Dust Control In The Coachella Valley

MOU

MEMORANDUM OF UNDERSTANDING ESTABLISHING AN ONGOING, MULTI-JURISDICTIONAL RELATIONSHIP FOR THE ADOPTION, IMPLEMENTATION, AND ENFORCEMENT OF FUGITIVE DUST CONTROL MEASURES IN THE COACHELLA VALLEY

This Memorandum of Understanding made the _____ day of _____, 2003, is entered into by the County of Riverside, Cathedral City, City of Coachella, City of Desert Hot Springs, City of Indian Wells, City of Indio, City of La Quinta, City of Palm Desert, City of Palm Springs, and City of Rancho Mirage (collectively, CITIES), the Coachella Valley Association of Governments (CVAG) and the South Coast Air Quality Management District (District).

I. This Memorandum of Understanding (MOU) is made with reference to the following recitals:

A. Air pollution remains a significant public health concern in many parts of California, and specifically in the Coachella Valley.

B. The Coachella Valley consists of the following local jurisdictions:

County of Riverside, Cathedral City, City of Coachella, City of Desert Hot Springs, City of Indian Wells, City of Indio, City of La Quinta, City of Palm Desert, City of Palm Springs, and City of Rancho Mirage. Each of these jurisdictions are members of the CVAG.

C. The District is an air district established pursuant to the California Health and Safety Code, beginning with Section 40400. Under State law, air districts have the primary responsibility for the control of air pollution from all sources, other than tailpipe emissions from motor vehicles. The District has the authority to adopt, implement, and enforce air quality rules and regulations; and, by prior agreement, the responsibility to provide technical expertise, outreach training, and enforcement support to the local agencies within its jurisdiction.

D. The CITIES that comprise the CVAG have local authority for controlling dust emissions from construction activities, disturbed vacant lands, unpaved roads and parking lots, and paved road dust. By prior agreement, these jurisdictions have lead responsibility for enforcing both local ordinances and approved Fugitive Dust Control Plans.

E. The transport of fugitive dust, as a result of man-made activities, is an ongoing challenge to promoting economic growth and meeting federal standards for airborne fugitive dust (PM10) in the Coachella Valley. The health impacts and public

nuisance potential of uncontrolled dust are a recognized concern of everyone who works or lives in this environment.

F. PM10 levels in the Coachella Valley exceeded the federal standard in 1999 after six years of compliance. To reduce these levels and regain attainment status, the CITIES have individually adopted ordinances with measures for reducing fugitive dust emissions.

G. A key element to implementing a successful program for reducing PM10 emissions and demonstrating sustained compliance is to establish a formal working relationship between the CITIES, CVAG and the District.

H. Based on the foregoing, an ongoing cooperative relationship is hereby established between the CITIES, CVAG and the District to ensure the development and implementation of appropriate dust control plans, to comply with District regulations, to comply with the Federal Clean Air Amendments (CAA) mandates, and to help achieve attainment of federal and state air quality standards.

II. NOW, THEREFORE, in consideration of the mutual interests and benefits to be derived from the emissions reductions resulting from cooperative efforts of the CITIES, CVAG, and the District, the parties hereto agree as follows:

A. The CITIES will:

1. Take lead responsibility for adopting and enforcing both local ordinances and approved Dust Control Plans. A Dust Control Plan is a plan to control fugitive dust through the implementation of Coachella Valley Best Available Control Measures, such that fugitive dust emissions are in compliance with District Rule 403.

2. Approve Dust Control Plans for all qualifying activities or man-made conditions capable of generating fugitive dust emissions within their area of authority.

3. Follow the guidance provided in the most recently approved Coachella Valley Fugitive Dust Control Handbook (Handbook), and uniformly implement and enforce the Handbook provisions in the review and approval of Dust Control Plans.

4. After April 1, 2004 approve a Dust Control Plan only to an Operator who produces a signed "Certificate of Completion," issued by the District, demonstrating that the individual officially designated in the proposed Dust Control Plan as the person responsible for fugitive dust control at the site has completed the Coachella Valley Fugitive Dust Control Class. For purposes of this MOU, the term "Operator" includes any person, or his or her designee, that owns, leases, operates, controls, or supervises any potential fugitive dust generating operation that is subject to this MOU.

5. Require that the Operator submits two (2) copies of the approved Dust Control Plans, for those sites greater than or equal to ten (10) acres, to the District within ten (10) days from the date of approval for use by the District's compliance staff.

6. Issue an approved Dust Control Plan within a reasonable period of time. The City shall inspect each site to determine compliance with the approved Dust Control Plan at least every thirty (30) days from the start of the project. In addition, a dust control inspection shall be performed by the city within seven (7) days of receiving a notice of project initiation or a notice of project completion.

7. Require a bond, a cash Certificate of Deposit, or an equivalent form approved by the City, in an amount equal to at least two thousand dollars ($2,000.00) per acre for projects with more than 5,000 square feet of disturbed surfaces. Such funds shall be in an amount sufficient to completely stabilize all disturbed areas in the event that the Operator fails to adequately control dust, or abandons the site in lieu of mitigating fugitive dust problems; and shall be easily accessible to the City in order to initiate stabilization measures without a significant delay.

8. Immediately notify the District when a site is "red tagged," or shut down, or cited for non-compliance with a local ordinance or Plan condition.

9. Ensure that, when a site is "red tagged," all construction and earth-moving activity ceases and all efforts are directed to mitigating fugitive dust through the application of water or dust suppressants.

10. Provide the Operator with specific information regarding the steps that must be taken before a site will be "un-tagged."

11. Require conspicuously placed signs that identify a manned 24-hour phone number for reporting dust complaints to the Operator, based on the most recently approved Handbook guidelines.

12. Require an Environmental Observer, with the authority to enforce the Dust Control Plan, at all sites greater than or equal to fifty (50) acres. The Environmental Observer will have duties and responsibilities in accordance with the local dust control ordinance and the Coachella Valley Fugitive Dust Control Handbook. Identification of an Environmental Observer shall be a prerequisite for approval of the Dust Control Plan. Failure of the Operator to continuously maintain an Environmental Observer at the site or available on-site within 30 minutes of initial contact shall constitute a violation of the Dust Control Plan.

13. Require all appropriate enforcement staff with duties and responsibilities relating to the enforcement of local dust control ordinances and approved Dust Control Plans to attend and complete the District's Coachella Valley Fugitive Dust Control Class.

14. Require that the staff person responding to a dust complaint have code enforcement status, or the authority to enforce a local ordinance or Plan.

15. Require staff who review and/or approve Dust Control Plans to attend and complete the District's Coachella Valley Fugitive Dust Control Class.

16. Assign a city staff member with the single responsibility of determining compliance with local Dust Control Plans and ordinances at earth moving activities. If such an individual cannot be assigned, the jurisdiction will provide documentation to the District (i.e. policy guidance documents, certificates of staff attendance at the District's Coachella Valley Dust Control Class) demonstrating that the existing staff have been trained and informed of the high priority regarding handling of fugitive dust issues, and ensuring that the fugitive dust program will receive comparable or better coverage than can be provided by a single dedicated individual.

17. Conduct random, unannounced inspections at construction sites. The purpose of the site inspection will be to determine compliance with an approved Dust Control Plan, determine compliance with the local ordinance, and ensure that the project supervisor has read and understands the Plan.

18. Develop and maintain record-keeping logs for each site that document all compliance actions taken by the City, including the implementation of corrective measures required to enforce an approved Dust Control Plan. These records shall be made available to District staff upon request.

19. Adopt by ordinance a penalty program for violators of Dust Control Plans or local ordinances where the initial violation will be established at a level that ensures progressive penalties for repeated violations. The penalty for three or more violations within one year period shall be prosecuted at a minimum level consistent with a misdemeanor violation. The use of verbal warnings shall be discontinued.

20. Coordinate site inspections with the District so that both jurisdictions can evaluate instances of non-compliance with any ordinances, plans, or regulations.

21. Provide the District with an inventory of public unpaved roads and unpaved parking lots within each of their jurisdictions within 90 days of the MOU's effective date. The inventory shall include: the location and average daily traffic estimates of unpaved roads; and location and size (in square feet) of unpaved parking lots.

23. Take measures (signage or speed control devices) to reduce vehicular speeds to 15 miles per hour on unpaved public roads with between 20 and 150 average daily trips within 60 days of submitting the unpaved road and unpaved parking lot inventories to the District.

24. Where City owns a cumulative distance of six or less miles of public unpaved roads with each segment having 150 or more average daily trips, pave such roads or apply and maintain chemical dust suppressants in accordance with the manufacturer's specifications for a travel surface and the performance standards established in the city's respective dust control ordinance based on the following schedule:

    a. one-third of qualifying unpaved roads within one year of ordinance adoption; and

b. remainder of qualifying unpaved roads within three years of ordinance adoption. (Note: treatments in excess of annual requirements can apply to future years.)

25. Where a City owns a cumulative distance of more than six miles of public unpaved roads with each segment having 150 or more average daily trips, stabilize such roadways based on the following schedule:

    a. at least two miles paved or four miles stabilized with chemical dust suppressants in accordance with the manufacturer's specifications for a travel surface and the performance standards established in the local dust control ordinance within one year of the MOU's effective date; and

    b. at least two miles paved or four miles stabilized with chemical dust suppressants in accordance with the manufacturer's specifications for a travel surface and the performance standards established in the local dust control ordinance annually thereafter until all qualifying unpaved roads have been stabilized. (Note: treatments in excess of annual requirements can apply to future years).

26. Stabilize within six months of the MOU's effective date unpaved public parking lots with at least one of the following strategies:

    a. pave; or

    b. apply and maintain dust suppressants in accordance with the manufacturer's specifications for a travel surface and the performance standards established in their respective dust control ordinance; or

    c. apply and maintain washed gravel in accordance with the performance standards established in their respective dust control ordinance.

27. Apply and maintain any temporary unpaved public parking lots (those that are used 24 days or less per year) with chemical dust suppressants, in accordance with the manufacturer's specifications for a travel surface and the performance standards established in their respective dust control ordinance prior to any 24-hour period when more than 40 vehicles enter and park. Temporary unpaved parking lots greater than 5,000 square feet will be stabilized in accordance with the disturbed vacant land requirements contained in the local dust control ordinance during non-parking periods.

B. The DISTRICT will:

1. Approve and issue Fugitive Dust Control Plans for operations that do not require a local jurisdiction's grading permit or building permit (such as, aggregate producers, landfills, schools, water districts, California Department of Transportation, and flood control maintenance activities).

2. Respond to fugitive dust complaints and take any appropriate measures for non-compliance with District rules and regulations, Dust Control Plan conditions, or local ordinance requirements.

3. Continue to provide outreach and training in the form of Coachella Valley Fugitive Dust Control classes, offered at no charge, to all interested parties.

4. Issue Certificates of Completion to each individual who completes the Coachella Valley Fugitive Dust Control Class. This Certificate and the accompanying wallet-sized card are valid for two years and may be renewed by submitting a request to the District. Upon approval by the District, this renewal will be valid for an additional two years.

5. Develop and implement an abatement and enforcement policy that addresses repeat violations at the same site of District fugitive dust control regulations.

6. Assign an inspector to conduct inspections exclusively in the Coachella Valley, provide outreach and training in the form of the Coachella Valley Fugitive Dust Control Class, and respond to fugitive dust complaints.

D. ADDITIONAL CONDITIONS AND REQUIREMENTS

1. Any party hereto has the right to terminate its participation in this MOU for any reason by giving thirty (30) days notice in writing to each party to this MOU.

2. This MOU may be amended or supplemented by mutual agreement effectuated in writing and duly executed by the parties.

3. This MOU shall be in full force and in effect when signed by all parties.

4. The signature page of this MOU is being executed in counterparts. When all parties have signed, all executed counterparts taken together shall constitute one and the same instrument. CVAG shall be responsible for receiving and retaining the originally executed signature pages of each party, for dating the MOU as of the latest date upon which it is executed as among the signatories thereto, and for providing a copy of the dated executed agreement to each of the parties.

5. This MOU integrates all of the terms and conditions mentioned herein or incidental hereto, and supersedes all negotiations or previous agreements between the parties.

6. Each party acknowledges that it has had ample opportunity for review and approval of this document by its attorney, and that any waiver of representation is a result of independent decision.

7. Each party hereby warrants that its participation and execution of this MOU has been duly approved by its governing board.

8. All notices, requests and other communications under this MOU shall be in writing, and shall be (a) delivered personally, (b) sent via FedEx or similar private express mail service (hereinafter "FedEx"), (c) sent via facsimile, or (d) mailed, certified or registered mail, return receipt requested, postage prepaid, and addressed as follows:

South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765
Attn:

Coachella Valley Association of Governments
73-710 Fred Waring Drive, Suite 200
Palm Desert, CA 92260

County of Riverside
4080 Lemon Street, 14th Floor
Riverside, CA 92502

Cathedral City
68-700 Avenida Lalo Guerrero
Cathedral City, CA 92234

City of Coachella
1515 6th Street
Coachella, CA 92236

City of Desert Hot Springs
65950 Pierson Blvd.
Desert Hot Springs, CA 92240

City of Indian Wells
44-950 Eldorado Drive
Indian Wells, CA 92210-7497

City of Indio
100 Civic Center Mall
Indio, CA 92201

City of La Quinta
78-495 Calle Tampico
La Quinta, CA 92253

City of Palm Desert
73-510 Fred Waring Drive
Palm Desert, CA 92260

City of Palm Springs
3200 E. Tahquitz Canyon Way
Palm Springs, CA 92262

7

City of Rancho Mirage
69-825 Highway 111
Rancho Mirage, CA 92270

9. It is hereby agreed that no official, employee, or agent of any of the parties hereto shall have any personal interest, direct or indirect, in this MOU, nor shall any such official, employee, or agent participate in any decision relating to the MOU which affects his or her personal interests or the interests of any corporation, partnership or association in which he or she is directly or indirectly interested.

10. Neither party may assign any right or obligation under this MOU without the express written approval of the other parties.

11. This MOU shall be binding upon and shall inure to the benefit of the successors of each of the parties hereto.

12. This MOU shall be construed and interpreted in accordance with the laws of the State of California. Venue for resolution of any disputes under this MOU shall be in Los Angeles County.

13. In the event that any party fails to fulfill its obligations under this MOU, such party shall have thirty (30) days to cure its default upon written demand by any other party. Upon failure to cure any default, each party to this MOU shall have all such rights and remedies available to it under law, including the right to sue for specific performance.

14. Each party hereby agrees to indemnify, defend and hold harmless the other parties, their officials, agents, officers, and employees against any and all liabilities, obligations, lawsuits, administrative writs, claims, judgments, or penalties arising as a result of the party's actions conducted in performance of its duties under this MOU.

- SIGNATURE PAGES FOLLOW -

8

SIGNATORIES

TO THE MEMORANDUM OF UNDERSTANDING ESTABLISHING AN ONGOING, MULTI-JURISDICTIONAL RELATIONSHIP FOR THE ADOPTION, IMPLEMENTATION, AND ENFORCEMENT OF FUGITIVE DUST CONTROL MEASURES IN THE COACHELLA VALLEY

_____ _____

Barry R. Wallerstein, D.Env.
Executive Officer
South Coast Air Quality Management District

Date

_____ _____

Approved as to form:
Barbara Baird, District Counsel

Date

_____ _____

Coachella Valley Association of Governments

Date

_____ _____

Approved as to form:
CVAG General Counsel

Date

_____ _____

County of Riverside

Date

_____ _____

Cathedral City

Date

_____ _____

Date

9

City of Coachella

_____ _____

Date

City of Desert Hot Springs

_____ _____

Date

City of Indian Wells

_____ _____

Date

City of Indio

_____ _____

Date

City of La Quinta

_____ _____

Date

City of Palm Desert

_____ _____

Date

City of Palm Springs

_____ _____

Date

City of Rancho Mirage

ORDINANCE

Section 100 Purpose

The purpose of this ordinance is to establish minimum requirements for construction and demolition activities and other specified sources in order to reduce man-made fugitive dust and the corresponding PM10 emissions.

Section 200 Definitions

For the purpose of this ordinance, the following definitions are applicable:

1 AGRICULTURAL OPERATIONS are any operation directly related to the growing of crops, or raising of fowls or animals for the primary purpose of making a livelihood.

2 AQMD is the South Coast Air Quality Management District and the representatives thereof.

3 AVERAGE DAILY TRAFFIC (ADT) is the number of motor vehicles that traverse a given unpaved or paved surface during a specified 24-hour period. ADT levels are calculated as the average daily volume over a specified 48-hour period as determined by the City (County) in consultation with the AQMD.

4 BULK MATERIAL is all sand, gravel, soil, aggregate and other organic and inorganic particulate matter.

5 CHEMICAL DUST SUPPRESSANTS are non-toxic chemical soil binders that are not prohibited for use by the City (County), the California Regional Water Quality Control Board, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any other law, rule or regulation, used to reduce dust on disturbed surfaces.

6 COACHELLA VALLEY BEST AVAILABLE CONTROL MEASURES (CV BACM) are methods to prevent or mitigate the emission and/or airborne transport of fugitive dust, as identified in the Coachella Valley Fugitive Dust Control Handbook.

7 COACHELLA VALLEY FUGITIVE DUST CONTROL HANDBOOK is the most recently approved reference document by the AQMD that includes a description of fugitive dust control measures, guidance for preparation of Fugitive Dust Control Plans, notification forms, signage provisions, and test methods.

8 CONSTRUCTION ACTIVITIES are any on-site activities preparatory to or related to the building, alteration, rehabilitation, or improvement of property, including, but not limited to the following activities; grading, excavation, trenching, loading, vehicular travel, crushing, blasting, cutting, planning, shaping, breaking, equipment staging/storage areas, weed abatement activities or adding or removing bulk materials from storage piles.

9 DEMOLITION ACTIVITIES are the wrecking or taking out of any load-supporting structural member of a structure or building and related handling operations or the intentional burning of any structure or building.

10 DISTURBED SURFACE AREA is any portion of the earth's surface (or material placed thereupon) that has been physically moved, uncovered,

destabilized, or otherwise modified from its undisturbed native condition (including vehicular disturbances) thereby increasing the potential for the emission of fugitive dust. This definition does not include land that has been restored to a native condition, such that the vegetative ground cover and soil characteristics are equal to surrounding native conditions.

11 EARTH-MOVING OPERATIONS are the use of any equipment for an activity where soil is being moved or uncovered.

12 FINISH GRADE is the final grade of the site that conforms to the approved grading plan.

13 FUGITIVE DUST is any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of human activities. PM10 is a subset of fugitive dust and is defined as particulate matter with an aerodynamic diameter of 10 microns or less.

14 FUGITIVE DUST CONTROL PLAN is a document that describes fugitive dust sources at a site and the corresponding control measures and is prepared in accordance with the guidance contained in the Coachella Valley Fugitive Dust Control Handbook.

15 HIGH-WIND EPISODE is when wind speeds exceed 25 miles per hour as measured by:

A. the closest AQMD monitoring station, or
B. a certified meteorological monitoring station, or
C. an on-site wind monitor calibrated and operated on-site in accordance with the manufacturer's specifications with a data logger or strip chart.

16 OPERATOR is any person who owns, leases, operates, controls, or supervises any potential fugitive dust generating operation subject to the requirements of this ordinance. This definition includes any person who has been officially designated by a property owner as the person responsible for fugitive dust control at a site, as indicated in an approved Fugitive Dust Control Plan.

17 PAVED ROAD is an improved street, highway, alley, public way, or easement that is covered by roadway materials (e.g., cement, asphalt or asphaltic concrete).

18 PHYSICAL ACCESS RESTRICTION is any barrier, including but not limited to; curbs, fences, gates, posts with fencing, shrubs, trees, or other measures that are effective in preventing vehicular and Off-Highway Vehicle (OHV) use of a specified site.

19 SILT is any bulk material with a particle size less than 75 micrometers in diameter that passes through a Number 200 sieve as determined by American Society of Testing and Materials (ASTM) Test Method C 136 or any other test method approved by the U.S. EPA and AQMD.

20 SITE is the real property on which construction, demolition, or other activities subject to this ordinance may occur.

21 STABILIZED SURFACE is any portion of land that meets the minimum standards as established by the applicable test method contained in the Coachella Valley Fugitive Dust Control Handbook.

22 STORAGE PILE is any accumulation of bulk material with a height of three feet or more and a total surface area of 300 or more square feet.

23 UNPAVED PARKING LOT is an area utilized for parking vehicles and associated vehicle maneuvering that is not covered with roadway materials (e.g., cement, asphalt or asphaltic concrete).

24 UNPAVED ROAD is any service roads, internal access roads, heavy and light duty equipment paths and other roadways which are not covered by typical roadway materials (e.g., cement, asphalt, asphaltic concrete).

