



re: Trens

Facsimile Cover Sheet

To: Scott Seery
Company: Alameda County Health Care Services
Phone: 510-567-6783
Fax: 510-337-9335

From: Khaled Rahman
Company: Philip Environmental
Phone: 510-420-7910
Fax: 510-658-7990

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Scott,

Attached is an excerpt from the S.F. Bay Region Basin Plan regarding soil cleanup levels. We pulled this off the RWQCB bulletin board so some of the formatting is a little off. As described in the excerpt, soil cleanup levels are defined as 1 mg/kg for total VOCs, and 10 mg/kg for total SVOCs.

My understanding is that there is RWQCB precedence for authorizing onsite disposal of 1 to 10 mg/kg of TPH on a case-by-case basis.

It was nice meeting you on Wednesday. Do not hesitate to call if you have any questions or comments.

Khaled

Comprehensive Environmental Response, Compensation, and Liability Act; the State Water Board's Resolutions Nos. 68-16 and 92-49; and the Regional Resolution No. 88-160.

SOIL CLEANUP LEVELS

Soil pollution can present a health risk and a threat to water quality. The Regional Board sets soil cleanup levels for the unsaturated zone based upon threat to water quality. Guidance from the U.S. EPA, Department of Toxic Substances Control, and Cal/EPA's Office of Health Hazard Assessment is also considered on health risks. In addition, if it is unreasonable to cleanup soils to background concentration levels, the Regional Board may:

- Allow residual pollutants to remain in soil at concentrations such that:
 - a) Any residual mobile constituents generated would not cause groundwater to exceed applicable groundwater quality objectives, and
 - b) Health risks from surface or subsurface exposure are within acceptable guidelines.
- Require follow-up groundwater monitoring to verify that groundwater is not polluted by chemicals remaining in the soil. Follow-up groundwater monitoring may not be required where residual soil pollutants are not expected to impact groundwater.
- Require measures to ensure that

soils with residual pollutants are covered and managed to minimize pollution of surface waters and/or exposure to the public.

- Implement applicable provisions of Chapter 15 where significant amounts of wastes remain onsite. This may include, but is not limited to, subsurface barriers, pollutant immobilization, toxicity reduction, and financial assurances.

In order for a discharger to make site-specific recommendations for soil cleanup levels above background, the fate and transport of leachate can be modeled by the discharger using site-specific factors and appropriate models. Reasonable assumptions for minimal leachate dilution, as proposed by the discharger, may be considered by the Regional Board.

Cleanup levels are approved by the Regional Board. The Executive Officer or a local agency may approve cleanup levels as established by the Regional Board. Due to the tremendous number of sites with soil pollution, the Regional Board has considered developing "generic" cleanup levels for common soil pollutants. However, given the extreme variability of hydrogeologic conditions in the Region, the Regional Board is presently unable to recommend levels that would be protective of groundwater at every site. One exception to this leave cleanup standards for volatile organic chemicals (VOCs) and semi-volatile organic chemicals.

Several Regional Board orders, adopted primarily for Superfund sites, include cleanup standards of 1 mg/kg (ppm) for total VOCs and 10 ppm for total semi-volatiles (as defined by EPA Methods 8240 and 8270, respectively). ~~These standards apply to unsaturated soils only and are based on the modeling results for a typical site in the Region~~ and the professional judgement of Regional Board staff. As these are cleanup standards for total VOCs and total semi-volatiles, levels for individual constituents at polluted sites commonly are significantly lower than 1 ppm and 10 ppm, respectively. In particular, some constituents of concern have water quality standards less than 5 ppb (e.g., benzene, vinyl chloride, ethylene dibromide). Individual cleanup levels well below the 1 ppm VOC and 10 ppm semi-volatile standards may be established for these constituents.

At this time the Regional Board finds that these are appropriate cleanup levels for total VOCs and total semi-volatiles in the unsaturated zone at sites where groundwater is being monitored and where cleanup to background is unreasonable. At sites where it is determined that the 1 ppm cleanup total VOC and 10 ppm total SVOC cleanup levels may be inappropriate, the Executive Officer may modify these cleanup levels to whatever level is considered adequately protective of water quality, human health, and the environment.

A common misconception is that the Regional Board has developed "generic" cleanup levels for petroleum

hydrocarbons (gasoline, gasoline by-products, and diesel). One source of the misconception is a misreading of "Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites," written by the staff of the North Coast, Central Valley, and San Francisco Bay Regional Boards. This document is commonly referred to as the "Tri-Regional Guidelines." The Guidelines use 100 ppm Total Petroleum Hydrocarbons in soil as *one screening tool for prioritization*. The 100 ppm level is not a "generic" cleanup level.

NON-ATTAINMENT OF GROUND WATER CLEANUP LEVELS 549

The Regional Water Board has been developing policy, through the basin planning process, to address various situations when groundwater cleanup levels can not be attained. After consideration of the Regional Water Board's proposed Basin Plan Amendment (Regional Water Board Resolution 94-101) to address non-attainment, the State Water Board adopted Resolution 94-117. Resolution 94-117 directs the State Water Board Executive Director to develop a statewide policy on groundwater and soil cleanup. In response to this, the State Water Board staff plans to amend State Water Board Resolution 92-49 to address non-attainment of ground water cleanup levels. When Resolution 92-49 is formally approved, the Regional Water Board will implement the new sections on non-attainment.

FUTURE REGULATORY MANAGEMENT