships which perform emergency boiler shutdowns, tests required by governmental agencies or maneuvers for safety purposes;
 - (E) Agricultural operations.
- (2) The provisions of paragraph (b)(2) shall not apply to a commercial charbroiler, as described in paragraph (b)(2), on or after November 9, 2005, and thereafter the provisions of paragraph (b)(1) shall apply to such equipment.

RULE 402. NUISANCE

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Large Operations

GUIDANCE FOR LARGE OPERATIONS

Large Operation Notification Procedures
Contact Signage
Statement of No Change
Notice of Completion

GUIDANCE FOR LARGE OPERATIONS

Notification Procedures

Rule 403 requires large operations that meet or exceed the threshold for large operations to:

notify the District in writing by submitting a Large Operation Notification (Form 403N) with the appropriate site mapping within seven days of qualifying as a large operation to the address provided below:

Patrick Hotra,
South Coast Air Quality
Management District
Rule 403 Compliance
21865 E. Copley Drive
Diamond Bar, CA 91765

identify a dust control supervisor

install contact signage that meets the minimum standards outlined by this Chapter within 50 feet of each public site entrance or other frequently-used work entrances. No more than four signs are required per site/facility. One sign is sufficient for multiple site entrances located within 300 yards of each other.

implement the Rule 403 Table 2 and Table 3 control actions for each on-site source, and

prepare daily records of control action implementation and maintain such recordkeeping information for three years.

Rule 403 also requires large operations to notify the AQMD 30 days after no longer qualifying as a large operation [subparagraph (e)(1)(F)] by submitting a Project Completion Form (Form 403 C) or submit a Statement of No Change (Form 403 NC) for projects that will last more than one year [paragraph (e)(2)]. The requirement to submit a Statement of No Change is not required for stationary sources (i.e., aggregate facilities, etc.) that operate for multiple years at one site.

A blank Large Operation Notification Form (Form 403N), minimum contact signage standards, a Notice of Completion Form (Form 403C), a Statement of No-Change (Form 403NC) is presented in this chapter. A sample recordkeeping form is included in Chapter 6.

FORM 403N

**RULE 403 - LARGE OPERATION NOTIFICATION
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

21865 Copley Drive, Diamond Bar, CA 91765

Large operations are required to implement the Rule 403 Table 2 and Table 3 control measures and must notify the AQMD no later than 7 days after qualifying as a large operation. Completing this Form and returning it, along with a site location map, to the AQMD will represent compliance with the notification procedures. Note: activities that implement the Table 2 and the Table 3 control measures are required to maintain records of control measure application (see Chapter 6 of the Rule 403 Implementation Handbook).

Is this notification being submitted to comply with the requirements of a Notice to Comply or Notice of Violation?

YES/NO

Notice Number _____ Please attach copy

Qualifying Criteria:

1. Does this operation contain more than 50 acres of disturbed surface area as of the date of submittal? YES/NO
Please indicate the size of the project _____.
2. Will the earth moving operation exceed a daily earth moving or throughput volume of 5,000 cubic yards three times during the most recent 365-day period from the date grading begins? YES/NO

If you answered yes to either 1 or 2 above please continue with the application. If you answered no to both 1 & 2 you may stop here. If you still have questions regarding your qualifying status please call Phill Hubbard III at (909) 396-2966.

**RULE 403 - LARGE OPERATION NOTIFICATION
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

21865 Copley Drive, Diamond Bar, CA 91765

Please Print or Type

Contractor/ Consultant/ Owner: (Circle one of the above)		Phone Number:	
Address:	City:	State:	Zip:
Project Name:			
Name of Responsible Person of Organization:			
Title:		Phone Number:	
Dust Control Supervisor:		Phone Number:	
Date Attended Dust Class:		ID Number:	
Project Address: (Attach location map)	City:	State:	Zip:
Name of Property Owner: (If different than above)			
Type of Activity:			
Anticipated Start Date:		Anticipated Completion Date:	
Check here if permanent facility: (Statement of No Change is not required for stationary sources (aggregate facilities, etc.) that operate at one site for multiple years)			
Telephone Number:			
Emergency Phone Number:			
In accordance with paragraph (e)(1) of Rule 403, I will ensure that the actions specified in Tables 2 and 3 will be implemented on-site for each applicable fugitive dust source type within the property lines and I will ensure that records are maintained per Rule 403, Subparagraph (e)(1)(C). Further, I hereby certify that all information contained herein is true and correct.			
SIGNATURE OF RESPONSIBLE MEMBER OF ORGANIZATION	TITLE	DATE	

GUIDANCE FOR LARGE OPERATIONS

Minimum Contact Signage Standards

Rule 403 subparagraph (e)(1)(D) requires large operations to install and maintain signage that identifies phone numbers for dust complaints. Signs must be installed within 50 feet of each public site entrance and other frequently-used work entrances. No more than four signs are required per site/facility. One sign is sufficient for multiple site entrances located within 300 yards of each other. The following guidance has been prepared to assist project operators in complying in this requirement.

RULE 403 IMPLEMENTATION HANDBOOK

CONSTRUCTION SITE SIGNAGE GUIDELINES (Minimum Requirements)

The purpose of this signage is to allow the public to contact the responsible party if visible dust emissions or track-out of material is observed from a construction site.

	Project size	Over 50 Acres
Permit # (if applicable)	Sign size	48" x 96"
Site Name		4"
Project Name / Tract #####		4"
IF YOU SEE DUST COMING FROM THIS PROJECT CALL:		4"
Name, Phone Number XXX-XXXX		6"
If you do not receive a response, Please call the AQMD at 1-800-CUT-SMOG		3"
		3"
		3"

Notes:

- Signage must be located within 50 feet of each project site entrance.
- No more than four signs are required per site/facility.
- One sign is sufficient for multiple site entrances located within 300 yards of each other.
- Text height shall be at a minimum as shown on right side of sign template above.
- Sign background must contrast with lettering, typically black text with white background.
- Sign should be 1 inch A/C laminated plywood board.
- The lower edge of the sign board must be a minimum of 6 feet and a maximum of 7 feet above grade.
- The telephone number listed for the contact must be a local or a toll-free number and shall be accessible 24 hours per day.

STATEMENT OF NO CHANGE FOR PROJECTS THAT EXTEND MORE THAN ONE YEAR

Approved large operation notifications are valid for one year from the date of AQMD acceptance. If a project will extend beyond one-year and if all sources of fugitive dust and control measures are the same as the originally accepted submittal, the operator can extend the applicability of the large operation notification for an additional year by submitting a Statement of No-Change (Form 403NC). A Statement of No-Change is not required for stationary sources (e.g., aggregate facilities, etc.) that operate for multiple years at one facility. A sample Form 403NC is provided on the following page.

**STATEMENT OF NO CHANGE
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

21865 Copley Drive, Diamond Bar, CA 91765

Large operation notifications are valid for one year from SCAQMD acceptance. Rule 403 requires resubmittal of a large operation notification at least 30 days prior to the expiration date or the submittal will no longer be valid. Submittal of form 403NC will represent resubmittal of a large operation notification if conditions will not change in the upcoming year. SCAQMD acceptance of Form 403NC will make the previously approved submittal valid for one additional year from its original approval date. A Statement of No Change is not required for stationary sources (aggregate facilities, etc.) that operate at one site for multiple years.

Please Print or Type

Contractor/ Consultant/ Owner: (Circle one of the above)		Phone Number	
Address:	City:	State:	Zip:
Project Name:			
Name of Responsible Person of Organization:			
Title:			
Dust Control Supervisor:		Phone Number:	
Date Attended Dust Class:		ID Number:	
Project Address:			
(Attach location map)	City:	State:	Zip:
Name of Property Owner: (If different than above)			
Type of Activity:			
Anticipated Completion Date:			
Telephone Number:			
Emergency Phone Number:			

Agreement

All conditions at the site are the same as identified in the large operation notification approved by the SCAQMD on _____. (Please provide date) Moreover, all control measures will be implemented at the site in the manner set forth in the previously approved large operation notification.

Signature of Owner (Date)

Signature of Operator or Contractor (Date)
(If not the same as owner)

SCAQMD Use Only

Date Received _____	Staff Initial _____
---------------------	---------------------

PROJECT COMPLETION FORM

Subparagraph (e)(1)(F) requires large operations to notify the AQMD within 30 days of no longer qualifying as a large operation. A sample Form 403C is provided on the following page.

**NOTICE OF COMPLETION
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

21865 Copley Drive, Diamond Bar, CA 91765

Rule 403 requires large operations to notify the AQMD within 30 days of no longer qualifying as a large operation. This form has been prepared to assist activities in complying with this requirement.

PROJECT INFORMATION	PLEASE ENTER INFORMATION BELOW
CONSTRUCTION PROJECT NAME / REFERENCE NUMBER	
PROJECT ADDRESS/LOCATION	
OWNER/DESIGNEE NAME	
PHONE NUMBER	
SUPPLEMENTAL PHONE NUMBER	
<p>OWNER (DESIGNEE) STATEMENT</p> <p>I certify that the referenced site no longer qualifies as a large operation.</p> <p>Owner Signature _____ Date _____</p> <p>Inspection Results</p> <p>An inspection by a SCAQMD representative has been performed with the following results noted:</p> <p>_____ Construction has ceased and the entire site has been adequately treated for long-term stabilization</p> <p>_____ Construction has ceased, but portions of the site have not been adequately treated for long-term stabilization (<i>Attach additional stabilization requirements</i>)</p> <p>Enforcement Officer _____ Date _____</p>	

Recordkeeping

SAMPLE RECORDKEEPING

SAMPLE RECORDKEEPING

Recordkeeping is required of large operations implementing Tables 2 and 3, pursuant to subparagraph (e)(1)(C). SCAQMD staff has included the attached example to serve as guidance for activities that compile records under Rule 403. Activities that are required to conduct record keeping can use the attached form or they can prepare a site-specific form. Under subparagraph (e)(1)(C) of Rule 403, records are to be retained for three years and must be submitted to the AQMD Executive Officer upon request.

FUGITIVE DUST CONTROL
(SCAQMD Rule 403 Table 2 and 3 Control Measures)

Instructions:

1. (X) Check off daily all control measures implemented.
2. Operator should initial daily.

Month: _____

Fugitive Dust Source Category/Control Measures		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31									
Earth-moving	(1a) <i>Control Actions</i> Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR																																								
	(1a-1) For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.																																								
	(1b) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer and the California Air Resources Board. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board, complete the compaction process as expeditiously as possible after achieving at least 70 percent of optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.																																								
(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.																																									
(1A) <i>Contingency Control Measures</i> Cease all active operations, OR																																									
(2A) Apply water to soil not more than 15 minutes prior to moving such soil																																									

OPERATORS INITIALS:

FUGITIVE DUST CONTROL
(SCAQMD Rule 403 Table 2 and 3 Control Measures)
 Month: _____

Instructions:

1. (X) Check off daily all control measures implemented.
2. Operator should initial daily.

Fugitive Dust Source Category/Control Measures		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31											
(2 a/b)	<i>Control Measure</i> Apply dust suppression in sufficient quantity and frequency to maintain stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area. Apply chemical stabilizers within five working days of grading completion. OR Take actions (3a) or (3c) specified for inactive disturbed surface areas.																																										
(2c)																																											
(2d)																																											
(0B)	<i>Contingency Control Measures</i> On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days; apply Water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR Apply chemical stabilizers prior to wind event, OR Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR Take actions specified in Table 2, Item (3c); OR Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.																																										
(1B)																																											
(2B)																																											
(3B)																																											
(4B)																																											
(3a)	<i>Control Measure</i> Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR Apply suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter, OR Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.																																										
(3b)																																											
(3c)																																											
(3d)																																											

OPERATORS INITIALS:

FUGITIVE DUST CONTROL
(SCAQMD Rule 403 Table 2 and 3 Control Measures)
 Month: _____

- Instructions:
 1. (X) Check off daily all control measures implemented.
 2. Operator should initial daily.

Fugitive Dust Source Category/Control Measures		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Unpaved Roads	(4a) <u>Control Measure</u> Water all roads used for any vehicular traffic at least Once per every two hours of active operations normal [3 times per 8 hour work day]; OR																																	
	(4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR																																	
	(4c) Apply a chemical stabilizers to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.																																	
	(1C) <u>Contingency Control Measures</u> Apply chemical stabilizers prior to wind event, OR																																	
(2C) Apply water twice per hour during active operation, OR																																		
(3C) Stop all vehicular traffic																																		
Open Storage Piles	(5a) <u>Control Measure</u> Apply chemical stabilizers; OR																																	
	(5b) Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR																																	
	(5c) Install temporary coverings; OR																																	
	(5d) Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile.																																	
Paved Road Track-Out	(1D) <u>Contingency Control Measures</u> Apply water twice per hour, OR																																	
	(2D) Install temporary coverings.																																	
Paved Road Track-Out	(1E) <u>Contingency Control Measures</u> Cover all haul vehicles; OR																																	
	(2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.																																	

OPERATORS INITIALS:

Test Methods

TEST METHODS

- **Opacity Test Methods**
- **Stabilized Surface**
- **Threshold Friction Velocity**
- **Silt Loading/Content**
- **ASTM Standard Test Method D 2216**
- **ASTM Standard Test Method D 1557**

OPACITY TEST METHODS

Time Averaged Method:

Note: This method can only be conducted by an individual who is a California Air Resources Board (CARB) certified Visible Emission Evaluation (VEE) observer. Qualification and testing requirements for a CARB-certified VEE observer can be obtained from the AQMD.

These procedures are for evaluating continuous fugitive dust emissions and are for the determination of the opacity of continuous fugitive dust emissions by a qualified observer. Continuous fugitive dust emissions sources include activities that produce emissions continuously during operations such as earthmoving, grading, and trenching. Emissions from these types of continuous activities are considered continuous even though speed of the activity may vary and emissions may be controlled to 100%, producing no visible emissions, during parts of the operation. The qualified observer should do the following:

Position: Stand at a position at least twenty (20) feet from the fugitive dust source in order to provide a clear view of the emissions with the sun oriented in the 140° sector to the back. Consistent as much as possible with maintaining the above requirements, make opacity observations from a position such that the line of sight is approximately perpendicular to the plume and wind direction. The observer may follow the fugitive dust plume generated by mobile earth moving equipment, as long as the sun remains oriented in the 140° sector to the back. As much as possible, do not include more than one plume in the line of sight at one time.

Field Records: Record the name of the site, fugitive dust source type (e.g., earthmoving, grading, trenching), method of control used, if any, observer's name, certification data and affiliation, and a sketch of the observer's position relative to the fugitive dust source. Also, record the time, estimated distance to the fugitive dust source location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), observer's position relative to the fugitive dust source, and color of the plume and type of background on the visible emission observation when opacity readings are initiated and completed.

Observations: Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of sight. Make opacity observations at a point just beyond where material is no longer being deposited out of the plume (normally three (3) feet above the surface from which the plume is generated). The initial observation should begin immediately after a plume has been created above the surface involved. Do not look continuously at the plume, but instead observe the plume momentarily at 15-second intervals. For fugitive dust from earthmoving equipment, make opacity observations at a point just beyond where material is not being deposited out of the plume (normally three (3) feet above the mechanical equipment generating the plume).

Recording Observations: Record the opacity observations to the nearest 5% every fifteen (15) seconds on an observational record sheet. Each momentary observation recorded represents the

average opacity of emissions for a fifteen (15) second period. If a multiple plume exists at the time of an observation, do not record an opacity reading. Mark an "x" for that reading. If the equipment generating the plume travels outside of the field of observation, resulting in the inability to maintain the orientation of the sun within the 140° sector or if the equipment ceases operating, mark an "x" for the fifteen (15) second interval reading. Readings identified as "x" shall be considered interrupted readings.

Data Reduction For Time-Averaged Method: For each set of twelve (12) or twenty four (24) consecutive readings, calculate the appropriate average opacity. Sets shall consist of consecutive observations, however, readings immediately preceding and following interrupted readings shall be deemed consecutive and in no case shall two sets overlap, resulting in multiple violations.

