REGULATION IX
TOXIC AIR CONTAMINANTS

RULE 906

AERATION OF CONTAMINATED SOIL

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RULE 906 AERATION OF CONTAMINATED SOIL

Part 1.0 GENERAL

1.1 Purpose

The purpose of this Rule is to limit the emission of organic compounds from soil that has been contaminated by organic chemical leaks, petroleum chemical leaks or spills, to describe an acceptable soil aeration procedure, and to reduce public exposure to emissions for toxic compounds.

1.2 Applicability

This rule shall apply to any person who proposed to aerate contaminated soil located in the Northern Sierra Air Quality Management District.

1.3 Exemption, Emergency Soil Decontamination

The requirements of Section 3.0, shall not apply to the following, emergency soil decontamination may be performed by, under the jurisdiction of, or pursuant to the requirements of, 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.

1.4 Exemption, One Cubic Yard of Contaminated Soil

The treatment of less than one (1) cubic yard of contaminated soil is exempt from the requirements of this Regulation as long as it is not located within 1000' of a school, hospital, health care facility or sensitive area.

1.5 Exemption, Sampling

Contaminated soil exposed for the sole purpose of sampling shall not be considered to be aerated. Removal of soil for sampling shall not qualify a pile as "active."

Part 2.0 DEFINITIONS

2.1 Active Storage Pile

A pile of contaminated soil to which soil is currently being added or from which soil is currently being removed. Activity must have occurred or be anticipated to occur within one hour to be current.

2.2 Aeration

Exposure of contaminated soil to the air.

2.3 Aeration Depth

The smaller of the following: the actual average depth of contaminated soil; or 0.15 meters (0.5 feet) multiplied by the daily frequency with which soil is turned.

2.4 Aeration Volume

The volume of soil being aerated shall be calculated as follows: the exposed surface area (in square feet or square meters) shall be multiplied by the aeration depth. The exposed surface area includes the pile of excavated soil unless the pile is covered per Part 3.0, Section 3.3.

2.5 Contaminated Soil

Soil which has an organic content, as measured using the procedure in Part 5.0, Section 5.2, exceeding 50 ppm(wt).

2.6 Organic Compound

Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonate and ammonium carbonate.

2.7 Organic Content

The concentration of organic compounds measured in the composite sample collected and analyzed using the procedures in Part 5.0, Sections 5.1 and 5.2.

2.8 **Sensitive Area**

Any area where there are substantial concentrations of people for an extended period of time. These areas include but are not limited to a park, a shopping center, a library, a government center, or a residential neighborhood.

Part 3.0 STANDARDS

3.1 **Uncontrolled Aeration**

Based on the specific level of contamination, a person shall not aerate contaminated soil at a rate in excess of that specified in Table 1. The limitations in Table 1 apply to the entire facility, and indicate the volume of contaminated soil that may be added, on any one day, to soil that is already aerating.

TABLE 1
Allowable Rate of Uncontrolled Aeration

Organic Content	Rate Of Uncontrolled Aeration	
ppm(weight)	Cubic meters/day	Cubic yards/day
<50	Exempt	Exempt
50 – 99	459.0	600
100 – 499	91.8	120
500 – 999	45.9	60
1000 - 1999	22.9	30
2000 - 2999	11.5	15
3000 - 3999	7.6	10
4000 - 4999	5.7	8
>5000	0.08	0.1

3.2 **Controlled Aeration**

Soil may be aerated at rates exceeding the limitation of Part 3.0, Section 3.1, provided emissions of organic compounds to the atmosphere are reduced by at least 90% by weight.

3.3 **Storage Piles**

Contaminated soil which is not being aerated shall be covered except when soil is being added or removed. Any uncovered contaminated soil will be considered to be aerated. The soil may be covered with a tarp or other covering, provided no head space where vapors may accumulate is formed and provided the covering is in good condition and is secured adequately so as to minimize emissions to the atmosphere.

Part 4.0 ADMINISTRATIVE REQUIREMENTS

4.1 **Notification**

The person responsible for the aeration of any contaminated soil shall provide the following information in a format approved by the District:

A. Estimated total quantity of soil to be aerated.

B. Estimated quantity of soil to be aerated per day.

C. Estimated average degree of contamination, or total organic content of soil.

D. Chemical composition of contaminating organic compounds (i.e., gasoline, methylene chloride, etc.). A description of the basis on which these estimate were derived (soil analysis test reports, etc.).

4.2 **Aeration Authorization**

Following the receipt of the information required in Section 4.1, the APCO or his designee shall review the information for compliance with the provisions of this rule. After determining compliance a permit shall be issued.

4.3 **Notification Requirements**

A. After a permit to aerate is issued, the person responsible for the project shall notify the District at least 24 hours prior to the commencement of aeration.

B. The District shall be notified within 24 hours of any change in the information listed in Section 4.1.

4.4 **Aeration of Contaminated Soils within 1000' Feet of a School, Hospital, Health Care Facility or Other Sensitive Areas**

At the discretion of the APCO, any aeration project within 1000' feet of a school, hospital, health care facility, or other sensitive area where there are significant numbers of people potentially exposed, shall not occur until a screening level risk assessment is completed and submitted to the APCO and a permit is granted.

Part 5.0 MONITORING AND RECORDS

5.1 **Soil Sampling**

One composite sample shall be collected and analyzed for every 50 cubic yards of excavated contaminated soil to be aerated. At least one composite sample shall be collected from each inactive, uncovered storage pile within 24 hours of excavation. Samples are not required if the soil is uncontaminated.

A. Each 50 cubic yard pile for which a composite sample is required shall be considered to have four equal sectors. One sample shall be taken from the center of each sector. Samples shall be taken at least three inches below the surface of the pile. Samples shall be taken using one of the following methods:

1. Samples shall be taken using a driven-tube type sampler, capped and sealed with inert materials, and extruded in the laboratory in order to reduce the loss of volatile materials; or,

2. Samples shall be taken using a clean brass tube (at least three inches long) driven into the soil with a suitable instrument. The ends of the brass tube shall then be covered with aluminum foil, then plastic end caps, and finally wrapped with a suitable tape. The samples shall then be immediately placed on ice, or dry ice for transport to a laboratory.

5.2 **Measurement Of Organic Content**

Organic content of soil shall be determined by the Regional Water Quality Control Board's Revised Analytical Methods, EPA Reference Method 8010 or 8015, or any other method approved by the APCO.