25 TEMPORARY UNPAVED PARKING LOTS are those used less than 24 days per year.

Section 300 Performance Standards and Test Methods

All performance standards and test methods referenced in this ordinance shall be based on the methodologies included in the Coachella Valley Dust Control Handbook.

Section 400 Control Requirements

410. Work Practices – All Fugitive Dust Sources

1 No operator shall conduct any potential dust-generating activity on a site unless the operator utilizes one or more Coachella Valley Best Available Control Measures, as identified in the Coachella Valley Fugitive Dust Control Handbook for each fugitive dust source such that the applicable performance standards are met.

2 Any operator involved in any potential dust-generating activity on a site with a disturbed surface area greater than one acre shall, at a minimum, operate a water application system as identified in the Coachella Valley Fugitive Dust Control Handbook, if watering is the selected control measure.

Performance Standards and Test Methods

3 No person subject to the requirements contained in Section 410.1 shall cause or allow visible fugitive dust emissions to exceed 20 percent opacity, or extend more than 100 feet either horizontally or vertically from the origin of a source, or cross any property line.

420. Construction and Demolition Activities

1 Any operator applying for a grading permit, or a building permit for an activity with a disturbed surface area of more than 5,000 square feet, shall not initiate any earth-moving operations unless a Fugitive Dust Control Plan has been prepared pursuant to the provisions of the Coachella Valley Fugitive Dust Control Handbook and approved by the City (County).

2 A complete copy of the approved Fugitive Dust Control Plan must be kept on site in a conspicuous place at all times and provided to the City (County) and AQMD upon request.

3 Any operator involved in demolition activities shall comply with AQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities) requirements, and the requirements of Title 40, Part 61 of the code of Federal Regulations.

4 Any operator involved in earth-moving operations shall implement at least one of the following short-term stabilization methods during non-working hours:
   A. maintaining soils in a damp condition as determined by sight or touch; or
   B. establishment of a stabilized surface through watering; or
   C. application of a chemical dust suppressant in sufficient quantities and concentrations to maintain a stabilized surface.

5 Within 10 days of ceasing activity, an operator shall implement at least one of the following long-term stabilization techniques for any disturbed surface area where construction activities are not scheduled to occur for at least 30 days:
   A. revegetation that results in 75 percent ground coverage provided that an active watering system is in place at all times; or
   B. establishment of a stabilized surface through watering with physical access restriction surrounding the area; or
   C. use of chemical stabilizers to establish a stabilized surface with physical access restriction surrounding the area.

6 Any operator shall remove all bulk material track-out from any site access point onto any paved road open to through traffic:
   A. within one hour if such material extends for a cumulative distance of greater than 25 feet from any site access point; and
   B. at the conclusion of each workday.

7 Any operator of a project with a disturbed surface area of five or more acres or of any project that involves the import or export of at least 100 cubic yards of bulk material per day shall install and maintain at least one of the following control measures at the intersection of each site entrance and any paved road open to through traffic with all vehicles exiting the site routed over the selected device(s):
   A. pad consisting of minimum one inch washed gravel 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; or
   B. paved surface extending at least 100 feet and at least 20 feet wide; or
   C. wheel shaker / wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least three inches tall and at least six inches apart and 20 feet long; or
   D. a wheel washing system.

8 Any operator required to submit a Fugitive Dust Control Plan under Section 420.1 shall install and maintain project contact signage that meets the minimum standards of the Coachella Valley Fugitive Dust Control Handbook, including a 24-hour manned toll-free or local phone number, prior to initiating any type of earth-moving operations.

9 Any operator of a project with a disturbed surface area of 50 or more acres shall have an Environmental Observer on the site or available on-site within 30 minutes of initial contact that:

A. is hired by the property owner or developer; and
B. has dust control as the sole or primary responsibility; and
C. has successfully completed the AQMD Coachella Valley Fugitive Dust Control Class and has been issued a Certificate of Completion for the class; and
D. is identified in the approved Fugitive Dust Control Plan as having the authority to immediately employ sufficient dust mitigation 24-hours per day, seven days a week and to ensure compliance with this ordinance, the approved Fugitive Dust Control Plan, and AQMD regulations.

Performance Standards and Test Methods

10 No operator required to submit a Fugitive Dust Control Plan under Section 420.1 shall cause or allow visible fugitive dust emissions to exceed 20 percent opacity, or extend more than 100 feet either horizontally or vertically from the origin of a source, or cross any property line.

11 Exceedance of the visible emissions prohibition in Section 420.10 occurring due to a high-wind episode shall constitute a violation of Section 420.10, unless the operator demonstrates to City (County) all the following conditions:

A. all Fugitive Dust Control Plan measures or applicable Coachella Valley Best Available Control Measures were implemented and maintained on site; and
B. the exceedance could not have been prevented by better application, implementation, operation, or maintenance of control measures; and
C. appropriate recordkeeping was complied and retained in accordance with the requirements in Section 420.12 through 420.15; and
D. documentation of the high-wind episode on the day(s) in question is provided by appropriate records.

Reporting / Recordkeeping

Before Construction

12 The operator of a project with ten acres or more of earth-moving operations shall:

A. forward two copies of a Site-Specific, Stand Alone [8½ by 11 inch] Fugitive Dust Control Plan to the AQMD within ten days after approval by the City (County). [Note: A separate AQMD approval will not be issued]; and

B. notify the City (County) and the AQMD at least 24-hours prior to initiating earth-moving operations.

During Construction

13 Any operator involved in earth-moving operations shall compile, and maintain for a period of not less than three years, daily self-inspection recordkeeping forms in accordance with the guidelines contained in the Coachella Valley Fugitive Dust Control Handbook.

14 Any operator involved in earth-moving operations that utilizes chemical dust suppressants for dust control on a site shall compile records indicating the type of product applied, vendor name, and the method, frequency, concentration, quantity and date(s) of application and shall retain such records for a period of not less than three years.

After Construction

15 Any operator subject to the provisions of Section 420.12 shall notify the City (County) and the AQMD within ten days of the establishment of the finish grade or at the conclusion of the finished grading inspection.

430. Disturbed Vacant Lands / Weed Abatement Activities

1 Owners of property with a disturbed surface area greater than 5,000 square feet shall within 30 days of receiving official notice by the City (County) prevent trespass through physical access restriction as permitted by the City (County).

2 In the event that implementation of Section 430.1 is not effective in establishing a stabilized surface within 45 days of restricting access, the owner shall implement at least one of the following long term stabilization techniques within an additional 15 days, unless the City (County) has determined that the land has been restabilized:

A. uniformly apply and maintain surface gravel or chemical dust suppressants such that a stabilized surface is formed; or

B. begin restoring disturbed surfaces such that the vegetative cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions. Such restoration control measure(s) must be maintained and reapplied, if necessary, such that a stabilized surface is formed within 8 months of the initial application.

3 Any operator conducting weed abatement activities on a site that results in a disturbed surface area of 5,000 or more square feet shall:

A. apply sufficient water before and during weed abatement activities such that the applicable performance standards are met; and

B. ensure that the affected area is a stabilized surface once weed abatement activities have ceased.

Performance Standards and Test Methods

4 No person subject to the provisions of Sections 430.1 through 430.3 shall cause or allow visible fugitive dust emissions to exceed 20 percent opacity, or extend more than 100 feet either horizontally or vertically from a source, or cross any property line, and shall either:

A. maintain a stabilized surface; or

B. maintain a threshold friction velocity for disturbed surface areas corrected for non-erodible elements of 100 centimeters per second or higher.

Reporting / Recordkeeping

5 Within 90 days of ordinance adoption, operators of property with disturbed surface area of 5,000 or more square feet shall notify the City (County) of the location of such lands and provide owner contact information.

6 Any person subject to the provisions of Sections 430.1 through 403.3 shall compile, and retain for a period of not less than three years, records indicating the name and contact person of all firms contracted with for dust mitigation, listing of dust control implements used on-site, and invoices from dust suppressant contractors/vendors.

440. Unpaved Roads

1 Owners of private unpaved roads with average daily traffic levels between 20 and 150 vehicles must take measures (signage or speed control devices) to reduce vehicular speeds to no more than 15 miles per hour.

2 Owners of a cumulative distance of six or less miles of private unpaved roads shall pave each segment having 150 or more average daily trips or, alternatively apply and maintain chemical dust suppressants in accordance with the manufacturer's specifications for a travel surface and the performance standards included in Section 440.4 in accordance with the following treatment schedule:

A. one-third of qualifying unpaved road segments within one year of ordinance adoption; and

B. remainder of qualifying unpaved road segments within three years of ordinance adoption. (Note: treatments in excess of annual requirements can apply to future years.)

3 Owners of a cumulative distance of more than six miles of private unpaved roads shall stabilize each segment having 150 or more average daily trips in accordance with the following treatment schedule:

A. at least two miles paved or four miles stabilized with chemical dust suppressants in accordance with the manufacturer's specifications for a travel surface and the performance standards established in Section 440.4 within one year of the ordinance adoption; and

B. at least two miles paved or four miles stabilized with chemical dust suppressants in accordance with the manufacturer's specifications for a

travel surface and the performance standards included in Section 440.4 in accordance with the following treatment schedule annually thereafter until all qualifying unpaved roads have been stabilized. (Note: treatments in excess of annual requirements can apply to future years).

Performance Standards and Test Methods

4 Owners of any private unpaved road shall not allow visible fugitive dust emissions to exceed 20 percent opacity, or extend more than 100 feet either horizontally or vertically from the origin of a source, and shall either:

A. not allow silt loading to be equal to or greater than 0.33 ounces per square foot; or

B. not allow the silt content to exceed six percent.

Reporting / Recordkeeping

5 Within 90 days of ordinance adoption, owners of unpaved roads shall provide to the City (County) and the AQMD the location and ADT estimates for all unpaved roads.

6 Owners of unpaved roads that utilize chemical dust suppressants shall compile, and retain for a period of not less than three years, records indicating the type of product applied, vendor name, and the method, frequency, concentration, quantity and date(s) of application.

450. Unpaved Parking Lots

1 Owners of parking lots established subsequent to ordinance adoption are required to pave such areas, or alternatively apply and maintain chemical dust suppressants in accordance with the manufacturer's specifications for traffic areas and the performance standards included in Section 450.4.

2 Owners of existing private unpaved parking lots shall implement one of the following control strategies within 180 days of ordinance adoption:

A. pave; or

B. apply and maintain dust suppressants in accordance with the manufacturer's specifications for traffic areas and the performance standards included in Section 450.4;

C. apply and maintain washed gravel in accordance with the performance standards included in Section 450.4.

3 Owners of private temporary unpaved parking lots (those that are used 24 days or less per year) shall apply and maintain chemical dust suppressants in accordance with the manufacturer's specifications for traffic areas and the performance standards included in Section 450.4 prior to any 24-hour period when more than 40 vehicles are expected to enter and park. The owner of any temporary unpaved parking lot greater than 5,000 square feet shall implement the disturbed vacant land requirements contained in Section 430 during non-parking periods.

Performance Standards and Test Methods

4 The operator of any private unpaved parking lot shall not allow visible fugitive dust emissions to exceed 20 percent opacity, or extend more than 100 feet either horizontally or vertically from the origin of a source, and shall either:

A. not allow silt loading to be equal to or greater than 0.33 ounces per square foot; or

B. not allow the silt content to exceed eight percent.

Reporting / Recordkeeping

5 Within 90 days of ordinance adoption, owners of unpaved parking lots shall provide to the City (County) and the AQMD the location and ADT estimates and the size (in square feet) of unpaved parking lots.

6 Owners of unpaved parking lots that utilize chemical dust suppressants or apply gravel shall compile, and retain for a period of not less than three years, records indicating the type of product applied, vendor name, and the method, frequency, concentration, quantity and date(s) of application.

460. Public or Private Paved Roads

1 Any owner of paved roads shall construct, or require to be constructed all new or widened paved roads in accordance with the following standards:

A. curbing in accordance with the American Association of State Highway and Transportation Officials guidelines or as an alternative, road shoulders paved or treated with chemical dust suppressants or washed gravel in accordance with the performance standards included in Section 440.4 with the following minimum widths:

Average Daily Trips	Minimum Shoulder Width
500 - 3,000	4 feet
3,000 or greater	8 feet

B. paved medians or as an alternative, medians surrounded by curbing and treated with landscaping, chemical dust suppressants, or washed gravel applied and maintained in accordance with the performance standards included in Section 440.4.

2 Any owner of public or private paved roads shall remove or cause to be removed any erosion-caused deposits of greater than 2,500 square feet within 24-hours after receiving notice by the City (County) or the AQMD or prior to resumption of traffic where the paved area has been closed to vehicular traffic.

Section 500 Administrative Requirements

1 Any operator preparing a Fugitive Dust Control Plan shall complete the AQMD Coachella Valley Fugitive Dust Control Class and maintain a current valid Certificate of Completion.

2 At least one representative of each construction or demolition general contractor and subcontractor responsible for earth-movement operations shall complete the

AQMD Coachella Valley Fugitive Dust Control Class and maintain a current valid Certificate of Completion.

3 All reporting / recordkeeping required by Section 420 shall be provided to the City (County) and AQMD representatives immediately upon request.

4 All reporting / recordkeeping required by Section 430 through Section 460 shall be provided to the City (County) and AQMD representatives within 24-hours of a written request.

Section 600 Exemptions

1 The provisions of this ordinance shall not apply to:

A. agricultural operations including on-field sources and unpaved roads used solely for agricultural operations.

B. any dust-generating activity where necessary fugitive dust preventive or mitigative actions are in conflict with either federal or State Endangered Species Act provisions as determined in writing by the appropriate federal or state agency.

C. any action required or authorized to implement emergency operations that are officially declared by the City (County) to ensure the public health and safety.

2 The provisions of Section 420.1 shall not apply to any construction or demolition activity meeting any of the following activity levels or requirements:

A. the activity is occurring entirely within an enclosed structure from which no visible airborne particulate matter escapes; or

B. activities that do not require issuance of a grading permit or those that require a building permit provided that the project results in 5,000 or less square feet of soil disturbance.

3 The provisions of Section 420.8 shall not apply to:

A. projects that takes two weeks or less to complete provided that a long-term stabilization technique(s) identified in Section 430 are implemented; and

B. line projects (i.e., pipelines, cable access lines, etc.).

Compliance

1 A person violating any section of this ordinance or with any portion of an approved Dust Control Plan is guilty of an infraction punishable by a fine of not more than one hundred dollars ($100.00) for a first violation and a fine not exceeding four hundred dollars ($400.00) for a second violation within one year. A third violation, or more, within one year shall each be prosecuted at a level consistent with a misdemeanor violation.

2 In addition to any other remedy provided by law, failure to correct any condition indicated in a notice of violation within one hour of issuance will allow the City (County) to initiate one or more of the following actions where appropriate:

A Criminal proceedings.

B Civil proceedings to obtain an injunction; or any other relief against the owner or operator to stop operations at the site.

C Refusal to issue future permits and/or release of securities held until owner or operator has adequately demonstrated compliance with the notice of violation.

D Correction of the condition by the City (County) through the use of any securities held under this ordinance.

CV HANDBOOK

Coachella Valley

Fugitive Dust Control Handbook

June 2003

STATEMENT OF PURPOSE

- **Common Violations Observed**

STATEMENT OF PURPOSE

The purpose of the dust control ordinance requirements is to reduce the amount of fugitive dust and corresponding PM10 emissions entrained as a result of human activities in the Coachella Valley. This Handbook has been prepared to assist landowners, general contractors, subcontractors, local jurisdictions, governmental agencies, and others in the Coachella Valley in complying with dust control ordinance requirements.

Common Violations Observed During Construction Site Inspections

The following are the most common dust control problems documented during site inspections. Sources must take special care to avoid these problems during all project phases.

Failure to have an approved Fugitive Dust Control Plan or failure to follow the Fugitive Dust Control Plan conditions

Failure to inform subcontractors of Fugitive Dust Control Plan requirements

Failure to have the Fugitive Dust Control Plan on-site and to conduct daily recordkeeping activities

Insufficient number of water trucks

Inability to rapidly refill water trucks (e.g., no water towers)

Inadequate water source

Haul roads, work areas, not watered or stabilized

Soil stabilization not maintained during non-working hours/days

Inadequate long-term soil stabilization on inactive portions of site

No track-out control implemented on-site

Failure to rapidly clean-up track-out

No construction project signage

No Environmental Observer for sites greater than 50 acres

Failure to check AQMD high-wind forecasting system on a daily basis

COACHELLA VALLEY
BEST AVAILABLE CONTROL MEASURES

- **Summary of Dust Control Ordinance Requirements**
- **List of Coachella Valley Best Available Control Measures**

SUMMARY OF DUST CONTROL ORDINANCE REQUIREMENTS

The Coachella Valley dust control ordinances require:

at least one of the Coachella Valley Best Available Control Measures (CV BACM) is required to be implemented for each fugitive dust source category.

CV BACM must be implemented such that the applicable performance standards (e.g., visible emissions not to exceed 100 feet or 20 percent opacity, or cross any property line, etc.) are met.

A description of the performance standards and applicable test methods is included in Chapter 8 of this Handbook.

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 and desert pavement 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 opacity/plume length restrictions
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

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 prevent dust; 06-2 and Stabilize surface soil where support equipment 06-3 and vehicles will operate; and 06-4 Stabilize loose soil and demolition debris; and 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 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

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to prevent fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Limit vehicular speeds to 15 miles per hour while traveling on-site; and 09-4 Stabilize material while transporting to prevent fugitive dust emissions; and 09-5 Stabilize material while unloading to prevent fugitive dust emissions; and 09-6 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 prevent 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

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 not 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; or 14-2 Install and maintain wind barriers with not more than 50 percent porosity on three sides of the pile, such that the barrier is equal to or greater than the pile height. 14-3 Stockpiles within 100 yards of occupied buildings must not be greater than eight feet in height; or 14-4 Stockpiles greater than eight feet in height and not covered 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

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Ensure that on-site vehicular traffic does not exceed 15 miles per hour; and 15-3 Stabilize all haul routes; and 15-4 Direct construction traffic over established haul routes.	Apply gravel/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 is at least six inches	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

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
Weather monitoring/work practices	20-1 Monitor current weather conditions and weather predictions from the AQMD's toll free wind forecast system (800) CUT-SMOG [Press 1, then Press 5] and / or the National Weather Service; and 20-2 Cease all construction activities if fugitive dust emissions exceed 20 percent opacity or if 100 foot visible plume restriction cannot be met. Control measures (e.g., water trucks/pulls) must continue to operate unless operation of such equipment cannot reduce fugitive dust emissions or if visibility is limited to such an extent that it is hazardous to continue operating such equipment.	Documentation of weather (e.g., wind) conditions can facilitate compliance determinations when using an affirmable defense to dust control ordinance and Fugitive Dust Control Plan requirements

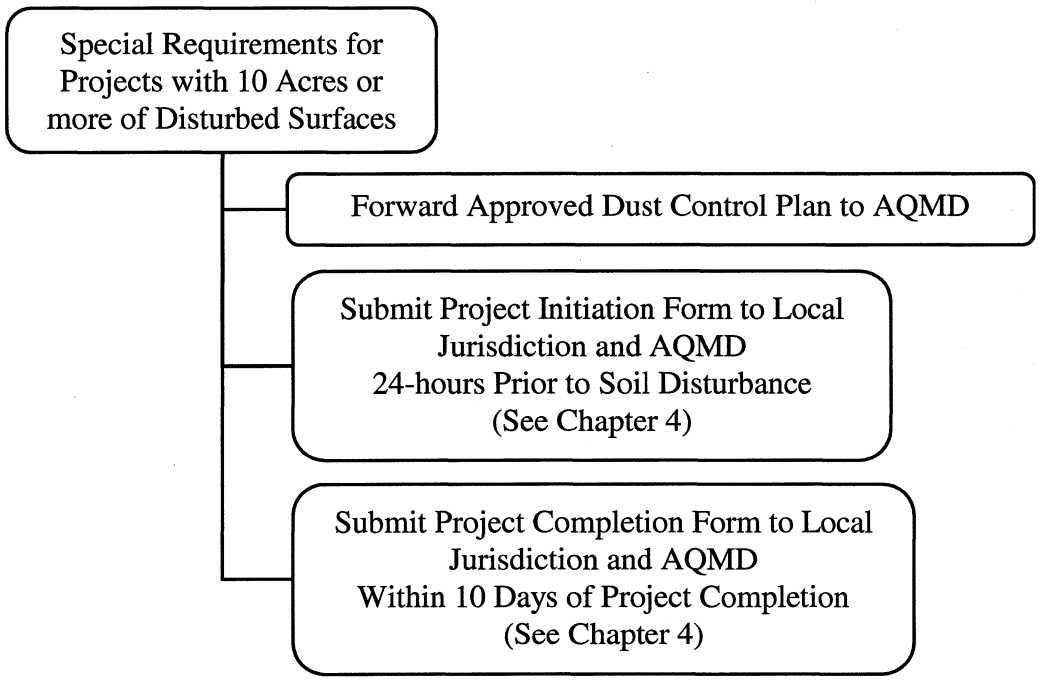
FUGITIVE DUST CONTROL PLAN GUIDANCE

- **Summary Flowchart for Construction Activity Requirements**
- **Summary of Dust Control Ordinance Requirements**
- **Fugitive Dust Control Plan Application Form**
- **Fugitive Dust Control Plan Guidance for Smaller Projects (less than 10 acres)**
- **Fugitive Dust Control Plan Guidance for Larger Projects (10 acres or greater)**

SUMMARY FLOWCHART FOR CONSTRUCTION ACTIVITY REQUIREMENTS

The following is a summary checklist and flowchart for the construction activity dust control ordinance requirements. Project operators, Fugitive Dust Control Plan reviewers, and code enforcement personnel can use this to ensure that all dust control ordinance requirements are met throughout the construction process. Additional information on specific requirements is included in the referenced Handbook Chapters.