Intermittent Emissions Method

Note: This method can only be conducted by an individual who is a California Air Resources Board (CARB) certified Visible Emission Evaluation (VEE) observer. Qualification and testing requirements for a CARB-certified VEE observer can be obtained from the AQMD.

This procedure is for evaluating intermittent fugitive dust emissions: This procedure is for the determination of the opacity of intermittent fugitive dust emissions by a qualified observer. Intermittent fugitive dust emissions sources include activities that produce emissions intermittently such as unpaved road travel, screening, dumping, and stockpiling where predominant emissions are produced intermittently. The qualified observer should do the following:

Position: Stand at a position at least twenty (20) feet from the fugitive dust source in order to provide a clear view of the emissions with the sun oriented in the 140° sector to the back. Consistent as much as possible with maintaining the above requirements, make opacity observations from a position such that the line of sight is approximately perpendicular to the plume and wind direction. As much as possible, do not include more than one plume in the line of sight at one time.

Field Records: Record the name of the site, fugitive dust source type (e.g., pile, material handling, transfer, loading, sorting), method of control used, if any, observer's name, certification data and affiliation, and a sketch of the observer's position relative to the fugitive dust source. Also, record the time, estimated distance to the fugitive dust source location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), observer's position relative to the fugitive dust source, and color of the plume and type of background on the visible emission observation when opacity readings are initiated and completed.

RULE 403 IMPLEMENTATION HANDBOOK

Observations: Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of sight. Make opacity observations at a point just beyond where material is no longer being deposited out of the plume (normally three (3) feet above the surface from which the plume is generated). Make two observations per plume at the same point, beginning with the first reading at zero (0) seconds and the second reading at five (5) seconds. The zero (0) second observation should begin immediately after a plume has been created above the surface involved.

Recording Observations: Record the opacity observations to the nearest 5% on an observational record sheet. Each momentary observation recorded represents the average opacity of emissions for a five (5) second period.

Repeat the Observations listed above and the Recording Operations listed above in this procedure until you have recorded a total of 12 consecutive opacity readings. This will occur once six intermittent plumes on which you are able to take proper readings have been observed. The 12 consecutive readings must be taken within the same period of observation but must not exceed 1 hour. Observations immediately preceding and following interrupted observations can be considered consecutive.

Average the 12 opacity readings together. If the average opacity reading equals 20% or lower, the source is in compliance with the averaged method opacity standard described in the Rule.

STABILIZED SURFACE TEST METHOD

Introduction:

The purpose of this test is to check whether a property is sufficiently crusted to prevent windblown dust. (Note: This test's primary function is to provide a simplified initial assessment of surface stability. If there is any doubt as to a property's stability after performing this test, the Threshold Friction Velocity test should be conducted to more thoroughly determine a surface's erodibility potential.)

Equipment:

- One steel ball. Diameter - 5/8 (0.625) inches. Mass - 16-17 grams
- A ruler or measuring tape
- A cardboard frame with a 1 ft. by 1 ft. opening (optional)

Step 1:

Select a 1 by 1 foot Survey Area that is representative, or a typical example, of the crusted surface.

Step 2:

Hold the small steel ball one (1) foot off the ground directly above your survey area. Use a ruler or measuring tape to make sure that your hand is at the correct distance above the ground. Drop the ball within the survey area.

Step 3:

Pass/Fail Determination. Observe the ground around the ball closely before picking it up. Did the ball sink into the surface so that it is partially or fully surrounded by loose grains of dirt? Has it dropped out of view entirely? Then pick up the ball. Look closely where the ball fell. Are loose grains of dirt visible?

If you have answered "yes" to any of the previous questions, the surface has failed the first drop test. Note that if the ball causes a slight indentation on the surface but you do not see loose grains, the surface has passed the test.

Step 4:

Select two additional areas within the 1 by 1 foot survey area to drop the ball. Repeat Steps 2 and 3. If the surface passes two or all three of the drop tests, the survey area is considered as passing the test.

Step 5:

Select at least two other survey areas that are representative of the crusted surface. Pick the areas randomly and make sure they are spaced some distance apart. Drop the ball 3 times within each of these additional survey areas. Once again, if the surface passes the test twice or three times, count the survey area as passing the test.

Step 6:

Examine Results. If all of the survey areas have passed the test, the surface is stable, or sufficiently crusted. If one or more survey areas have failed the test, the surface is insufficiently crusted. If the surface fails the visible crust test, but there are minimal loose grains on the surface, the U.S. EPA recommends that the Threshold Friction Velocity test be done. Where there is little loose material that can be collected, the surface is likely to pass the Threshold Friction Velocity test.

Question and Answer – Stabilized Surface Test Method

Question:

What if blowsand is on the crusted surface? (Blowsand is thin deposits of loose grains which have not originated from the surface you are testing, but have been blown there from some surrounding area. Blowsand tends to collect in certain areas rather than uniformly over the surface. If present, it will generally cover less than 50% of the entire surface.)

Answer:

Clear the blowsand from the survey area surfaces on which you plan to drop the ball. Blowsand should not be a factor in your results.

Question:

What if material has been dumped or piled on the surface that is not blowsand, such as dirt or swimming pool waste?

Answer:

Do not do the Stabilized Surface test on those surfaces unless they have crusted over. Instead, do the Threshold Friction Velocity test on any loose surface material.

Question:

What if two of the survey areas pass with flying colors and the third survey area fails miserably?

Answer:

Chances are that the third survey area is either part of an uncrusted portion of the lot or has a much lighter kind of crust or different soil type than that of the other two survey areas. This means that the third survey area represents a different kind of surface than the other survey areas. If this is the case, examine the disturbed surface areas on the lot carefully. Using measuring tape,

RULE 403 IMPLEMENTATION HANDBOOK

segment off (literally or mentally) the portion(s) of the lot that the third survey area represents. Size it up in feet and select two additional 1 by 1 foot survey areas on which to do the visible crust test. Keep in mind that if all other areas on the lot have a stable crust except for the newly identified area, it would need to be at least 5,000 square feet in size or subject to motor vehicle disturbance (i.e. trespassing) for disturbed vacant land requirements to apply.

THRESHOLD FRICTION VELOCITY

Introduction:

The purpose of the Threshold Friction Velocity, or TFV, test method is to determine a site's susceptibility to wind-driven soil erosion. TFV can differ among disturbed vacant lots depending on the type of soil and to what extent it is disturbed. The lower the TFV, the greater the propensity for fine particles to be lifted at relatively low wind speeds. Since rocks and other non-erodible elements add protection against soil erosion, they raise TFV if present on the disturbed surface. A TFV of 100 cm/sec or greater is considered sufficiently protective.

Equipment:

- A set of sieves with the following openings: 4 millimeters (mm), 2mm, 1 mm, 0.5 mm and 0.25 mm and a lid and collector pan
- A small whisk broom or paintbrush with stiff bristles and dustpan. *(The broom/brush should preferably have one, thin row of bristles no longer than 1.5 inches in length.)*
- A spatula without holes
- A cardboard frame with a 1 ft. by 1 ft. opening
- Basic calculator
- Graduated cylinder or measuring cup *(may possibly need)*

Step 1:

Stack a set of sieves in order according to the size openings specified above, beginning with the largest size opening (4 mm) at the top. Place a collector pan underneath the bottom (0.25 mm) sieve.

Step 2:

Select a 1 foot by 1 foot survey area that is representative, or typical, of the disturbed surface. Mark this area using a cardboard frame. Check whether the surface is wet or damp. If so, return later to do this test method when the surface has dried.

Step 3:

Collect a sample of loose surface material to a depth of approximately 3/8 inch (1 cm) into a dustpan. This can best be done using a lightweight whisk broom/brush to carefully sweep the surface material within the marked survey area onto a spatula and lifting it into the dustpan. If you reach a hard, underlying subsurface that is less than 3/8 inch in depth, do not continue collecting the sample by digging into the hard surface.

Step 4:

Check the dustpan for rocks or hard-packed clumps of soil collected in your sample. Measure their diameter and remove those larger than 3/8 inch (1 cm) in diameter from the sample.

Step 5:

Carefully pour the sample into the stack of sieves, minimizing release of dust particles by slowly brushing material into the stack with a whisk broom or paintbrush. (On windy days, use the trunk or door of a car as a wind barricade.) Cover the stack with a lid. Lift up the sieve stack and gently move it using broad, horizontal circular arm motions. Complete 10 clockwise and 10 counter-clockwise motions at a speed of approximately 1 second per motion. Be careful not to move the sieve too roughly in order to avoid breaking up any naturally clumped material.

Step 6:

Remove the lid from the stack and disassemble each sieve separately, beginning with the top sieve. As you remove each sieve, examine it to make sure that all of the material has been sifted to the finest sieve through which it can pass; e.g. material in each sieve (besides the top sieve that captures a range of larger elements) should look the same size. If this is not the case, re-stack the sieves and collector pan, cover the stack with the lid, and gently rotate it using the same circular arm motions as before an additional 10 times. (You only need to reassemble the sieve(s) that contain material which requires further sifting.)

Step 7:

Line up the sieves in a row as they are disassembled, with the 4 mm sieve at one end and the collector pan at the other. Slightly tilt and gently tap each sieve and the collector pan so that all material is collected on one side. The material in the sieves and collector pan should be on the same side relative to your position. Observe the relative amount of material in each sieve and the collector pan to determine which contains the greatest volume. If this is difficult to determine, use a graduated cylinder or a measuring cup to measure the relative volume.

Step 8:

Use the table below to estimate TFV for the sieve catch with the greatest volume estimated in Step 7. For example, if the sieve containing the greatest volume is the one with the 0.5 mm opening, TFV = 58 cm/second.

Sieve Size Opening (mm)	Sieve No.	TFV (cm/sec)
4	5	> 100
2	10	100
1	18	76
0.5	35	58
0.25	60	43
Collector Pan	N/A	30

* TFV values in this table take into account the aggregate size distribution of particles between the different sieve size openings.

Step 9:

Repeat this procedure on at least two other representative areas on the disturbed surface. Average your TFV results from the three samples collected.

Step 10:

Examine Results. If the TFV you've calculated is greater than or equal to 100 cm/sec, the surface is stable.

Question and Answer – Threshold Friction Velocity Test Method

Question:

If there are hard-packed clumps of dirt on the surface, do I sieve these clumps along with the rest of the soil sample?

Answer:

If the hard-packed clumps are 1 cm or greater in size, extract them from the sample.

Question:

Can I combine all three collected soil samples into the sieve stack at once to save time?

Answer:

You may try combining the three samples after removing rocks or other non-erodible elements greater than 1 cm in diameter from each sample only if the mass of the three samples is

approximately the same. However, combined samples may be more difficult to sieve and require reassembling and re-shaking of the sieves more than once. Also, it may be difficult to visibly compare the volume of material caught in the sieves after they have been disassembled. Therefore, combining samples is not recommended.

Question:

If I see dust particles escaping when I collect a sample and transfer it to the sieves, should I start over?

Answer:

Not necessarily. A small amount of dust particles can escape without influencing the TFV results. In fact, it is very difficult to avoid having some dust escape. However, if you rush when collecting and/or transferring a sample to the sieves, you may cause too much dust to escape thus potentially causing error in your results. Or, on a relatively windy day you may lose too much dust unless you set up a wind barricade. Avoid doing this test at all on very windy days.

Question:

If you're not sure which sieve contains the greatest amount of material, can you weigh the sieves for comparison?

Answer:

While, typically, more volume corresponds to greater weight, this is not always the case. Use a measuring cup or graduated cylinder if necessary to determine the sieve that contains the greatest amount of material.

Question:

When determining TFV in step 8, can I combine material in the largest 2 sieves to estimate volume?

Answer:

No. This may fundamentally alter the premises on which the method is based and lead to an incorrect determination of stability.

SILT LOADING/CONTENT TEST METHOD

Introduction:

Silt Content Test Method. The purpose of this test method is to estimate the silt content of the trafficked parts of unpaved roads and unpaved parking lots. The higher the silt content, the more fine dust particles that are released when cars and trucks drive on unpaved roads and unpaved parking lots.

Equipment:

- A set of full height, eight inch diameter sieves with the following openings: 4 millimeters (mm), 2mm, 1 mm, 0.5 mm and 0.25 mm and a lid and collector pan
- A small whisk broom or paintbrush with stiff bristles and dustpan 1 ft. in width. (*The broom/brush should preferably have one, thin row of bristles no longer than 1.5 inches in length.*)
- A spatula without holes A small scale with half ounce increments (*e.g. postal/package scale*)
- A shallow, lightweight container (*e.g. plastic storage container*)
- A sturdy cardboard box or other rigid object with a level surface
- Basic calculator
- Cloth gloves (optional for handling metal sieves on hot, sunny days)
- Sealable plastic bags (if sending samples to a laboratory)
- Pencil/pen and paper

Step 1:

Look for a routinely traveled surface, as evidenced by tire tracks. [Only collect samples from surfaces that are not damp due to precipitation or dew. This statement is not meant to be a standard in itself for dampness where watering is being used as a control measure. It is only intended to ensure that surface testing is done in a representative manner.] Use caution when taking samples to ensure personal safety with respect to passing vehicles. Gently press the edge of a dustpan (1 foot in width) into the surface four times to mark an area that is 1 square foot. Collect a sample of loose surface material using a whiskbroom or brush and slowly sweep the material into the dustpan, minimizing escape of dust particles. Use a spatula to lift heavier

elements such as gravel. Only collect dirt/gravel to an approximate depth of 3/8 inch or 1 cm in the 1 square foot area. If you reach a hard, underlying subsurface that is less than 3/8 inch in depth, do not continue collecting the sample by digging into the hard surface. In other words, you are only collecting a surface sample of loose material down to 1 cm. In order to confirm that samples are collected to 1 cm in depth, a wooden dowel or other similar narrow object at least one foot in length can be laid horizontally across the survey area while a metric ruler is held perpendicular to the dowel.

At this point, you can choose to place the sample collected into a plastic bag or container and take it to an independent laboratory for silt content analysis. A reference to the procedure the laboratory is required to follow is at the end of this section.

Step 2:

Place a scale on a level surface. Place a lightweight container on the scale. Zero the scale with the weight of the empty container on it. Transfer the entire sample collected in the dustpan to the container, minimizing escape of dust particles. Weigh the sample and record its weight.

Step 3:

Stack a set of sieves in order according to the size openings specified above, beginning with the largest size opening (4 mm) at the top. Place a collector pan underneath the bottom (0.25 mm) sieve.

Step 4:

Carefully pour the sample into the sieve stack, minimizing escape of dust particles by slowly brushing material into the stack with a whiskbroom or brush. (On windy days, use the trunk or door of a car as a wind barricade.) Cover the stack with a lid. Lift up the sieve stack and shake it vigorously up, down and sideways for at least 1 minute.

Step 5:

Remove the lid from the stack and disassemble each sieve separately, beginning with the top sieve. As you remove each sieve, examine it to make sure that all of the material has been sifted to the finest sieve through which it can pass (e.g., material in each sieve - besides the top sieve that captures a range of larger elements - should look the same size). If this is not the case, re-stack the sieves and collector pan, cover the stack with the lid, and shake it again for at least 1 minute. (You only need to reassemble the sieve(s) that contain material, which requires further sifting.)

Step 6:

After disassembling the sieves and collector pan, slowly sweep the material from the collector pan into the empty container originally used to collect and weigh the entire sample. Take care to minimize escape of dust particles. You do not need to do anything with material captured in the

sieves -- only the collector pan. Weigh the container with the material from the collector pan and record its weight.

Step 7:

If the source is an unpaved road, multiply the resulting weight by 0.38. If the source is an unpaved parking lot, multiply the resulting weight by 0.55. The resulting number is the estimated silt loading. Then, divide by the total weight of the sample you recorded earlier in Step 2 and multiply by 100 to estimate the percent silt content.

Step 8:

Select another two routinely traveled portions of the unpaved road or unpaved parking lot and repeat this test method. Once you have calculated the silt loading and percent silt content of the 3 samples collected, average your results together.

