

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 74.29 - SOIL DECONTAMINATION OPERATIONS

(Adopted 10/10/95, Revised 1/8/02, Revised 4/08/08 Effective July 1, 2008)

A. Applicability

This rule is applicable to soils that contain gasoline, diesel fuel, or jet fuel.

B. Requirements

1. No person shall cause or allow the aeration of soil that contains gasoline, diesel fuel, or jet fuel, if such aeration:
 - a. Emits reactive organic compounds (ROC), as measured by a certified organic vapor analyzer, in excess of 50 parts per million by volume (ppmv) above background, as hexane, except nonrepeatable momentary readings. In determining compliance, a portion of soil measuring three inches in depth and no less than six inches in diameter shall be removed from the soil surface and the probe inlet shall be placed near the center of the resulting hole, level with the soil surface surrounding the hole; or
 - b. Causes a nuisance, as defined in the California Health and Safety Code Section 41700 and Rule 51, Nuisance.

Offsite aeration is prohibited.

2. No person shall excavate an underground storage tank and/or transfer piping currently or previously used to store an applicable compound, or excavate or grade soil containing an applicable compound, unless ROC emissions are monitored with a certified organic vapor analyzer at least once every 15 minutes during the excavation period commencing at the beginning of excavation or grading. Soil with emission measurements in excess of 50 parts per million by volume (ppmv), as hexane, shall be considered contaminated.

During excavation, all inactive exposed contaminated soil surfaces shall be treated with a vapor suppressant or covered with continuous heavy duty plastic sheeting (4 mil or greater) or other covering to minimize emissions of ROC to the atmosphere. Covering shall be in good condition, overlapped at the seams, and securely anchored to minimize headspace where vapors may accumulate.

3. No person shall operate a vapor extraction, bioremediation, or bioventing system unless: ROC emissions, as measured by a certified organic vapor analyzer, are less than or equal to 100 ppmv, as methane. If the total system flow rate is greater

than 300 standard cubic feet per minute (scfm) and the system would emit ROC at a rate greater than 0.08 lb/hour, a Health Risk Assessment shall be required.

4. No person shall operate an in situ soil bioventing or bioremediation system unless ROC emissions, as measured by a certified organic vapor analyzer, are less than or equal to 50 ppmv, as hexane, except nonrepeatable momentary readings, when measured at a distance of three inches from the soil surface.
5. The owner or operator of any applicable underground storage tank shall notify the District Compliance Division at least 24 hours prior to beginning the excavation of said storage tank and/or transfer piping.
6. Contaminated soil in active storage piles shall be kept visibly moist by water spray, treated with a vapor suppressant, or covered with continuous heavy duty plastic sheeting (4 mil or greater) or other covering to minimize emissions of ROC to the atmosphere. Covering shall be in good condition, overlapped at the seams, and securely anchored to minimize headspace where vapors may accumulate. For any active storage pile, the surface area not covered by plastic sheeting or other covering shall not exceed 6,000 square feet.
7. Contaminated soil in inactive storage piles shall be with covered with continuous heavy duty plastic sheeting (4 mil or greater) or other covering to minimize emissions to the atmosphere. The covering shall be in good condition, overlapped at the seams, and securely anchored to minimize headspace where vapors may accumulate.
8. If not removed within 30 days of excavation, on-site treatment to remove contamination from contaminated soil at an excavation or grading site shall be initiated. The treatment of contaminated soil shall be subject to all applicable District Rules and Regulations.
9. Trucks used to transport contaminated soil must meet the following requirements:
 - a. The truck and trailer shall be tarped prior to leaving the site. Contaminated material shall not be visible beyond the tarp and shall not extend above the sides or rear of the truck or trailer; and
 - b. The exterior of the truck, trailer and tires shall be cleaned prior to leaving the site.

C. Exemptions

1. The provisions of this rule shall not apply to soil that was contaminated by a leaking storage tank used in an agricultural operation engaged in the growing of crops or the raising of fowl or animals.

