

[REDACTED]

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Sent: Wednesday, April 23, 2003 10:10 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Painesville Response to Comments

[REDACTED]

Attached are the responses to the Ohio EPA comments, dated March 7, 2003, on the Remedial Investigation/ Feasibility Study Report for the Painesville FUSRAP Site. We will revise the RI/FS Report in accordance with these comment responses. Please let me know if you have any questions. Thank you for your input.

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RESPONSE TO OHIO EPA COMMENTS
REMEDIAL INVESTIGATION/FEASIBILITY STUDY REPORT
PAINESVILLE FUSRAP SITE

The following are specific statements to the ACE response to comments. The preceding number reflects the original Ohio EPA comment number.

1 Please refer to the previous discussion on the CERCLA definition of site.

The Corps has investigated the extent of the property of the former Diamond Magnesium Company, and all natural pathways leading from that property. This constitutes all the areas where the Federal Government is a potentially responsible party (PRP), as defined in CERCLA. Current policy does not allow the Corps to investigate/remediate any areas where the Federal Government is not a PRP. This will be clarified in the report.

7 The response does not address the comment. The remedial investigation (RI) does not provide geologic information presented in a format that would promote the readers understanding of the geology underlying the site and provide additional support to the limited ground water resources at the site. It should be noted that the RI being conducted by Crompton has generated detailed geologic cross sections that may be readily available for inclusion into the ACE RI.

The two entities are performing separate RI for different contaminants but the end result of each parties RI must be a stand alone comprehensive RI report. The lack of communication between the parties must be corrected to facilitate integration of each parties findings.

The geology of the site has been summarized in the Remedial Investigation in text format. Additional information on the geology is available in the **Characterization Report for the Painesville Site, May 1998**, which will be referenced in the RI.

9 The response further perpetuates the deficiency noted in the comment. The relative flatness of the topography is not necessarily correlated to groundwater flow nor direction. If the ACE did not perform detail groundwater studies including monitoring the potentiometric surface of groundwater, then it should be acknowledged in the RI. Albeit, as stated above, the RI being conducted by Crompton has generated detailed ground water flow maps that may be readily available for inclusion into the ACE RI.

The response to comment references a 1998 Characterization report that discussed the perched ground water (Ohio EPA does not agree that the ground water is a perched unit). The purpose of the RI report is to provide a comprehensive understanding of the site's feature and its effect of the nature and extent of contamination. Many of the ACE response to comments reference past investigations that produced the data that may address the comment. In these cases, the findings of the past investigations should be incorporated into the RI to make it a stand alone document.

The hydrogeology of the site has been summarized in the Remedial Investigation text. Additional information on the hydrogeology is available in the **Characterization Report for the Painesville Site, May 1998**, which will be referenced in the RI. Investigation results indicate there is no current impact to the site groundwater, and modeling indicates no potential future impacts. The Corps will review the RI/FS Report and clarify this where necessary.

- # 11 *The response states that language will be inserted that all areas of the site have been investigated. Ohio EPA disagrees that all areas of the site have been investigated and does not agree that statement should be placed in the RI.*

All areas of the site where the Federal Government is a PRP have been investigated. See response to Comment 1.

- # 13 *The response does not provide the technical rationale needed to address the comment. The ACE failed to provide information in the response as to how the RI will be revised to provide technical information to support the location and data produced by the monitoring well network relied upon for the ACE study. The ACE may wish to provide additional technical information on ground water flow patterns that Crompton produced as part of their investigation of the site.*

Ohio EPA selected the wells that were sampled as being upgradient and downgradient of the FUSRAP areas of concern, with the understanding that these would be sufficient for determining whether groundwater was impacted. Ohio EPA collected split samples and reviewed the Corps' sample results, and agreed that groundwater is not currently impacted by FUSRAP contamination. This information will be included in the RI Report.

- # 19 *The response does not indicate if the information related to the comment will be incorporated into the RI. Any data from previous investigations*

should be either presented in their entirety or summarized and provide a reference to the appropriate document.

The information regarding the previous investigations of the acid sewer line will be summarized in the RI.

- # 21 *Ohio EPA concurs that screening against background along with a weight of evidence screen is acceptable. Please note that the EPA Radionuclide PRG Calculator could be used to screen radionuclides that are not naturally occurring and, therefore, do not have a site-specific background screening value.*

All the FUSRAP COCs are naturally occurring, and so use of the EPA Radionuclide PRG Calculator is not warranted.