- ❑ Implement Coachella Valley BACM for all sources (Chapter 2)
- ❑ All sites requiring a grading permit, or that involve more than 5,000 square feet of soil disturbance must prepare and have a Fugitive Dust Control Plan approved by the permitting authority (Chapter 3)



- ❑ Install construction project signage (Chapter 5)
- ❑ Maintain daily dust control log and chemical stabilization recordkeeping (Chapter 6)
- ❑ Ensure compliance with applicable test methods (Chapter 8)

SUMMARY OF DUST CONTROL ORDINANCE REQUIREMENTS

The Coachella Valley dust control ordinances require local government approval of a Fugitive Dust Control Plan prior to:

Issuance of a grading permit

Issuance of a building permit for projects with 5,000 or more square feet of soil disturbance

The Fugitive Dust Control Plan requirements consist of two elements:

(1) Fugitive Dust Control Plan Application (Form A);

and

(2) Fugitive Dust Control Plan (Form DCP or equivalent for projects with less than 10 acres of disturbed surfaces or a Site-Specific Fugitive Dust Control Plan for projects with 10 or more acres of disturbed surfaces)

The following guidance has been prepared for construction project operators to facilitate preparation of consistent Fugitive Dust Control Plans throughout the Valley.

FUGITIVE DUST CONTROL PLAN APPLICATION FORM

The following instructions have been prepared to assist project operators in preparing a Fugitive Dust Control Plan application (Form A) for construction activities. Submitting a complete application is essential in expediting the process, so please read and follow the instructions carefully.

In addition to the Fugitive Dust Control Plan application (Form A), construction activities are required to prepare a Fugitive Dust Control Plan.

Guidance for preparing Fugitive Dust Control Plans for smaller projects (less than 10 acres of disturbed surfaces) and larger projects (10 acres or more of disturbed surfaces) is also included in this Chapter.

Fugitive Dust Control Plan Application Form
(Form A - Page 1 of 4)

Please print in ink or type. Blank spaces must be completed for the application to be processed. If an item is not applicable, please enter N/A.

1. Form Preparer: Property Owner ☐ Developer ☐ Prime Contractor ☐ Other ☐*

*(If Other, attach Owner Designee Form [Page 3-8]) *

CONTACT PERSON NAME	
COMPANY NAME	
COMPANY ADDRESS	
CITY, STATE, ZIP CODE	
TELEPHONE NUMBER	
FACSIMILE NUMBER	
24-HOUR, MANNED AFTER HOURS PHONE NUMBER	
AQMD DUST CLASS CERTIFICATE #	

2. Project Address or Location

PROJECT NAME	
PROJECT ADDRESS	
CITY, STATE, ZIP CODE	
NEAREST MAJOR CROSS STREETS	
PARCEL NUMBERS	

Fugitive Dust Control Plan Application Form
(Form A - Page 2 of 4)

3. Project Acreage (total land to be disturbed)

(include project site and associated unpaved access roads, stockpiles, and staging areas)

PROJECT SIZE (ACRES)	
WATER SOURCE (GPM)	

4. Project Owner (if Fugitive Dust Control Plan preparer is not the property owner)

NAME	
COMPANY NAME (IF APPLICABLE)	
ADDRESS (INCLUDE CITY, STATE, & ZIP CODE)	
TELEPHONE NUMBER	
FACSIMILE NUMBER	

5. The Person(s) responsible for dust control measures and to whom official notices should be sent if necessary

RESPONSIBLE PERSON	
COMPANY NAME	
ADDRESS (INCLUDE CITY, STATE, & ZIP CODE)	
TELEPHONE NUMBER	
24-HOUR, MANNED AFTER-HOURS TELEPHONE NUMBER	
FACSIMILE NUMBER	
AQMD DUST CLASS CERTIFICATE #	

Fugitive Dust Control Plan Application Form
(Form A - Page 3 of 4)

6. On-Site Superintendent/Supervisor/Foreman contact

NAME	
COMPANY NAME	
ADDRESS (INCLUDE CITY, STATE, & ZIP CODE)	
TELEPHONE NUMBER	
24-HOUR, MANNED AFTER-HOURS TELEPHONE NUMBER	
AQMD DUST CLASS CERTIFICATE #	

7. Site Mapping

Provide a map showing the vicinity of the project clearly identifying the closest major cross streets or other landmarks and the project location. Label this map "**Vicinity Map**". Required map size is 8 ½ by 11".

Provide an 8 ½ by 11" or larger **Assessor Parcel Map** for the property(s) on which the project will be occurring. Outline or highlight the affected parcels. Identify location of site entrances, internal unpaved haul routes, wind fencing, areas to be chemically stabilized and other proposed and required dust control mitigations. Projects that are only installing or constructing linear features such as roads, pipelines or other utilities that boarder or cross more than one Assessor's parcel do not require Assessor's Parcel Maps, but must provide a detailed vicinity map adequately depicting the entire project area. If the project is divided into construction phases (separate physical project areas), provide a map clearly identifying the phases.

8. Attach a Fugitive Dust Control Plan

- ✓ Projects with less than 10 acres of disturbed surfaces must complete and attach a Fugitive Dust Control Plan (Form DCP) or equivalent.

- ✓ Projects with 10 acres or more of disturbed surfaces must complete and attach a Site-Specific Fugitive Dust Control Plan. Guidance for preparation of a Site-Specific Fugitive Dust Control Plan is included later in this Chapter.

Fugitive Dust Control Plan Application Form
(Form A - Page 4 of 4)

9. Project notifications
For projects with 10 acres or more of disturbed surfaces, the dust control ordinance requires notification to the local permitting authority and to the AQMD prior to project initiation and at project completion. (Refer to Chapter 4 of this Handbook for specific requirements and forms).

10. Project Signage
Construction signage must be installed on-site prior to construction. Guidelines for construction signage are found in Chapter 5 of this Handbook.

11. Owner Agreement
The signatory on this application constitutes an agreement by the owner to be the person with authority to enforce compliance by all contractors and subcontractors of the Dust Control Ordinance, Fugitive Dust Control Plan conditions, and any supplements identified by the permitting authority. Once approved, this application is incorporated by reference and becomes apart of the approved site grading plan.

Owner Signature Date

Printed Name Title and Company

AQMD Coachella Valley Fugitive Dust Control Class Certificate #

Ownership Designee Form
(Form OD)

An owner's designee form is required if a Fugitive Dust Control Plan is not prepared/implemented by the property owner, developer or prime contractor.

PROJECT INFORMATION	PLEASE ENTER INFORMATION BELOW
DESIGNEE'S NAME	
COMPANY NAME	
ADDRESS/LOCATION	
PHONE NUMBER	
AFTER-HOURS PHONE NUMBER	
AQMD DUST CLASS CERTIFICATE #	
PROPERTY OWNER INFORMATION	**PLEASE ENTER INFORMATION BELOW**
PROPERTY OWNER'S NAME	
ADDRESS/LOCATION	
PHONE NUMBER	
24-HOUR, MANNED AFTER-HOURS PHONE NUMBER	

OWNER STATEMENT

I hereby authorize the person listed as my designee to act on my behalf in all matters regarding the issuance and requirements of the Fugitive Dust Control Plan for construction activities. The designee is responsible for project duration. The designee has successfully completed the AQMD Coachella Valley Fugitive Dust Control Class. Furthermore, the designee is responsible for ensuring the contractor(s), subcontractor(s), and all other persons associated with the project are in compliance with the approved Fugitive Dust Control Plan, dust control ordinance requirements, and AQMD regulations.

Owner's Signature _____ Date _____

Printed Name _____

FUGITIVE DUST CONTROL PLAN PREPARATION GUIDANCE FOR SMALLER CONSTRUCTION PROJECTS (LESS THAN 10 ACRES)

The following instructions have been prepared to assist project operators in preparing a Fugitive Dust Control Plan for construction activities with less than 10 acres of disturbed surfaces. Submitting a complete Fugitive Dust Control Plan is essential in expediting the process, so please read and follow the instructions carefully.

Fugitive Dust Control Plan Guidance

Use the attached pages (Form DCP) to describe the dust control actions to be implemented on-site. Separate the actions to be implemented during the various project phases (e.g., clearing/grubbing and mass grading, finish grading, and site construction, etc.). If applicable, describe the additional control actions to be implemented on-site.

Please remember the following when preparing a Fugitive Dust Control Plan:

A complete copy of the Fugitive Dust Control Plan and all maps must be on-site prior to beginning construction activity and must be retained on-site at all times during project construction.

Construction signage must be installed on-site prior to construction. Guidelines for construction signage are found in Chapter 5 of this Handbook.

Dust control is required 24 hours a day, 7 days a week for the duration of the project regardless of wind conditions or construction project status.

Daily recordkeeping of dust control actions is required to be compiled and retained during project duration and for three years after project completion.

Grading plans must include a statement that incorporates the approved fugitive dust control plan into the approved grading plan.

Fugitive Dust Control Plan

For Projects < 10 Acres
(Form DCP, Page 1 of 5)

Project Name: _____

Permit Number (if applicable): _____

Owner Name: _____

Anticipated Start Date: _____ **Anticipated Completion Date:** _____

Total Earth-Movement (Cubic Yards): _____

Note: Fill out completely and describe Control Actions (e.g., # of watering trucks during phases, available water GPM. etc.).
Indicate N/A if not applicable

Project Phases

Source Category	Clearing, Grubbing, and Mass Grading *(Describe Control Actions)*	Finish Grading *(Describe Control Actions)*	Site Construction *(Describe Control Actions)*
Backfilling			
Clearing and Grubbing			
Clearing Forms			
Crushing			

Fugitive Dust Control Plan
For Projects < 10 Acres
(Form CP, Page 2 of 5)

Project Phases

Source Category	Clearing, Grubbing, and Mass Grading *(Describe Control Actions)*	Finish Grading *(Describe Control Actions)*	Site Construction *(Describe Control Actions)*
Cut and Fill:			
Demolition – mechanical/manual			
Disturbed soil			
Earth-moving activities			
Importing/exporting of bulk materials			

Fugitive Dust Control Plan
For Projects < 10 Acres
(Form CP, Page 3 of 5)

Project Phases

Source Category	Clearing, Grubbing, and Mass Grading *(Describe Control Actions)*	Finish Grading *(Describe Control Actions)*	Site Construction *(Describe Control Actions)*
Landscaping			
Road shoulder maintenance			
Screening			
Staging Areas			
Stockpiles/bulk material handling			

Fugitive Dust Control Plan
For Projects < 10 Acres
(Form CP, Page 4 of 5)

Project Phases

Source Category	Clearing, Grubbing, and Mass Grading *(Describe Control Actions)*	Finish Grading *(Describe Control Actions)*	Site Construction *(Describe Control Actions)*
Traffic areas for construction activities			
Trenching			
Truck unloading			
Turf overseeding			
Unpaved roads/parking lots			

Fugitive Dust Control Plan
For Projects < 10 Acres
(Form CP, Page 5 of 5)

Project Phases

Source Category	Clearing, Grubbing, and Mass Grading *(Describe Control Actions)*	Finish Grading *(Describe Control Actions)*	Site Construction *(Describe Control Actions)*
Vehicular track-out, handling, clean-up			
Weather monitoring/work practices			
Other (describe)			

FUGITIVE DUST CONTROL PLAN PREPARATION GUIDANCE FOR LARGER CONSTRUCTION PROJECTS (10 ACRES OR LARGER)

In addition to the Fugitive Dust Control Plan application (Form A), the dust control ordinance requires a City (County) approved Site-Specific Fugitive Dust Control Plan for projects with 10 acres or more of disturbed surfaces. The following guidance has been prepared to describe the required elements of a Site-Specific Fugitive Dust Control Plan. Remember: two copies of the Site-Specific Fugitive Dust Control Plan must be forwarded by the operator to the AQMD in an $8^{1/2}$ x 11" format, using the supplied form within 10 days after approval by the permitting authority. Please submit copies of approved Site-Specific Fugitive Dust Control Plans to:

Patrick Hotra
Senior Staff Specialist
South Coast AQMD
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396-2995
(909) 396-2608 [Facsimile]
photra@aqmd.gov

Required Elements of Site-Specific Fugitive Dust Control Plan

Project Description

This section of the Fugitive Dust Control Plan must provide a complete description of the project, a development plan, a schedule of activities, and a time frame for project completion. Additionally, this section must contain a description of soil types on site and an estimated proposed expenditure for the total project dust control budget.

Water Source Identification

This section must contain a description and location of the water supply that is dedicated to dust control. Also, identify sources of a back-up water supply if proposed in conjunction with a contingency measure. This section covers earth-moving activities for the life of the project.

Coachella Valley Best Available Control Measures:

This section must include a description of the primary dust control measures selected for each source at the project site (e.g., No. 1 - Earth-Movement, No. 2 – Unpaved Roads, etc.) based on the list of CV BACM included in this Handbook. This section must also have a description of the fugitive dust control measures to be implemented during non-working hours.

Control Measures Guidance:

Suggested minimum standards for a Site-Specific Fugitive Dust Control Plan are presented below. As a reminder, specific applicable dust control ordinance requirements are provided in italics. Additionally, grading plans must include a statement that incorporates the Site-Specific Fugitive Dust Control Plan into the approved grading plan.

No. 1 EARTH-MOVEMENT

Project Phasing

If feasible, use grading permit conditions to **break the project into phases** so that only a portion of the site is disturbed at any given time to ensure control of fugitive dust. This technique is critical for project sites with greater than 100 acres.

Pre-Watering

Prior to initiating activity, **pre-water site** through use of portable irrigation lines. At least 72 hours of pre-watering is recommended for each area prior to initiating earth-movement. The operator must specify water source and available flow rate (g/m).

Watering During Earth-Movement Activities

Water applied continuously to all disturbed portions of the site by means of water truck/water pull as necessary to maintain sufficient visible moisture on the soil surface. For reference, one 2,000 gallon water truck can treat approximately 4 acres of active construction per hour during non high-wind conditions. Also, for cut and fill activities, one 10,000 gallon water pull is estimated to be necessary for each 7,000 cubic yards of daily earth-movement. Multiple 4,000 gallon water trucks may be used in place of one 10,000 gallon water pull. Touch and visual contrast are reasonably good indicators of soil moisture. Surface areas that are dry to the touch and appear lighter-colored require the application of additional water to prevent fugitive dust. The operator must specify the number and type of watering vehicles available for dust control during each project phase as well as during off-hours and

the availability of back-up water trucks if the site experiences dust control problems (see also contingency measure requirements below).

Water towers are necessary for projects with more than 10 acres of active construction. Without a water tower, it can take up to 30 minutes to fill a 2,000 gallon water truck. Also, multiple water towers are necessary for projects that use water pulls as filling one 10,000 gallon water pull can drain a water tower that can take up to 40 minutes to refill.

Perimeter Controls

Wind fencing is necessary between the site and nearby residences or businesses. Off-site upwind fencing and on-site wind fencing for larger projects can also keep blowsand from being deposited onto the site or traveling through the site. Block walls, if part of the final project, can replace wind fencing during the site construction phase.

A perimeter **watering system** or fence line misting system consisting of portable irrigation equipment may be an effective fugitive dust mitigation system to protect surrounding residences and businesses. The local jurisdiction may also be provided access to this equipment.

Site Stabilization

Chemical dust suppressants are to be applied in accordance with the manufacturer's specifications and in sufficient concentrations and frequency to ensure compliance with the applicable test methods. Recordkeeping is necessary to demonstrate compliance. Wind fencing or other obstructions can keep areas previously treated with dust control suppressants free from future disturbances.

Vegetation can be a cost-effective alternative to chemical stabilization for areas that will remain inactive for long periods. Wind fencing or other obstructions can keep the vegetated area free from future disturbances.

Specific Dust Control Ordinance Requirements:

The dust control ordinance includes the following short-term and long-term stabilization requirements:

Short-term stabilization (after-hours/weekends) options include maintaining soils in a damp condition, watering to develop a surface crust, or use of chemical stabilization products.

Contingency Measures

This section must describe the contingency measures to be implemented if a primary control measure fails to adequately control dust emissions according to the applicable performance standards (e.g., plume length of

greater than 100 feet, or crossing any property line, or 20 percent opacity). Also, describe the steps that will be taken to initiate a contingency measure.

No. 2 – UNPAVED ROAD TRAVEL

Surface Improvements

Paving of the internal roadway network early in a project's development phase can reduce chemical dust suppressant reapplication costs. Periodic **street cleaning** throughout project construction will likely be required to ensure compliance with the dust control ordinance track-out requirements and to reduce entrained road dust.

Application of **gravel** or other material with a lower silt content than the underlying soils can be an effective surface improvement for dust control. For reference, the specific requirements for a gravel pad to prevent track-out are minimum one inch or larger washed gravel maintained to a depth of six inches. Periodic maintenance (grading and spot reapplication) may be required.

Surface Treatments

Chemical dust suppressants designed by the manufacturer for traffic areas, and applied in accordance with manufacturer's specifications and in sufficient concentrations and frequency to ensure compliance with the applicable test methods once final roadway elevations have been reached. Limiting/restricting access to non-road areas can also reduce the need to retreat areas previously stabilized.

Constant watering of unpaved roads, haul routes, and equipment paths represents a short-term, cost-effective dust control action. High evaporation rate may justify use of chemical dust suppressants for a longer-term control. For reference, U.S. EPA studies have documented a 50 percent reduction in PM10 emissions under a water application rate of 0.2 gallons per square yard per hour.

Source Extent Reduction

Unpaved road emissions are a function of the number of vehicles traversing the area and the vehicle speeds. Accordingly, programs to **reduce vehicular trips or vehicle speeds** can reduce fugitive dust emissions. Frequent watering or application of chemical stabilizers would likely be required in addition to the source extent measures to ensure that the applicable performance standards are met.

Contingency Measures

Contingency measures must be identified for each unpaved haul road/internal access route. This section must describe the contingency

measures to be implemented if a primary control measure fails to adequately control dust emissions according to the applicable performance standards (e.g., plume length of greater than 100 feet, or crossing any property line, or 20 percent opacity). Also, describe the steps that will be taken to initiate a contingency measure.

No. 3 – STORAGE PILES/BULK MATERIAL HANDLING

Wind Sheltering

Install and maintain **wind barriers** with no more than 50 percent porosity on three sides of the pile, such that the barrier is equal to or greater than the pile height.

Coverings can be used on smaller storage piles to prevent windblown dust. Any covering must be secured to ensure that it remains in place and effective.

Storage Pile Stabilization

Water applied continuously to all disturbed portions of the storage piles by means of water truck or sprinkler system as necessary to maintain sufficient visible moisture on the pile surface.
Chemical dust suppressants can be an effective control measure for storage piles with infrequent disturbances. Any product used must be applied in accordance with the manufacturer's specifications and in sufficient concentrations and frequency to ensure compliance with the applicable test methods. Recordkeeping is necessary to demonstrate compliance.

Vegetation can be a cost-effective alternative to chemical stabilization for storage piles that will remain inactive for long periods. Wind fencing or other obstructions can keep the vegetated area free from future disturbances.

Material Handling

Confining **load-in/load-out** of material to the leeward (downwind) side of the pile can reduce wind erosion of storage piles. This control measure would likely need to be implemented in conjunction with other control measures to achieve the applicable performance standards.

Stockpiles within 100 yards of occupied buildings must not be greater than eight feet in height.

Stockpiles greater than eight feet in height and not covered 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.