Step 9:

Examine Results. If the average silt loading is less than 0.33 oz/ft², the surface is stable. If the average silt loading is greater than or equal to 0.33 oz/ft², then proceed to examine the average percent silt content. If the source is an unpaved road and the average percent silt content is 6% or less, the surface is stable. If the source is an unpaved parking lot and the average percent silt content is 8% or less, the surface is stable. If your field test results are within 2% of the standard (for example, 4%-8% silt content on an unpaved road), it is recommended that you collect 3 additional samples from the source according to Step 1 and take them to an independent laboratory for silt content analysis.

Independent Laboratory Analysis: You may choose to collect 3 samples from the source, according to Step 1, and send them to an independent laboratory for silt content analysis rather than conduct the sieve field procedure. If so, the test method the laboratory is required to use is: "Procedures For Laboratory Analysis Of Surface/Bulk Dust Loading Samples", (Fifth Edition, Volume I, Appendix C.2.3 "Silt Analysis", 1995), AP-42, Office of Air Quality Planning & Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina.

Question and Answer - Silt Loading/Content Test Method

Question:

If I see dust escaping when I collect a sample and transfer it to the sieves, should I start over?

Answer:

Not necessarily. A small amount of dust can escape without influencing the silt content results. In fact, it is very difficult to avoid having some dust escape. However, if you rush when collecting and/or transferring a sample to the sieves, you may cause too much dust to escape thus

potentially causing an error in your results. Or, on a relatively windy day you may lose too much dust unless you set up a wind barricade. Avoid doing this test on very windy days.

Question:

Once I calculate the percent silt content for 3 samples collected on one segment of an unpaved road, can I assume the same result for the whole length of the road?

Answer:

You may extrapolate results only to the extent that the rest of the unpaved road has the same average daily trips as the segment you tested and the surface condition on other segments of the road is the same.

Question:

If water is being used as a control measure on the source and this causes the surface to be damp, should I do the silt content test method on a damp surface?

Answer:

Do the silt content test method when the surface is dry in between water applications. The condition of the surface immediately following watering is different than after the water has evaporated. Since sources are required to be in compliance with the rule at all times, test the surface when it is dry.

Question:

If speed limit signs have been posted along an unpaved road as a control measure, do I need to test the surface for silt content?

Answer:

Yes. If speed limit signs have effectively lowered vehicle speeds on the road, the percent silt content may decrease. If signs have been ineffective in controlling speeds and no other controls are being applied, the source may be out of compliance. Either way, you should test to see whether the source meets the appropriate silt content standard.

SOIL MOISTURE TESTING METHODS

American Society for Testing and Materials (ASTM) Standard Test Method D-2216 and ASTM D-1557

Tables 2 and 3 of Rule 403 contain a listing of dust control actions for a variety of fugitive dust sources for activities defined as large operations [see Rule 403 definition (c)(18)]. Specifically, Table 2 control action (1a) requires that certain earth-moving activities conducted at large operations maintain a soil moisture content level of at least 12 percent as determined by ASTM Standard Test Method D 2216. Additionally, Table 2 control action (1b) states that portions of construction sites that have an optimum soil moisture content for compaction of less than 12 percent, as determined by ASTM Standard Test Method D-1557, are to complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content.

A copy of Test Method D-2216 and D-1557 can be obtained from the ASTM web site <http://www.astm.org>

It should be noted that ASTM documents are periodically updated.

Wind Monitoring

**ON-SITE WIND
MONITORING EQUIPMENT**

**Guidance for Conducting Wind Measurements
Attachment A – Wind Monitoring Specifications**

ON-SITE WIND MONITORING EQUIPMENT

Guidance for Conducting Wind Measurements

The following are AQMD requirements and recommendations for wind measurements used for data reporting or analysis. The meteorological data submitted to AQMD must be accurate and representative. To insure that the meteorological data is acceptable, facilities that wish to deviate from these recommendations must consult with AQMD staff prior to collecting data. In some cases, less stringent procedures may suffice. For example, a lower sensor height may be acceptable for windblown dust analysis from smaller construction sources. It is recommended that all facilities request that AQMD staff review and approve their monitoring plans and sensor specifications prior to the purchase and installation of equipment.

Aspects of a successful monitoring program include the selection of proper equipment, instrument siting, instrument and site maintenance, periodic audits and frequent data review. The instruments should be sited so as to characterize air flow between the source and receptor areas. In flat terrain, or where receptors are close to the source, one meteorological site may be adequate. Additional wind monitoring sites may be needed in complex terrain.

Wind Sensor Siting

The standard sensor height for measuring surface winds is 10 meters (33 feet) above ground level (AGL) over open, level terrain. This usually requires the installation of a tower or mast. For the instrument to be sited over open terrain, there shall be minimal obstructions to the wind flow, such as from buildings, hills or trees. In general, wind sensors should be located where the distance from the sensors to any obstruction is at least 10 times the height of that obstruction. When mounted on a building, wind sensors should be mounted at least 1.5 times the height of the building above the rooftop. Since these siting guidelines are sometimes not possible, especially in urban areas, it is recommended that siting that deviates from these guidelines be reviewed by AQMD staff or an experienced consultant prior installation.

Data Recording Devices

Data loggers are the preferred method of recording and archiving the data. They are more precise and require less maintenance than strip chart recorders. Data loggers also allow data to be transmitted by telephone or radio to a central computer. All data records must be kept for a period of at least three years after the need for data collection has ended. Data recovery from a well-maintained meteorological system should be at least 90% complete on an annual basis, with no large data gaps (i.e., gaps greater than two weeks).

The U.S. Environmental Protection Agency (EPA) recommends a sampling frequency of once per second (EPA, 2000), which is typical for quality data loggers. Wind averaging periods may depend on the purpose of the data collected and the need to meet specific regulatory requirements. Either 1-hour or 15-minute averaging periods are common.

For each averaging time, wind speed and direction are usually scalar-averaged. Wind direction is defined as the direction from which the wind is blowing, measured in degrees from true north. Since wind direction has a numerical discontinuity between 360 and 001 degrees, scalar averaging of the wind direction is usually calculated using the unit vector method (EPA 2000). Resultant or vector averages are also often calculated, where the 1-second wind speeds and directions are added vectorially by breaking them into their horizontal components, adding the vector components, then recalculating a magnitude (speed) and direction. Both types of horizontal wind averaging, as well as the collection of peak instantaneous wind gusts during the averaging period and sigma theta, the standard deviation of the wind direction, are typical calculations for meteorological data loggers.

Time for the data recording system must be within five minutes of the correct local time, with data archived in Pacific Standard Time (PST) on a 24-hour clock. Thus there should be no change to Daylight Savings Time. It must also be noted whether the time stamp is at the start or the end of the averaging period. When reporting data, the convention is that time-ending data shall range from 0100 to 2400 PST for hourly averages and 0015 to 2400 PST for 15-minute averages. Time-beginning averages are reported with clock times starting at 0000 PST and ending with 2300 PST for hourly averages or 2345 PST for 15-minute averages. Reported data should have the site identification, year, day and time included at the beginning of the record.

Wind Sensor Accuracy

For wind sensors, the starting threshold must be rated as no higher than 0.5 meters per second. If there is some suspicion that the site would have a significant number of hours of wind speeds under 0.5 m/s, sensors with a lower threshold, such as 0.22 m/s, should be used. Wind speed systems shall be accurate to within $0.2 \text{ m/s} \pm 5$ percent of the observed speed. Total wind direction system errors shall not exceed 5 degrees. This includes an

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instrument accuracy of ± 3 degrees for linearity and ± 2 degrees for alignment to a known direction. Table 1 summarizes these accuracy guidelines.

Table 1. Summary of Performance Criteria for Wind Sensors.

Sensor Type	Sensor Height	Range	Accuracy	Resolution	Starting Threshold	Procedural References
Wind Speed (Horizontal)	10 meters*	0.5 – 50 m/s	0.2 m/s \pm 5% of observed wind speed	0.1 m/s	0.5 m/s	EPA, 2000 EPA, 1995
Wind Direction (Horizontal)	10 meters*	0 – 360 degrees (or 0 - 540°)	\pm 5 degrees	1 degree	0.5 m/s	EPA, 2000 EPA, 1995

* Other sensor heights may be used when appropriate and approved by AQMD.

Maintenance

Frequent data review, preferably on a daily basis, is critical for collecting good meteorological data. In addition, visual inspections of each site should be made at least once every month. This will help to identify sensor alignment problems that may not be obvious in the data. During the inspections, it is recommended that the sensors be compared to the current conditions, possibly by using hand-held instruments such as a compass or GPS and portable anemometer.

In order to ensure that the sensors operate within the manufacturer's specifications, a calibration of the sensors should be performed once every six months by a trained technician or the sensor manufacturer. In corrosive, marine or dusty conditions, more frequent calibrations may be needed. Spare sensors are helpful to avoid data loss while sensors are brought down for calibration and repairs. A logbook of calibrations and repairs is required.

Furthermore, data that is critical for regulatory purposes should be independently audited by a qualified individual who is not affiliated with the organization that maintains and calibrates the instrument. The audits should be on a schedule that is appropriate for the measurements. Typically, once per year is adequate if a routine maintenance and calibration schedule is kept. An audit report shall be written and problems shall be corrected as soon as possible. The audit shall compare the individual sensors to the sensor performance criteria (Table 1) and also look at the data collection system as a whole, including the data logger and siting, to ensure that the data are representative and accurate.

References

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EPA, 1995: Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV, Meteorological Measurements. Document EPA/600/R-94-038d. United States Environmental Protection Agency Atmospheric Research and Exposure Assessment Laboratory, Research Triangle Park, North Carolina.

EPA, 1998: Technical Assistance Document for Sampling and Analysis of Ozone Precursors. Document EPA-600/R-98-161. United States Environmental Protection Agency, Atmospheric Research and Exposure Assessment Laboratory, Research Triangle Park, North Carolina.

EPA, 2000: Meteorological Monitoring Guidance for Regulatory Modeling Applications. Document EPA-454/R-99-005. United States Environmental Protection Agency, Atmospheric Research and Exposure Assessment Laboratory, Research Triangle Park, North Carolina.

Attachment A

WIND MONITORING SPECIFICATIONS

The following information is designed to provide installation and operating parameters for a wind monitoring station or device. It is to be used for Orders for Abatement and is not designed to represent approved AQMD specifications for a wind monitoring instrument or station.

- This station, or device shall be capable of indicating the wind speed with an accuracy of 0.2 meters/sec. $\pm 5\%$ of observed speed
- The instrument or station should be located on-site so as to accurately characterize the air flow field on this construction project.
- The starting threshold shall be rated as no higher than 0.5 meters per second. ¹
- Data will be recorded on a data logger, which has been chosen over a strip chart recorder because they are: more precise, require very little maintenance, and allow data to be transmitted by telephone or radio. ¹
- Three months worth of wind monitoring data will be available on-site in the form of hard copies, and made available at the Inspector's request.
- All records will be maintained by the operator for a period of two years and made available upon request.
- The logger time shall be within 5 minutes of the correct time. ¹
- A sampling rate of once per second will be employed by the monitoring station or instrument. This sampling frequency is commonly used and recognized as an industry standard.
- The operator shall submit the specifications and operating parameters, for the wind monitoring instrument or station, to AQMD for approval as an appropriate measuring instrument.
- This instrument or station shall be calibrated and maintained in accordance with the manufacturer's specifications.
- The standard height for measuring surface winds is 10 meters above ground over level, open terrain. Open terrain is defined as being away from obstructions to flow, such as buildings, hills or trees. Generally, the wind sensors should be located where the horizontal distance between the sensors and any obstruction is at least ten times the height of that obstruction. ¹
- If wind sensors are to be mounted on a building, they should be mounted at a height at least 1.5 times the building height above the roof. It is usually not a good idea to mount wind sensors on stacks, unless the sensors can be mounted on booms at least two stack widths away from the stack, and with a wind measurement system mounted on both sides of the stack. ¹

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¹ EPA, 1995: Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV, Meteorological Measurements. Document EPA/600/R-94-038d. United States Environmental Protection Agency, Atmospheric Research and Exposure Assessment Laboratory, Research Triangle Park, North Carolina.

CVC 23114

California Vehicle Code Division 11 - Rules of the Road

23100. The provisions of this chapter apply to vehicles upon the highways and elsewhere throughout the State unless expressly provided otherwise.

Spilling Loads on Highways

23114. **(a) No vehicle shall be driven or moved on any highway unless the vehicle is so constructed, covered, or loaded as to prevent any of its contents or load other than clear water or feathers from live birds from dropping, sifting, leaking, blowing, spilling, or otherwise escaping from the vehicle.**

(b) (1) Aggregate material shall only be carried in the cargo area of a vehicle. The cargo area shall not contain any holes, cracks, or openings through which that material may escape, regardless of the degree to which the vehicle is loaded, except as provided in paragraph (2).

(2) Every vehicle used to transport aggregate materials, regardless of the degree to which the vehicle is loaded, shall be equipped with all of the following:

(A) Properly functioning seals on any openings used to empty the load, including, but not limited to, bottom dump release gates and tailgates.

(B) Splash flaps behind every tire, or set of tires, regardless of position on the truck, truck tractor, or trailer.

(C) Center flaps at a location to the rear of each bottom dump release gate as to trucks or trailers equipped with bottom dump release gates. The center flap may be positioned directly behind the bottom dump release gate and in front of the rear axle of the vehicle, or it may be positioned to the rear of the rear axle in line with the splash flaps required behind the tires. The width of the center flap shall extend not more than one inch from one sidewall to the opposite sidewall of the inside tires and shall extend to within five inches of the pavement surface, and shall be not less than 24 inches from the bottom edge to the top edge of that center flap.

(D) Fenders starting at the splash flap with the leading edge of the fenders extending forward at least six inches beyond the center of the axle which cover the tops of tires not already covered by the truck, truck tractor, or trailer body.

(E) Complete enclosures on all vertical sides of the cargo area, including, but not limited to, tailgates.

(F) Shed boards designed to prevent aggregate materials from being deposited on the vehicle body during top loading.

(c) Vehicles comprised of full rigid enclosures are exempt only from subparagraphs (C) and (F) of paragraph (2) of subdivision (b).

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(d) For purposes of this section, "aggregate material" means rock fragments, pebbles, sand, dirt, gravel, cobbles, crushed base, asphalt, and other similar materials.

(e) (1) On and after September 1, 1990, in addition to subdivisions (a) and (b), no vehicle shall transport any aggregate material upon a highway unless the material is covered.

(2) Vehicles transporting loads composed entirely of asphalt material are exempt only from the provisions of this section requiring that loads be covered.

(3) Vehicles transporting loads composed entirely of petroleum coke material shall not be required to cover their loads if they are loaded using safety procedures, specialized equipment, and a chemical surfactant designed to prevent materials from blowing, spilling, or otherwise escaping from the vehicle.

(4) Vehicles transporting loads of aggregate materials shall not be required to cover their loads if the load, where it contacts the sides, front, and back of the cargo container area, remains six inches from the upper edge of the container area, and if the load does not extend, at its peak, above any part of the upper edge of the cargo container area.

(5) The requirements of this subdivision shall become operative on September 1, 1990.

(f) Any person who provides a location for vehicles to be loaded with any aggregate material or any other material shall provide a location for vehicle operators to comply with this section before entering a highway.

(1) A person shall be exempt from the requirements of this subdivision if the location that he or she provides for vehicles to be loaded with the materials described in this subdivision has 100 yards or less between the scale houses where the trucks carrying aggregate material are weighed and the point of egress to a public road.

(2) Drivers of vehicles loaded with aggregate material leaving locations exempted from the requirements of this subdivision are authorized to operate on public roads only until they are able to safely cover the load at a site near the location's point of egress to the public road, however, an uncovered vehicle shall not be operated more than 200 yards from the point of egress to the public road.

Amended Sec. 1, Ch. 673, Stats. 2002. Effective January 1, 2003.

Suppressants

CHEMICAL DUST SUPPRESSANTS

Resource List of Vendors

CHEMICAL DUST SUPPRESANTS

Introduction

The following is a list of chemical dust suppressants and vendors. This resource list has been compiled from information provided to the AQMD by various vendors, but there are likely to be additional products that are commercially available. **This resource listing is not an endorsement by the AQMD to use any particular product.** It is the responsibility of each person who wishes to use a chemical dust suppressant to assure that such product is not prohibited for use in fugitive dust control by the California Regional Water Quality Control Board, the California Air Resources Board (ARB), the Environmental Protection Agency, or any applicable laws. Also, such products should meet any specifications, criteria, or tests required by any federal, state, or local water agency.

