

Soil Smarts Workshop #3 – Phil Rutherford – 03132025

STREAM SCF000014

Dear Mr. Rutherford,

Thank you for your engagement and interest in the Department of Toxic Substances Control regulatory oversight of the cleanup at the Santa Susana Field Lab (SSFL). Please see responses to your question(s) below.

Question 1: In previous Soil Smart meetings and the MLE Tech Memo, DTSC has stated that the problems implementing the chemical LUTVs do not exist for radionuclide LUTVs. Why is that?

DTSC Response 1: The soil cleanup of radionuclides to background does not share the same technical issues as the soil cleanup of chemicals to background. The false positives issues associated with the Look-Up Table (LUT) values for chemicals is compounded by the number of analytes that must be screened for each sample (ITRC, Soil Background and Risk Assessment, https://sbr-1.itrcweb.org/statistics/#11_7). For chemicals, this number is over 130. For radionuclides, this number is only 16; therefore, the likelihood of a false positive is significantly less for radionuclides than for chemicals.

Question 2: DTSC used the lowest achievable background sample MRL whereas EPA used a 2-sigma UCL upper bound of characterization sample MDCs. Can DTSC please explain why it chose its protocol, which appears to be designed to fail?

DTSC Response 2: The LUT values were initially developed for use in site characterization. DTSC's goal was to identify the distribution of constituents of concern in site soils to the maximum extent possible.

Question 3: Please estimate what percentage of false positives are among the tens of thousands of site characterization samples taken by the RPs?

DTSC Response 3: While there may be individual chemicals detected in a soil sample that are above their respective LUT values and representative of a false positive, DTSC could not estimate as you request because another chemical in that same sample may be due to site activity and appropriately identified as requiring remediation. For additional reference, see DTSC's prior response to your question on SCF000008 on 01/13/2025.

Question 4: Why did DTSC not recognize this problem in 2013? Why has DTSC waited 11 years to tell the public of this problem?

DTSC Response 4: Extensive soil investigations were conducted on-site from 2011 to 2017. The issue of the false positives was evidenced by the further site characterization. In

2023, the Program Environmental Impact Report (PEIR) was certified which allows cleanup planning and implementation to move forward. The cleanup process requires thorough planning, including site assessments, regulatory reviews, and community input. The Soil Smarts Workshop Series was developed to inform the public of the site assessments, soil investigations, and to address these issues through the public meetings.

Question 5: Does DTSC acknowledge that its calculation of chemical LUTVs differs significantly from EPA's calculation of radionuclide LUTVs? Does DTSC agree that is the reason why 54% of DTSC's background samples fail the LUTV test?

DTSC Response 5: No. Chemicals and radionuclides are different, as evidenced by the relevant look-up tables. There is no single reason for the 54% false-positive rate for background samples.

Question 6: The majority of the 1-in-1,000,000 residential screening levels in Tables 2, 3 and 4 of the MLE Tech Memo exceed the LUTVs, in most cases by many orders of magnitude. Would DTSC agree that this illustrates the insanity of the 2010 AOC cleanup-to-background mandate?

DTSC Response 6: No. DTSC has remained committed to the Administration Orders on Consent (AOCs) and the cleanup to local background.

Question 7: Does DTSC believe that 1-in-trillion is a reasonable gross risk goal for 2,4 DB?

DTSC Response 7: The AOCs require soil cleanup to local background levels. The "gross risk goal" is not the basis for the 2,4 DB Look-Up Table value. The proposed multiple lines of evidence approach is designed to further evaluate exceedances of the LUT that result in negligible increases in risk to human health.

Question 8: The hypothetical cancer incidence risk for residential, 100% garden produce consumption from naturally occurring radionuclides in soil is approximately 1% or 1-in-100 using the linear-no-threshold (LNT) theory of radiation risk. Does DTSC support LNT? If yes, then does DTSC agree with this consequential risk estimate?

DTSC Response 8: DTSC considers both total risk and incremental risks over background. The National Contingency Plan (NCP) evaluates releases of chemicals and harmful substances to the environment that result in a risk between 1 in 10,000 and 1 in 1,000,000. These risks are considered in excess of those due to background conditions.

Question 9: The 2010 AOC mandates a ZERO additional risk from radionuclides and chemicals combined, on top of the baseline 1-in-100 radionuclide risk. The risk waivers of lines 2, 3 and 4 generously allow a 1-in-1,000,000 net risk limit on top of this baseline 1-in-100 risk. Does DTSC believe this make sense?

DTSC Response 9: See Response to Question 8.

Question 10: Several members of the public believed that DTSC is exaggerating the number of false positives in its background sample dataset. However, they fail to understand that a lab that reports a non-detect result with a detection limit exceeding a cleanup goal, has not proven that the contaminant concentration is below the cleanup goal, only that the contaminant concentration is below the detection limit. Does DTSC concur?

DTSC Response 10: DTSC has shared in the Soil Smarts Workshop series that a non-detect result from a laboratory is representative of the chemical not being detected above the detection limit.

Question 11: Does DTSC agree or disagree with my discussion of the differences between radionuclide MDCs and chemical MRLs and MDLs? Please see the scatter plot of Figure 1 of SCF000008 and explain how the LUTV based on the MRL is so much smaller than the wide spread of detects and non-detects (based on sample MDLs)? Is it possible that the lab grossly exaggerated its “a priori” detection capability (MRL), but the “a posteriori” sample analysis MDLs did not live up to the lab’s promise?

DTSC Response 11: As explained during the workshops, DTSC acknowledges that laboratories have not been able to consistently meet the method reporting limits that are the basis for many of the LUT values.

Question 12: Does DTSC agree that the usual DTSC and EPA protocols to achieve this mission would be to conduct a risk-based cleanup using conventional EPA RAGS guidance?

Question 13: Does DTSC agree that risk assessment is used at all other sites managed by EPA in the US and DTSC in California?

Question 14: Does DTSC believe that a risk-based cleanup for DOE and NASA at SSFL would be fully protective of public health?

Question 15: Does DTSC believe that cleaning up chemicals to background in DOE and NASA areas is necessary to protect human and ecological health?

Question 16: Does DTSC believe that the 2010 AOC is necessary to protect human health?

Question 17: Does DTSC believe that the 2010 AOC is an impediment to completing a fully protective cleanup?

Question 18: Does DTSC believe that the 2010 AOC has been a major cause of delays in DOE and NASA cleanup progress?

Question 19: Would DTSC prefer that the 2010 AOC disappear?

Question 20: Notwithstanding the prior answers, is DTSC still committed to implementing the 2010 AOC? Why?

DTSC Response 12- 20:

DTSC is committed to the AOCs, which require cleanup of soils to local background levels. DTSC has acknowledged to the public that risk assessment is a standard procedure applied to most sites in California and throughout the United States, which is designed to be protective of human health and the environment. DTSC cannot speak to what is used at all other sites in the United States. The US EPA NCP requires the consideration of nine criteria in making risk management decisions, protection of human health and the environment is just one of those criteria. Of particular relevance, community acceptance is a criterion that must be considered.

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