Contingency Measures

Contingency measures must be identified for each storage pile/material handling source. This section must describe the contingency measures to be implemented if a primary control measure fails to adequately control dust emissions according to the applicable performance standards (e.g., plume length of greater than 100 feet, or crossing any property line, or 20 percent opacity). Also, describe the steps that will be taken to initiate a contingency measure.

NO. 4 – VEHICULAR TRACK-OUT, HAULING, CLEANUP

Track-Out Prevention

Construction site accesses are to be improved with paving or gravel. If the project site is not balanced (e.g., off-site material transport), a wheel washing system and/or ribbed steel plates must be placed in the roadway before the vehicle enters the paved/graveled area to clean the tires and prevent track-out.

Covering haul vehicles or utilizing **bedliners** can prevent material from being lofted out of the vehicle or from falling out of the bottom of the vehicle.

Specific Dust Control Ordinance Requirements:

The dust control ordinance also requires at least one of the following track-out control devices for projects greater than five acres or those that import or export more than 100 cubic yards of material per day:

Gravel pad consisting of minimum one inch or larger washed gravel maintained to a depth of six inches at least 50 feet long and 30 feet wide; OR

Paved surface extending at least 100 feet into the site and at least 20 wide; OR

Wheel shaker/wheel spreading device consisting of raised dividers (rails, pipes, or grates) at least three inches tall and at least six inches apart; OR

Installation and maintenance of a wheel washing system.

Track-Out Mitigation

Street sweeping can be an effective mitigation measure if material is tracked out on to paved roads surrounding the site. Efforts to prevent material track-out will reduce sweeping costs.

Specific Dust Control Ordinance Requirements:

The dust control ordinance requires removal of material anytime it extends for a cumulative distance of more than 25 feet from any site access and at the conclusion of the workday.

Contingency Measures

Contingency measures must be identified for each track-out source. This section must describe the contingency measures to be implemented if a primary control measure fails to adequately control dust emissions according to the applicable performance standards (e.g., track-out extending more than 25 feet from any site access point). Also, describe the steps that will be taken to initiate a contingency measure.

NO. 5 - DISTURBED SURFACES/INACTIVE SITES

During Dust Generating Activities

Water applied continuously to all disturbed portions of the site by means of water truck/water pull as necessary to maintain sufficient visible moisture on the soil surface. For reference, one 2,000 gallon water truck can treat approximately 4 acres of active construction per hour during non high-wind conditions. Also, for cut and fill activities, one 10,000 gallon water pull is estimated to be necessary for each 7,000 cubic yards of daily earth-movement. Multiple 4,000 gallon water trucks may be used in place of one 10,000 gallon water pull. Touch and visual contrast are reasonably good indicators of soil moisture. Surface areas that are dry to the touch and appear lighter-colored require the application of additional water to prevent fugitive dust. The operator must specify the number and type of watering vehicles available for dust control during each project phase as well as during off-hours and the availability of back-up water trucks if the site experiences dust control problems (see also contingency measure requirements below).

Water towers are necessary for projects with more than 10 acres of active construction. Without a water tower, it can take up to 30 minutes to fill a 2,000 gallon water truck. Also, multiple water towers are necessary for projects that use water pulls as filling one 10,000 gallon water pull can drain a water tower that can take up to 40 minutes to refill.

Perimeter Controls

Wind fencing is necessary between the site and nearby residences or businesses. Off-site upwind fencing and on-site wind fencing for larger projects can also keep blowsand from being deposited onto the site or traveling through the site. Block walls, if part of the final project, can replace wind fencing during the site construction phase.

A perimeter **watering system** or fence line misting system consisting of portable irrigation equipment may be an effective fugitive dust mitigation system to protect surrounding residences and businesses. The local jurisdiction may also be provided access to this equipment.

Temporary Stabilization During Weekends, After Work Hours, Holidays

Depending on site soil types, **water** can be used to either maintain soils in a damp condition or to develop a surface crust.

Chemical dust suppressants, diluted in accordance with the manufacturer's specifications for short-term stabilization can be an effective technique for areas that will be subject to future disturbances.

Access Restriction

Fencing or other obstructions can keep the stabilized area free from future disturbances and thereby reduce the potential for windblown dust.

Specific Dust Control Ordinance Requirements:

The dust control ordinance includes the following short-term (weekend, after hour, and holiday) stabilization requirements:

- *maintaining soils in a damp condition,*
- *watering to develop a surface crust, or*
- *use of chemical stabilization products.*

Long Term Stabilization

Chemical dust suppressants, applied in accordance with the manufacturer's specifications and in sufficient concentrations and frequency to ensure compliance with the applicable test methods can be an effective long-term stabilization technique. Recordkeeping is necessary to demonstrate compliance. Portable irrigation is necessary to ensure adequate site coverage. Wind fencing or other obstructions can keep areas previously treated with dust control suppressants free from future disturbances.

Vegetation can be a cost-effective alternative to chemical stabilization for areas that will remain inactive for long periods. Wind fencing or other obstructions can keep the vegetated area free from future disturbances.

Specific Dust Control Ordinance Requirements:

The dust control ordinance includes the following long-term stabilization requirement (required within 10 days of ceasing activity for sites with no planned activity for at least 30 days):

- *vegetation with an active watering system or*

- *application of chemical dust suppressants with physical access restrictions surrounding the disturbed surface.*

Perimeter Controls

Wind fencing is necessary between the site and nearby residences or businesses. Off-site upwind fencing and on-site wind fencing for larger projects can also keep blowsand from being deposited onto the site or traveling through the site. Block walls, if part of the final project, can replace wind fencing during the site construction phase.

A perimeter **watering system** or fence line misting system consisting of portable irrigation equipment may be an effective fugitive dust mitigation system to protect surrounding residences and businesses. The portable watering system may be used in place of or in conjunction with watering trucks. The local jurisdiction may also be provided access to this equipment.

Contingency Measures

Contingency measures must be identified for disturbed surface areas or inactive portions of a construction site. This section must describe the contingency measures to be implemented if a primary control measure fails to adequately control dust emissions according to the applicable performance standards (e.g., plume length of greater than 100 feet, or crossing any property line, or 20 percent opacity). Also, describe the steps that will be taken to initiate a contingency measure.

NO. 6 – UNPAVED PARKING LOTS

Areas Subject to Frequent Disturbances

Equipment staging areas are to be treated with at least one inch washed gravel maintained to a depth of four inches or treated with chemical dust suppressants designed by the manufacturer for traffic areas, and applied in accordance with the manufacturer's specifications and in sufficient concentrations and frequency to ensure compliance with the applicable test methods.

Employee parking areas are to be covered with at least one inch washed gravel maintained to a depth of four inches or treated with chemical dust suppressants designed by the manufacturer for traffic areas, and applied in accordance with the manufacturer's specifications and in sufficient concentrations and frequency to ensure compliance with the applicable test methods. If an internal roadway network is paved, employees are to be instructed to park only on paved areas.

Contingency Measures

Contingency measures must be identified for each unpaved parking lot. This section must describe the contingency measures to be implemented if a primary control measure fails to adequately control dust emissions according to the applicable performance standards (e.g., plume length of greater than 100 feet, or crossing any property line, or 20 percent opacity). Also, describe the steps that will be taken to initiate a contingency measure.

NO. 7 – EMPLOYEE TRAINING

Employee Dust Control Training and Compliance:

This section must describe how on-site personnel will ensure that the project remains in compliance with the Site-Specific Fugitive Dust Control Plan. This section must include a statement of the authority and training of personnel that will allow the attainment of this goal.

Specific Dust Control Ordinance Requirements:

The dust control ordinance requires that any Fugitive Dust Control Plan preparer, environmental observer, and at least one representative of any on-site general contractor or subcontractor involved in soil disturbance activities to complete the AQMD Coachella Valley Fugitive Dust Control Class and maintain a valid certificate of completion.

Environmental Observer

The dust control ordinance requires an environmental observer for projects with greater than or equal to 50 acres of disturbed surfaces. The environmental observer must have completed the AQMD Coachella Valley Fugitive Dust Control Class and have dust control as the primary responsibility with the authority to immediately employ additional dust control efforts.

DUST CONTROL PLAN TEMPLATE

A template to assist in the preparation of a Site-Specific Fugitive Dust Control Plan is provided in the following pages. Operators may use this template as a guide, however, all the elements listed in the preceding pages must be included in the Site-Specific Fugitive Dust Control Plan. Additionally use of an 8 ½ by 11 inch, stand alone Site-Specific Fugitive Dust Control Plan is required regardless if the information is included on an approved grading plan.

SITE-SPECIFIC FUGITIVE DUST CONTROL PLAN*
(SITES 10 ACRES OR GREATER)

Site Description

Please ensure that Fugitive Dust Control Plan Application (Form A) is completed and attached to the Site-Specific Fugitive Dust Control Plan.

Project Description

Please provide the following information as completely as possible.

No. **Description of Source(s)** [*Please provide best estimates*]

1 Earth-moving (If not applicable, check here ____)

Maximum cubic yards of earth-movement: _____/month or _____/year

Anticipated start date: _____ End date _____; or Ongoing _____ (Check)

Amount of export: _____ (Disposal site) _____

2 Unpaved roads (If not applicable, check here ____)

Mileage: _____ Estimate of average daily traffic levels: _____

Type of motor vehicles using roads: _____

3 Storage piles/Bulk Material handling (If not applicable, check here ____)

Maximum number of piles: _____

Average height: _____, length/width: _____

Configuration: ____ cone, ____ windrow, ____ other (specify) _____

4 Vehicular track-out/Cleanup (If not applicable, check here ____)

Number of access points which connect to public roads: _____

Estimate of the maximum number of vehicles that will exit the site: _____/ day

5 Disturbed surface areas (If not applicable, check here ____)

Maximum acreage: _____

Will any disturbed surface areas remain inactive for at least 10 days? Yes __ No __

6. Unpaved Parking Lots (If not applicable, check here _____)

Number of unpaved lots at this site: _____

Size of each lot: _____

Soil Types

Primary soil type on site: _____

Dust Control Budget

Estimate of project dust control budget: _____

Water Source Identification

Water source (g/m): _____

Back-up water source: _____

* Use of an 8 ½ by 11 inch, stand alone site-specific fugitive dust control plan is required regardless if the information is included on an approved grading plan.

No. 1 - EARTH-MOVEMENT

Coachella Valley Best Available Control Measures:

In the space provided below, please check and describe your dust control measures.

Control Measure	Control Action
Pre-grading Planning	Number of acres to be graded at one time: _____ Number of parcels to be phase-graded: _____
Watering (pre-grading)	Number of water trucks: _____ Frequency of application: _____ Sprinkler/hose system: _____ Describe: _____
Watering (during grading)	Number of water trucks: _____ Frequency of application: _____ Sprinkler/hose system: _____ Describe: _____
Watering (post grading)	Number of water trucks: _____ Frequency of application: _____ Sprinkler/hose system: _____ Describe: _____
Wind fencing	Maximum height: _____ Location: _____ Describe: _____ _____
Chemical stabilization	Type of product: _____ Frequency of application: _____ Concentration: _____ Describe: _____ _____ _____
Cover haul vehicles/Bedliners in haul vehicles	Operator of haul vehicles, if other than site owner: _____ _____ _____
Other (specify)	_____
Contingency Measure(s)	_____ _____

If necessary, attach additional information.

No. 2 - UNPAVED ROAD TRAVEL*

Coachella Valley Best Available Control Measures:

In the space provided below, please check and describe your dust control measures

Control Measure	Control Action
Paving	Frequency of street sweeping: _____ Describe: _____
Gravel	Depth of gravel: _____ Describe: _____
Chemical stabilization	Type of product: _____ Frequency of application: _____ Concentration: _____ Describe: _____
Watering	Frequency of application: _____ Describe: _____
Reduce speed	Maximum speed limit: _____ miles per hour How are speeds controlled: Post signs _____; Briefings to workers _____
Trip reduction	Describe how achieved: _____
Other (specify)	_____
Contingency Measure(s)	_____

If necessary, attach additional information.

* All unpaved haul roads and parking areas must be identified on the Dust Control Plan site map and all vehicles shall only use established haul routes and parking areas.

No. 3 - STORAGE PILES/BULK MATERIAL HANDLING

Coachella Valley Best Available Control Measures:

In the space provided below, please check and describe your dust control measures

Control Measure	Control Action
Wind sheltering	Type of barriers: _____ Average height of barriers: _____ Describe: _____ _____ _____
Coverings	Types of coverings: _____ Describe: _____ _____ _____
Watering	Method of application: _____ Frequency of application: _____ Describe: _____ _____ _____
Chemical stabilization	Type of product: _____ Frequency of application: _____ Concentration: _____ Describe: _____ _____ _____
Vegetation	_____ _____
Loadin/loadout	Orientation of loadin/loadout procedures: N S E W Describe: _____ _____ _____
Contingency Measure(s)	_____ _____ _____ _____

If necessary, attach additional information.

No. 4 - VEHICULAR TRACK-OUT, HAULING, CLEANUP

Note: If trackout, spillage, or carry-out extend more than 25 feet along a paved public roadway, finalize clean-up activities within one hour. Also remove any track-out, spillage or carry-out at the conclusion of the workday.

Coachella Valley Best Available Control Measures:

In the space provided below, please check and describe your dust control measures

Control Measure	Control Action
Gravel pads	Location: _____ Size: _____ *(Minimum dimensions: 1" or larger washed gravel, maintained at 6" depth, 50' long x 30' wide)*
Paving	Location: _____ *(Minimum dimensions: 100' long x 20' wide)*
Track-out device **Type of device** **Wheel washers**	Locations: _____ Describe: _____ Location: _____ Describe: _____ _____ _____
Cover haul vehicles/ Bedliners in haul vehicles	Operator of haul vehicles, if other than site operator: _____ _____ _____ _____
Sweep/clean roadways	Frequency: _____ Type of equipment: _____ Describe: _____ _____ _____
Other (specify)	_____ _____ _____ _____
Contingency Measure(s)	_____ _____ _____ _____ _____

If necessary, attach additional information.

No. 5 - DISTURBED SURFACES/INACTIVE SITES

Coachella Valley Best Available Control Measures:

In the space provided below, please check and describe your dust control measures

Control Measure	Control Action

During Dust Generating Activities

Watering

Method of application: _____
Frequency: _____
Describe: _____
_____

Wind fencing

Location: _____
Height: _____
Describe: _____
_____

Site access

Method of vehicle restriction: _____
_____

Chemical stabilization

Type of product: _____
Frequency of application: _____
Concentration: _____
Describe: _____
_____
_____

Vegetation

Location: _____
Plant type: _____
Describe: _____
_____

Temporary Stabilization During Weekends, After Work Hours, and on Holidays

Watering

Method of application: _____
Frequency: _____
Describe: _____
_____

Chemical stabilization

Type of product: _____
Frequency of application: _____
Concentration: _____

Site access

Method of vehicle restriction: _____

No. 5 - DISTURBED SURFACES/INACTIVE SITES (Continued)

Coachella Valley Best Available Control Measures:

In the space provided below, please check and describe your dust control measures

Long-Term Stabilization

Control Measure	Control Action
Chemical stabilization	Type of product: _____ Frequency of application: _____ Concentration: _____
Vegetation	Location: _____ Plant type: _____
Wind fencing	Location: _____ Height: _____ Describe: _____ _____
Other (specify)	_____ _____ _____
Contingency Measure(s)	_____ _____ _____ _____

If necessary, attach additional information.

NO. 6 – UNPAVED PARKING LOTS

Coachella Valley Best Available Control Measures:

In the space provided below, please check and describe your dust control measures

Control Measures	Control Action
Gravel	Location: _____
Chemical	Type of product: _____
stabilization	Frequency of application: _____
	Concentration: _____
Pave	Material to be used as dust suppressant: _____
Other (specify)	_____
	_____
	_____
Contingency	_____
Measure(s)	_____
	_____
	_____

If necessary, attach additional information.

NO. 7 – EMPLOYEE EDUCATION

Employee Dust Control Training and Compliance:

This section must provide a summary of the method by which on-site personnel will ensure that the project remains in compliance with the requirements contained in the Site-Specific Fugitive Dust Control Plan. This section must include a statement of the authority and training of personnel that will allow the attainment of this goal.

Describe _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Justification

If you believe that none of the control measures for a given source category are technically feasible or if they would conflict with other regulations please describe the justification in the space provided. Please be specific. If necessary, attach additional information.

JURISDICTION APPROVAL

CITY (COUNTY) OF: _____

APPROVED BY: _____
Print Name Signature and Title

DATE: _____

NOTIFICATION FORMS

- **Summary of Dust Control Ordinance Requirements**
- **Project Initiation Form**
- **Project Completion Form**

NOTIFICATION FORMS

Summary of Dust Control Requirements

The dust control ordinance requires the project operator for sites with 10 acres or more of soil disturbance to notify the local permitting authority and the AQMD at the following construction phases:

Project Initiation Phase

Project Initiation Form must be submitted to local permitting authority and AQMD at least 24-hours prior to conducting earth-movement activities

Project Completion Phase

Project Completion Form must be submitted to local permitting authority and AQMD within 10 days of establishment of final elevations or at the conclusion of the finished grading inspection.

The following sample forms have been prepared to assist project operators in complying with these requirements. Once complete, the AQMD contact where forms can be directed to is:

Patrick Hotra
Senior Staff Specialist
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396-2608 (Facsimile)
photra@aqmd.gov (e-mail)

Questions on submittal of the forms can be directed to Patrick Hotra at (909) 396-2995.

Project Initiation Form
For Projects ≥ 10 Acres
(Form PI)

The dust control ordinance requires notification at least 24-hours prior to initiating earth-moving activities (includes clearing and grubbing). Submittal of the form to the local permitting authority and the AQMD satisfies this requirement.

PROJECT INFORMATION	PLEASE ENTER INFORMATION BELOW
PLAN/PERMIT NUMBER	
CONSTRUCTION PROJECT NAME	
PROJECT ADDRESS/LOCATION	
OWNER NAME	
PHONE NUMBER	
24-HOUR, MANNED AFTER-HOURS PHONE NUMBER	

OWNER (DESIGNEE) STATEMENT

Earth-moving activities for the above entitled project will commence on the following dates:

Clearing and/or grubbing: _____
(If Applicable) _____
_____
_____

Earth-moving _____
_____
_____
_____

Owner (Designee) Signature _____

Date _____

Project Completion Form
For Projects ≥ 10 Acres
(Form PC)

The dust control ordinance requires submittal of the following form to the local permitting authority and the AQMD within 10 days of establishment of final elevations or at the conclusion of the finished grading inspection, whichever is first.

PROJECT INFORMATION	PLEASE ENTER INFORMATION BELOW
PLAN/PERMIT NUMBER	
CONSTRUCTION PROJECT NAME	
PROJECT ADDRESS/LOCATION	
OWNER/DESIGNEE NAME	
PHONE NUMBER	
24-HOUR, MANNED AFTER-HOURS PHONE NUMBER	

OWNER (DESIGNEE) STATEMENT

I certify that all exterior construction activity has ceased on all of the land area subject to the approved Fugitive Dust Control Plan. No further soil disturbing activity will be occurring. All soil areas have been stabilized to prevent wind erosion of soil by the following method(s):

_____ landscaping
_____ chemical dust suppressants
_____ gravel cover
_____ buildings covering entire surface
_____ paving
_____ other method *(describe)*

Owner Signature _____ Date _____

Inspection Results

An inspection by a representative of the City (County) of _____ has been performed with the following results noted:

_____ Construction has ceased and the entire site has been adequately treated for long-term stabilization
_____ Construction has ceased, but portions of the site have not been adequately treated for long-term stabilization *(Attach additional stabilization requirements)*

Enforcement Officer _____ Date _____

DUST CONTROL SIGNAGE GUIDELINES

- **Summary of Dust Control Ordinance Requirements**
- **Signage Guidelines**

SUMMARY OF DUST CONTROL ORDINANCE REQUIREMENTS

The dust control ordinance requires construction projects that are subject to Fugitive Dust Control Plan requirements must install and maintain signage that identifies 24-hour manned phone numbers for dust complaints. The following guidance has been prepared to assist project operators in complying in this requirement.

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.
- ✓ Projects less than two weeks in duration may request a waiver of the construction site signage requirements.

SIGN AND LETTER SIZE REQUIREMENTS			
Project size	**≤ 1 Acre**	**1.01 – 9.99 Acres**	**Over 10 Acres**
Sign size	24" H x 36"W	36" x 48"	48" x 96"
Permit # *(if applicable)*	2"	3"	4"
Developer's Name	2"	3"	4"
Project Name / Tract ####	2"	3"	4"
IF YOU SEE DUST COMING FROM	2"	3"	4"
THIS PROJECT CALL:	2"	3"	4"
Name, Phone Number XXX-XXXX	3"	4.5"	6"
If you do not receive a response, Please call	1.5"	2.25"	3"
City (County) at xxx-xxxx	1.5"	2.25"	3"
and call the AQMD 1-800-CUT-SMOG	1.5"	2.25"	3"

Notes:

- ✓ Quantity and location of signs is subject to prior approval by the local permitting authority. Generally, signage should be located on each side of the project area and within 50 feet of the project site boundary.
- ✓ 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 developer contact must be a local or a toll-free number and manned 24-hours a day, seven days per week.