The California Air Resources Board (ARB) has a precertification program whereby manufacturers of air pollution control products request the ARB to conduct a third-party verification of performance claims. This analysis focuses on the air quality benefits of individual equipment or processes. A list of chemical dust suppressant vendors that have participated in the ARB's precertification program is listed on the Internet at <http://www.arb.ca.gov/eqpr/mainlist.htm>. This site also contains the documented PM10 control efficiency for these products when applied in accordance with the manufacturer's specifications.

For further information about ARB's precertification program, please e-mail or call Mr. Mike Waugh at (916) 445-6018 / mwaugh@arb.ca.gov or Ms. Marcelle Surovik at (916) 327-2951 / msurovik@arb.ca.gov.

Resource List of Vendors

Product Name	Vendor Contact
Acrylic polymers (Various other products including, lignosulfonates, surfactants, resins, enzymes, hydroseeding, and chlorides)	Dust Pro, Inc. Phoenix, AZ (602) 251-3878 www.dustpro.com
AGRI-LOCK and DUST-LOCK (synthetic resin and organic compound)	Swift Adhesives Research Triangle Park, NC (800) 213-4804
Agri-Fiber (organic compound)	Precision Hydroseeding Company Palm Desert (760) 778-3810 (888) 645-4800
AIRTROL Geobinder (gypsum based bonded fiber matrix)	United States Gypsum Co. San Diego, CA (619) 546-4733
Asphotac (asphaltic emulsions)	Pragma, Inc. Lodi, CA (209) 367-0579 (909) 598-1734
Blend R40 Series (water-based polymer emulsions)	Rohm and Haas Company Spring House, PA (215) 641-7000
Calcium Chloride (hygroscopic salt)	Lee Chemical, Inc. Moreno Valley (909) 369-5292
Calcium Chloride (hygroscopic salt)	Hill Brothers Chemical Company Orange, CA (714) 998-8800
DC-360 (polymer emulsion)	Global Eco Technologies, Inc Pittsburgh, CA (925) 473-9250

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Product Name	Vendor Contact
DC-30 (co-polymer)	Southwest Boulder and Stone Escondido, CA (760) 751-3333
Durasoil (Synthetic organic fluid)	Soilworks, Inc Gilbert, Arizona (760) 345-0771 (888)545-5420
Dust Oil Emulsion (asphalt emulsion)	Morgan Emultech, Inc. Redding, CA (530) 241-1364
Dust Sorb 1118 (acrylic resin)	Aqua Chem Ltd. Bakersfield, CA (805) 323-8308
Dust Off (brine solution)	Cargill Salt Newark, CA (510) 790-8169
Dusty Roads (soil conglomerate/ wood byproduct)	Ecolink San Diego, CA (619) 483-3111
Dustex (lignosulfonate)	LignoTech USA Rothschild, WI (715) 359-6544*
DSS-40 (acrylic co-polymer)	S & S Seeds Carpentaria, CA (805) 684-0436
Eco-Polymer (polymer)	Eco-polymer Los Angeles, CA (323) 954-2240
Earthbond (organic emulsion)	Spectrum Pacific Santa Fe Springs, CA (562) 404-6131

* Local suppliers available.

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Product Name	Vendor Contact
ECO-110 and C-50 (polymer)	Dynaguard, Inc. Orange, CA (714) 771-7411
Envirotac II (acrylic co-polymer)	Environmental Products and Applications Lake Elsinore, CA (909) 674-9174 (877) 371-1147
Ecotak-OP and Ecotak-SAT (hydroseeding)	Elliott Landscaping Cathedral City, CA (760) 343-2002
Ecology Control M Binder (co-polymer)	S & S Seeds Carpentaria, CA (805) 684-0436
Enduraseal 100/200 (organic emulsion)	Cascadia Technologies, Inc Vancouver, BC (604) 685-0877
EnviroKleen (polymer)	Midwest Industrial Supply Santa Maria, CA (805) 937-7157 (800) 321-0697 www.midwestind.com
FIBER-SORB™ Dewatered Residual Wood Fiber (organic pulp product)	Coast Resource Management, Inc. Cerritos, CA (562) 860-4665
Fiberwood (hydroseeding mulch)	Green Stone Industries Sacramento, CA (800) 655-9754
Fibercraft (hydromulch cellulose fiber)	Dynamis, Inc. Sanger, CA (209) 875-0800

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Product Name	Vendor Contact
Hydro=Plant (hydroseeding)	Hydro=Plant, Inc. San Marcos, CA (760) 744-7360
Hydroseeder (seed mixes and applications)	Sanders Hydroseeding, Inc. Santa Ana, CA (714) 973-8873
Lignin (lignosulfonate)	Southwestern Sealcoating, Inc. Murrieta, CA (888) 663-8718 (951) 677-6228
Lignosulfonate (wood pulp by-product)	Jim Good Marketing Shafter, CA (805) 746-3783
Magnesium Chloride (hygroscopic salt)	SouthWestern Sealcoating, Inc. Murrieta, CA (909) 677-6228
Magnesium Chloride (hygroscopic salt)	Dustpro, Inc. Phoenix, AZ (602) 251-3878
Magnesium Chloride (hygroscopic salt)	Jim Good Marketing Shafter, CA (805) 746-3783
Magnesium Chloride (brine solution)	Southwestern Sealcoating, Inc. Murrieta, CA (888) 663-8718 (951) 677-6228
Marloc (co-polymer)	Reclamare Company Seattle, WA (206) 824-2385
Marloc - SF (co-polymer)	Southwest Boulder and Stone Escondido, CA (760) 751-3333

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Product Name	Vendor Contact
Native Seed Mix (hydromulch)	Pacific Coast Seed, Inc. Livermoore, CA (925) 373-4417
Organic Soil Stabilizer (soil additive)	Desert Rock Supply La Quinta, CA (760) 360-1354
Perma-Zyme IIX (enzyme formulation)	Charbon Consultants Tustin, CA (714) 832-6366
Pennzsuppress D (emulsified resin)	Pennzoil Products Company Santa Fe Springs, CA (562) 906-0633
Road Oyl (pine tar)	Soil Stabilization Products Merced, CA (209) 383-3296
Roadkill (soybean product)	Central Soya Company, Inc. Fort Wayne, IN (219) 425-5942
Sandcastles Dust Control Mix	Sandcastle Hydroseeding Lancaster, CA (805) 723-0515
SC Dust Oil Emulsion 715 (emulsified dust oil)	SC Dust Control Bakersfield, CA (805) 391-8357
Sentinel (organic binder-hydroseeding)	Albright Seed Company Camarillo, CA (805) 484-0551 Precision Hydro-seeding Company Palm Desert, CA (760) 772-0237 (888) 645-4800

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Product Name	Vendor Contact
Soil Guard	S & S Seeds Carpentaria, CA (805) 684-0436
Soilmaster (polymer)	Environmental Soil Systems, Inc. Granada Hills (818) 368-4115
Soil Master WR (Liquid copolymer)	Environmental Soil Systems, Inc. Encino, CA (888) 368-9664
Soil Seal (polymer)	Soil Seal Corporation Los Angeles (213) 727-0654
Soil Seal (polymer)	Soil Stabilization Products Merced, CA (209) 383-3296
Soil Sement (polymer)	Midwest Industrial Supply Santa Maria, CA (805) 937-7157 (800) 321-0697
Soiltac (Copolymer)	Soilworks, Inc Gilbert, Arizona (760) 345-0771 (888)545-5420
TOPEIN™ Emulsions (organic dispersions)	www.midwestind.com Doyle Ellis Bakersfield, CA (877) TOPEINS
Terrazyme (organic enzyme)	Environmental Services & Products Walnut, CA (909) 595-0470

FOR MATERIALS HANDLING SYSTEMS

DTC SPRAY

formerly known as Dustrol Spray

Dust Control For Materials Handling

PRODUCT DESCRIPTION

DTC SPRAY is a proprietary blend of advanced complex surfactants formulated to maximize the effectiveness of spray bar systems. The blend includes corrosion inhibitors to protect valuable equipment, while it activates water for improved wetting and dust control performance at tremendously reduced water volumes.

AREAS OF APPLICATION

DTC SPRAY is added to the water spray bar program for conveyor belts and other material handling systems processing aggregates, ore, coal and other mineral products, fertilizers, bark and forest residuals, and landfill waste.

METHOD OF APPLICATION

DTC SPRAY is usually injected into water lines leading to spray nozzles directly from shipping drums. See **DTC SPRAY** "Application Instructions" for procedures and suggested application rates.

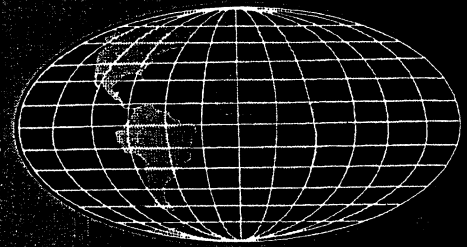
ENVIRONMENTAL EFFECTS

DTC SPRAY is an environmentally friendly product, helping to reduce a significant health hazard, dust in the form of PM10, and conserve water. Moreover, **DTC SPRAY** is a biodegradable organic chemical formulation which requires no special handling or precautions.

PACKAGING/SHIPPING

DTC SPRAY is available in 55 gallon drums. It is also available in 5 gallon and 15 gallon containers for economy in shipment and storage. Bulk shipment is also available.

DTC is a registered trademark of Ultra Pure Solutions Inc
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SSPCO
Soil Stabilization Products Company, Inc.

**BENEFITS
DTC SPRAY**

HEALTH

Reduces
Air Pollution
Employee Health Costs
Dependency on Dust Masks

MAINTENANCE

Reduces
Dependency on Dust Collectors
Dust Collector Maintenance
Material Flow Problems
Sticking Hoppers, Chutes, Conveyors
and Drums

COST SAVERS

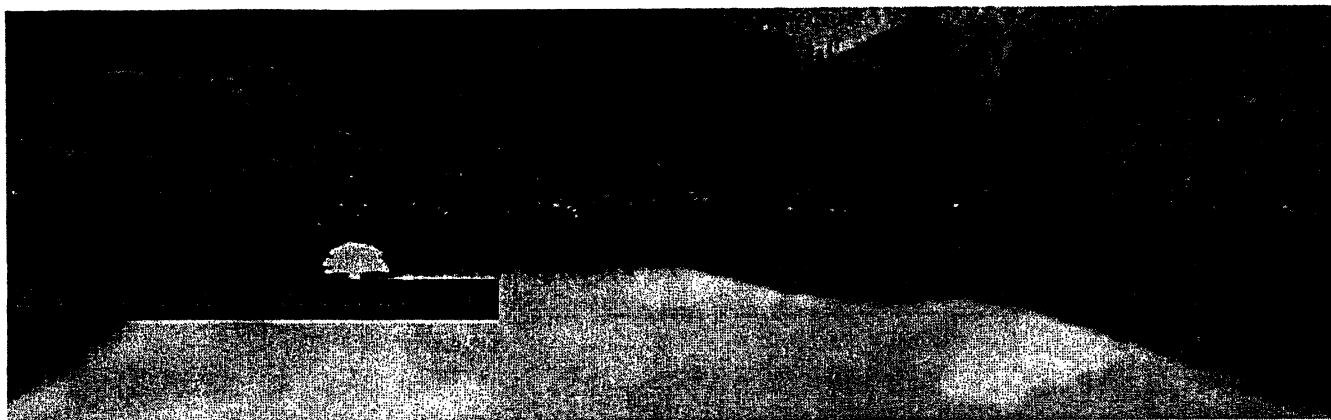
Reduces
Eventual
Maintenance Costs
Improves
Material Flow Efficiency
Residual Control in Structures
The Work Environment

See DTC CONCENTRATE
When Used Added to
the water application the
mix and material wetness
which are less required
by water used

Soil Stabilization Products Company, Inc.

P.O. Box 2779, Merced, CA 95344-0779

Phone: (800) 523-9992 or (209) 383-3296 Fax: (209) 383-7849 Email: staff@sspc.org Website: <http://www.sspco.org>



About EDC



Applications



Brokering



Material Safety Data



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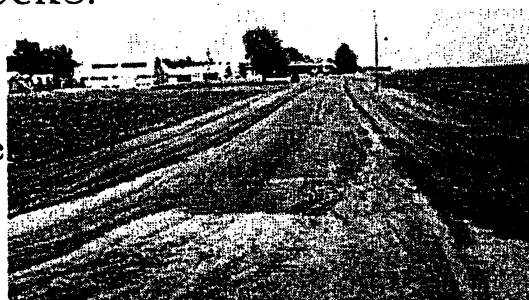
About DUSTLOCK®

DUSTLOCK'S® special environmentally responsible formulation is an effective method of dust control.

DUSTLOCK® usage will keep the applied areas virtually dust-free and environmentally safe. Because of the special formulation of DUSTLOCK® some residual benefits are realized; this means the next application of DUSTLOCK® will require less product and less maintenance.

Environmentally speaking, the impact is reduced by the care Environmental Dust Control, Inc. has taken in the formulation of DUSTLOCK®.

DUSTLOCK® treatment on *country roads* not only keeps the dust down, but virtually eliminates mud and erosion of surface material (gravel).



City streets treated with DUSTLOCK® are an economical alternative to asphalt or concrete pavement. In new developments and commuter communities this has proven to be highly effective.



Environmental Dust Control, Inc.
1729 260th Avenue

In addition to effective dust control, erosion of surface material (gravel) and the appearance of mud is virtually eliminated.

As testament to the effectiveness of **DUSTLOCK®**, our business has tripled yearly, thanks to repeat customers and word-of-mouth advertising.

Our goal at *Environmental Dust Control, Inc.* is to provide environmentally safe dust control by the use of renewable, agricultural based, biodegradable resources for dust control and soil stabilization.

Howard Hamilton,
President

Environmental Dust Control, Inc.
1729 260th Avenue
Currie, MN 56123
e-mail: dustlock@frontiernet.net

Howard Hamilton Robert Nelsen Arland Moger
Ph.: (507)763-3481 Ph/Fax:(507)274-5163 Ph.: (507)274-5131
Fax: (507)763-3864

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Dust PRO, Inc.

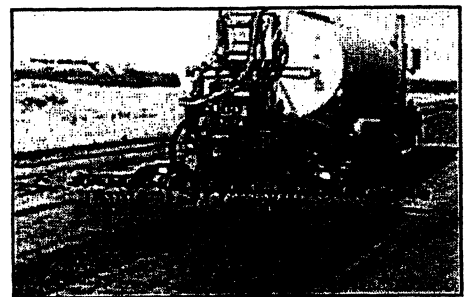
...solutions for stabilizing your environment

home products erosion dust about contact
& services control pArticles Dust Pro us

A little about us...

At Dust Pro, Inc., we **stabilize soil and control dust**. It doesn't matter what type of surface you're dealing with, how heavy or light the traffic is, we can bring it under control. Generally speaking, unstable soil is the underlying cause of dust problems. The stabilization process bonds the surface, locking dust particles into place. With stabilization, you can **eliminate fugitive dust** resulting from weather, human activity, vehicle traffic or anything else. Take your dust problem and make it dust proof.

Call Dust Pro, Inc. at (602)-251-DUST.



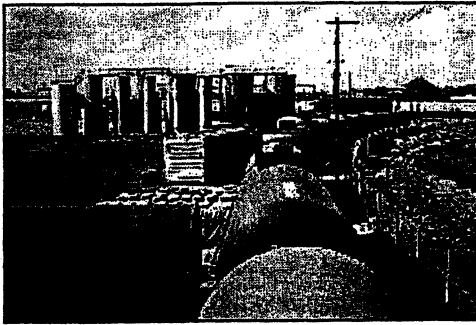
Dust Pro is committed to developing and providing **the most effective products for every situation**. Even if it *is* just dirt, it's still the stuff our world is made of. So we offer a variety of **environmentally friendly** and non-toxic products for every area of application. If it's appropriate for your site, we can also use time-sensitive biodegradables, which disintegrate harmlessly into the soil after the job is finished. Eliminating the need to restore the site later, these **biodegradables can save you time and money** in the long run.