- # 25 *The comment response states that screening was conducted based on the assumption of secular equilibrium. Does the empirical data support the assumption of secular equilibrium? Include site-specific information to support the assumption of secular equilibrium and discuss this information and the rationale for secular equilibrium in the text of the report.*

Materials sent to the site had been processed for their uranium content. They were the result of the initial stages of ore processing and would be similar to the current classification of "byproduct material". Only uranium was chemically removed from the ore. No significant other chemical separation had taken place, therefore decay chains below uranium would be in secular equilibrium. By this we mean that starting with Th-230 the chain for U-238 is expected to be in equilibrium. Uranium would obviously not be in equilibrium with its daughters due to the biased extraction process. For the three decay chains in question (U-238, U-235, Th-232) there is no reason to assume that the chains are out of equilibrium below the thorium members. In the calculations the only time secular equilibrium was needed to be assumed was when there was an obvious error in reporting the results of a daughter analysis, either the result was reported as exactly the same as the parent or the wrong method was reported for that isotope. In most cases the long-lived isotopes were directly measured and that data was used in the equations.

- # 26 *The response does not indicate if the information related to the comment will be incorporated into the RI. The information should be included in the text of the report.*

The information will be incorporated into the RI.

- # 27 *The response is unclear. Does the empirical data support the assumption of secular equilibrium? Include site specific information to support the assumption of secular equilibrium and discuss this information and the rationale for secular equilibrium in the text of the report.*

See response to comment #25.

- # 31a *The risk assessment is evaluating receptor exposure to contaminated media and not risk associated with exposure to the indoor working environment. In addition, the receptors evaluated must be protective of both current and future uses. Since there are no guarantees in place to ensure that all current and future workers will have only one hour exposure to soil (outdoors), the site worker receptor should assume an exposure time of eight hours. In addition, the site worker can be defined as any individual working on site - including security guards, landscapers, ground keepers, factory worker, a construction worker, etc. Therefore, the assumptions that are selected for the general, all-encompassing "site worker" should reflect RME exposures and be protective of current and future exposures. This approach is conservative and protective of future use and future exposures. This is consistent with guidance and also with the assumptions used at the Luckey FUSRAP site.*

- # 31b *The construction worker is a potential receptor and, therefore, all complete pathways must be evaluated. While it is true that a construction worker's exposure time is shorter in duration than a site worker, the fact is that exposure to carcinogenic constituents can happen in the future, and exposure to carcinogens are assumed to be additive. Thus, this type of exposure could be significant and, therefore, must be evaluated. Recommended assumptions for this type of exposure are enclosed.*

- # 31c *The comment asked the ACE to present the risks separately for the child and adult. RAGS part A directs one to identify sensitive subpopulations of potential concern. Children may be at increased risk due to increased sensitivity or behavior patterns, since they are more likely to contact with soil. Therefore, children should be evaluated separately and the risks presented separately for the adult and child resident. This comment has no bearing on ARARs.*

The purpose of the baseline risk assessment is to determine if remedial action is necessary at a site, by evaluating the risk to reasonable potential site users. The Corps has selected three risk assessment scenarios that cover a range of potential site users. Parameters for the risk assessment were based on a combination of site-specific data, risk assessment

guidance and RESRAD defaults, and were developed to be consistent with the Luckey FUSRAP Site. Since the selected scenarios indicate that there is a potential risk to human health above the acceptable guidelines, and thus indicate a need for remedial action, then evaluation of further scenarios is not warranted. This will be clarified in the report.

- # 34 *The comment was not addressed. Please provide a reference to specific guidance that states to subtract background in the risk assessment to be consistent with ARARs. It is true that background is typically accounted for during the development of the cleanup level (to avoid cleaning up to a level less than background for those constituents that are naturally occurring), but it does not make sense to subtract background during the risk assessment (i.e., during the development of EPC), considering that only constituents that exceed site specific background are carried forward and evaluated in the risk assessment. Risk due to background can be evaluated separately in the uncertainty section of the risk assessment.*

There are two references that indicate background should not be included in a risk assessment for radionuclides. Section 10.4.7 of RAGS states "The health physicist should also determine which naturally occurring radionuclides (e.g uranium, radium, or thorium) detected onsite should be eliminated from the quantitative risk assessment". Then section 10.4.8 goes on to say. "Radionuclides of concern should include those that are positively detected in at least one sample in a given medium, at levels significantly above levels detected in blank samples and significantly above local background levels." This shows that there is concern that background risk not be included. Since the levels of risk due to background generally exceed the NCP risk range it would be fruitless to present the total since all sites would then exceed the risk range, even those that are not radioactively contaminated. Thus the removal of background from the risk assessment is justified.

