Memorandum

Subject: Review of the Draft Dioxin Reassessment at Arkwood, Inc. Superfund Site. Risk Evaluation of Analytical Data from Decision Unit Sampling.

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TO: Stephen Tzhone, RPM
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I reviewed the Draft Dioxin Reassessment at Arkwood, Inc. Superfund Site. Risk Evaluation of Analytical Data from Decision Unit Sampling and the following are my comments:

1) The soil concentration was adjusted for the presence of the coarse fraction (> 2mm) of the soil sample by assuming concentration for the coarse material at half the detection limit of 0.557 pg/g and multiplying it by the fraction of the soil that is coarse.

   This adjustment of the soil concentration is not appropriate and tend to dilute the exposure point concentration used in the risk calculations. The soil concentration in the soil fines is what is expected to adhere to skin surface and inadvertently ingested. The soil exposure point concentration of interest is the concentration in the fine fraction. Therefore use the non-adjusted TEQs soil concentrations in making any risk evaluation or decision. This means that according to table 6, all DUs fail to meet the soil screening No for dioxin except for DU 2.

2) A reference is made to the TRW Recommendations for Sampling and Analysis of Soil at Lead Site (USEPA, 2000) as a justification or confirmation of a practice to include coarse fraction in the results of the soil samples.

   The quoted information from the EPA 2000 guidance is taken out of context. The EPA guidance clearly points out that the fine fraction is the preferable fraction to use in evaluating risk from exposure to lead and only when there is a reason to think that the coarse fraction contain higher concentration of lead than the fine fraction (such as seen in mining facilities) then the coarse material is included in the analysis.

3) All the samples collected in this effort was from the top 6” soil cap which represent soil brought from another location as soil backfill and they do not represent site soil. The site soil are below the 6” soil cap and it should be recognized as a soil that still contains dioxin levels much higher than the

industrial soil screening level. To my knowledge there is also no sheet or barrier separating the top 6” surface soil “clean fill” from the highly contaminated site soil located beneath it to prevent potential digging or mixing of the top soil with the highly contaminated soil.

4) Do we have an answer as to whether a soil cap of 6” is considered protective?