We purchase directly from the manufacturer whenever possible, and pass those savings on to you. We offer major brand names from suppliers like Georgia Pacific, as well as a variety of proprietary products that we've developed ourselves. But before releasing any product, we **perform extensive tests in the field**, to measure product performance and construction methods. We go the distance to make sure you're getting maximum benefit and the environment is getting safe treatment.

Since every soil condition has its own requirements, we don't have a "one size fits all" solution. We feel it's important to listen to what you have to say. We want to know about the type of soil you're working with, what you're doing on it, and what the weather's like. Then we do our homework. We make recommendations to help ensure that **the relationship between product and soil condition is ideal**.

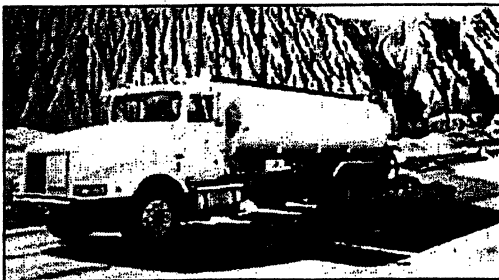


More about us...



Based in Phoenix, Arizona since 1989, Dust Pro is a **licensed and bonded contractor** specializing in dust control and soil stabilization. The company is a qualified, **minority-owned enterprise**. Janet Snow, president and owner, and her husband Lou lead a group of experienced stabilization experts. Dust Pro's facilities include 2 acres of land and office buildings located in a heavy industrial area. We have a **large storage capacity on site, rail siding, and jumbo rail cars** to help get our products to you on time.

We have what you need when you need it, and it's easy for us to produce **custom blends** on short notice. If you like, we can transport by railroad directly to your location or site. We also have **portable skid tank storage** available to customers, so you don't have to worry about storage in the field.



For situations that require absolute precision, we use our own **computerized BearCat applicators operated by certified technicians**. With the BearCats, we're able to adjust rates on the go to match changing soil conditions. We can stabilize both horizontal and vertical surfaces. We're always ready with our fleet of tankers, trucks, hydroseeders and construction equipment.

Dust Pro operates across the United States and with international clients from Canada to the Middle East. No matter where you are, we have the answers you're looking for. We're glad you're visiting our website. Contact us, and let us provide the **solutions for stabilizing your environment**.

Dust Pro is a member of the following professional associations:



Association of General
Contractors of America



International
Control Association



Lignin Institute



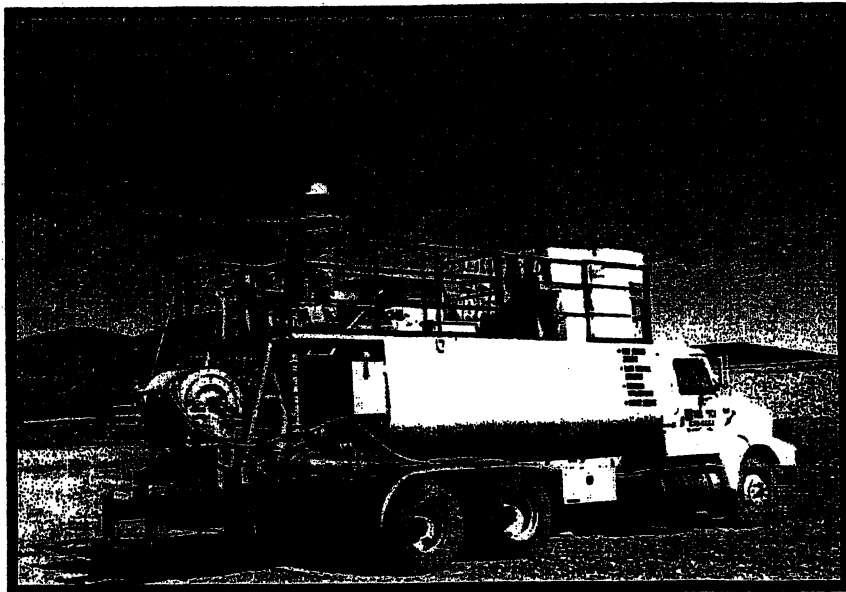
Arizona Rock
Products Association

ECCO-TEX™

SOIL BINDER

ECCO-TEX™ is the most economical short-term dust suppressant for:

- ◆ Building Pads
- ◆ Disturbed Soils
- ◆ Vacant Land
- ◆ Stockpiles



ECCO-TEX™ is mixed with mulch and water and applied using normal hydroseeding equipment.

ECCO-TEX™ is the most economical, effective, and environmentally safe product manufactured, and is the product of choice for short-term dust control. Specifically designed to provide a short-term, non-traffic alternative for ground coverage that is subject to wind and water erosion.

ECCO-TEX™ coats the soil, forming a crust that:

- ◆ Minimizes surface and gully erosion
- ◆ Provides short-term dust control
- ◆ Controls water and wind induced erosion
- ◆ Works on virtually all soils
- ◆ Effectively holds seed in place

SOIL-TECH, CO.

5375 S. Cameron Drive, Suite L
Las Vegas, NV 89118

Phone: 702-873-2023

Fax: 702-873-0915

Email: tony@soil-tech.com



**Environmental
Products &
Applications, Inc.**

73-710 Fred Waring Drive, Suite 220
Palm Desert, CA 92260
Ph: 760.779.1814 • Fax: 760.779.1815
E-mail: DustControlMan@aol.com
WEBSITE: WWW.ENVIROTAC.US

SHAKER PLATES

*WHEN TRACK-OUT IS IN QUESTION, SHAKER PLATES IS A
LOW COST IMMEDIATE ANSWER. SHAKER PLATES'
UNIQUE DESIGN RIDS TIRES OF DIRT, MUD AND DEBRIS.
IT IS THE ULTIMATE SOLUTION IN REDUCING TRACK-OUT.*



*STRATEGICALLY PLACED BARS ARE
DESIGNED TO VIBRATE ALL
DIRT AND DEBRIS FROM TIRES*



*REDUCES STREET SWEEPING
AND WATER TRUCKS ASSIGNED
TO CLEANING THE STREETS*

ENVIROTAC II™

THE PREMIUM SOIL STABILIZER FOR DUST AND EROSION CONTROL
"THE STANDARD BY WHICH ALL OTHERS ARE MEASURED"
ACRYLIC COPOLYMER

PRODUCT DESCRIPTION

Envirotac II™ is a complete dust control product. When applied to various soils or sands, it will penetrate and extend down into the soil, bonding the soil's particles together, preventing wind and water erosion. Envirotac II™ forms a plastic and resin film upon drying that allows water and air to penetrate, while cementing the soil particles together to create a tough layer of protection. When increasing the concentrate application, this will build a durable and water proof surface that will be pliable and hard enough to minimize surface damage and will not allow water or air to penetrate.

FEATURES

Envirotac II™ is an acrylic copolymer working in a wide array of conditions, such as dust abatement (PM 10), excellent long-term and short-term erosion control to untreated slopes. Envirotac II™ will resist UV rays, water, and alkaline break-downs for long periods of time. Environmentally safe, noncorrosive, nonflammable, no offensive odor, and ecologically safe. Will not leach, no tracking, easily mixed with water, safe and clean to use. Proven to be one of the most cost effective means, in comparison to other materials and water trucks.

PERFORMANCE

Envirotac II™ Has been proven to work better than organic road resins, chloride products, lignosulfonates, oil, and asphalt emulsions previously used for dust suppression.



73-710 Fred Waring Drive, Suite 101
Palm Desert, CA 92260
Ph: 760.779.1814 • Fax: 760.779.1815
E-mail: DustControlMan@aol.com

WEBSITE: WWW.ENVIROTAC.US

ROSE - CONTACT PERSON

COAST RESOURCE MANAGEMENT, INC.

P.O. Box 4954, Cerritos, CA 90703
Ph: (562) 860-4685 Fax (562) 924-5443

***Fiber-Sorb™* DUST CONTROL PRODUCT INFORMATION**

Coast Resource Management, Inc.'s ("CRM") *Fiber-Sorb™* is a natural wood fiber by-product of the newsprint recycling industry. CRM's *Fiber-Sorb™* is generated by SMURFIT Newsprint Corporation, Pomona, California's mill where SMURFIT produces new newsprint from waste or old newsprint ("ONP"). In the process of manufacturing new newsprint, a percentage of the so-called short fiber is discarded as a by-product. Traditionally, this short fiber by-product was disposed in solid waste landfills.

That has all changed. CRM has created new markets for the short fiber by-product, including stable bedding, fertilizer, and most importantly, as an all natural dust control agent, which actually rejuvenates the soil, in addition to controlling dust. CRM's product is similarly effective as a weed control agent and has the obvious benefit of drastically reducing irrigation requirements.

Under Executive Order 12873 and the Resource Conservation and Recovery Act of 1976 ("RCRA") as amended, 42 U.S.C. 6962, CRM's short fiber is a post-consumer material that is entitled to preference in all public works procurement decisions.

CRM has obtained approval from all regulatory agencies for the use and application of *Fiber-Sorb™* for dust and surface stabilization. According to Rule 403 definition (c) (12) a stabilization surface is any disturbed surface area or open storage pile which is resistant to wind driven fugitive dust. For compliance determination purposes, Rule 403 further defines wind driven fugitive dust as visible fugitive dust emissions generated by wind action alone.

Fiber-Sorb™ is an environmentally compatible material in the category of fiber based dust palliatives consisting of paper fiber residue properties. The light grey color blends well with the desert colors, creating a positive visual impact. CRM recommends that *Fiber-Sorb™* be applied directly to the disturbed surface at a rate of ½ to 1 ½ inches. In general, the greater the concentration of *Fiber-Sorb™* at the time of application, the longer the product will maintain a stabilized surface. The best application of *Fiber-Sorb™* for fugitive dust control will be based on many site specific conditions including, but not limited to, type of soils, temperature, frequency of disturbances, wind conditions, and desired length of stabilization.

For further product information, contact Coast Resource Management.

Fugitive Dust Control Techniques and Businesses

Disclaimer: This list has been drawn from sources generally available to the public and is intended solely to assist in identifying potential service and product providers. The New Mexico Environment Department./Air Quality Bureau disclaims any warranty, expressed or implied, regarding the services or products of the listed providers. Furthermore, the New Mexico Environment Department./Air Quality Bureau does not promote or endorse any service provider or product, whether listed or not listed, over any other provider or product.

Click on the following subjects and categories:

Chemical Suppressants

<u>Salts</u>	<u>Petroleum Emulsions</u>
<u>Other Emulsions</u>	<u>Polymers</u>
<u>Surfactants</u>	<u>Bitumens</u>
<u>Lignin Sulfonate</u>	<u>Other Chemical Suppressants</u>
<u>Dust Control Foams</u>	

Other Dust Control Techniques

<u>Fibers, Mulches and Geotextiles</u>	<u>Windscreens</u>
<u>Revegetation</u>	<u>Alternatives to Land Clearing</u>

Dust Control Consulting Businesses & Research

[Dust Control Businesses](#)
[Links to technical information on fugitive dust](#)

Chemical Suppressants

Salts

[Dust-Off -- Cargill Salt](#)
[Dust-Top](#)
[Dow Chemical Company -- LiquiDow liquid and DowFlake](#)
[Tetra Chemicals -- Roadmaster liquid and Tetra 94 dry calcium chloride](#)
[DustFyghter](#)
[Salt Seal](#)
[CaCl -- The General Chemical Group, Inc.](#)
[DustGard MgCl -- IMC Salt](#)
[CaCl -- Hill Brothers Chemical Corporation](#)

Petroleum Emulsions

[Asphotac -- Petroleum Asphalt Emulsion \(Dustbeater Enterprises, Inc.\)](#)
[Coherex petroleum resin emulsion](#)
[Retain -- asphalt emulsion](#)
[DOPE30 Dust Oil Penetrating Emulsion asphalt emulsion and calcium liginsulfinate](#)
[Pennzsuppress D](#)

FlowPro 1505 petroleum resin emulsion
Road Pro -- asphalt emulsion

Other Emulsions

Road Oyl Resin Modified Emulsion -- tree resin emulsion
Pinesal -- tall oil pitch, tall oil rosin and lignin
Enduraseal 100 and 200
Entac -- organic emulsion
Road Pro Plus -- multicomponent emulsion
PetroTack
TOPEIN -- Emulsion of blended organic esters, surfactants, and water
Pine sap emulsion -- Cousins Dust Control
Soapstock -- soybean oil by-product

Polymers

PolyPavement
Soil Sement
TerraBond
Top-Seal
RB Ultra PlusTM -- lignin
Envirotac II -- Acrylic Copolymer
SoilShield-LS -- Poly Vinyl Acrylic Copolymer
DustShield -- Polyvinyl Acetate-Acrylic Polymer
Coherex PM -- petroleum emulsion with polymer
Soil Master WR -- co-polymer with tripolycate
DC-1000
DSS-40 -- acrylic co-polymer
Eco-Polymer
Marloc -- Co-polymer
Soil Seal
Terrafirma
ECO-100 and C-50
Blend R40 Series -- polymer emulsion
Polymers/enzymes
SOILOC-MQ -- liquid blend of acrylic resins

Surfactants

Wetter Water -- surfactant that reduces surface tension
Haul Road Dust Control

Bitumens

Roadbond EN1 -- a patented roadbase stabilization liquid
Bitumen emulsions -- Prime Materials and Supply Corporation
ICONOL Alkylphenol Ethoxylates -- BASF Corporation
AsphaColor Hot Mix Integral Colored Asphalt Pavements & Colored Asphalt Sealant Products
NESTE- Petroleum products

Black Magic -- asphalt release agent

Lignin Sulfonate

Georgia-Pacific

Dust Pro Inc.

Wesco Technologies, Ltd

Borregaard LignoTech

Prince Manufacturing Company

Roadbind America Inc.

Lignins: A Safe Solution for Roads a Lignin Institute article

Lignin and the Environment a Lignin Institute article

Dustac

Calbinder

Other Chemical Suppressants

Organic synthetic EnviroKleen

High viscosity synthetic iso-alkane EK-35

Designed specifically for use on horse arenas, tracks, etc. ARENARx

Designed for use on ball fields Diamond Doctor

Suppression additive DUSTRACT for process control

Zircon's dust free road stabilizer

Zircon's Latex 100 Dust Control

Acidulated Soybean Oil Soapstock

SOYkill

DSF 65 from Petro-Canada Lubricants

DSF Ultra (experimental product) from Petro-Canada Lubricants

Dustkill (soybean based)

Enviro-Wise soil conditioner (BYS Company, Murrieta, CA)

EarthBound soil stabilizer

DRIWATER gel stabilization products

Dust Control Foams

MoFoam for crushers

Microfoam

Zircon's airborne dust control foam

Other Dust Control Techniques

Fibers, Mulches and Geotextiles

Buckley Powder Co. -- Geofabrics/erosion control

North American Green -- erosion control blankets

Fiber mulch covering -- Central Fiber Corp

Geotextiles -- Mountain West Sales, Inc.

Agri-Fiber

A/F 2000

Fiberwood -- hydroseeding mulch

Fibercraft -- hydromulch cellulose fiber
Stabilizer -- organic binder
Dewatered Residual Wood Fiber
Soil Guard -- bonded fiber matrix
Excel-Fibermulch II -- aspen wood mulch
Cellulose Fiber
Sentinel -- hydrophilic colloid derived from seed husks
Ecotak-OP and Ecotak-SAT
Curlex erosion control blankets

Windscreens

How windbreaks work
Windbreak design
Windbreak layout and design
Windbreak maintenance and renovation
USAF Landscape design guide section 18, erosion control, Sept 1998

Revegetation/Restoration

Plants of the Southwest

Alternatives to Land Clearing

Tumbleweed Mulcher

Dust Control Consulting Businesses & Research

Dust Control Businesses

EnviroTech Services, Inc.
Eterna-Line Dust Abatement, Inc.
EarthCare Consultants, LLC.
Dust Pro, Inc
Buckley Powder Co. -- geotextiles, erosion control blankets
Midwest Industrial Supply
Environmental Products and Applications, Inc.
Terra Firma Industries
Dust Control Inc.-- material handling equipment
Terracon
Zia Engineering & Environmental Consultants, Inc.

