

24 October 2003

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Via email to CORNELIS@MICHIGAN.GOV

RE: Draft Remedial Investigation and Pre-Draft Feasibility Study Comments
Velsicol Chemical Superfund Site, St. Louis, MI

Dear Scott,

Thank you for taking comments on the pre-draft feasibility study and draft remedial investigation this early in the process, before formal documents are produced and published. We certainly understand that it's much easier to make changes now, before the path is set. It also supports USEPA's Program Expectation for remedial alternatives that use a combination of methods, as appropriate, to achieve protection of human health and the environment.

To begin, all comments provided from the Pine River Superfund Citizens Task Force Technical Advisory Committee are wholeheartedly supported. The men and women who sit on the TAG are indeed educated and informed scientists with great collective technical knowledge of the contamination and physical nature of the river and Site. Additionally, most of them live in the affected community, including downstream.

Comments herein are in response to the feasibility study status report provided by MDEQ and Weston at the PRSCTF meeting on Oct. 15, and to the Draft Remedial Investigation Report, now in hand. The value of separating the Site into five separate but linked units is understood and appreciated.

The presentation of the pre-draft feasibility study on October 15 and the Velsicol Chemical Superfund Remedial Investigation both seem to not have been intended to provide data sufficient to support a cleanup of the Site, but rather only to support the construction of another containment system.

The draft Remedial Investigation section that causes the greatest outright concern is the following: 2.1.2.5 COC Evaluation: Page 2-25: "...As previously mentioned, because the Site is a landfill the sampling effort was focused on the perimeter of the Site and areas outside the Site, which has the potential to be impacted by releases from the site. The nature of the landfilled waste was not the focus of this evaluation." This statement, and many others throughout the report, strongly suggest the Site was not intended to be cleaned up, or at the very least, that a cleanup was not considered. USEPA Superfund guidance documents direct that all remediation alternatives should be considered. This remedial investigation, as it was presented in the Draft Remedial Investigation Report, does not provide enough information for cleanup or treatment of all wastes to be considered among the options to be presented in the feasibility study.

Essentially this is a second opportunity for the Site to be cleaned up properly. We all, including the MDEQ and USEPA, want the entire Site to be returned to its former, albeit long-ago, pristine condition. Given that isn't possible due to its extreme contamination and complete physical modification, our second choice is as complete a cleanup as possible, to the full capacity of all available technology. With all due

respect, “containment” is not synonymous with “cleanup”, and further and more strongly, “Containment should not be an option.” Even though the till layer was intended to be “the “bottom” of the containment system” and “impermeable” (Sec. 3.3.2 Till), the bottom of the bowl leaks, as stated in 3.1.2.2 Till Unit: “...This unit is characterized as a leaky semi-confining layer or a layer of low permeability that stores and slowly transmits groundwater from the shallow outwash unit to the lower outwash unit...” Hydraulic conductivity values for the till unit given in the Draft RI Report in Sec. 3.3.2 do not meet the 1×10^{-7} cm/s criterion, and unless that fact is aggressively addressed, it will likely continue to leak, if not very soon, then 10 or 15 years hence.

USEPA’s “Guide to Selecting Superfund Remedial Actions” (OSWER Directive 9355.0-27FS, April 1990) states: “Containment will be considered for wastes that pose a relatively low long-term threat or where treatment is impracticable. These include wastes that are near health-based levels, are substantially immobile, or otherwise can be reliably contained over long periods of time; wastes that are technically difficult to treat or for which treatment is infeasible or unavailable; ...or sites that are extraordinarily large where the scope of the problem may make treatment of all wastes impracticable, such as municipal landfills or mining sites.”

- We know the wastes are not a relatively low long-term threat, or USEPA would not have undertaken the time-critical removal action in 1998. They are a high long term threat.
- We know the wastes are not immobile, in fact, we know they are very mobile, as it didn’t take very long before they were leaking out of the Site, as shown in Weston’s review of the MEC reports..
- If the Velsicol Site is indeed a landfill, as it is referred to in several locations in the text of the Draft RI Report for Operating Unit I, then it must be remediated as one, complete with double-liners under the Site. In fact, Michigan’s Hazardous Waste Act of 1979, passed before the consent judgment of 1982, required a liner be put into place, and neither the State of Michigan nor the USEPA enforced that requirement.

Further, the Guidance states: “The national goal of the remedy selection process is “to select remedies that are protective of human health and the environment, that maintain protection over time, and that minimize untreated waste.” (NCP Sec.200.430(a)(i)(i)).” In several locations within various Guidance documents and rules, it is stated that remedies are to be permanent.

Since we know that the previous attempt at containment failed quickly, MDEQ is urged to seriously consider both “removal” and “treatment of all known contaminants at the site” to the list of remediation alternatives. Further investigation is appropriate and required, as it is clear from the “purpose and scope” section that the remedial investigation was focused on the perimeter of the site, both inside and outside the existing non-functional slurry wall, and on contaminants now leaving the site. This supports that the MDEQ decided even before the RI began that the only solution would be to attempt to re-contain the Site.

The guidance states that cleanup is not supported if it is “impracticable”, however “impracticable” is not synonymous with expensive, it means non-implementable. It is obvious that the cleanup of this Site will be very expensive. However, if it is not cleaned up or treated now, then we will very likely be remediating the Site again in the future, adding additional costs to taxpayers.