OSWER 9285.6-07P Role of Background in the CERCLA Cleanup Program April 26, 2002: (A) Page 9: "The determination of appropriate CERCLA response actions and chemical-specific cleanup levels includes the consideration of 9 criteria as provided in the NCP. In cases where ARARs regarding cleanup to background levels apply to a CERCLA action, the response action generally should be carried out in the manner prescribed by the ARAR." The ARAR guiding cleanup goals for Painesville (OAC 3701-1-38) indicates that the 25 mrem/year acceptable dose limit is above the background dose. Therefore, the cleanup concentration based on this dose limit would be above site background concentrations. (B) The examples presented in the OSWER indicate that constituents found on site at the same levels as naturally occurring (or anthropogenic) background do not need to be quantified in the risk

assessment. In other words, constituents that are not site-related do not have to be carried through as COPCs in the quantitative BRA.

From a practical standpoint, as stated previously, the purpose of the baseline risk assessment is to determine if remedial action is necessary. The Painesville risk assessment, excluding background, shows that for the evaluated scenarios, the risk is above guidelines, thus requiring some form of remedial action. Including background into the risk assessment would not change this conclusion.

- # 36 *Ohio EPA concurs that the 15 mRem/year is not a promulgated ARAR, however it is a "To Be Considered (TBC)" and must be acknowledged in the RI.*

In the process of evaluating remedial alternatives, the lead agency may consider other governmental documents which do not rise to the level of ARARs and designate them as "To Be Considered" or TBCs. However, as discussed in the Preamble to the NCP, at 55 Red. Reg. 8666, the designation and use of TBCs is matter of discretion on the part of a lead agency and should only be used when ARARs do not exist for a site, and only if they are not inconsistent with the nine criteria mandated by CERCLA for consideration in remedy selection, including cost effectiveness. In this case, it has been determined that there are ARARs for the site that address the hazardous substances and the circumstance of their release at the site. Therefore, it is not useful or appropriate to designate the EPA guidance as a TBC.

- # 53 *The past conversations excluding consolidation of radiologically impact soils on-site may have been in error. Both CERCLA and the NRC allows consolidation of waste under the "waste-in" concept. Since this is a federal-lead cleanup being performed by the ACE under federal guidelines, consolidation may be a viable alternative that should be included in the feasibility study. When compared to the multiple containment option currently under consideration for radiologically impacted areas, consolidation may provide a higher degree of long-term protection and reduce costs.*

The Corps did not include consolidation in the capping alternative, as it did not add to the alternative's satisfaction of the two CERCLA threshold criteria, compliance with ARARs and protectiveness of human health and the environment, and would have minimal impact to most of the balancing criteria. And while consolidation may make long-term maintenance easier, it would probably not decrease the cost of the alternative to any extent, as any reduction in maintenance costs would be offset by the increase in

capital costs to implement consolidation. (State and community acceptance of the capping alternative will be evaluated when the Proposed Plan is released.) However, per discussions with Ohio EPA, the Corps can add a statement in the alternative that consolidation is a potential option of the capping alternative.

- # 54 *The response is unclear. If the ACE considers capping as a viable remedial action, then the FS should evaluate all possible technologies. The FS should be revised to include the information requested in the original comment.*

CERCLA guidance for conducting Feasibility Studies states that in the development of remedial alternatives, a representative technology process should be selected and evaluated for each technology type. The Corps has selected an asphalt cap as the representative technology process for the capping technology type, and incorporated it into the capping alternative. Evaluation of other types of capping materials in the Feasibility Study is not warranted. This will be clarified in the report.

- # 59 *The ACE states that the figures will be revised. The text should include the technical rationale the adjustments were based on.*

The text will explain that professional judgment is used to adjust the final boundaries of contamination.