Links to technical information on fugitive dust

Midwest Research Institute
Information on calcium chloride, lignin sulfonate, sugar beet extract
Bentonite as a dust suppressant
Revegetation techniques for control of fugitive dust in the Western Mojave Desert (Long download time!)
Integrated Assessment of Regional Dust Transport from West Texas and New Mexico, Spring

1999 (Long download time!)

The Spokane County Air Pollution Control Authority (SCAPCA) maintains a highly informational dust control page.

The Maricopa County, Arizona web site, the Dust Academy, is also a very good dust control web site.

The Western Regional Air Partnership (WRAP) has several articles and detailed studies on fugitive dust emissions on their web site.

Questions, comments or suggestions regarding dust controls? Please contact Dave Dubois or Steve Dubyk by email or call (505) 827-1494.

Questions or comments regarding this web site? Please send e-mail to the NMED Webmaster at Webmaster@nmenv.state.nm.us

This page last updated January 03, 2002



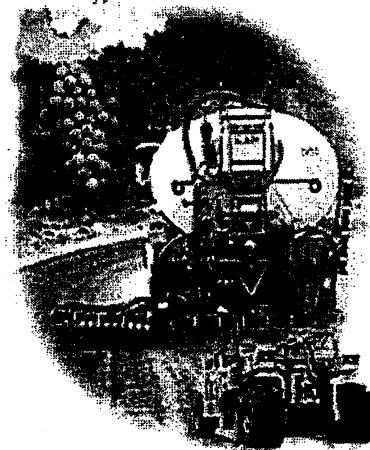
Pennzsuppress® D-Dust Suppressant

This page updated March 8, 2002.



Another Quality Product Of Pennzoil Products Company

PENNZOIL-QUAKER STATE COMPANY PENNZSUPPRESS® D-DUST SUPPRESSANT



Process Description: A dust suppressant composed primarily of paraffinic petroleum resin that reduces PM10 emissions from unpaved roads.

Performance Claim:

When topically applied as a dust suppressant in accordance with the manufacturer's instructions, including a target concentration of 0.15 gallons of concentrate per square yard of treated surface, PennzSuppress® D reduced reduced PM10 emissions by approximately 85 percent after 7,000 vehicle (predominantly light-duty) passes on an engineered unpaved road consisting of a well-graded aggregate.

- [Performance evaluation \(PDF - 15K\)](#)
- [Executive Order G-096-029-031 \(PDF - 11K\)](#)

[PennzSuppress® D Home Page](#)

[Top of Page](#)
[Precertified Equipment](#)

A department of the California Environmental Protection Agency



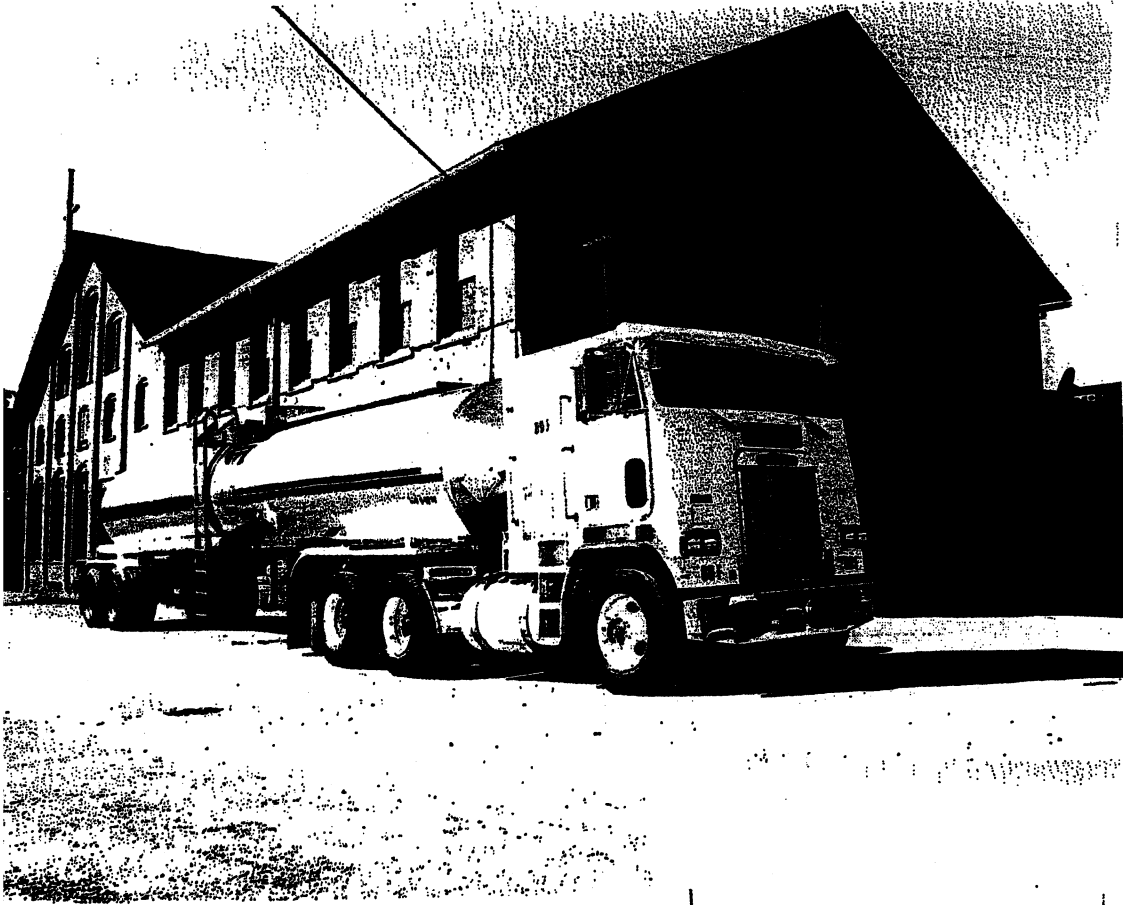
Soil-Sement[®]
 Dust and Erosion Control Agent

DUST AND EROSION CONTROL

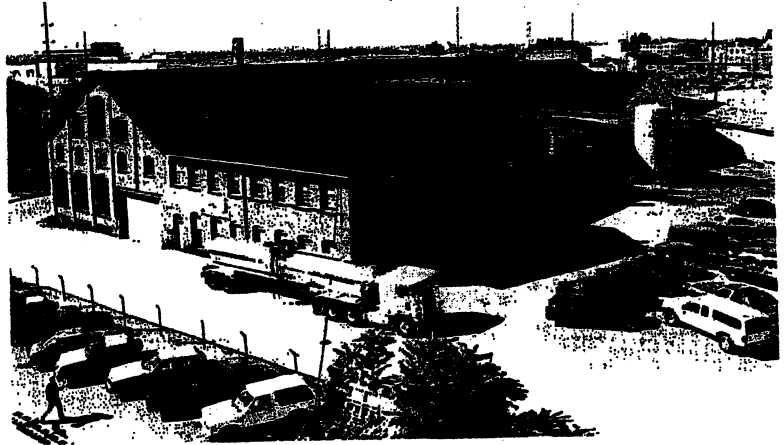


Industry Excellence Since 1975





Midwest Industrial Supply, Inc. has built a reputation for excellence and distinctive competence in an increasingly competitive global marketplace. Our advantages include a staff of expert technicians trained to handle dust and erosion control, the industry's best available equipment and products, and over 20 years of experience. Our strength is our broad knowledge of the requirements of dust and erosion control, soil stabilization and our ability to work on projects which demand a variety of techniques.



What is Soil-Sement®?

Soil-Sement® is an environmentally safe, powerful polymer emulsion that produces highly effective control of dust and erosion. Soil-Sement® provides superior bonding, cohesion, versatility, cost-effectiveness, superior overall performance and environmental compliance.

Soil-Sement® – Why it Works

The key to the outstanding performance of Soil-Sement® is its unique ability to penetrate, saturate, and bond surface dust and aggregate together and "cement" this to the base to create a hard, dust-free, water resistant and resilient surface.

Soil-Sement®'s effectiveness results from the length and strength of its polymer molecules and their ability to bond with surface materials. Soil-Sement®'s unique chemical structure is made of molecules attached in relatively straight linked chains and then cross-linked between other chains or grids that may be 1,000,000 molecules long. It is a true giant compared to the much smaller molecular structure of oil, calcium, petroleum resin, and asphalt emulsion products which range from 100 to 10,000 molecules. As a result, Soil-Sement® can be as strong as steel or as resilient as rubber.

Soil-Sement® – Environmentally Safe

Soil-Sement® is environmentally safe, non-toxic, non-corrosive, non-flammable, does not pollute ground water, does not disturb vegetation and does not increase the alkalinity or acidity of soil. Upon drying, Soil-Sement® does not contribute any pollutant including BOD (Biological Oxygen Demand) to storm water discharge. Soil-Sement® will actually reduce pollutants by reducing TSS (Total Suspended Solids) present in runoff.

***Soil-Sement® . . .
the 21st Century product
for dust and erosion control!***

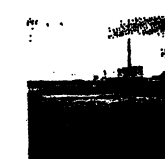
OUTSTANDING FEATURES & BENEFITS OF SOIL-SEMENT®

- **eliminates PM₁₀ and PM_{2.5} particulate matter**
- **is environmentally safe**
- **has a cumulative effect and creates a stabilized surface which will not shift, break up, or sink**
- **offers maximum weatherability to wind, rain, ultraviolet light and other weather conditions**
- **increases load-bearing strength of all types of soils and surfaces**
- **prevents water from seeping into, and destabilizing the surface**
- **dries clear, providing an aesthetically pleasing appearance**



OTHER MIDWEST PRODUCTS:

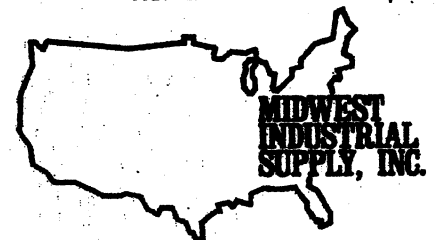
- HAUL ROAD DUST CONTROL**® dust wetting additive
- ENVIROKLEEN**® controlling dust with 21st century environmental sensitivity
- ROAD PRO**™ asphalt emulsion dust control
- ROAD PRO PLUS**® multi-component chemical dust suppressant system
- DUSTFYGHTER**® chloride dust suppressant
- DUSTRACT**® dust suppression additive
- MOFOAM**® foam agent
- SOLONG**® residual dust control
- ARENA RX**® clean air for horse and rider
- DIAMOND DR.**® ball park dust control
- PATCHSRV**®
- SALT SEAL**® salt pile sealant
- ICE-FREE CONVEYOR**® winter operating agent
- ICE-FREE SWITCH**® winter operating switch agent
- FREEZE-FREE**® freeze conditioning agent
- GLIDEX**® switch lubricating and anti-icing agent
- GRIP**® drive pulley slip stopper
- ZERO GRAVITY THIRD RAIL**® anti-icer/deicer
- ZERO GRAVITY B-FREE**® side release agent
- GRAVITY PLUS**® anti-sticking agent
- ENVIRO-MLT**™ deicing and anti-icing agent
- ENVIRO-MLT**™ DD deicer pellets
- SWITCHSRV**®



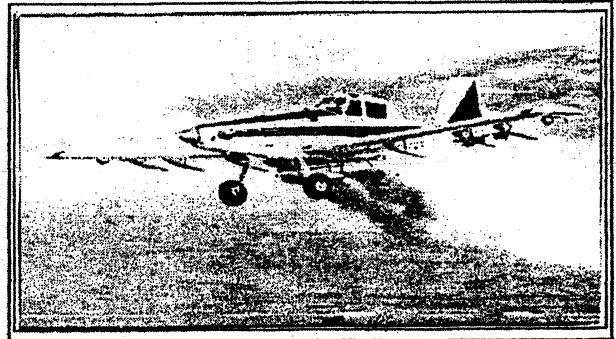
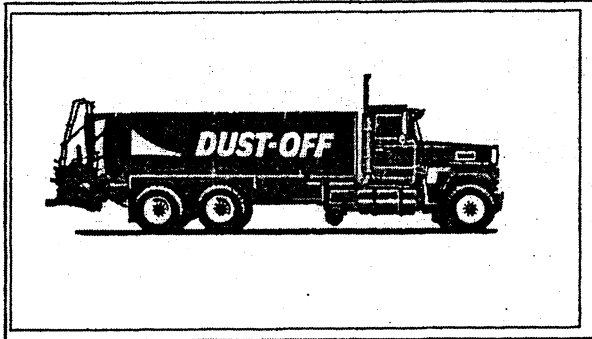
MIDWEST INDUSTRIAL SUPPLY, INC.

P.O. BOX 8431 CANTON, OH 44711
 (330)456-3121 ★ (800)321-0699 ★ FAX (330)456-3247
 custserv@midwestind.com ★ <http://www.midwestind.com>

VISA and Mastercard accepted



South Western Sealcoating, Inc.
- DUST CONTROL SPECIALIST -
Serving
THE SOUTH WESTERN UNITED STATES



Magnesium Chloride is the standard by which other dust palliative products are judged . Years of experience in logging, mining and heavy construction have proven Magnesium Chloride to be a safe and economical solution to rural roadway and haul road dust control.

"Dust-Off" by Cargill is naturally occurring, high quality, magnesium chloride, created from sea water.

South Western Sealcoating, Inc. is the foremost supplier / Applicator in the field of dust control and soil stabilization serving the South Western United States. South Western Sealcoating, Inc. leads the way in innovative solutions to challenging dust control problems.

FOR FURTHER INFORMATION

CALL US TOLL FREE

888 – NO DUST 1

(888 663-8781

e-mail sws@nodust1.com

Website nodust1.com



Dust Cap™
Dust Control Polymer

- Reduces the need to grade roads.
- Reduces loss of road aggregate.
- Not an oil or salt - does not stain or corrode vehicles.
- One application lasts up to six months.
- Eliminates the need for repeated watering.
- Non-hazardous chemical solution.

Physical Properties

Color	White Liquid
Appearance	Opaque
Density	9.2 lbs./gal. (typical)
Flash Point	> 200° F
pH	8.5 (neat)

Control Dust Problems Cost Effectively Without Calcium / Magnesium Chloride Salts

TerraBond® Dust Cap reduces the nuisance and harmful effects of dust generated from auto and truck traffic on gravel and dirt roads. Studies have shown that auto and truck traffic over gravel and dirt roads removes tons of dust from the road surface. This dust represents the needed binding filler to help hold aggregate together. It's obvious that potholes and ruts are a direct result of dust problems. The TerraBond® Dust Cap product is a very effective and long lasting dust control product designed to control dust on dirt, gravel, limestone and slag haul roads.

The TerraBond® Dust Cap is not based on chloride salts; therefore they do not depend on the presence or addition of water to perform. Repeated watering washes away the silt binder for aggregate and accelerates the formation of pothole and ruts in the road. They do not contain hydrocarbon fractions; so run off water from road surface contains no harmful oily residue. The TerraBond® Dust Cap is made from synthetic (all-organic) polymers.

[Click Here For Dust Control Information](#)

[Click Here For Grader Equipment Information](#)



888.356.7847 * 337-291-2778



337-291-2781

Track-out elimination devices

Material Transport Services

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Orange CA 92666

(714) 998-4045

(714) 637-1550

Trench Shoring

Corona

(909) 734-4290

Farnam - welded, heavy-duty cattle guard to withstand constant use by heavy equipment and trucks.

(800) 267-5211.