RECORDKEEPING FORMS

- **Summary of Dust Control Ordinance Requirements**
- **Sample Recordkeeping Forms for Routine Construction Activities**
- **Chemical Dust Suppressant Recordkeeping Form**

RECORDKEEPING FORMS

Summary of Dust Control Ordinance Requirements

Under dust control ordinance requirements, construction activities are required to maintain daily self-inspection records and this information must be retained for at least three years after project completion.

Additionally, any activity that utilizes chemical dust suppressants for dust control is required to maintain records indicating type of product applied, vendor name, and the method, frequency, concentration, and quantity of application.

All recordkeeping information must be made available to the local permitting authority and the AQMD immediately upon request. A copy of the recordkeeping must also be retained on-site.

The following forms have been prepared to assist in complying with these requirements.

Daily Self-Inspection Recordkeeping Form - AM HOURS

Elements Monitored	12am	1am	2am	3am	4am	5am	6am	7am	8am	9am	10am	11am	Comments
Forecasted high winds													
Wind speed													
Wind direction													
# Water trucks operating													
# Water trucks available													
Roads moist/watered													
Unstabilized areas moist/watered													
Dry areas observed													
Irrigation working													
Water tanks filled													
Water pumps working													
Chemical stabilization used													
Track-out observed													
Blow sand observed on-site													
Blowing dust observed on-site													
Blowing dust observed off-site													
Wind/snow fencing maintained													
# Complaints received													
Corrective action taken													

N= No or none Y = Yes N/A = Not applicable

Name:	Title:	Date:

Daily Self-Inspection Recordkeeping Form - PM HOURS

Elements Monitored	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm	Comments
Forecasted high winds													
Wind speed													
Wind direction													
# Water trucks operating													
# Water trucks available													
Roads moist/watered													
Unstabilized areas moist/watered													
Dry areas observed													
Irrigation working													
Water tanks filled													
Water pumps working													
Chemical stabilization used													
Track-out observed													
Blow sand observed on-site													
Blowing dust observed on-site													
Blowing dust observed off-site													
Wind/snow fencing maintained													
# Complaints received													
Corrective action taken													

N= No or none Y = Yes N/A = Not applicable

Name:	Title:	Date:

Chemical Dust Suppressant Recordkeeping Form
(Form CDS)

The dust control ordinance requires activities that utilize chemical dust suppressants must retain records indicating the type of product applied, vendor name, and the method, frequency, concentration, quantity and date of application. A copy of invoices for chemical dust suppressant products or application services is also required. These records must be retained for at least three years after project completion.

PROJECT INFORMATION	PLEASE ENTER INFORMATION BELOW
PLAN/PERMIT NUMBER *(IF APPLICABLE)*	
PROPERTY OWNER NAME/PHONE	
CONSTRUCTION PROJECT NAME	
PROJECT ADDRESS/LOCATION	
DUST SUPPRESSANT PRODUCT INFORMATION	
DATE/TIME OF APPLICATION	
NAME OF PRODUCT	
DILUTION RATE	
APPLICATION RATE	
ACREAGE/SQUARE FOOTAGE TREATED	
TRAFFIC OR NON-TRAFFIC AREA	
DUST SUPPRESSANT APPLICATOR INFORMATION	
APPLICATOR NAME	
CONTACT	
PHONE	
WARRANTEE TERMS *(IF APPLICABLE)*	

SIGNATURE OF FORM PREPARER: _____ **TITLE:** _____ **DATE:** _____

WIND MONITORING GUIDANCE

- **Summary of Dust Control Ordinance Requirements**
- **Guidance for Conducting Wind Monitoring**

June 1997

SUMMARY OF DUST CONTROL ORDINANCE REQUIREMENTS

Monitoring of wind speed is necessary to potentially qualify for an exemption from the dust control ordinance performance standards (e.g., 100 foot plume length, exceeding 20 percent opacity, visible emissions crossing a property line, etc.). *Please note that it is an affirmable defense to qualify for an exemption from the ordinance's performance standards during high wind conditions.* Site specific wind monitoring is encouraged due to improved accuracy when compared to regional wind monitors. Additionally, site-specific wind monitoring may document high winds that are not captured by regional wind monitors.

The following guidance has been prepared to assist activities that conduct wind monitoring. As indicated in the guidance, activities should develop a draft site-specific wind monitoring program and forward this information to AQMD for review. The wind monitoring guidance, based on an AQMD-issued Order for Abatement, is also summarized in Attachment A to this Chapter.

Draft wind speed monitoring programs can be directed to:

Kevin Durkee
Meteorology Section
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396-3252 (Facsimile)
kdurkee@aqmd.gov (e-mail)

Questions on submittal of a draft wind monitoring program can be directed to Kevin Durkee at (909) 396-3168.

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 m/s ± 5 percent of the observed speed. Total wind direction system errors shall not exceed 5 degrees. This includes an 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 ± 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°)	+/- 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

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. ± 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 s 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]

[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.

TEST METHODS

- **Opacity**
- **Stabilized Surface**
- **Threshold Friction Velocity**
- **Silt Loading/Content**

OPACITY TEST METHOD

Introduction:

The purpose of this test method is to estimate the percent opacity of fugitive dust plumes.

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.

Step 1:

Stand at least 16.5 feet from the fugitive dust source in order to provide a clear view of the emissions with the sun oriented in the 140-degree sector to the back. Following the above requirements, make opacity observations so that the line of vision is approximately perpendicular to the dust plume and wind direction. If multiple plumes are involved, do not include more than one plume in the line of sight at one time.

Step 2:

Record the fugitive dust source location, source type, 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 to the fugitive dust source, and color of the plume and type of background on the visible emission observation form both when opacity readings are initiated and completed.

Step 3:

Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of vision. Make opacity observations approximately 1 meter above the surface from which the plume is generated. Note that the observation is to be made at only one visual point upon generation of a plume, as opposed to visually tracking the entire length of a dust plume as it is created along a surface. Make two observations per source, beginning with the first reading at zero seconds and the second reading at five seconds. The zero-second 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 briefly at zero seconds and then again at five seconds.

Step 4:

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 5-second period.

Step 5:

Repeat Step 3 and Step 4 until you have recorded a total of 12 consecutive opacity readings. There is no limit as to when the 12 consecutive readings must be taken. Observations immediately preceding and following interrupted observations can be considered consecutive.

Step 6:

Average the 12 opacity readings together. If the average opacity reading equals 20% or lower, the source is in compliance with the dust control ordinance's opacity standard.

Question and Answer - Opacity Test Method

Question:

If not all of the procedural conditions specified in Step 1 or Step 3 can be met, can the test method still be done?

Answer:

The conditions specified in the test method are necessary for the test to be done properly. The U.S. EPA recommends that, if the conditions can only be met at a certain time of day or a certain location, then the test method should be conducted at the appropriate time and/or location. If the test method cannot be done under the correct conditions due to logistics, the U.S. EPA recommends that the test be done as consistently as possible with the specified conditions and that the source also be tested using the silt content test method.

STABILZED 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, 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)	TFV (cm/sec)
4	> 100
2	100
1	76
0.5	58
0.25	43
Collector Pan	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/ft^2, the surface is stable. If the average silt loading is greater than or equal to 0.33 oz/ft^2, 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.

APPENDIX A – BLANK FORMS

(TO BE PROVIDED IN FINAL ADOPTION PACKET FOR LOCAL GOVERNMENTS)

- **Fugitive Dust Control Plan Application Form (Form A)**
- **Ownership Designee Form (Form OD)**
- **Fugitive Dust Control Plan Template for Projects < 10 Acres (Form CP)**
- **Project Initiation Form for Projects ≥ 10 Acres (Form PI)**
- **Project Completion Form for Projects ≥ 10 Acres (Form PC)**
- **Sample Daily Self-Inspection Recordkeeping Form**
- **Chemical Dust Suppressant Recordkeeping Form (Form CDS)**

Once complete, these forms can be submitted to:

Patrick Hotra
Supervising Investigator
South Coast AQMD
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396-2995
(909) 396-2608 [Facsimile]
photra@aqmd.gov

SCAQMD RULES

(Adopted January 9, 1976)(Amended January 5, 1990)

RULE 201. PERMIT TO CONSTRUCT

A person shall not build, erect, install, alter or replace any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce or control the issuance of air contaminants without first obtaining written authorization for such construction from the Executive Officer. A permit to construct shall remain in effect until the permit to operate the equipment for which the application was filed is granted or denied, or the application is cancelled.

(Adopted January 9, 1976)(Amended January 5, 1990)

RULE 203. PERMIT TO OPERATE

(a) A person shall not operate or use any equipment, the use of which may cause the issuance of air contaminants, or the use of which may reduce or control the issuance of air contaminants, without first obtaining a written permit to operate from the Executive Officer or except as provided in Rule 202.

(b) The equipment shall not be operated contrary to the conditions specified in the permit to operate.

(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) Not withstanding 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 (l).

(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.

(Adopted May 7, 1976)

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.

(Adopted February 14, 1997)(Amended December 11, 1998)
(Amended September 10, 1999)(Amended April 2, 2004)

RULE 1186. PM_{10} EMISSIONS FROM PAVED AND UNPAVED ROADS, AND LIVESTOCK OPERATIONS

(a) Purpose

The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of vehicular travel on paved and unpaved public roads, and at livestock operations.

(b) Applicability

The provisions of this rule shall apply to specified land uses and activities conducted within the South Coast Air Quality Management District which result in fugitive dust.

(c) Definitions

(1) AVERAGE DAILY TRIPS (ADT) means the average number of vehicles that cross a given surface during a specified 24-hour time period as determined by the most recent Institute of Transportation Engineers trip generation manual, tube counts, or observations.

(2) CERTIFIED STREET SWEEPER is a sweeper that has been certified by the District as meeting the Rule 1186 sweeper certification procedures and requirements for PM_{10}-efficient sweepers.

(3) CHEMICAL STABILIZERS mean 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.

(4) CHEMICAL STABILIZATION means a method of dust control implemented by a person to mitigate fugitive dust and corresponding PM_{10} emissions which involves the use of non-toxic chemical stabilizers in sufficient quantities to maintain a stabilized surface.

(5) CONTRACT DATE is the date the contract has been signed by both parties but no earlier than 6 months before sweeping begins. Renewals of sweeping contracts are considered new contracts.

(6) DISTRICT'S TEST PROTOCOL: RULE 1186 CERTIFIED STREET SWEEPER COMPLIANCE TESTING means the reference test method contained in Appendix A, or hereafter approved by the Executive Officer and the U.S. Environmental Protection Agency to be an equivalent method.

(7) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(8) ESSENTIAL PUBLIC SERVICES are sewage treatment facilities, prisons, police facilities, fire fighting facilities, schools, hospitals, landfills, and water delivery operations.

(9) FEED LANE ACCESS AREAS are roads providing access from the feed preparation areas to and including feed lane areas at a livestock operation. These access roads are typically used to distribute feed from feed trucks to the animals.

(10) 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 man.

(11) INDEPENDENT TESTING FACILITY (OR LABORATORY) means a testing facility that meets the requirements of District Rule 304, subdivision (k) and is approved by the District to conduct certification testing under the District's Test Protocol: RULE 1186 Certified Street Sweeper Compliance Testing.

(12) LIVESTOCK OPERATIONS means any operation directly related to the raising of more than 50 animals for the primary purpose of making a profit or for a livelihood.

(13) OWNER/OPERATOR is any person who owns, leases, or operates a land use or activity subject to the requirements of this rule.

(14) 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.

(15) PM_{10} 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.

(16) PURCHASE OR LEASE DATE is the date the purchase or lease contract for delivery of sweeping equipment has been signed by both parties. Renewals of leasing contracts are considered new leases.

(17) ROUTINE STREET SWEEPING is street sweeping performed by local governments or their contractors at least once every three months for a given paved road.

(18) 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.

(19) 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.

(20) STREET CLEANING means the removal of post-event visible roadway accumulations using street sweeping equipment, front end loaders, haul vehicles, manual shoveling, street flushing, or any other methods determined effective by the responsible agency.

(21) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt or any other material of equivalent performance as determined by the Executive Officer, the California Air Resources Board, and the U.S. EPA.

(22) UNPAVED ACCESS CONNECTIONS means any unpaved road connection with a paved public road.

(23) UNPAVED ALLEY means any roadway not exceeding 25 feet in width, which is primarily used for access to the rear or side entrances of abutting property, and that is not covered by typical roadway materials.

(24) UNPAVED ROADS are 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 unpaved roadways not defined as public. This definition excludes horse trails, hiking paths, bicycle paths, or other similar pathways used exclusively for purposes other than travel by motorized vehicles.

(25) VISIBLE ROADWAY ACCUMULATIONS means the deposit of particulate matter onto paved roads as a result of wind or water erosion, haul vehicle spillage, or any other event excluding vehicular track-out, which results in the accumulation of visible roadway dust covering a contiguous area in excess of 200 square feet.

(26) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(d) Requirements

Paved Roads

(1) Any owner or operator of a paved public road on which there is visible roadway accumulations shall begin removal of such material through street cleaning within 72 hours of any notification of the accumulation and shall completely remove such material as soon as feasible. If removal cannot be completed within 10 days of notification, the owner/operator shall notify the Executive Officer and provide information on the location of the accumulation(s) and estimated removal completion date.

(2) Any government or government agency which contracts to acquire street sweeping equipment or street sweeping services for routine street sweeping on public roads that it owns and/or maintains, shall acquire or use only certified street sweeping equipment.

(3) Any government or government agency subject to the requirements of paragraph (d)(2) and/or its contractors shall operate and maintain the certified street sweeping equipment in accordance with the manufacturer's specifications.

(4) Beginning January 1, 2006, any owner or operator of a public or private paved road shall construct, or require to be constructed, all new or widened paved roads in accordance with the American Association of State Highway and Transportation Officials (AASHTO) guidelines or the

applicable equivalent locally adopted guidelines for curbing, width of shoulders, and medians as specified below:

(A) New construction or widening of paved roads with projected average daily trips of 500 vehicles or more shall be constructed with curbs or as an alternative paved outside shoulders using typical roadway materials and having the following minimum widths:

Average Daily Trips	Minimum Shoulder Width
500 - 3,000	4 feet
3,000 or greater	8 feet

(B) New construction or widening of paved roads with medians and projected average daily trips of 500 vehicles or more shall pave the median area with typical roadway materials unless:

(i) the speed limits are set at or below 45 miles per hour; or

(ii) the medians are landscaped and maintained with grass or other vegetative ground cover and are surrounded by curbing; or

(iii) the medians are treated with chemical stabilizers in sufficient quantity and frequency to establish a stabilized surface and are surrounded by curbing.

Unpaved Roads

(5) Any owner or operator of an unpaved public road in the South Coast Air Basin shall annually treat unpaved roads that have greater than the average ADT of all unpaved roads in its jurisdiction (as determined by the owner/operator) beginning January 1, 1998 and each of the 8 calendar years thereafter by either:

(A) Paving at least 1 mile of such roads using typical roadway materials; or

(B) Applying chemical stabilization to 2 miles of such roads in sufficient quantities to maintain a stabilized surface; or

(C) Taking one or more of the following actions on 3 miles of such roads:

(i) Installing signage at 1/4 mile intervals that prohibits vehicular speeds in excess of 15 miles per hour

(mph) as authorized by California Vehicle Code section 22365 and/or

(ii) Installing speed control devices (e.g., speed bumps) every 500 feet and/or

(iii) Maintaining the roadway in such a manner that inhibits vehicular speeds in excess of 15 mph.

(Note: Treatment in excess of the annual requirement can be credited toward future year requirements.)

Livestock Operations

(6) Any owner or operator of a livestock operation shall cease all hay grinding activities between 2:00 and 5:00 p.m. each day, if visible emissions extend more than 50 feet from a hay grinding source.

(7) Any owner or operator of a livestock operation shall treat all unpaved access connections and unpaved feed lane access areas with either pavement, gravel (maintained to a depth of four inches), or asphaltic road-base no later than January 1, 1998.

(e) Street Sweeper Testing and Certification Procedures

(1) Any manufacturer seeking certification of street sweeping equipment as a certified street sweeper shall utilize the following procedures;

(A) The manufacturer shall submit a signed and dated certification request to the Executive Officer, and attest to the accuracy of all statements therein, that shall include:

(i) the name and address of the manufacturer, the brand name, the model number, and a complete description of the sweeper's dust suppression system; and

(ii) confirmation that the specific sweeper configuration to be certified has been tested in accordance with District's Test Protocol: Rule 1186 Certified Street Sweeper Compliance Testing by an independent test facility or laboratory, and that test results demonstrate that the sweeper meets the Rule 1186 sweeper certification limits specified in paragraph (e)(2).

(B) Manufacturers of certified street sweeping equipment may submit a certification request for additional equipment that has substantially similar material collection and dust suppression system(s) as

equipment that was certified under the provisions of paragraph (e)(2), by providing the information specified in clause (e)(1)(A)(i). If the Executive Officer determines that the information submitted by the manufacturers in support of an equivalency determination and previous certification test results are sufficient to certify the additional equipment, the Executive Officer will approve the request.

(2) The Executive Officer will certify street sweeping equipment provided such equipment meets the following conditions based on a single certification test:

(A) The pick-up efficiency, as defined in the District's Test Protocol: Rule 1186 Certified Street Sweeper Compliance Testing, is greater or equal to 80 percent; and

(B) The normalized mass of entrained PM_{10}, as defined by District's Test Protocol: Rule 1186 Certified Street Sweeper Compliance Testing, is less than or equal to 200 mg/m.

(f) Recordkeeping

(1) Any person subject to paragraph (d)(3) shall maintain operational and maintenance records demonstrating compliance with paragraph (d)(3). Such records for the previous two years of operation (or total period of operation, if less than two years) must be made available to the Executive Officer upon request.

(2) Any person subject to paragraph (d)(5) shall maintain records that document compliance with the requirements specified in paragraph (d)(5). Such records must be updated annually and must be made available to the Executive Officer upon request.

(g) Exemptions

(1) The provisions of this rule shall not apply to essential public services that are in compliance with District Rule 403 (Fugitive Dust).

(2) The provisions of paragraph (d)(1) shall not apply to:

(A) visible roadway accumulations that occur on roads with fewer than 500 average daily trips.

(B) paved roads that have been closed until such time that the road is again opened to vehicular activity.

(C) events of such magnitude that a State of Emergency has been declared by the Governor, provided that removal of visible roadway accumulations associated with such events are initiated and completed as soon as feasible.

(3) The provisions of paragraph (d)(5) shall not apply to:

(A) any unpaved road 3,000 feet above mean sea level with fewer than 500 ADT.

(B) any unpaved road used for emergency fire or flood protection or emergency maintenance of essential service utilities to provide electricity, natural gas, telephone, water, and sewer.

(C) any unpaved public road where public access is prohibited.

(D) any unpaved alley.

(E) any government agency if it:

(i) notifies the Executive Officer that it has less than 5 miles of unpaved road mileage and implements once at least one of the control strategies identified in either subparagraph (d)(5)(A) or (d)(5)(B) or (d)(5)(C) on the unpaved road mileage with greater than the average ADT (as determined by the owner/operator) by January 1, 2000; or

(ii) notifies the Executive Officer that it has more than 5 but less than 10 miles of unpaved road mileage and implements at least one of the control strategies identified in either subparagraph (d)(5)(A) or (d)(5)(B) or (d)(5)(C) on unpaved roads with greater than the average ADT (as determined by the owner/operator) in each three year period beginning January 1, 1998 (with final treatments completed by December 31, 2005); or

(iii) notifies the Executive Officer that all of its remaining unpaved roads have 20 ADT or less (as determined by the owner/operator).

(4) The provisions of paragraphs (d)(6) and (d)(7) shall not apply to livestock operations whose contiguous bounded areas do not exceed ten acres.

(5) The provisions of subparagraph (d)(4)(A) shall not apply to unpaved road shoulders provided that the area extending eight feet from the outside edge of the pavement is landscaped and maintained with grass or other vegetative ground cover.

(h) Alternative Control Options

In lieu of complying with the provisions of paragraphs (d)(5) and (d)(7), a person may submit for approval by the Executive Officer and the U.S. Environmental Protection Agency a plan for achieving equivalent emissions reductions through alternative control measures.

