

Response to Comments
Site-Specific Work Plan
Addendum to Site-Wide Sampling and Analysis Plan
Soil Delineation Investigation at the Pentolite Road Red Water Pond Area
Former Plum Brook Ordnance Works
Sandusky, Ohio
June 17, 2009

Comments by Janusz Byczkowski, Ph.D., Risk Assessor, Ohio Environmental Protection Agency, Division of Emergency and Remedial Response, received July 14, 2009.

General Comment

Comment 1: This Site-Specific Work Plan has been prepared for a very narrow purpose of supporting the delineation of contaminants during the non-time-critical removal action (NTCRA) at the specified area of concern.

However, as stated in the document (page 1-3): “...*This project will return to normal Comprehensive Environmental Response, Compensation, and Liability Act process (RI/FS phase) at the end of the NTCRA... [...] The analytical results [...] to be re-evaluated, as necessary, with respect to contamination extent and human health risk...*”

Therefore, the sensitivity of analytical methods used to detect and quantify chemicals of concern should be adequate to risk-based criteria for “acceptable” concentrations, as mandated in RI/FS program by CERCLA and/or OEPA – DERR.

For example, this Document states: “...*The soil RBRCs will be derived based on residential criteria...[...] If the risk or hazard is unacceptable at a given location is unacceptable (sic!), additional test pit excavation is required further from the original NTCRA excavation in this direction... [...] data analyzed at this level of quality are appropriate for all phases of RI and risk assessments...*”

but next it states:

“...*Soil samples from each test pit excavation will be field screened for nitroaromatics using a field test kit... [...] having sensitivities less than the following: 5 parts per million (ppm) of TNT; 1.0 ppm of 2,4-DNT; 2.5 ppm of 2,6-DNT; and 2.0 ppm of 1,3-dinitrobenzene... [...] to identify test pit location with elevated detections of nitroaromatics from which samples should not be sent for laboratory analysis...*”

I suggest that this work plan should be revised, either to emphasize that it is prepared for a limited purpose of identifying and eliminating hot spots only, or to assure that the chemical analytical methodology used will be of

sufficient sensitivity that the reporting limits will not exceed the risk based screening levels, as recommended for RI/FS program by OEPA – DERR (2004) <<http://www.epa.state.oh.us/derr/rules/screening.pdf>>

Response 1:

Text will be added to Section 1.2 (Pentolite Road Red Water Pond Area description and History) that clarifies the purpose and context of the delineation work. The reporting limits and method detection limits will meet the U.S. Environmental Protection Agency (EPA, 2004) Region Preliminary Remediation Goal (PRG) values, adjusted to a hazard quotient of 0.1, that have been used for screening at the Pentolite Road Red Water Pond Area. The field screening samples will not be used in a quantitative risk assessment, nor will they be used directly for any close-out strategy. As explained in response to the reviewer's Comment No. 2, the field screening samples are used as a tool in the delineation of the extent of contamination. Definitive laboratory analysis will be used for confirmatory sampling.

Comment 2:

The sensitivities stated for field screening of nitroaromatic chemicals of concern (a procedure not recommended by Risk Assessment Guidance for Superfund) are insufficient to assure that the reporting limits (RL) will be at or below the respective risk-based screening levels (SL).

While in “*all phases of RI and risk assessments*” it should be $RL \leq SL$, the cancer risk-based SL for mixture of 2,4- and 2,6-DNT in soil = 0.71 ppm. Even lower is the non-cancer SL for 2,4-DNT alone = 0.16 ppm, or for 1,3-dinitrobenzene SL = 0.61 ppm.

Still the planned field screening can be successfully used to identify hot spots, while reducing the number of samples sent to the stationary laboratory, but the results of such a screening cannot be used in health risk assessments. Moreover, at the end of the remedial process, a re-sampling and analysis by the stationary laboratory would be necessary to confirm that the residual concentrations of chemicals of concern are within the levels protective of human health and the environment.

Response 2:

The field screening test kits are being used as a tool to identify areas suspected as exceeding the overall risk management levels for incremental lifetime cancer risk of $1E-5$ and hazard index of 1. A confirmation analytical sample will be collected for each final test pit location relied upon as representing the extent of contamination. As described in the response to the reviewer's Comment No. 1, the reporting limits and method detection limits of the confirmation samples will meet the adjusted PRG criteria.