Rule 74.29 Soil Decontamination Operations (Adopted 10/10/95, Revised 1/8/02)

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 organic vapors sufficient to cause a calibrated organic vapor analyzer meeting the specifications of EPA Method 21 to register 50 parts per million by volume (ppmv) above background, as hexane, or more, except nonrepeatable momentary readings, as determined by the method specified in Subsection F.5; or

   b. Causes a nuisance, as defined in the California Health and Safety Code Section 41700 and Rule 51, Nuisance.

2. No person shall operate a vapor extraction, bioremediation, or bioventing system unless any gasses vented to the atmosphere have an ROC concentration less than or equal to 100 ppmv, measured as methane. If the maximum rating of the system's blower or fan 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.

3. No person shall operate an in situ soil bioventing or bioremediation system that emits fugitive gasses to the atmosphere if such gasses contain organic compounds sufficient to cause a calibrated organic vapor analyzer meeting the specifications of EPA Method 21 to register 50 ppmv above background, as hexane, or more, except nonrepeatable momentary readings, when measured at a distance of three inches from the soil surface.

4. The owner or operator of any underground gasoline storage tank shall notify the District Enforcement Section at least 24 hours prior to beginning the excavation of said storage tank.

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. Subsection B.1.a shall not apply to any soil aeration project where the owner or operator demonstrates to the satisfaction of the Air Pollution Control Officer that the following two requirements are satisfied:

Attachment B

a. The project is not located within 1,000 feet of the outer boundary of a school, and

b. The project will result in the emission of less than 200 pounds of ROCs per rolling twelve month period.

3. The requirements of Subsection B.1.a shall not apply:

a. To 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 properly covered within one hour of terminating the activity; or

b. To soil moving, loading, or transport activities performed for the sole purpose of complying with local, state, or federal laws, provided the soil is properly handled in accordance with such laws; or

c. To 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 Air Pollution Control Officer shall be notified prior to commencing such excavation; or

d. To any soil aeration project involving less than 10 cubic yards of contaminated soil, provided the soil contains less than 0.8 percent by weight contaminant, as analyzed in accordance with Subsection F.2; or

e. Where the soil contamination resulted from a spill or release of less than one barrel of diesel fuel, jet fuel, or gasoline; or

f. To 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.2.

D. Recordkeeping Requirements

For any soil aeration project subject to this rule, records showing each date that soil was aerated and the quantity of soil aerated on each date shall be made available to the Air Pollution Control Officer upon request for at least two years after initial entry.

E. Violations

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

F. Test Methods

1. For Subsection C.2.b, the emissions shall be determined as:

$$E = W(P/100)(2000)$$

Where

E = Emissions (pounds)
W = Estimated weight of soil in tons assuming 1.25 ton/yd^3
P = The average percent by weight of contaminant in soil, not including methane, found in samples taken and analyzed in accordance with Subsection F.2.

2. 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.

3. To determine if the 0.08 lb/hr threshold in Subsection B.2, will be exceeded, the emission rate (ER) shall be determined as:

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

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.4 and according to a monitoring schedule approved by the District.

4. The organic vapor concentration in the exhaust of a vapor extraction, bioventing, or bioremediation system shall be determined using an instrument that meets the specifications of EPA Method 21. The probe inlet of such instrument shall be placed on the centerline of the exhaust or vent, upstream of the point where the exhaust gasses meet the atmosphere.

5. In determining compliance with Subsection B.1.a, 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.

G. Definitions

1. "Aeration": The exposure of excavated contaminated soil to the atmosphere without the use of air pollution control equipment or vapor extraction equipment.

2. "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.

3. "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.

4. "Contaminant": Diesel fuel, gasoline, or jet fuel.

5. "Contaminated": Containing diesel fuel, gasoline, or jet fuel.

6. "Daily Cover": Soil that is applied on a daily basis or less frequently as a covering over landfill waste.

7. "Diesel Fuel": A blend of petroleum called middle distillates (heavier than gasoline but lighter than lubrication oil) that may contain additional additives.

8. "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.

9. "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.

10. "Methanol 85 (M85)": A blend consisting of 85 percent methanol and 15 percent gasoline.

11. "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.

12. "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.

13. "Properly Covered": Contaminated soil shall be considered properly covered provided one of the following requirements is satisfied:

    1) The soil is placed on concrete, asphalt, or plastic sheeting and completely covered so that emissions from the soil would not exceed the limit specified in Subsection B.1.a. The soil may be covered with a minimum of six inches of soil that has been determined to be not contaminated.

    2) The soil is placed in one or more sealed containers.

14. "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.

15. "Soil Aeration Project": One or more operations conducted at a stationary source over any 12-month rolling period, in which excavated and contaminated soil is exposed to the atmosphere without the use of air pollution control equipment or a vapor extraction system.

16. "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.

17. "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.