HANDOUTS

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

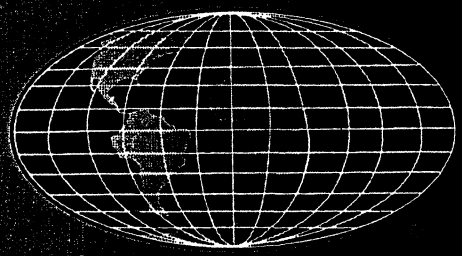
DTC SPRAY is usually injected into water lines leading to spray nozzles directly from shipping drums. See **DTC SPRAY** "Application Instructions" for procedures and suggested application rates.

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.



SSPCo

BENEFITS
DTC SPRAY

HEALTH

MAINTENANCE

COST SAVERS

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@sspco.org Website: http://www.sspco.org

FOR WATER TRUCKS

DTC®
CONCENTRATE

formerly known as Dustrol

Control of Fugitive Dust

PRODUCT DESCRIPTION

DTC CONCENTRATE is a proprietary blend of advanced complex surfactants developed for use as a water truck additive to improve wetting efficiency, to reduce frequency of watering passes, to reduce total water use, and to reduce road maintenance requirements.

AREAS OF APPLICATION

DTC CONCENTRATE is used to improve the effectiveness of the water truck programs of agricultural operations, mines, landfills, construction sites, truck yards, and other heavy-duty operations.

Water trucks are often used for dust control of material stockpiles as well as roads. **DTC CONCENTRATE** provides a low cost protective treatment, penetrating and bonding a wide variety of stockpiled materials.

DTC CONCENTRATE has been used to provide a temporary "sprayed-on tarp" as an alternative to the traditional canvas or plastic to control dust during the transport of bulk materials in urban areas.

METHOD OF APPLICATION

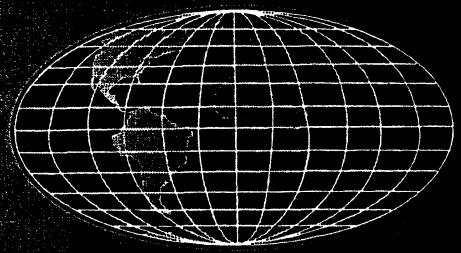
DTC CONCENTRATE is designed for water truck use. However, it can be applied with any apparatus which is capable of uniform application of water. Since **DTC CONCENTRATE** use typically results in decreased frequency of watering and declining application rates, see **DTC CONCENTRATE** "Application Instructions" for a guide to adding **DTC CONCENTRATE** to your watering program and suggested initial application rates.

ENVIRONMENTAL EFFECTS

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

PACKAGING/SHIPPING

DTC CONCENTRATE 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.



SSPCo

BENEFITS
DTC CONCENTRATE

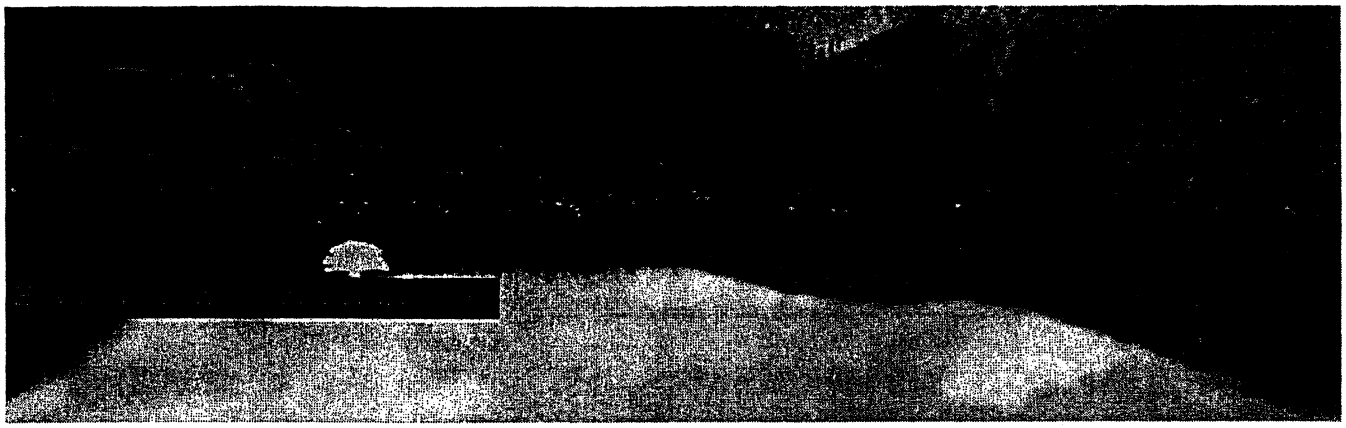
ROADS

MATERIAL STOCKPILES

HAULING VEHICLES

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@sspco.org Website: http://www.sspco.org

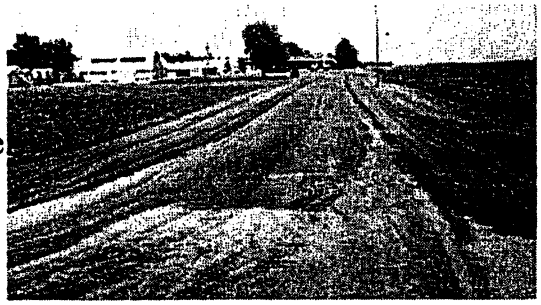


About EDC
Applications
Brokering
Material Safety Data
Links
EDC Home

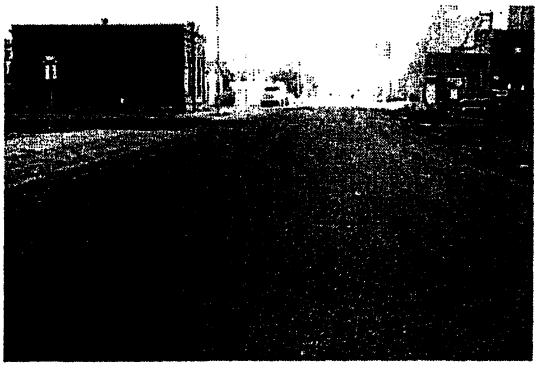
About DUSTLOCK®

DUSTLOCK'S® special environmentally responsible formulation is an effectve 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 Ph.: (507)763-3481 Fax: (507)763-3864
Robert Nelsen Ph/Fax:(507)274-5163
Arland Moger Ph.: (507)274-5131

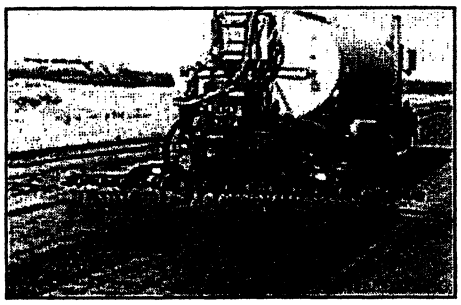
ABOUT DUSTLOCK | APPLICATIONS | BROKERING | MATERIAL SAFETY DATA | LINKS | EDC HOME

Site designed by *Tracy Publishing*
updated 1/30/02

Dust PRO, Inc.

...solutions for stabilizing your environment

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 disintigrate 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 it's 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.**

Dust Pro is licensed (118375 AE) through the Registrar of Contractors, a state licensing agency:

Registrar
of Contractors
602-542-1525

Satisfied Customers include:

Department of Transportation	**Counties and Cities**
U.S. Military	**Bureau of Land Management**
Bureau of Indian Affairs	**Forest and Park Services**
U.S. Dept. of Agriculture	**Mining Industry**
Contractors	**Private Industry**
Agriculture	**NASA**

Home | Products & Services | Erosion Control | Dust pArticles | Email Us

The Eco/Cap System®

An all in one combined Dust, Fire, Vegetation & Soil Erosion Prevention Program

1. Spray

2. Mix & Grade

3. Compact

4. Spray EcoSeal

Dust

Fire

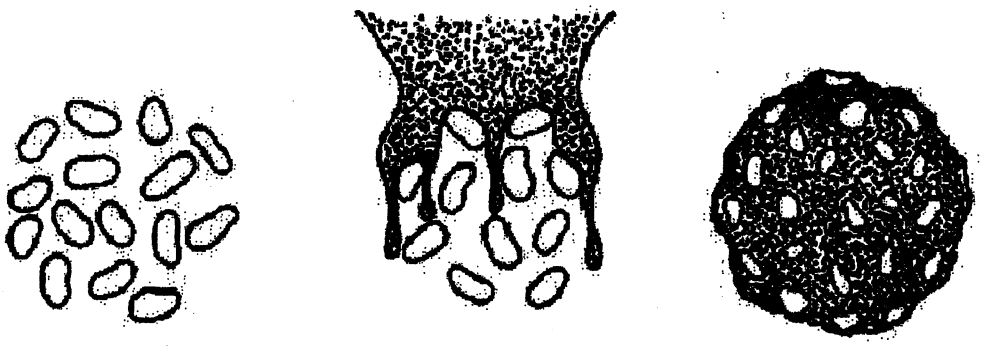
Weed

Erosion

Stardust Enterprise
421 N.Maria Ave.• Redondo Beach, CA. 90277 • office 310-372-6822 • fax 310-379-0085

The Eco/Cap System

EcoSeal is a non-toxic, non-corrosive, water- based polymeric compound. When applied to soil it binds the soil particals forming a highly durable surface, resists erosion. Esteticly pleasing and natural looking EcoSeal will not change the natural color of the soil. And will work in all types of soil.



EcoSeal is a liquid soil solidifier. The existing natural soil or decorative soils such as decomposed granite or suitable fine particle sand may be used. It is not damaged by rain. It supports heavy vehicles and it requires little or no maintenance.

Simply dilute it with water and spray it onto compact soil; or mix it into loosened soil and compact it. Easy-to-follow application instructions are provided.

EcoSeal never needs to be removed and replaced as with asphalt and concrete. Instead, after it wears, more EcoSeal can be applied on top of old EcoSeal inexpensively to extend the life of a natural soil pavement application indefinitely.

Environmentally Safe EcoSeal is non-toxic to plants and animals. It does not leach into the ground water. EcoSeal may be applied in environmentally sensitive areas without worry or concern.

Physical Properties: EcoCrete	
Appearance	Light amber
Solids	n/a
pH	5.9
Weight per gallon	8.75 lbs.
Toxicity	Non-Toxic
Flammability	Non- flammable
Odor	Pleasant ferment

Physical Properties: EcoSeal	
Appearance	Light blue
Solids	46-60%
pH	10.56
Weight per gallon	8.9 lbs.
Toxicity	Non-Toxic
Flammability	Non- flammable
Odor	Sweet

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

PLAS-TEX™

SOIL STABILIZER

PLAS-TEX™ is the long-term soil stabilizer for:

- Erosion Control
- Dust Control
- Seeding
- Landfill Capping
- Contaminated Soil Sealing
- Golf Course Bunkers

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

PLAS-TEX™ is the most versatile, reliable, and environmentally safe product manufactured. Specifically designed to provide a long-term, non-traffic alternative for ground coverage that is subject to wind and water erosion.

PLAS-TEX™ coats the soil, forming a cementatious matting that:

- Minimizes surface and gully erosion
- Provides long-term dust control
- Controls water and wind induced erosion
- Benefits soil quality, supplying calcium and sulfur
- Works on virtually all soils
- Effectively holds seed in place on the steepest slopes
- Blends in with any existing soil color

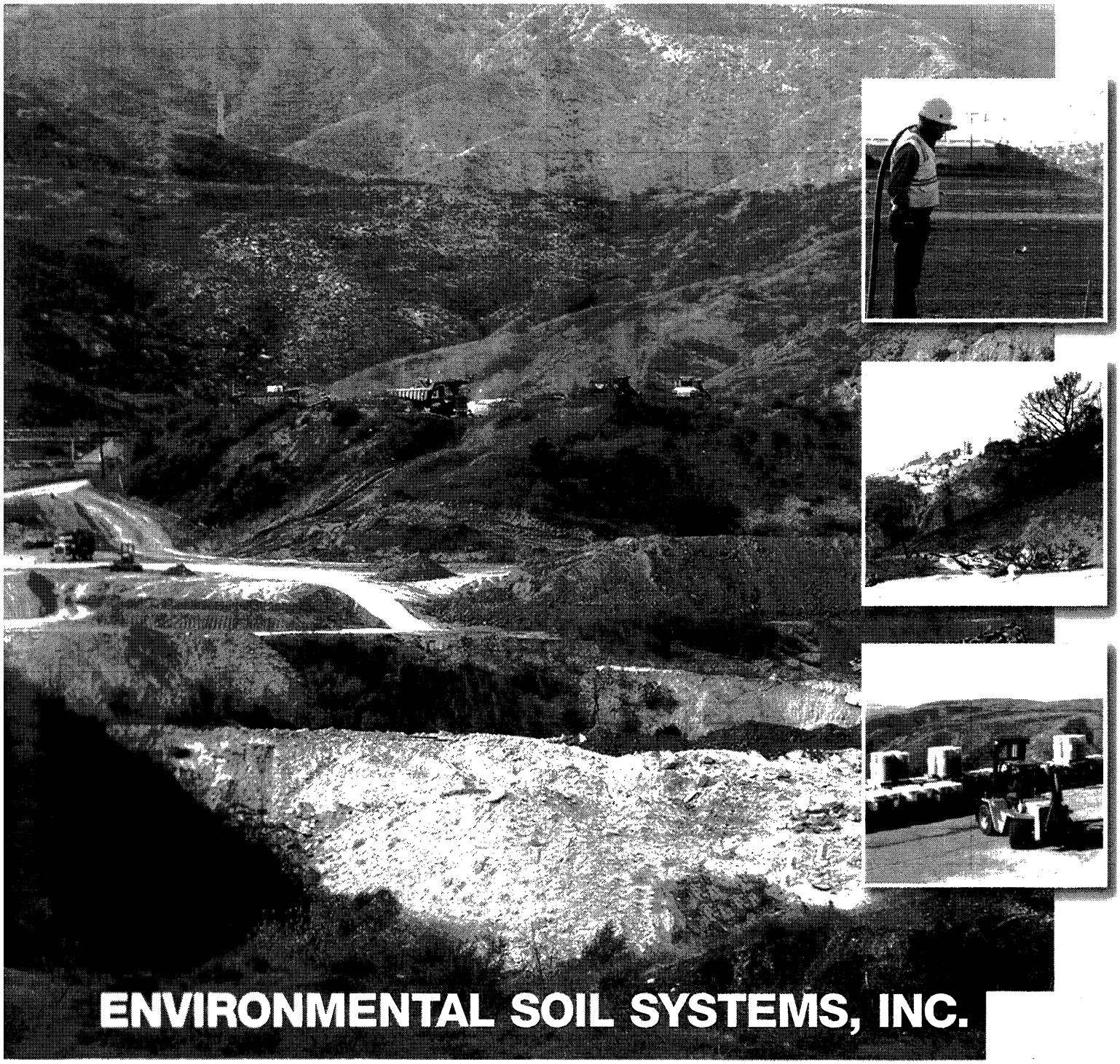
SOIL-TECH,CO.

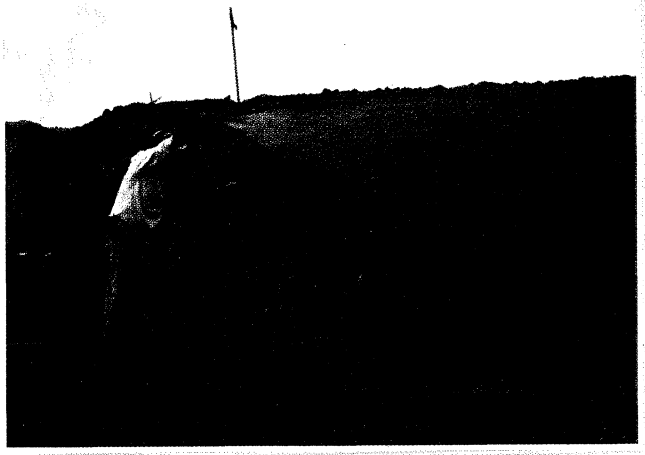
5375 S. Cameron Drive, Suite L
Las Vegas, NV 89118

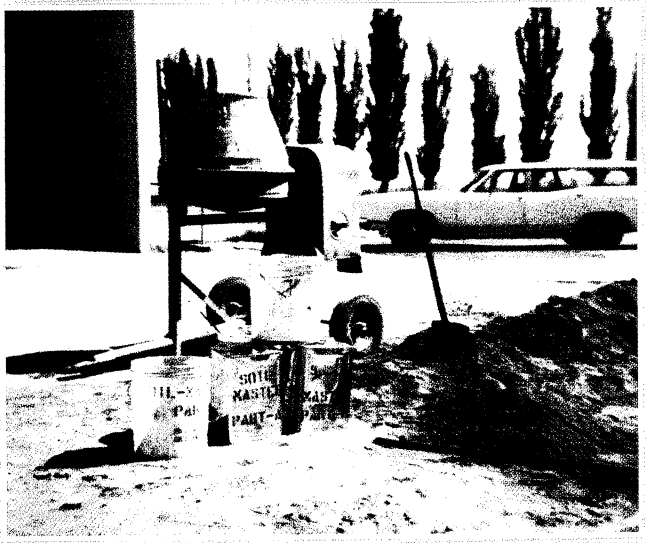
Phone: 702-873-2023
Fax: 702-873-0915
Email: tony@soil-tech.com

SoilMasterWR™

The fast and inexpensive way to keep soil and dust exactly where it belongs







Serving the Erosion Control Industry Worldwide since 1968

Environmental Soil Systems, Inc.

16161 Ventura Blvd. #703 Encino, CA 91436

Phone & Fax 888-368-9664

Outside Continental U.S. 213-947-1200

Email soilmaster_2000@yahoo.com

MEMBER OF

International **Erosion Control** Association

Soil and Water Conservation Society

American Society of Surface & Mining Reclamation

SOIL MASTER WR IS NOT AN INSECTICIDE, FERTILIZER, OR PLANT FOOD PRODUCT

Auxiliary soil and plant substance licensed by the State of California

ENVIRONMENTALLY FRIENDLY PRODUCT AND PACKAGING

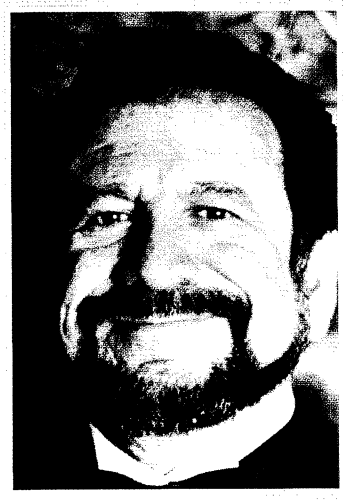
Soil Master WR: Fast, Inexpensive, and Completely Effective.

PHYSICAL PROPERTIES	
60%	Copolymer of Methacrylates/ Acrylates/Acrylics/Tripolycate™
2%	Ethoxylated Surfactants
2%	Silicates
36%	Inert Ingredients
4.6 (+/-) 0.5	pH
9.5 lnbs (+/-) 0.5lb	Lbs per U.S. Gal.
Non-Toxic	Toxicity
Non-Flammable	Flammability
Odor	Slight

THE SOIL MASTER WARRANTY

Materials and the values given should not be treated as specifications. Seller makes no other warranty, whether expressed or implied, including warranties of merchantability or fitness for a particular purpose. Buyer accepts liability for determining if the product is suitable for Buyer's intended use. Any recommendation as to use is made by seller is done so at Buyer's risk.

Buyer shall assume all risk and liability for and shall defend, indemnify, and hold seller harmless from and against all claims, liabilities, costs, and expenses arising from or connected with the position, transportation, handling, unloading, storage, processing or use of the product alone or in combination with other substances. Buyer's exclusive remedy and Seller's exclusive liability for damages under contract, tort, strict liability, negligence, or otherwise, shall in no case exceed so much of the purchase price as is acceptable to that portion of the particular shipment with respect to which damages are claimed. In no event shall Seller be liable for, incidental, indirect, or consequential damages.



"In many ways I feel we have only scratched the surface of our potential as a global leader"

RICK GRANARD
FOUNDER
Environmental Soil Systems
President of IECA

Environmental Products & Applications, Inc.

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.com
"Protecting Our Environment.From the Ground Up"

Envirotac II

Letter of Introduction

Environmental Products & Applications, Inc. is the innovative leader for dust and erosion control in the soil stabilization field. Our product, *Envirotac II,* is an acrylic copolymer that is not only effective for stabilizing fugitive dust and erosion; it is also effective for lowering job cost and reducing water consumption.

Envirotac II is a unique dust and erosion control product. When applied to the surface or mixed in with any soil, it will penetrate and extend down into the soil to create a tough layer of protection. Upon drying, *Envirotac II* binds the soil's particles together by forming a clear, plastic and resin bond.

