



Cal/EPA

November 7, 1997

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**COMMENTS ON EXTENDED SITE ASSESSMENT WORKPLAN
ADDENDUM FOR POINT OF INTEREST 29 AT NAVAL TRAINING
CENTER, SAN DIEGO**

Dear Mr. Forman:

In support of an accelerated schedule, the Department of Toxic Substances Control (DTSC) has completed our review of the Extended Site Assessment Workplan addendum for the former small-arms range No.2 (a.k.a. POI 29). Based on DTSC's review, we are offering several comments below. These comments are substantively the same as the issues discussed during our telephone conference of November 6 and 7, 1997.

1. Page 3-1, Section 3.4, Study Boundaries:

According to this workplan, the maximum vertical investigation is 3 feet below ground surface. This may not be deep enough. A contingency for greater depth should be proposed in the event that contamination is found at the 3 feet depth sample.

2. Page 3-3, Section 3.6, Sampling Design:

Although a plan to conduct "step-out" sampling has been proposed, the sampling design does not discuss the possible requirement to "step in." It is possible that the boundary of the contamination is between two sampling locations, especially when the grids are 50-feet wide. It is recommended that this section provide a strategy for "stepping-in" to determine the boundary of contamination.

3. Page 3-4, Sampling Location Map:

Will a sample be taken at the grid junction between SB-35 and the P29-T2? It is also unclear from studying the Map whether or not any of the locations within the former bullet trap sand pit will be sampled. It is recommended that a sample be taken between SB-35 and P29-T2 to establish the lateral boundary of contamination.

4. Page 4-2, Section 4.3.2, X-Ray Fluorescence Analyzer:

Since the use of the X-Ray Fluorescence Analyzer (XRF) has been found to be unsuitable for samples having a greater than 20% moisture, the moisture content of the sampled soil should be measured and recorded with every sample. Moreover, the sampling activities should be discontinued if the moisture in the soil is found to exceed 20%.

The XRF is also subject to interferences from other elements in the natural soil. DTSC proposes that the Navy conducts confirmatory laboratory analyses for 10% of the field samples to evaluate the accuracy of the XRF analysis as part of the QA/QC procedure.

5. Page 4-2, Section 4.3.2, X-Ray Fluorescence Analyzer, third paragraph:

Although the XRF will yield the best results with a uniform sample particle size, it is equally important not to skew the composition of the soil sample by removing pertinent debris (i.e., tiny lead fragments from spent bullets) that may be intermixed with the soil, especially when only three grams of soil sample will be used. The stones and debris of the soil samples that have been separated after screening should be crushed with the mortar and pestle and be reintroduced into the sample for analysis.

6. Page 5-2, Section 5.3.1, Precision and Accuracy:

Since the precision and accuracy of XRF analyses are dependent on the sampling technique (see comment 5 above), and are subject to instrument limitations, i.e., interferences and moisture, DTSC recommends a 10% confirmatory laboratory analysis as a mean to verify the XRF data.

7. Page 5-2, Section 5.3.3, Completeness:

Section 5.2.2 specified that data validation is not proposed for the XRF analytical method; therefore, this section should be clarified accordingly.

8. Page A2-2, Section 2.2, Sampling Locations and Rationale:

The proposed soil sampling protocol should not assume that lead contamination is limited to the "dark brown" silty sand layer simply because the highest concentrations of lead were found within this layer from previous investigations. Please note, however, that sample P29-09, SB35 and SB36 are samples taken from within the "older" fill layer. Therefore, the sampling protocol must consider the possibility of contamination within the older layer as well. It is recommended that the sampling protocol for the vertical extent should include at least one sample from the "older" fill layer regardless of depth.

9. Page A5-1, Section 5.1.1, Field Logbook

The field sampler should also include the ambient air temperature, percent humidity and soil moisture information in the field log book due to the instrument's limitation.

If you have any questions regarding the above comments, you may contact me at (562) 590-4897.

Sincerely,



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Page 4

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