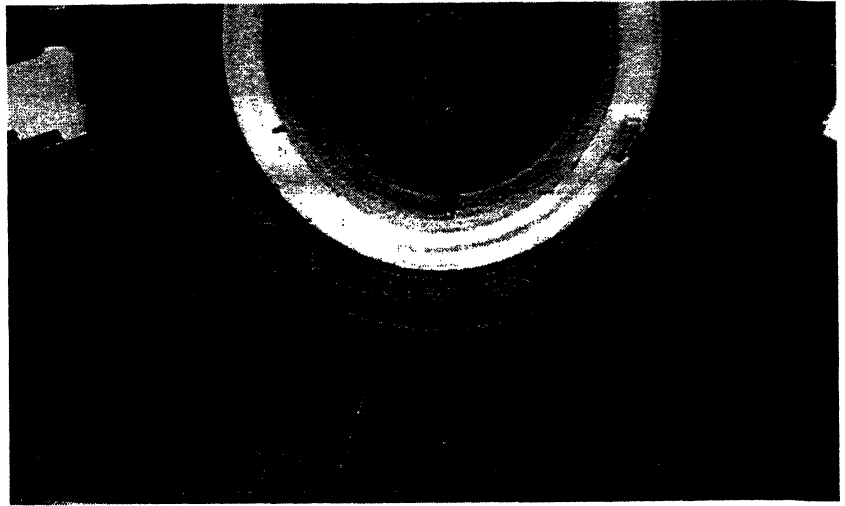
TRACKCLEAN™

TRACKCLEAN has been developed by a major California Contractor that has over forty years of on the job experience. **TRACKCLEAN** is a low cost, portable, maintenance free vehicle tire cleaner. Placed on haul roads just prior to entering paved streets. **TRACKCLEAN'S** patented design dislodges dirt, mud, rocks and asphalt from tire tread reducing tracking and broken windshields. Strategically placed longitudinal bars produce a vibration as the truck drives over that will shake off loose material from frames, tailgate aprons and bottom dump gates.

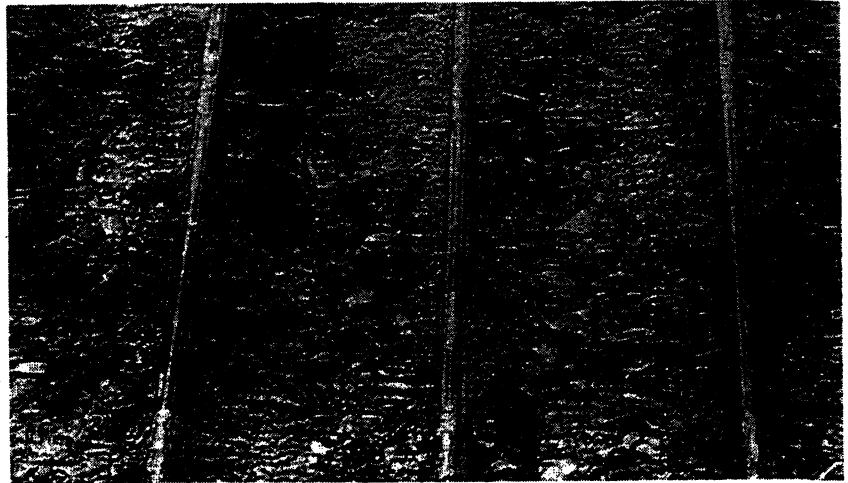
TRACKCLEAN is available in portable 6' long 10' wide sections, and can be added to depending on the severity of the job site tracking problem.

You will find that by including **TRACKCLEAN** in your Storm Water Pollution Prevention Plans (SWPPP), and complying with your South Coast Air Quality Management Districts (AQMD) Rule 403, **TRACKCLEAN** will be received as the best available technology (BAT) in reducing tracking from your job site.

TRACKCLEAN is the first proven device that addresses the tracking problems before trucks leave the job site. It will greatly reduce sweeping and water truck time and shows agencies and the public that you are doing your utmost to be a good neighbor contractor.



TIRE TREAD AND SIDEWALL FLEXING



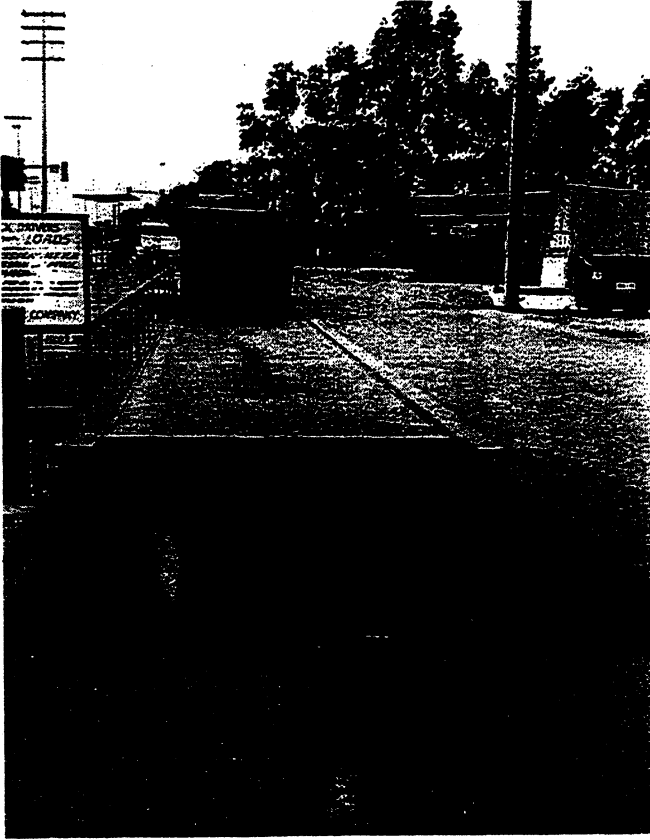
EXAMPLE OF MATERIAL RELEASED FROM TREAD



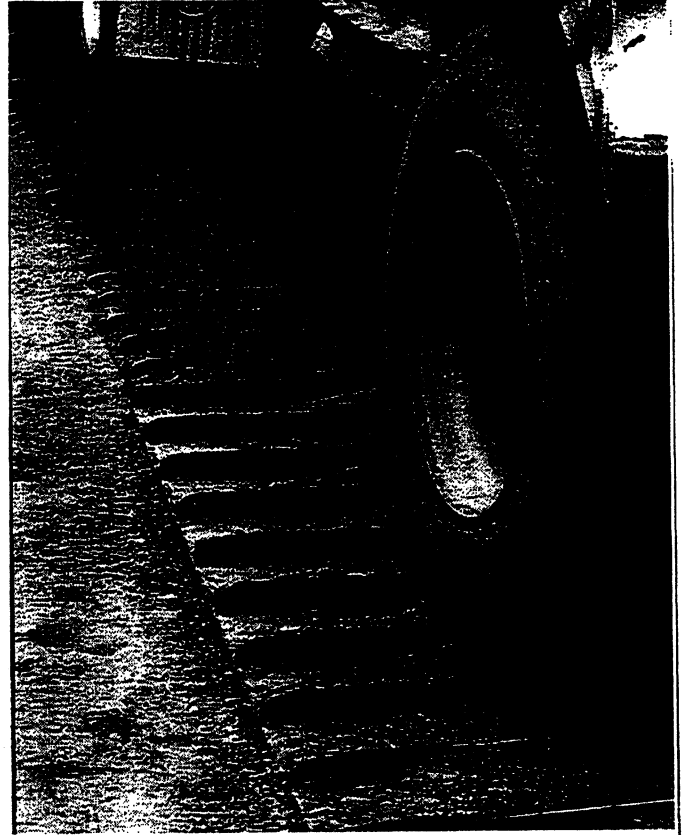
MULTIPLE TRACKCLEAN APPLICATION

TRACKCLEAN™

PATENT PENDING



**INDUSTRIAL / AGGREGATE SITE
TRACKCLEAN PLACED PRIOR TO SCALE**



**TYPICAL USE ON MATERIAL
IMPORT / EXPORT JOB SITE**

TRACKCLEAN™

**DISTRIBUTED BY:
MATERIAL TRANSPORT SERVICE
P O Box 620
Orange, Calif. 92666**

STAMP

Rule 403 / Ag Handbook

Rule 403 Agricultural Handbook

Measures to Reduce Dust from Agricultural Operations in the South Coast Air Basin

Prepared by



South Coast
Air Quality
Management District

December 1998

RULE 403 IMPLEMENTATION HANDBOOK

As you may be aware, our air quality is among the worst in the nation for dust and soot, or more technically, small suspended particulate matter. Although agricultural operations are not among the largest contributors to this problem in this area, federal law requires that all sources here implement best available control measures on their dust sources.

South Coast Air Quality Management District (AQMD) staff, in conjunction with local farm bureaus, local representatives from the Natural Resources Conservation Service (NRCS), local Resource Conservation Districts (RCDs), and local University of California Cooperative Extension staff have developed the enclosed conservation practices to reduce dust from agricultural operations and to help clean our air and meet federal requirements. The list of conservation practices represents a menu approach in which producers can select the practices that are most appropriate for their specific operations. Producers that voluntarily implement the suggested minimum number of conservation practices for each category in Section II by June 30, 1999 and complete and maintain the self-monitoring form in Section V of this document will maintain an exemption from AQMD's stringent fugitive dust regulations. If your farm is smaller than 10 contiguous acres, is located outside the South Coast Air Basin (see map on page 1), or is primarily used for the purpose of raising fowl or animals you do not have to implement the conservation practices, however, they are recommended to preserve your soil by minimizing dust lost to the air.

These conservation practices were developed through an open process with producers and their local agricultural agency representatives. If you have any questions, comments, or would like assistance in interpreting the conservation practices, please contact the AQMD at (909) 396-2000, or your local farm bureau, RCD, NRCS, or Cooperative Extension representative. Additional information on conservation practices can be found by calling the phone numbers listed on page 3 of this packet.

The AQMD would like to thank you for your efforts to keep our skies clear.

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LIST OF FIGURES

Figure 1: Boundaries of the South Coast Air Basin 1

Section I

Purpose

To reduce the dust and corresponding PM10 emissions (Particulate Matter less than 10 microns in diameter) generated from agricultural operations and to meet federal requirements to implement appropriate particulate matter reduction programs.

Rule 403 Applicability

Agricultural operations that have 10 contiguous acres or less, or are primarily used for the purpose of raising fowl or animals, or are outside the South Coast Air Basin (see Figure 1)¹ will remain exempt from Rule 403. Agricultural operations in excess of 10 contiguous acres and are conducted within the South Coast Air Basin can voluntarily implement the conservation practices and complete the self-monitoring form no later than June 30, 1999, and maintain their exemption from all Rule 403 requirements. After July 1, 1999, producers who do not implement the conservation practices become subject to all other Rule 403 requirements. Failure to meet Rule 403 requirements may result in mandatory conservation class(es), required dust control plans, fines, or other penalties.

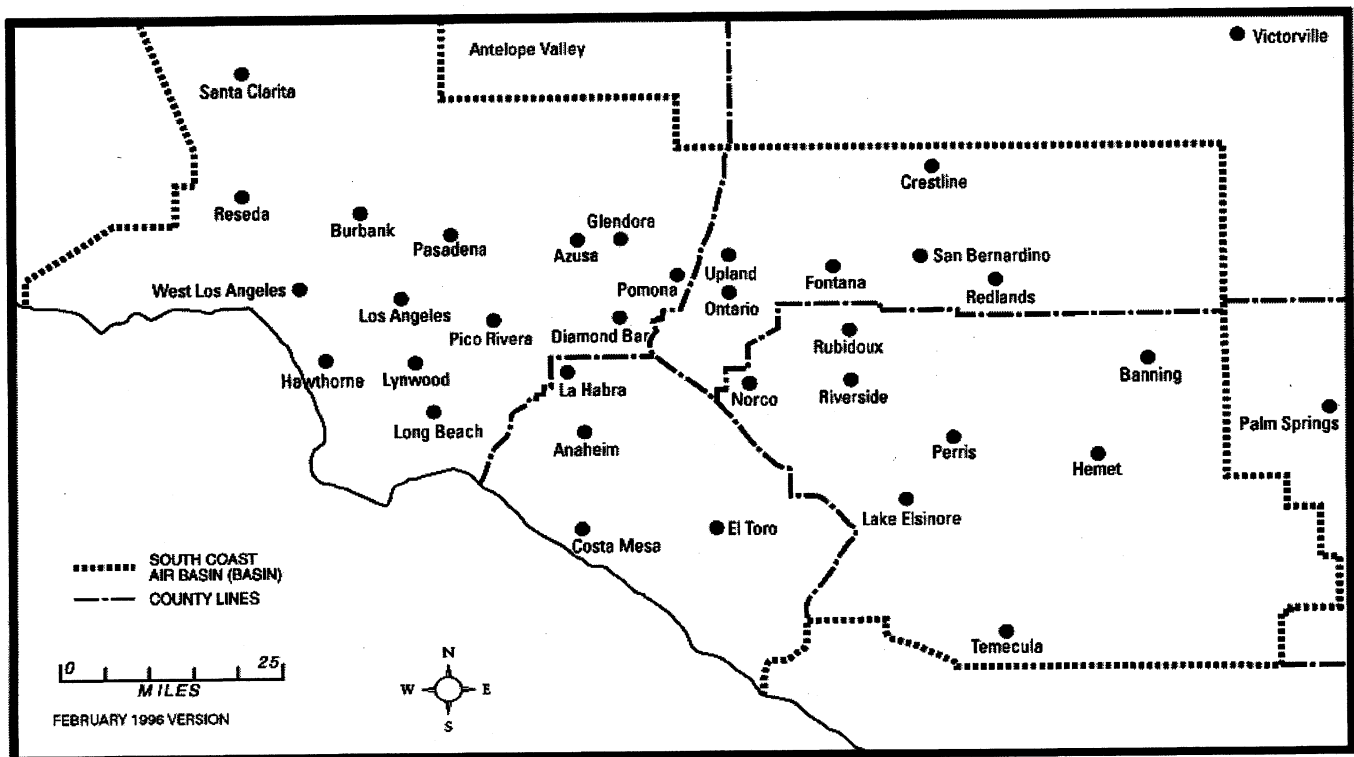


FIGURE 1

¹ If your agricultural operation is outside the South Coast Air Basin or 10 contiguous acres or less, conservation practices are encouraged, but no actions are required.

Section I

Conservation Practice Selection

Producers who voluntarily implement the suggested minimum number of conservation practices listed under each category in Section II by June 30, 1999 and complete and maintain the self-monitoring form (Section V) will be exempt from the requirements of Rule 403. The list of conservation practices will be updated annually to reflect any new developments in control technology. Producers that do not elect to implement sufficient conservation practices become subject to all Rule 403 requirements beginning July 1, 1999.

The list of conservation practices is divided into the six categories presented below. The italicized text underneath the category descriptions represent the suggested minimum number of conservation practices to be implemented in order to maintain a Rule 403 exemption. Producers can also choose alternative conservation practices or provide a technical justification if the suggested minimum number of conservation practices for a category (e.g., inactive) can not be implemented on-site (see Sections III and IV)

1. Active - applicable to agricultural activities involved in disturbing the soil (*not applicable to orchards, vine crops, nurseries, range land, and irrigated pasture*).

(producers must cease activities during wind conditions greater than 25 mph and implement at least one of the other conservation practices)

2. Inactive - applicable to agricultural sites when no soil disturbance activities are being conducted (*not applicable to orchards, vine crops, nurseries, range land, and irrigated pasture*)

(at least three of the conservation practices must be implemented within this category)

3. Farm Yard Areas - applicable to disturbed surfaces used by people or vehicles (e.g., equipment storage yards) on at least eight calendar days per year

(at least one of the conservation practices must be implemented within this category)

4. Track-Out - applicable to vehicles or other equipment carrying soil from an unpaved surface to a paved public road

(at least one of the conservation practices must be implemented within this category)

5. Unpaved Roads - applicable to private unpaved roads used by producers

(at least one of the conservation practices must be implemented within this category)

6. Storage Piles - applicable accumulations of material

(at least one of the conservation practices must be implemented within this category)

Section I

Alternative Conservation Practices

Producers can implement alternative conservation practices that are more suitable to their specific farming operations. Producers that elect to implement alternative conservation practices and want to qualify for the Rule 403 exemption must provide a description of the alternative conservation practices to the AQMD. Please refer to Section III (page 11) of this Handbook for AQMD submittal instructions.