The level of *Envirotac II* protection is determined by the amount used for each application. Light applications of *Envirotac II* are effective for cementing soil particles together for dust and erosion control while allowing water and air to still penetrate the surface. Heavier applications build durable and water proof surfaces. This hard surface is flexible and can even withstand the demands of vehicle traffic. This makes *Envirotac II* a cost-effective alternative treatment for unpaved roads.

Not only do we manufacture and distribute *Envirotac II* globally, we also help by consulting; planning; and applying the product.

Envirotac II is proven to be one of the most cost-effective and best-performing dust treatments, in comparison to other materials and water. *Envirotac II* is approved as non-toxic and environmentally safe.

I would like the opportunity for your company to use our product so that it may experience the benefits of *Envirotac II* as the solution for its soil stabilization needs.

Sincerely,

John Vermillion
President

Applications
Construction Pads/Sites
Haul / Access Roads
Aircraft Landing Pads
Unpaved Dirt Roads
Mine Tailing Ponds
Slopes & Berms
Stock Pile Capping
Parking Lots
Parks & Recreation
Odor / Vapor Suppression

Features
PM10 & PM2.5 Compliant
Ecologically Safe
Long / Short-Term Applications
Resists Breakdown
Non-Flammable
Non-Leaching
Non-Tracking
Self Mixes with Water
Dries Odorless, Clear, Transparent
Dyes (color) Can Be Added

References
Operation Enduring Freedom, Afghanistan
U.S. Armed Forces
Phelps Dodge Mining
Maricopa County, AZ
Phoenix Sky Harbor
Granite Construction
Pulte / Del Webb Corp.
Ames Construction
Many More . . .

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 contol 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.

Environmental Products & Applications, Inc.

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

Evaluations

Dust Control/Road Stabilization Agents

last updated 06/01

Project Description

CERF is seeking vendors to participate in a group evaluation of various dust suppression and roadway stabilization products to assess both performance and potential environmental impacts of their use. HITEC will be evaluating the performance aspect of the products, while EvTEC will oversee the evaluation of environmental impacts. As part of the evaluation, in-service demonstrations will be conducted throughout the country in order to gather a broad range of data on how these products perform in different regions, climates, and soil types.

Evaluation Status

To date, four companies have signed on for the evaluation, with a total of five different dust suppression/stabilization products to be evaluated. Vendors who are interested in participating in this effort are encouraged to contact EvTEC for more details. The Final Evaluation Plan is complete and the project is moving into the testing phase for this verification. A total of six demonstration sites from across the country have been identified.

Product Description

Calcium Chloride from General Chemical Calcium Chloride has long been used in cost-effective road maintenance programs. General Chemical's calcium chloride is provided as a 35% liquid solution, packaged both in bulk and flake form. Calcium chloride absorbs moisture from the air, forming a clear liquid that is extremely resistant to evaporation.

Terra Bond® from Fluid Sciences, LLC TerraBond Poly Seal is a liquid soil-stabilizing chemical formulated to effectively seal surfaces, providing strength to virtually all soil types. TerraBond Poly Seal is blended using combination

of organic polymers.

Soil Sement®from Midwest Industrial Supply Soil Sement is a polymer emulsion that produces effective control of dust and erosion and soil stabilization. Soil Sement generates its effectiveness from the length and strength of its polymer molecules and their ability to bond with surface materials.

Enviro Kleen® from Midwest Industrial Supply EnviroKleen is a formulated synthetic organic dust control product that is said to be nontoxic, clean, oil-sheen-free, colorless, odorless, and safe for human, animal, and plant life.

Perma-Zyme 11X from RMI/International Enzymes Inc. Perma-Zyme 11X is an organic, non-toxic multi-enzyme formulation designed to maximize compaction (increasing soil densities). It acts as a catalyst to greatly accelerate cohesive bonding of soil particles, creating a tight, permanent stratum.

Report Plans

The initial panel meeting was held June 2 and 3, 1999, in Washington, DC, with 15 panelists and four vendors present. The evaluation plan was completed in September 2000. The final evaluation report is tentatively scheduled for publication in early 2002 .

Contacts

Todd Hawkins
Midwest Industrial Supply, Inc.
P.O. Box 8431
Canton, OH 44711
phone: 800-321-0699
fax: 330-456-3247
todd@midwestind.com

Mike Grotefend
Product Manager
Fluid Sciences
P.O. Box 81338
Lafayette, LA 70598-1338
phone: 318-261-0796
fax: 318-272-0124
mikeg@terrabond.net

Jim Shepard
General Chemical Corp.
Delaware Development Laboratory
6300 Philadelphia Pike

Claymont, DE 19703
phone: 800-422-7632 or 302-792-8591
(voicemail - 800-631-8050 ext 7211)
fax: 302-792-8610

Mr. Bob Calaway
RMI Marketing, LLC.
PO Box 953
McLean, VA 22102
phone: 703-759-7220
prc.rmi@worldnet.att.net

For further information on EvTEC or this group evaluation, contact Jenise Dunn at 202.785.6454.

EvTEC Home Page · About EvTEC · Getting Involved · News and Publications · Evaluations

ROSE - CONTACT PERSON

COAST RESOURCE MANAGEMENT, INC.

P.O. Box 4954, Cerritos, CA 90703
Ph: (562) 860-4665 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-prodyct, 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.

CHEMICAL DUST SUPPRESSANTS

The U.S. EPA lists the use of chemical dust suppressants as one of the most effective Reasonably Available Control Measures (RACM) for long-term stabilization of fugitive dust sources. Currently, there are a variety of products which can be grouped into the general control measure category referred to as "chemical stabilization". The following is a partial listing of the product types which are currently available. Additional product types may also exist.

Product Type	Properties
Fiber based dust palliatives	Pulp product consisting of wood or paper fibers
Calcium Chloride	Hygroscopic salt which absorbs moisture
Magnesium Chloride	Hygroscopic salt which absorbs moisture
Lignosulfonate	Wood pulp by-product
Petroleum resin	Pitch and rosin emulsion
Polymer	Long-chain chemicals with soil-binding properties

The best type of product 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. Product vendors typically are able to describe the various products currently available as well as providing customers with an estimate of the amount of the product which would be necessary in order to achieve a stabilized surface for the desired period of time. In general, the greater the concentration of the product at the time of application, the longer the product will maintain a stabilized surface.

According to Rule 403, definition (c)(12), a stabilized surface is any disturbed surface area or open storage pile which is resistant to wind driven fugitive dust. An unpaved roadway is considered to have a stabilized surface when visible emissions from vehicles do not exceed 20 percent opacity. For compliance determination purposes, Rule 403 further defines wind driven fugitive dust as visible fugitive dust emissions generated by wind action alone.

FLUID TECH, INC.

HAZCO DIVISION

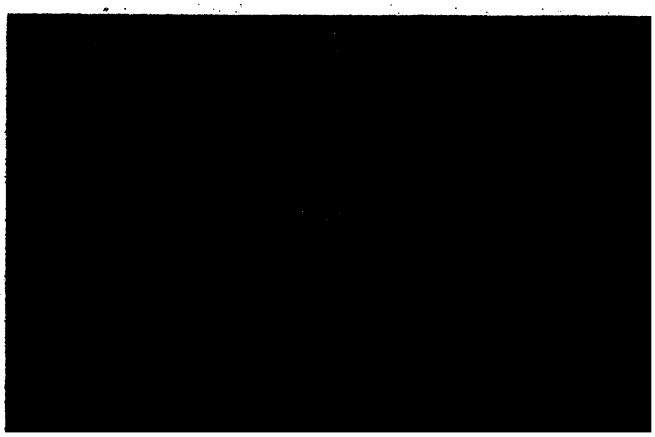
5720 S. Arville Street, Suite 104 • Las Vegas, NV 89118
Telephone: 702-871-1884 • Fax: 702-871-3629
E-mail: fluidtech@earthlink.net

702-871-7976

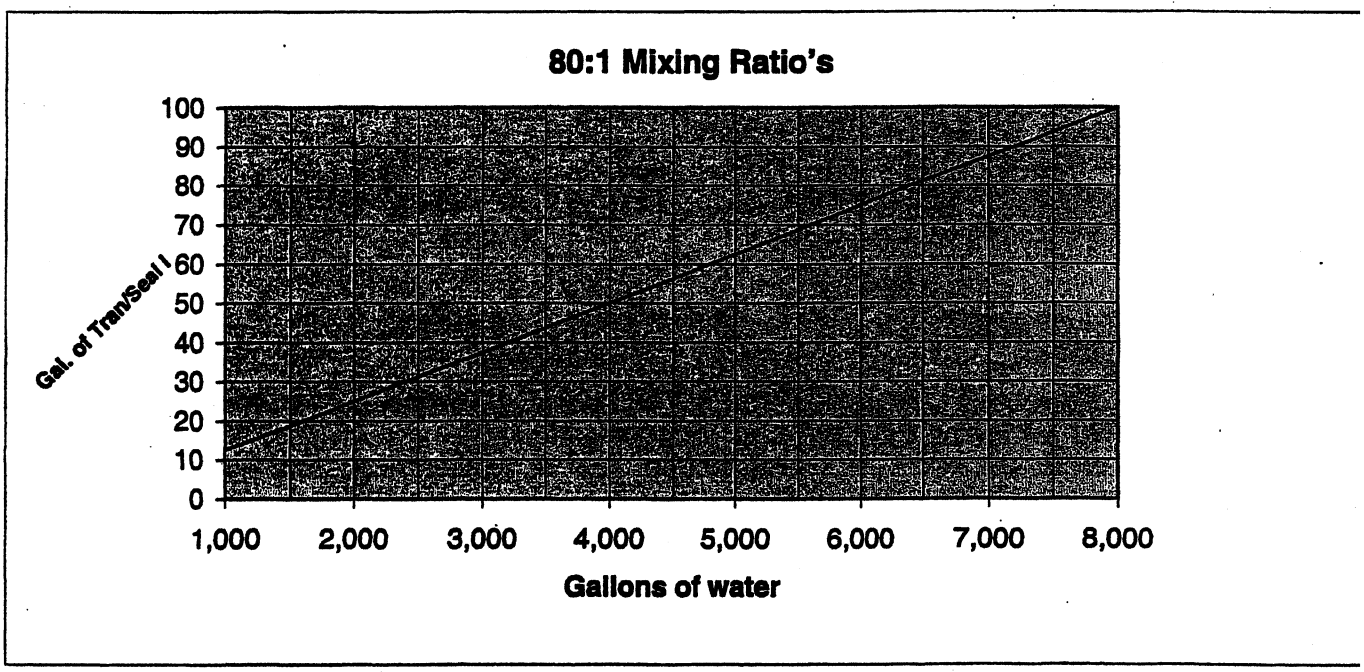
TRANS/SEAL I

FRIENDLY TO OUR ENVIRONMENT

Trans/Seal I a dust suppressant and soil stabilizer designed to control dust mitigation, reducing particulate emissions caused by blowing dust, construction and transportation of materials. Trans/Seal I is a non-toxic water-soluble product developed specifically for the control of PM $_{10}$ fugitive dusts (Particulate Emission Potential), identified by the Clark County Health District Air Quality Division, and is in compliance with EPA and the Nevada Division of Environmental Protection. Product application costs can very from $ 175.00 per acre and up, depending upon the soil type and the ratio of product applied.

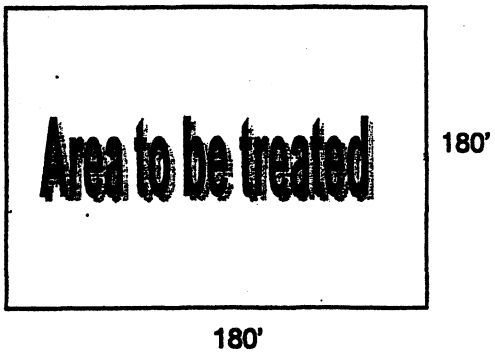


Tran/Seal I
Dust Suppressant



Formula for Coverage: Length of lot (ft) x width of lot (ft) x 0.06 (gal/ft2) = **Gallons of mixed solution to be applied**

Example: 180' x 180' x 0.06 = 1,944 gallons of water
1,944 gallons / 80 = 24 gallons of **Tran/seal I**



Typical Dilution Factors

Product	Soil Application	Dilution Factor	Tran/Seal I Required (gal/acre)	Water Required (gal/acre)	Penetrometer Test (tons/ft2)	Drop Ball Test Pass / Fail	Thickness of Crust (in)	Estimated Product Cost ($/acre)
Tran/Seal I	Heavy	40 to 1	65	2,600	1.50	Pass	5\8 - 1	$ 510.0(
Tran/Seal I	Moderate	60 to 1	43	2,600	1.00	Pass	5\8 - 1	$ 338.0(
Tran/Seal I	Light	80 to 1	32	2,600	0.75	Pass	5\8 - 1	$ 251.0(

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

Salts
Other Emulsions
Surfactants
Lignin Sulfonate
Dust Control Foams
Petroleum Emulsions
Polymers
Bitumens
Other Chemical Suppressants

Other Dust Control Techniques

Fibers, Mulches and Geotextiles
Revegetation
Windscreens
Alternatives to Land Clearing

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
Pineseal -- 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 forRoads 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 cellolose 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

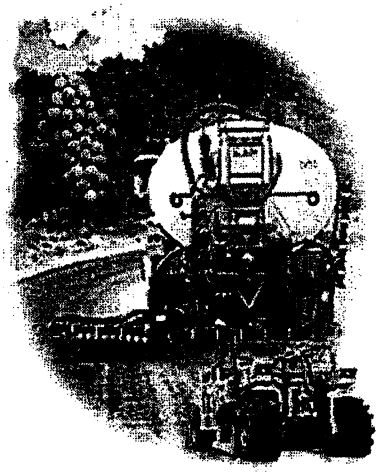
1999 **(Long download time!)**
The Spokane County Air Pollution Control Authority (SCAPCA) maintains a highly informational dust control page.
The Maricopa County, Arizona web site, the Dust Academy, is also a very good dust control web site.
The Western Regional Air Partnership (WRAP) has several articles 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.

PENNZOIL
Another Quality Product Of Pennzoil Products Company



PENNZOIL-QUAKER STATE COMPANY
PENNZSUPPRESS® D-DUST
SUPPRESSANT

Process Description: A dust suppressant composed primarily of parafinnic 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

Soil-Sement®
Dust and Erosion Control Agent

DUST AND EROSION CONTROL

Industry Excellence Since 1975

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 molécules. 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 PM_{10} 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**

Federal, State and Local regulations requiring control of PM_{10} fugitive dust place special demands on industrial plants, steel mills, mining operations, utilities, intermodal yards, construction sites, agricultural operations, contractors, and other operations where dust is present.

In test after test conducted by state and federal regulatory agencies, including one of the country's leading research laboratories, Soil-Sement® has proven to be the "number one product" to control PM_{10} and $PM_{2.5}$ fugitive dust emissions.

Soil-Sement® is the best product available to develop your control plan for open dust sources of PM_{10} including unpaved roads; storage piles; ash, tailings and disposal sites; construction activities; and open area wind erosion.

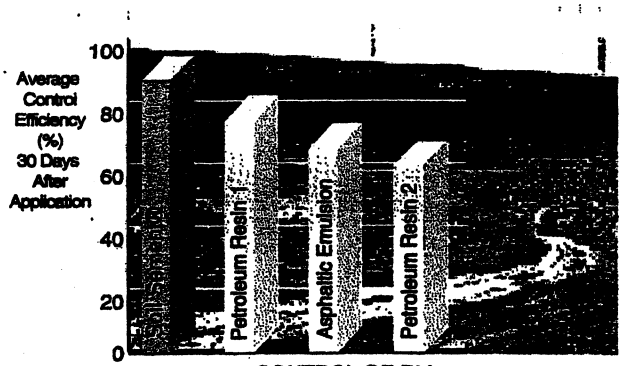
On unpaved roadways, Soil-Sement® offers immediate and long-term control of fugitive emissions while cost-effectively increasing the integrity of the roadway.

➤ **Soil-Sement® produces a solid, cohesive road surface** which with maintenance applications withstands traffic, loading abuses and extreme temperatures. It cuts rolling resistance; reduces tire wear and maintenance costs for power train, suspension and brake systems; and creates a smooth road which allows for better fuel efficiency and higher productivity.

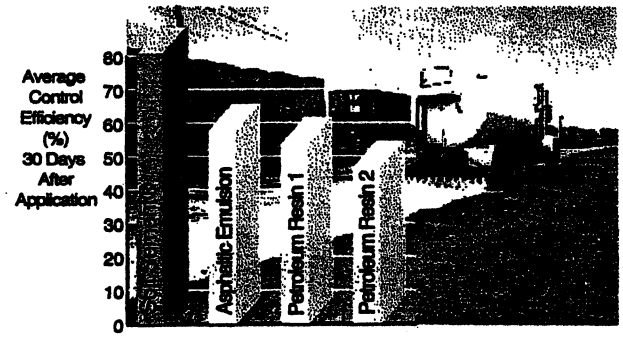
Soil-Sement® outlasts other chemical suppressants!

In the most comprehensive study to date performed for the United States Environmental Protection Agency, Soil-Sement® was compared to petroleum resins and asphaltic emulsions, in controlled PM_{10} and $PM_{2.5}$ testing involving unpaved roadways in the iron and steel industry. While all of the products performed at a high level of effectiveness immediately following each application, the true test came when the results were once again compared 30 days later. Soil-Sement® maintained an effectiveness rating within 10% of the initial application, while the effectiveness of asphaltic emulsions and petroleum resins dropped significantly.

CONTROL OF PM_{10}



CONTROL OF $PM_{2.5}$



What is PM_{10} and $PM_{2.5}$?

"PM_{10}" represents *particulate matter* consisting of particles *smaller than 10 micrometers* in aerodynamic diameter.

"$PM_{2.5}$" represents *fine particulate matter* consisting of particles *smaller than 2.5 micrometers* in aerodynamic diameter.

Particulate matter contributes to health problems and is now being closely regulated by the United States Environmental Protection Agency.

➤ **Soil-Sement® increases the load-bearing strength of roadways.** Soil-Sement® applications have a cumulative effect which continues to build upon and strengthen previous applications. This results in increased tenacity and design elasticity while preventing permanent deformation.

➤ **Soil-Sement® provides safety and traction** to hauling equipment by eliminating dust clouds and minimizing mud during periods of rain.

➤ **Soil-Sement® does not increase the alkalinity or acidity of soil** and protects the delicate soil and water balance required in agricultural environments.

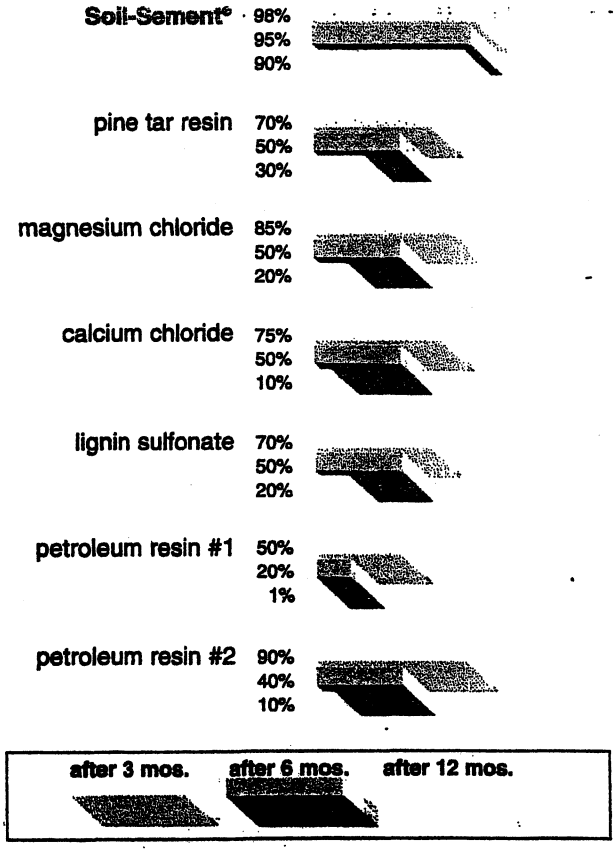
➤ **Soil-Sement® does not track from tires** onto pavement and will not corrode or pit metal and other vehicle parts.

➤ **Soil-Sement® keeps the natural aesthetics of the surroundings** in residential communities where dust control, road stabilization and maintaining the beauty of the environment are essential.

➤ **Soil-Sement® will not leach out of the surface** like pine tar, calcium, brine and lignin sulfonate solutions, and will not become brittle and create ruts and potholes like some asphaltic emulsions.

Soil-Sement®'s wide range of features endures the test of time!

