



California Regional Water Quality Control Board

San Francisco Bay Region



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TO: Interested Parties

File No. 1210.40 (EA)

FROM: 
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California Regional Water Quality Control Board – San Francisco Bay Region

DATE: November 9, 2007

SUBJECT: November 2007 update to Environmental Screening Levels (ESLs) Technical Document

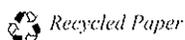
Staff of the San Francisco Bay Regional Water Quality Control Board (Water Board) has prepared an update to the February 2005 technical document, *Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater*.

The ESLs are intended to help expedite the identification of potential environmental concerns at sites where contamination has been identified, and expedite evaluation regarding the need for possible cleanup of these properties. Data collected at a site can be directly compared to the ESLs and the need for additional actions quickly determined. This approach has been shown to be most cost-effective and efficient at sites with limited or relatively straightforward types of contamination.

This update contains a number of revisions that affect the ESLs in general, rather than being limited to changes in the ESLs for certain chemicals due merely to revisions in toxicity criteria. For this reason, we have not tracked changes to the screening values for individual chemicals. The overall changes to the ESLs include:

- **Direct soil-contact values shown in Tables A-F for residential receptors no longer reference the direct-contact values for construction workers when the latter represent lower values.** An evaluation of the construction worker scenario, when appropriate, should be done on a site-specific basis.
- **Soil-to-indoor air ESLs (formerly Table E-1b) have been deleted.** An evaluation of potential vapor intrusion concerns should be performed using soil gas and/or groundwater data.
- **Soil gas- and groundwater-to-indoor air ESLs based on low permeability soils have been deleted.** The presence of soil conditions with low permeability that limit the migration volatile contaminants represents a site-specific condition that must be evaluated on a site-specific basis.
- **ESLs for total petroleum hydrocarbon (TPH) fractions (gasoline, middle distillates, and residual fuels), as well as individual compounds associated with TPH, have been calculated using a target hazard quotient (HQ) of 0.2.** In previous versions of the ESLs, a HQ of 0.5 had been used to account for the potential for biodegradation of petroleum hydrocarbons in the environment. We recognize that biodegradation of petroleum hydrocarbons may occur at a number of sites. However, it is not appropriate to presume that it is occurring in all instances, and biodegradation represents a process that should be evaluated on a site-specific basis when data are sufficient to show that biodegradation is occurring.

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- **Background values for arsenic and total chromium based on the Lawrence Berkeley National Laboratory (LBNL) background study have been deleted.** Values presented in the LBNL study are specific to that facility and geological formations, and not representative of naturally-occurring concentrations in the greater Bay Area. For sites where metals are known to be present due to site-related activities, appropriate background concentrations may be determined on a site-specific or region-specific basis.
- **Exposure factors used to calculate the direct contact soil ESLs for the construction worker scenario are now taken from EPA's 2002 Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites and relevant DTSC guidance.** Previous versions of the ESLs used exposure factors presented in guidance from the Massachusetts Department of Environmental Protection.

In addition, during preparation of the current update, we noted an error in the Excel spread sheets used to calculate the ESLs. The result of this error is that some ESLs based on aquatic habitat goals were incorrect. Consequently, these values have been deleted. Water Board staff are reviewing the aquatic habitat goals, and a revised update will be released in the near future.

The updated ESL document is not intended to establish policy or regulation. Use of this document is entirely optional and is subject to the approval of the overseeing regulatory agency and staff. This document will be periodically updated as needed. Water Board staff overseeing work at a specific site should be contacted prior to use of this document in order to ensure that the document is applicable to the site and that the user has the most up-to-date version available. Please send comments and edits in writing to the contacts noted below.

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