2. The requirements of Subsection B.1.a shall not apply to:
 - a. Soil excavation activities necessary for the removal of in situ soil such as in the removal of an underground storage tank, pipe or piping system, provided the exposed soil is covered as specified in Subsection B.7 while inactive; or
 - b. Soil moving, loading, or transport activities performed for the sole purpose of complying with local, state, or federal laws, provided the soil is handled in accordance with such laws; or
 - c. Soil excavation or handling occurring as a result of an emergency as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized agency officer. Whenever possible, the APCO shall be notified prior to commencing such excavation; or
 - d. Any soil aeration project involving less than 1 cubic yard; or
 - e. Situations where the soil contamination resulted from a spill or release of less than five (5) gallons of diesel fuel, jet fuel, or gasoline; or
 - f. Contaminated soil used as daily cover at permitted Class III Solid Waste Disposal Sites if such soils do not have a gasoline concentration exceeding 100 parts per million by weight (ppmw) or a diesel fuel concentration exceeding 1,000 ppmw as determined by the method specified in Subsection F.1.

D. Recordkeeping Requirements

For any soil aeration project subject to this rule, the records specified in Subsection D.1 shall be made available to the Air Pollution Control Officer upon request for at least two years after initial entry.

For any other soil decontamination project subject to this rule, the following information shall be made available to the Air Pollution Control Officer upon request for at least two years after initial entry.

1. All dates that soil was disturbed and the quantity of soil disturbed on each date.
2. Reasons for excavation or grading.
3. Cause of VOC soil contamination and history of the site.
4. Description of tanks or piping associated with the soil contamination.

5. Description of mitigation measures employed for dust, odors and ROC emissions.
6. Details of treatment and/or disposal of ROC contaminated soil, including the ultimate receptor.
7. Description of monitoring equipment and techniques.
8. All ROC emission measurements shall be recorded on a continuous permanent strip-chart or in a format approved by the Air Pollution Control Officer (APCO).
9. A map showing the facility layout, property line, and surrounding area up to 2500 feet away, and including any schools, residential areas or other sensitive receptors such as hospitals or locations where children or elderly people live or work.

E. Violations

Failure to comply with any provision of this rule shall constitute a violation of this rule.

F. Test Methods

1. The percent by weight of contaminant in soil samples shall be determined by EPA Method 8015B. Samples shall be introduced using Method 5035 (Purge and Trap) and shall be taken in accordance with the Los Angeles Regional Water Quality Control Board's guidelines for contaminated soil sampling. Standards shall be the same as the contaminant believed to be in the soil. If the soil is contaminated with methanol 85 (M85) the standard used shall be M85.
2. To determine if the 0.08 lb/hr threshold in Subsection B.3, will be exceeded, the emission rate (ER) shall be determined as:

$$ER = \frac{(MR)(ppmv)(16 \text{ lb/lbmole})(60 \text{ min/hour})}{(387 \text{ scf/lbmole})(10^6)}$$

Where:

MR = Maximum rating of the system's fan or blower in scfm.

ppmv = Contaminant concentration in parts per million by volume, as methane, in the system's exhaust or vent as determined in a manner consistent Subsection F.3 and according to a monitoring schedule approved by the District.

3. The ROC concentration measurements required in Subsections B.1, B.2, B.3, and B.4 shall be made using an organic vapor analyzer certified according to the requirements of EPA Method 21. For stack measurements, the probe inlet of the analyzer shall be placed on the centerline of the exhaust or vent, upstream of the point where the exhaust gases meet the atmosphere.