Again, if the agencies do not intend to clean up the Site, but to treat it as a landfill and re-contain the Site, then appropriate and relevant hazardous waste landfill rules and laws must be followed and double liners must be installed.

Several major areas of concern stem from the following statements in the Draft Remedial Investigation.

The first is Sec. 4.6.2 Development of Primary Chemicals of Concern: “Risk evaluation results were used to identify and prioritize Site chemicals that are most detrimental to human health and the environment.” There was no ecological risk assessment included in the Draft RI Report, though one was prepared in 1998 by USEPA that led to the 1ppm standard for DDT in river sediments in OU2, based on fish uptake and fish-eating birds. Since there is uncertainty about the number and extent of NAPL entry points upstream of area 3, then either a new Ecological Risk Assessment needs to be done, or the one from 1998 should be referenced.

The second stems from the statement in Sec. 5.2 Nature and Extent of Contamination: “The primary objective of the RI was to evaluate the nature and extent of contamination so that informed decisions can be made regarding the level of risk presented by the Site and the appropriate type of remedial action necessary. During this investigation, data were collected and compared to Project Action Limits (PALs) to delineate the extent of contamination.” This is not consistent with what was stated as the Purpose and Scope in Sec. 1.1.2, which essentially stated the objectives were to evaluate contaminants leaving the site. This was stated again 5.3 Extent of Contamination in Soil: “OU-1 is a landfill that contains construction debris, impacted soil, and equipment and materials previously used by Velsicol...” “...the goals of the RI were to evaluate the function of the landfill containment system, identify leakage from the Site, and the presence of impacted soil or groundwater outside the containment system to determine what, if any, remediation is necessary. With this objective in mind, soil samples collected during the RI activities were primarily collected along the perimeter of the Site and existing containment system....” Again, this supports the impression that a cleanup of this Site was not considered.

The last paragraph in Sec. 5.2.1 Selection of Project Action Limits says: “It is important to note that the PALs available are developed using data compiled by the USEPA primarily on the cancer and systemic effects of contaminants on adults and do not fully address the effects of contaminants on fetal development, gene mutations, or other developmental malformations.Given the hazardous nature of the contaminants produced at the Site and the potential for many of these contaminants to bioaccumulate, **evaluation of the fetal, mutagenetic and teratogenic effects of the contaminants should be more fully evaluated.**” The Sierra Club strongly supports this critical statement, and urges the MDEQ to initiate further study as early as possible.

Another major concern is the DNAPL. The acronym DNAPL was used to describe the NAPL on page 2-9 of the Draft Remedial Investigation report, and in some recent TAG meeting discussions. In addition to the NAPL Unit under MDEQ consideration for cleanup, if a DNAPL pool also does exist but is not located and cleaned up or disposed, then it should be assumed it will behave as DNAPL typically does, and sink, or vertically migrate downward further into the lower outwash unit, endangering human health via the drinking water source of the City of St. Louis, and potentially other impacts. The NAPL-effect tests on the till unit materials were inconclusive, thus this is an additional area that requires further study. If DNAPL is compromising the integrity of the till unit, then those effects must be prevented. Therefore, the MDEQ is urged to further investigate potential DNAPL sources and sinks, and to further investigate DNAPL effects on the till unit. If further study is not planned, then it must be assumed that the DNAPL is compromising the till unit, and appropriate aggressive action must be undertaken to locate and remove the DNAPL.

According to Contaminant Hydrogeology (chpt.9, 2nd Ed, 1999, Fetter), “...mobile NAPLs present should be removed before a pump-and-treat program is initiated. Residual NAPL and contaminants sorbed onto mineral surfaces and soil organic carbon will slowly partition into the clean ground water that replaces the contaminated ground water removed by pumping.” “...It may be impossible to remediate sites contaminated with DNAPLs by pump-and-treat methods. Such aquifers might require permanent plume-stabilization wells to prevent the spread of the plume.”

Additionally, an expert such as the person identified by the PRSCTF TAG should be contracted to further investigate these substances. Given:

- We know the NAPL to be highly toxic;
- NAPL behavior is mostly unknown;
- Some of the NAPL constituents may affect the other chemicals in the main plant Site;
- It is fact that DDT and other chemicals have continued to leak into the river since possibly as early as 1995 (as noted in the MEC CSA Report review by Weston, described in the Draft RI Report page 1-19), and as stated in the CH2MHill NAPL report, “The largest unknown is the number and extent of points of NAPL entry upriver of Area 3.”

In summary, the Sierra Club urges the MDEQ:

- Add contaminant removal and contaminant treatment options to the list of remedies under consideration in the Feasibility Study;
- Perform further investigation into the sources of NAPL and DNAPL, and into effects of the NAPL on the underlying till unit;
- If the Site is legally classified as a Landfill and the Site is left as a Landfill, then the Hazardous Waste Act of 1979 must apply and liners must be installed under the mass, as well as any other relevant and appropriate laws regarding hazardous waste disposal
- The MDEQ is urged to contract an expert in NAPL and DNAPL to assist in further investigations and in designing possible remedial actions.

Thank you, Scott, for your dedication and participation in open communication with citizens in the Pine River watershed, and for the opportunity to provide public input this early in the Superfund Remedy Selection process. We look forward to the next round of drafts.

Sincerely,

Rita Jack
Sierra Club Mackinac Chapter
Water Sentinels Project Director