A county located in the high Mojave Desert region in California initiated a PM_{10} Dust Control Project to evaluate the effectiveness of various dust suppressants for unpaved roadways. The evaluation was conducted under the direction of the County Air Quality Management District's Board and coordinated through the County Waste Management Engineering Department. The products tested included a pine tar resin, magnesium chloride, calcium chloride, lignin sulfonate, petroleum resins and Soil-Sement®. Test sites were examined 3 months, 6 months, and 12 months following application. The study found Soil-Sement® to be the product which best endured the test period, and in fact continued to perform at a high level of effectiveness as both a dust and erosion control agent.



➤ Of the products tested, **only Soil-Sement®** was successful in preventing roadbed deterioration (potholes, washboarding, rutting, and areas breaking up).

➤ Of the products tested, **only the road segment using Soil-Sement®** did not require regrading after 6 months and prior to the maintenance application.

➤ **Only Soil-Sement®** prevented washing and excessive deterioration of the road surface following bad weather.

➤ **Only Soil-Sement** retained any practical ability for controlling dust after the 12 month period.

Soil-Sement® is the best choice for dust control plans on storage piles, ashponds and tailings, and disposal sites. Soil-Sement® prevents wind from lifting fine material and creating a dust nuisance.

Storage pile dust is product. Loss of product means loss of revenue. Soil-Sement® virtually eliminates loss, resulting in increased profitabilty.

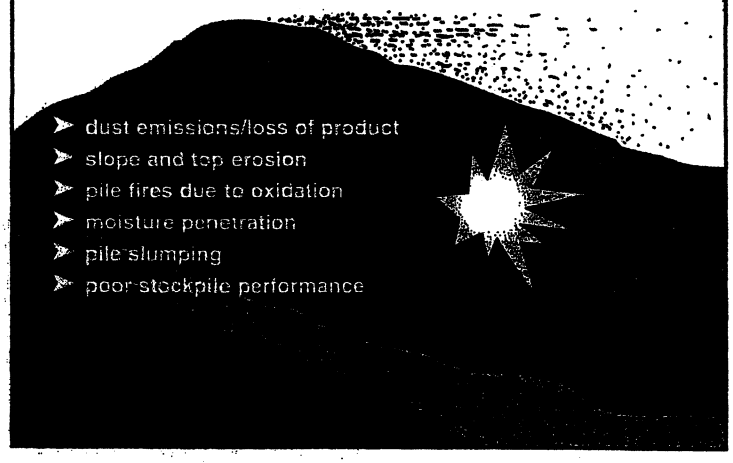
Soil-Sement® is a sealant which creates an impenetrable, durable surface with superior compressive and tensile strength, while offering long-term effectiveness.

How storage coal is handled influences overall plant efficiency and operations. Soil-Sement® product technology and application experience are unique and at the forefront of improving plant performance and profitabilty by positively affecting coal stockpile performance.

➤ **Soil-Sement® controls erosion,** preventing channeling and slumping. Soil-Sement®'s surface contains superior elastic properties that are extremely important for maintaining a continuous bonded surface during pile subsidence, expansion and contraction, and while carrying light loads.

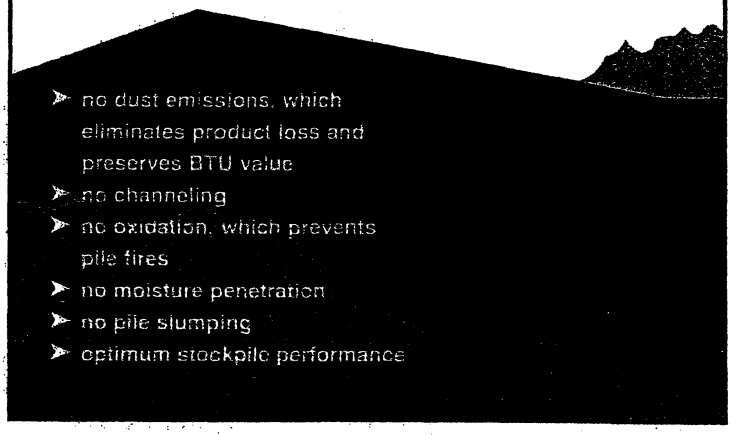
Soil-Sement® prevents loss of material and revenues on storage piles!

Unprotected coal storage piles and those treated only with water result in:



- dust emissions/loss of product
- slope and top erosion
- pile fires due to oxidation
- moisture penetration
- pile slumping
- poor stockpile performance

Soil-Sement® provides:



- no dust emissions, which eliminates product loss and preserves BTU value
- no channeling
- no oxidation, which prevents pile fires
- no moisture penetration
- no pile slumping
- optimum stockpile performance

➤ **Soil-Sement® prevents moisture penetration,** which eliminates freezing during winter months when storage coal must be reliably reclaimed.

➤ **Soil-Sement® prevents oxidation,** eliminating energy loss, hot spots and pile fires. As a result there is no deterioration to storage coal. Coal storage piles treated with Soil-Sement® maintain a much higher BTU value.

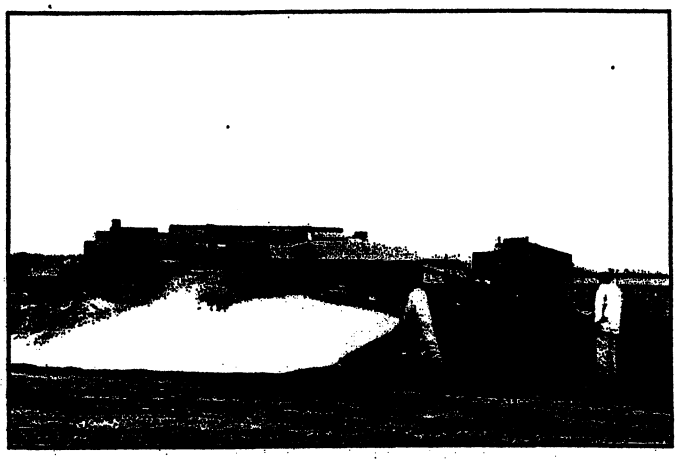
Disposal sites and residual waste landfills use Soil-Sement® as a low cost, effective intermediate cover to control erosion, dust, and infiltration, and to eliminate the release of contaminants to the environment. Soil-Sement® has been accepted by state environmental agencies as an alternative intermediate cover to the costly covering of 6" of top soil and seeding. Soil-Sement® bonds to eliminate erosion, seals the surface to prevent wind-blown dust, and creates a water resistant and resilient surface which prevents infiltration.

Soil-Sement® solves problems!

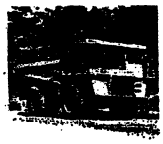
Soil-Sement®
is also used effectively
on storage piles of:

- **lime**
- **sand**
- **slag**
- **petroleum coke**
- **coke**
- **ore pellets**
- **numerous others**

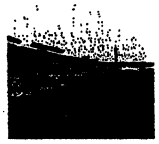
Soil Sement® has been approved by regulatory agencies for use as intermediate cover as an alternative to 6" of top soil and seeding on residual waste landfills.



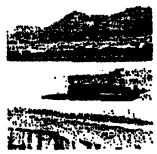





OTHER MIDWEST PRODUCTS:



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®







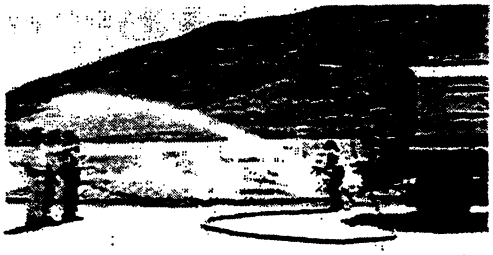



MIDWEST INDUSTRIAL SUPPLY, INC.
P.O. BOX 8431 CANTON, OH 44711
(330)456-3121 ★ (800)321-0699 ★ FAX (330)456-3247
custserv@midwestind.com ★ http://www.midwestind.com

VISA and Mastercard accepted

MMIS500-96

A promotional feature of the
Las Vegas Review-Journal and Las Vegas SUN.



From left, Sunrise Colony Co. officials Chris Nevins and David Firestone; and Midwest Industrial Supply Co. representative Frank Elswick; watch as a worker applies Soil-Sement to a construction site at Red Rock Country Club.

Product helps keep down fugitive dust, sand at Red Rock Country Club

Special to Real Estate

With a history of building in the California desert, Sunrise Colony Co. considers itself well-prepared to tackle the elements of Southern Nevada's desert.

"Our primary area of land development, home building and golf course construction in recent years has been in the Southern California desert area," Jack Conlon, company president, said recently. "This area has a long history of high winds and airborne sand that have caused strict standards to be developed by the Southern California Air Quality Management District. Sunrise Company has been a visionary leader in developing industry standards to mitigate fugitive dust and sand. In fact, our efforts in Palm Springs and Palm Desert earned us the distinguished Air Quality Award, of which we're quite proud."

When the developer's new project, Red Rock Country Club, was little more than an idea, Conlon met with his staff. After extensive research and the process of elimination, the group selected a company they believed could assist them in mitigating the problem of dust control.

"Our answer came in the form of a product called Soil-Sement, and a man named Frank Elswick," Conlon said.

Elswick, who has worked with Sunrise for about five years, represents Midwest Industrial Supply Co., the Ohio-based distributor of the product.

"(Sunrise has) always been on the leading edge implementing the newest technology," Elswick said. "Actually, the name Soil-Sement is virtually self-explanatory. It's a liquid polymer that sprays on soil, penetrates and actually bonds the particles together, creating a hard, flexible, dust-free surface. Best of all, this product is environmentally friendly. It's nontoxic and will not contaminate soils, streams or vegetation."

Elswick said his client is experimenting with another product designed for use in high traffic areas, such as roads.

"EnviroKleen is a relatively new product that really has to be seen to appreciate," he said. "This synthetic fluid is sprayed on severe traffic areas, such as haul roads on construction sites. The surface appears wet, and one application can last up to

twelve months, even with extensive heavy equipment traffic. And of course, it is also completely environmentally safe, nontoxic, clean, colorless and odorless."

Sunrise Co.'s efforts to control dust in the valley have been praised by the Bureau of Land Management, Clark County Health Department and other government entities.

Chris Nevins, vice president and construction manager, is delighted to be associated with a company concerned about the environment.

"Of course, we have a responsibility to the community," Nevins said. "But don't forget, we are all members of this community, too. We have wives and children, and our concerns are the same as every other Las Vegan. Ultimately, taking care of our environment can only be good for everyone."

Red Rock Country Club is a private, guard-gated community in Summerlin. At buildout, there will be about 1,000 homes and as many as 100 custom-home sites. Prices range from $250,000 to more than $800,000.

Among the amenities will be two Arnold Palmer-designed championship golf courses, a 42,000-square-foot clubhouse, and a 7,500-square-foot sports club and fitness facility. There will also be nine lighted tennis courts, and an aquatic center with five pools.

[BACK]

LIQUID COPOLYMER
SOIL STABILIZER

SOILTAC®

STABILIZATION / DUST CONTROL / EROSION CONTROL

Manufacturer of SOILTAC®
Copolymer Emulsion

SOILWORKS®,LLC

BILIZATION / DUST CONTROL / EROSION CONTROL

n Monterey Street, Suite 101
Arizona 85233-3818 USA

545-5420 Toll Free
545-5454 Main Office
545-5456 Main Fax
758-6465 After Hours
@Soiltac.com e-mail

ILTAC.COM

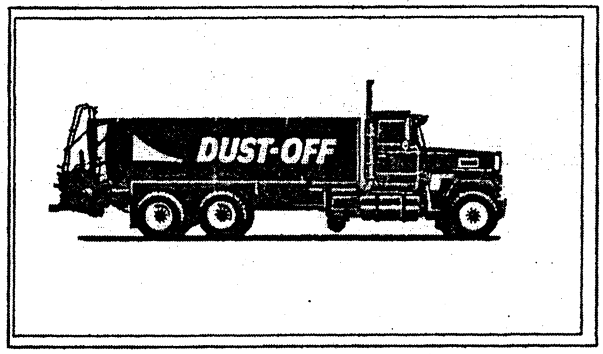
Printed January 2024
Soiltac Logo are registered trademarks of Soilworks, LLC

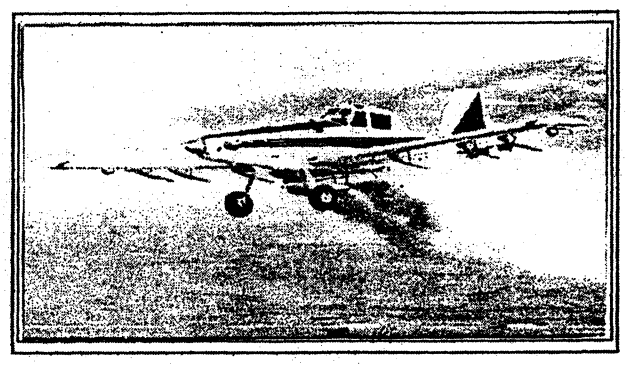
South Western Sealcoating. Inc.

- 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

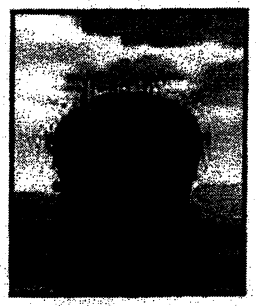
Website nodust1.com

South Western Sealcoating, Inc.

Southern California-based South Western Sealcoating, Inc. – one of the West's largest dust management distributors and contractors, has taken technology to a new level.

The innovation and technical skills necessary to develop special aircraft and bringing space age electronics technology to the Dust Control marketplace are just a part of what makes South Western Sealcoating, Inc. a proven supplier... And the supplier of choice for all of your dust control, soil stabilization and asphalt paving needs.

With both aerial and truck spraying methods available, South Western Sealcoating, Inc. delivers the goods *on target... on budget... virtually anywhere you have a need.*



South Western Sealcoating helped pioneer the use of spreader trucks equipped with the "Bearcat CRC" (Computerized Rate Control) system. Our successful track record in the industry has been based upon the utilization of these trucks for standard ground based dust control applications.

South Western Sealcoating, Inc., -- in conjunction with Gilbert Aviation, -- developed and engineered a unique product loading and delivery system for an AT-802 Air Tractor aircraft that can typically load up to 700 gallons within 3 minutes and accurately dump in a precision pattern in just 9 seconds. In lighter concentrate applications, the Air Tractor can cover up to 1 mile in just 18 seconds.

CALL US TOLL FREE

888 - NO DUST 1

(888 - 663-8781)

Dust Cap™
Dust Control Polymer

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.

- 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.

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.

Physical Properties

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

Click Here For Dust Control Information **Click Here For Grader Equipment Information**

888.356.7847 * 337-291-2778 FAX 337-291-2781

Track-out elimination devices

Material Transport Services
P. O. Box 620
Orange CA 92666
(714) 998-4045
(714) 637-1550

Trench Shoring
Corona
(909) 734-4290

Farnam - welded, heavy-dutycattle guard to withstand constant use by heavy equipment and trucks.
(800) 267-5211.

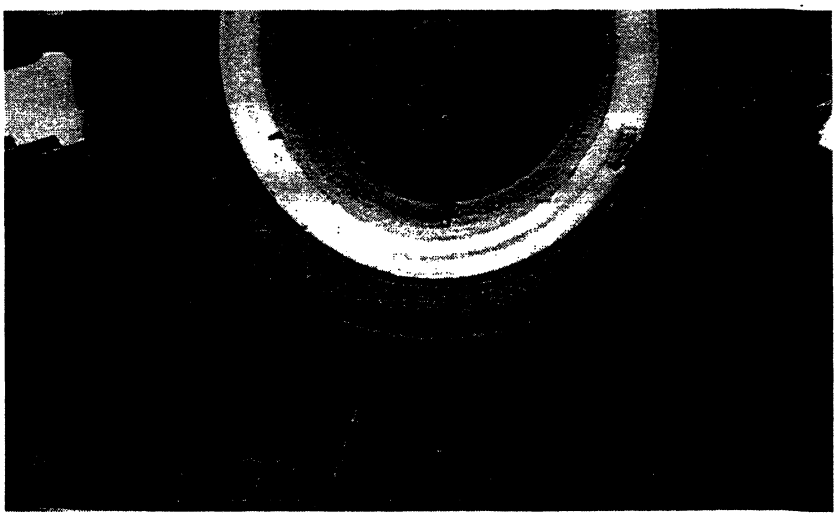
TRACKCLEAN™

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.

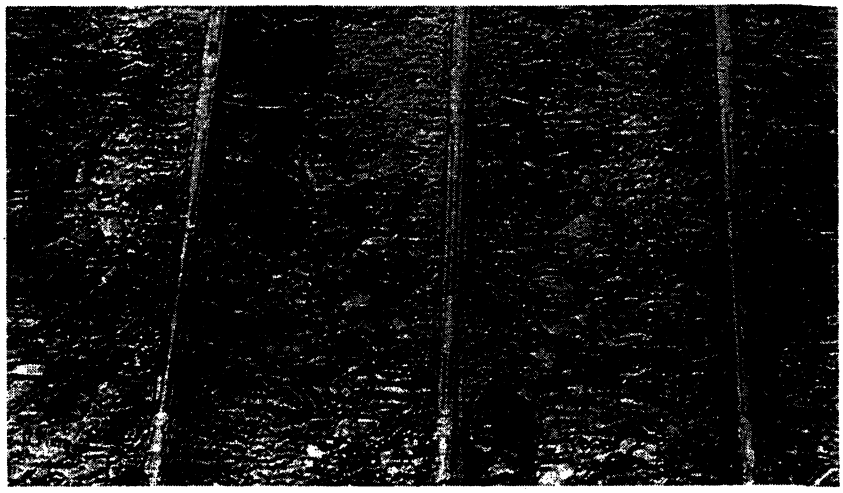
TRACKCLEAN is available in portable 6' long 10' wide sections, and can be added to depending on the severity of the job site tracking problem.

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

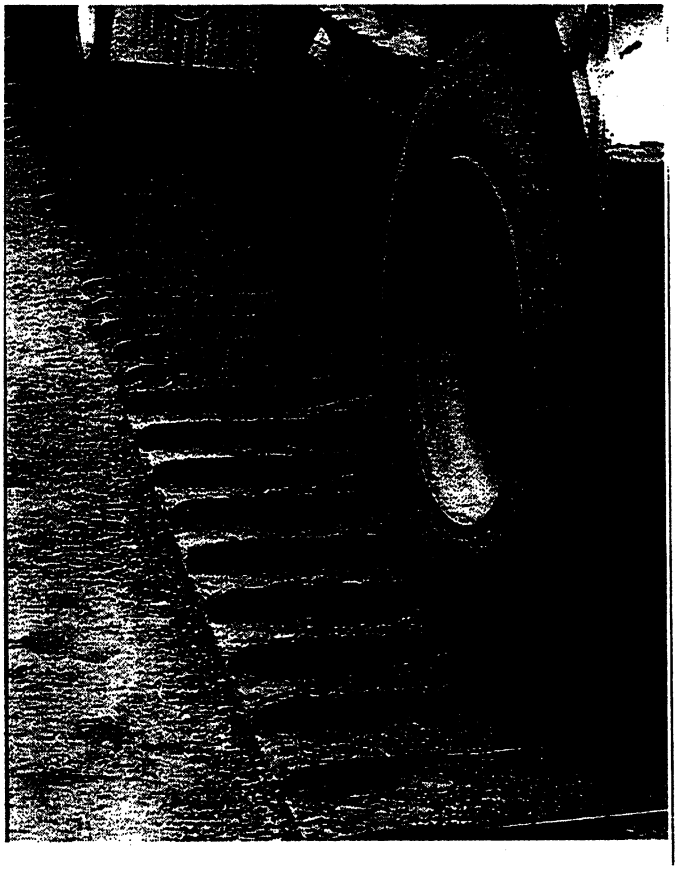
MULTIPLE TRACKCLEAN APPLICATION

MATERIALS TRANSPORT SERVICES • P.O. BOX 620, ORANGE, CA 92666 • (714) 998-4045 (714) 637-1550

TRACKCLEAN™

PATENT PENDING

INDUSTRIAL / AGGREGATE SITE
TRACKCLEAN PLACED PRIOR TO SCALE



TYPICAL USE ON MATERIAL
IMPORT / EXPORT JOB SITE

TRACKCLEAN™

STAMP

DISTRIBUTED BY:

MATERIAL TRANSPORT SERVICE
P.O. Box 620
Orange, Calif. 92666

LIST OF VENDORS

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

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.

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

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

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
Soil Guard	S & S Seeds Carpentaria, CA (805) 684-0436

Product Name	Vendor Contact
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 www.midwestind.com
TOPEIN™ Emulsions (organic dispersions)	Doyle Ellis Bakersfield, CA (877) TOPEINS
Terrazyme (organic enzyme)	Environmental Services & Products Walnut, CA (909) 595-0470