G. Definitions

1. "Active": A worksite to which soil is currently being added or from which soil is currently being removed. Activity must occur within one hour to be current.
2. "Aeration": The exposure of excavated contaminated soil to the atmosphere without the use of air pollution control equipment or vapor extraction equipment.
3. "Bioremediation system": A system that uses endogenous or exogenous biological agents to degrade soil contaminants to less hazardous compounds. In bioremediation, microbial processes are controlled by factors such as soil pH, salinity, oxygen level, water content, and nutrient level.
4. "Bioventing system": A type of bioremediation system in which air or oxygen is supplied to the unsaturated zone of contaminated soil to stimulate aerobic biodegradation of soil contaminants. Bioventing systems are designed to provide only the necessary amount of oxygen for biodegradation while minimizing contaminant volatilization. Bioventing may be implemented by injecting air or oxygen through a screened well in the contaminated zone or withdrawing air through a screened well, thereby drawing air into the contaminated soil from the surrounding clean soil. Bioventing systems may or may not have a vent to the atmosphere.
5. "Certified organic vapor analyzer": An applicable instrument meeting the specifications and performance criteria in Section 6.0 of EPA Method 21.
6. "Contaminant": Diesel fuel, gasoline, or jet fuel.
7. "Contaminated": Emitting ROC in excess of 50 parts per million by volume (ppmv), as hexane.
8. "Daily Cover": Soil that is applied on a daily basis or less frequently as a covering over landfill waste.
9. "Diesel Fuel": A blend of petroleum called middle distillates (heavier than gasoline but lighter than lubrication oil) that may contain additional additives.
10. "Excavation": The process of digging out and removing soil. Included is the digging out and removal of any material necessary to expose soil, such as asphalt or concrete.
11. "Gasoline": Any petroleum distillate having a Reid vapor pressure of 4.0 pounds per square inch or greater, which is sold or intended for sale for use in motor vehicles or engines and is commonly or commercially known or sold as gasoline. Under this definition, methanol 85 (M85) shall be considered gasoline.

12. "Grading": The process of leveling off material to produce a smooth surface. Included is the removal of any material necessary to expose the contaminated soil, such as asphalt or concrete.
13. "Health Risk Assessment": For the purpose of this rule, a study conducted by the District to determine the potential for health risks caused by emissions from a proposed soil decontamination operation. The applicant is subject to fees pursuant to Rule 42 to recover the District's costs of conducting the assessment.
14. "Jet Fuel": A kerosene-based product having a maximum distillation temperature of 400 degrees Fahrenheit at the 10 percent recovery point and a final maximum boiling point of 572 degrees Fahrenheit and meeting the American Society of Testing and Materials Specification D 1655 and Military Specifications MIL-T-5624P and MIL-T-83133D (Grades JP-5 and JP-8), used for commercial and military turbojet and turboprop aircraft engines.
15. "Methanol 85 (M85)": A blend consisting of 85 percent methanol and 15 percent gasoline.
16. "Nonrepeatable Momentary Readings": "Indications of the presence of organic gasses using a detector meeting the apparatus requirements of EPA Method 21 which persist for less than five seconds and do not recur when the sampling probe is placed in the same location for at least twice the response time of the instrument.
17. "Owner or operator": Any person or authorized representative who has legal title to, leases, operates, controls, or supervises the operation of:
 - a. An underground storage tank, including pipes connected thereto, or the real property on which such tank or pipes are located, or
 - b. Real property on which surface or subsurface soil will undergo aeration to remove contaminants.
18. "School": Any public or private establishment used for the purpose of educating more than 12 children in kindergarten or any of the grades 1 to 12, inclusive, but does not include any private establishment in which education is primarily conducted in private homes.
19. "Soil Aeration Project": One or more operations conducted at a stationary source in which excavated and contaminated soil is exposed to the atmosphere without the use of air pollution control equipment or a vapor extraction, bioremediation, or bioventing system.

20. "Underground Storage Tank:" Any one or combination of tanks, having at least 10 percent of the underground tank system volume, including the volume of any connected piping, below the ground surface or enclosed below earthen materials.
21. "Vapor Extraction System": An underground or aboveground system that extracts contaminants from soil or ground water using air injection and/or suction and routes the vapors to the surface of the contaminated soil. This definition does not include equipment designed or used to expose soil openly to the atmosphere to facilitate evaporation of ROCs.