Technical Justifications

In the event that there are special technical (e.g., non-economic) circumstances, including safety, which prevent implementation of the suggested minimum number of conservation practices for each category in Section II, producers can submit a justification statement to the AQMD. The justification statement must explain the reason(s) why the suggested minimum number of conservation practices within a category can not be implemented on-site. Please refer to Section IV (page 12) of this Handbook for AQMD submittal instructions.

Conservation Practice Implementation Guidance

Technical assistance with selecting, adopting, and implementing any of the conservation practices listed in Section II is available, free of charge, from your local Resource Conservation District (RCD), Natural Resources Conservation Service (NRCS) office, or Cooperative Extension office. Cost-sharing incentives to implement practices that reduce dust may also be available from these resource agencies. Phone numbers of RCD, NRCS, and Cooperative Extension offices within the South Coast Air Basin are listed below.

NRCS/RCD Offices

Los Angeles, Urban Office	(213) 580-8890	
Riverside/Orange County	(909) 684-1552	(909) 683-7691
Redlands	(909) 799-7407	
San Jacinto	(909) 654-7733	(909) 654-7139
Apple Valley	(760) 242-2906	

University of California Cooperative Extension

(909) 683-6491

Section II

1. Active Conservation Practices

Exempted operations: orchards, vine crops, nurseries, range land, and irrigated pasture

Producers that want a Rule 403 exemption must implement the Activity Modification conservation practice and at least one of the other conservation practices.

Activity Modification

Cease soil preparation and/or maintenance activities (does not include harvesting activities) during wind conditions in excess of 25 miles per hour (mph) unless such activities result in a net reduction in wind driven fugitive dust (i.e., if wind driven dust is not visible from tilled soil, but is visible from untilled soil within the same agricultural parcel). A one-day exemption from this prohibition is allowed if wind conditions in excess of 25 mph have occurred on two consecutive days.

Producers that want a Rule 403 exemption must implement at least one of the other four conservation practices listed below.

1. Soil Moisture Monitoring

Ensure adequate soil moisture levels at the time of tillage or soil maintenance activities to prevent visible dust emissions from extending more than 100 feet from any source within the agricultural parcel.

2. Irrigation System

Irrigate or bed fields as soon as feasible after land leveling or releveling to prevent the field being left in a smooth dry condition.

3. Minimum Tillage

Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops in narrow slots or tilled strips. *Your local NRCS, RCD, or Cooperative Extension office can provide guidance on various minimum tillage practices.*

4. Mulching

Uniformly distribute plant residues, manure, or other suitable materials not produced on the site to the soil surface prior to disturbing the soil.

Section II

2. Inactive Conservation Practices

Exempted operations: orchards, vine crops, nurseries, range land, and irrigated pasture

Producers that want a Rule 403 exemption must implement at least three of the following nine conservation practices listed below.

1. Local Jurisdiction Ordinance

Compliance with a local jurisdiction's ordinance intended to reduce windblown dust emissions.

2. Cover Crop

Establish a cover crop that establishes a minimum of 60 percent ground cover on fields that will remain fallow until the next crop planting. Vegetative growth to be managed, if necessary, by mowing, grazing, approved chemicals or other means that maintain the necessary cover. *(Native or volunteer vegetation that meets the minimum ground cover requirements also represents an acceptable cover crop).*

3. Crop Residue Management

Maintain crop residues from previous crops that establishes a minimum of 60 percent ground cover on fields that will remain fallow until the next crop planting. Implements such as undercutters or sweeps that sever roots and lift weeds without burying or destroying much of the residue are most efficient for maintaining surface cover.

4. Surface Roughening

Conduct surface roughening by bedding, rough disking, or tillage that leaves the surface covered with stable clods. Disc fallow fields in the early spring to get the winter weeds before they mature seed and before it dries out so clods will be produced. List or bed up in May to get early summer weeds before they seed and before it is too dry to bed.

5. Minimum Tillage

Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops in narrow slots or tilled strips. *Your local NRCS, RCD, or Cooperative Extension office can provide guidance on various minimum tillage practices.*

Section II

2. Inactive Conservation Practices (Concluded)

Exempted operations: orchards, vine crops, nurseries, range land, and irrigated pasture

6. Cross Wind Stripcropping

Establish crops in strips established across the prevailing wind erosion direction and arranged so that strips susceptible to wind erosion are alternated with strips having a protective cover that is resistant to wind erosion.

7. Field Windbreaks

Plant or maintain a single or multiple row of trees or shrubs adjacent to windward edge of the field as close to perpendicular as practical with the direction of erosive winds. Avoid conflicts with any above or below ground utilities. *Local RCD, NRCS, or Cooperative Extension staff can provide technical assistance on selecting proper tree species, appropriate spacing, and maintenance requirements.*

8. Ridge Roughness

Establish ridges by normal tillage and planting equipment as close to perpendicular as practical with the direction of erosive winds (not appropriate for unstable soils such as sands or loamy sands). After establishment, ridges shall be maintained through those periods when wind erosion is expected to occur, or until growing crops provide enough cover to protect the soil from wind erosion.

9. Wind Barriers

Plant or maintain perennial or annual plants interspersed throughout a crop field as close to perpendicular as practical with the direction of erosive winds. To be effective, the selected plant(s) must create a stand at least three feet tall. *Selection of plants for wind barriers should favor species or varieties tolerant to herbicides used on adjacent crops. Local RCD, NRCS, or Cooperative Extension staff can provide technical assistance on selecting proper tree species, appropriate spacing, and maintenance requirements.*

Section II

3. Farm Yard Area Conservation Practices

Farm yard areas refer to disturbed surfaces used by people or vehicles (e.g., equipment storage yards) on at least eight calendar days per year.

Exempted operations: none

Producers that want a Rule 403 exemption must implement at least one of the four conservation practices listed below.

1. Vegetation

Establish or maintain vegetation at sufficient density to prevent wind driven dust.

2. Dust Suppressants

Apply water or approved dust suppressants at a sufficient quantity and frequency to prevent wind driven dust.

3. Surface Area Modification

Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches) at sufficient quantity and frequency to prevent wind driven dust.

4. Disturbed Surface Area Reduction

Reduce farm yard area by at least 50 percent from the original disturbed surface area. To qualify, the original disturbed surface area must be treated (e.g., vegetation, watering that establishes a crust, chemical stabilization, etc.) to prevent wind driven dust.

Section II

4. Track-Out Conservation Practices

Exempted operations: none

Producers that want a Rule 403 exemption must implement at least one of the four conservation practices listed below.

1. Track-Out Area Improvements

Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet with an acceptable width to accommodate traffic ingress and egress from the site.

2. Track-Out Prevention

Check or clean the undercarriage and wheels on haul trucks before leaving field or install a track-out control device to prevent the track-out of soil onto paved public roads.

3. End of Row Equipment Turn Around Areas

Prohibit turning tractors and implements on paved public roads if soil will be dropped on the road or clean pavement after practices have ceased.

Section II

5. Unpaved Roads Conservation Practices

Exempted operations: none

Producers that want a Rule 403 exemption must implement at least one of the four conservation practices listed below.

1. Speed Control

Control speed to 15 miles per hour (mph) on unpaved roads through worker notifications, signage, or any other necessary means.

2. Access Restriction

Restrict access to private unpaved roads currently used by the public either through signage or physical access restrictions.

3. Unpaved Road Treatments

Treat unpaved roads with water, mulch, chemical dust suppressants or other cover during heavy use periods. Unpaved farm roads should be treated early enough so that mud will not stick to tires and be carried onto paved public roads.

4. Surface Modification

Cover frequently traveled unpaved roads with a low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches).

Section II

6. Storage Pile Conservation Practices

Exempted operations: none

Producers that want a Rule 403 exemption must implement at least one of the four conservation practices listed below.

1. Wind Sheltering

Enclose material in a three-sided barrier equal to the height of the material. *Open side of the barrier should be oriented to the leeward (downwind) side of the material.*

2. Watering

Apply water at a sufficient quantity and frequency to prevent wind driven dust.

3. Chemical Stabilization

Apply an approved dust suppressants at a sufficient quantity and frequency to prevent wind driven dust. *Best for use on storage piles subject to infrequent disturbances.*

4. Covering

Install tarps, plastic, or other material as a temporary cover. *Coverings should be anchored to prevent wind from removing the cover.*

Section III

Submittal Instructions for Alternative Conservation Practices

Producers can voluntarily implement alternative conservation practices that are more suitable to their specific farming operations. However, producers that elect to implement alternative conservation practices and want to qualify for the Rule 403 exemption must provide a description of the alternative conservation practices to the AQMD.

Producers that want to implement alternative conservation practices must notify the AQMD by August 1, 1999, or 30 days prior to starting a new farming operation.

The notification must include a description of the alternative conservation practice(s) that will be implemented on-site.

After receipt of a notification, the AQMD will consult with the Natural Resources Conservation Service and the applicable Resource Conservation District to determine the appropriateness of the alternative conservation practice(s).

The AQMD will then notify the producer in writing if the alternative conservation practices are considered acceptable. Producers will be exempt from implementing conservation practices on the source category (e.g., active, inactive, unpaved roads, etc.) in which alternative conservation practices are proposed until the AQMD has notified said producer whether the alternative conservation practices are acceptable. If the alternative conservation practices are deemed unacceptable, the AQMD will notify the producer of such a determination and will establish a 30-day grace period to identify acceptable alternative conservation practices. During this 30-day grace period, the AQMD will work with the producer and the appropriate resource agency personnel to identify acceptable alternative conservation practices.

Notifications can be mailed or delivered to:

Rule 403 Compliance
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765-4182

Notifications can also be submitted electronically to:

mlaybourn@aqmd.gov

Section IV

Submittal Instructions for Justification Statements

In the event that there are special technical (e.g., non-economic) circumstances, including safety, which prevent implementation of the suggested minimum number of conservation practices within each category listed in Section II, a justification statement must be submitted in order for a producer to qualify for a Rule 403 exemption.

Producers that want to submit a justification statement must notify the AQMD by August 1, 1999, or 30 days prior to starting a new farming operation.

The justification statement must explain the reason(s) why the suggested minimum number of conservation practices within a category can not be implemented on-site.

After receipt of a justification statement, the AQMD will consult with the Natural Resources Conservation Service and the applicable Resource Conservation District to determine the appropriateness of the information submitted.

The AQMD will then notify the producer in writing if the justification statement(s) are considered acceptable. Producers will be exempt from implementing conservation practices on the source category (e.g., active, inactive, unpaved roads, etc.) in which a justification statement is proposed until the AQMD has notified said producer whether the justification statement is acceptable. If the justification statement is deemed unacceptable, the AQMD will notify the producer of such a determination and will establish a 30-day grace period to identify any alternative conservation practices or other possible justification statements. During this 30-day grace period, the AQMD will work with the producer and the appropriate resource agency personnel to identify alternative conservation practices or other possible justification statements.

Justification statements can be mailed or delivered to:

Rule 403 Compliance
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765-4182

Justification statements can also be submitted electronically to:

mlaybourn@aqmd.gov

Section V

Conservation Practice Self Monitoring Form

The following form has been prepared to assist producers in documenting implementation of the conservation practices. Producers are required to prepare and maintain this form to qualify for a Rule 403 exemption.

A sample completed conservation practice self-monitoring form is also provided following the blank form.

Section V

Conservation Practice Self Monitoring Form¹

Farm Name: _____

Producer Signature: _____

Date: _____

Active ²	Inactive ²	Farm Yard Area	Track-Out	Unpaved Roads	Storage Piles
√	(minimum of three)	(minimum of one)	(minimum of one)	(minimum of one)	(minimum of one)
Activity Modification (Mandatory)	Local Jurisdiction Ordinance	Vegetation	Track-Out Area Improvements	Speed Control	Wind Sheltering
(minimum of one from below)	Cover Crop	Dust Suppressants	Track-Out Prevention	Access Restriction	Watering
Soil Moisture	Crop Residue Management	Surface Area Modification	End of Row Turn Around Areas	Unpaved Road Treatments	Chemical Stabilization
Irrigation System	Surface Roughening	Disturbed Surface Area Reduction	Alternative Practices	Surface Modification	Covering
Minimum Tillage	Minimum Tillage	Alternative Practices	Justification	Alternative Practices	Alternative Practices
Mulching	Cross Wind Stripcropping	Justification		Justification	Justification
Alternative Practices	Field Windbreaks				
Justification	Ridge Roughness				
	Wind Barriers				
	Alternative Practices				
	Justification				

¹ If you wish to choose different practices for different fields and/or farm areas, separate sheets must be filled out for each site.
² The following operations are exempt from active and inactive land conservation practices: orchards, vine crops, nurseries, range land, and irrigated pasture.

Section V

Farm Name: AAAA Farms

Producer Signature: John Smith

Date: 6/19/99

Conservation Practice Self Monitoring Form¹

Active ²	Inactive ²	Farm Yard Area (minimum of one)	Track-Out (minimum of one)	Unpaved Roads (minimum of one)	Storage Piles (minimum of one)
Activity Modification (Mandatory)	(minimum of three)				
(minimum of one from below)	Local Jurisdiction Ordinance	Vegetation	Track-Out Area Improvements	Speed Control	Wind Sheltering
Soil Moisture	Cover Crop	Dust Suppressants	Track-Out Prevention	Access Restriction	Watering
Irrigation System	Crop Residue Management	Surface Area Modification	End of Row Turn Around Areas	Unpaved Road Treatments	Chemical Stabilization
Minimum Tillage	Surface Roughening	Disturbed Surface Area Reduction	Alternative Practices	Surface Modification	Covering
Mulching	Minimum Tillage	Alternative Practices	Justification	Alternative Practices	Alternative Practices
Alternative Practices	Cross Wind Stripcropping	Justification		Justification	Justification
Justification	Field Windbreaks				
	Ridge Roughness				
	Wind Barriers				
	Alternative Practices				
	Justification				

¹ If you wish to choose different practices for different fields and/or farm areas, separate sheets must be filled out for each site.

² The following operations are exempt from active and inactive land conservation practices: orchards, vine crops, nurseries, range land, and irrigated pasture.

Section VI

Opting for Rule 403 General Provisions

AQMD in conjunction with local producers and staff from the NRCS, RCDs, and Cooperative Extension have developed the conservation practices contained in this Handbook to be more appropriate for farming operations than the traditional dust control requirements for construction projects, landfills, and other dust sources.

Producers that do not voluntarily implement the conservation practices before July 1, 1999, or within 30 days of starting a farming operation at a new site would become subject to the general requirements contained in AQMD Rule 403. The following is a general summary of the Rule 403 requirements.

- visible emissions prohibited from crossing the site property line [Section (d)(1)]
- at least one best available control measure must be implemented for each source [Section (d)(2)]
- upwind/downwind PM10 differential prohibited from exceeding $50 \mu\text{g}/\text{m}^3$ [Section (d)(4)]
- all track-out must be prevented or removed within one hour [Section (d)(5)]
- any operation with more than 100 acres of disturbed surfaces must submit a fugitive dust control plan that specifies at least one control action and one contingency control action for each source category (e.g., tilling, unpaved roads, etc.). A filing fee of \$160.60 is required with all fugitive dust control plan submittals.

Producers that would like more information can obtain a copy of Rule 403 and the general Rule 403 Handbook, which details traditional best available control measures, by calling the AQMD at (909) 396-2000 or through the internet at:

www.aqmd.gov

Section VI

Failure to Comply with Rule 403

The intent of the AQMD is to work with producers and local resource agencies (e.g., NRCS, RCDs, Farm Bureaus, Cooperative Extension, etc.) to reduce dust and the corresponding PM10 emissions from agricultural operations through the voluntary implementation of good conservation practices. These emission reductions are necessary as part of the region's efforts to attain State and Federal air quality standards. Failure to achieve compliance with the State and Federal air quality standards by the mandated attainment date could result in Federal action that would significantly impact our region.

Prior to June 30, 1999, the AQMD has conducted a comprehensive outreach program to inform local producers of the voluntary conservation practices and options available to maintain a Rule 403 exemption. After July 1, 1999, failure to meet Rule 403 requirements could subject the producer mandatory conservation class(es), required dust control plans, fines, or other penalties.

