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Washington Toxics Cleanup Program

Comments on Model Remedies for Cleanup of IAML (March 2024 Draft)

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1. Exec Summary: seems rare that a site would not have contaminated sediment associated with upland mine waste. How many sites would be ineligible for cleanup under a model remedy?
2. Page 11-Estimate mine waste volume: will Ecology accept a mine waste volume generated using a UAV/drone survey?
3. Page 12-Soil cleanup levels: Noted that cleanups driven by the most prevalent indicator heavy metals arsenic, cadmium, lead, and zinc will address other heavy metals, and that the cleanup levels are set to address both human health and terrestrial eco receptors.
4. Page 14-Model remedies: and Dangerous Waste
    a. The text indicates that capping is not approved for sites with Dangerous Waste. This conflicts with soil testing methods on *Page 16-Sampling for a capping remedy* that only specifies sampling to a depth of 6" bgs. How would you know that soils with concentrations meeting DW criteria are not present below 6" bgs? Also, *Page 23-Capping* states *The specific metal concentrations are not critical if the property is properly capped*. *The depth of the extent of contamination is also irrelevant for the capping remedy*. See comments b and c below to consider and incorporate into Remedies #2 and #3 to reduce costs for sites with DW soils and make more site cleanups financially viable.
    b. For sites where some quantity of soils qualify as Dangerous Waste based on TCLP testing could capping in place with an impermeable membrane that does not allow infiltration be allowed/incorporated into Model Remedy options #2 and #3, if the cap/repository is designed and stamped by a licensed engineer, and repository is located in a stable area above a floodplain?
    c. Alternatively, could a volume of soil with elevated heavy metals concentrations be mixed onsite with lower concentration soils such that the mixed soils do not fail TCLP testing? Could this greatly reduce project costs, make more sites economically approachable for cleanup, reduce the need for offsite disposal, and significantly reduce greenhouse gas emissions from tens or hundreds of haul truck trips? Noted that this is discussed briefly on *Page 54-Alternatives considered but not selected* – could Ecology reconsider or better describe why?.
    d. Address missing word: "Based on this, capping is not an approved model remedy for sites with dangerous waste.
    e. Address missing word: "The premise of the model remedies presented in this document is the remedial action that would be implemented as a final cleanup action, in accordance with WAC 173-340-390.11
5. Page 15-Compliance sampling: Says that it's required if you use a remedy that includes excavation. Suggest clarifying that compliance sampling would be needed for Remedy #1 excavate and haul, and Remedy #3 consolidation and capping to confirm that no contaminated soils remain outside the consolidation area footprint?

6. Page 16-Sampling for a capping remedy: If only sampling to 6" bgs, how would you know if soils meeting Dangerous Waste criteria (e.g., failing TCLP testing) are present at depths below 6" which according to Ecology would disqualify a site from the capping remedy?

Notes and comments – Jason Willis, P.E. – Trout Unlimited.

Page 9/75 – Metals are the only suspected contaminants on your property and sediment, surface water, and groundwater are not contaminated seem contradictory. Do you mean only elevated levels in waste rock/tailings present on site? There is likelihood that sediment is also around the site that has elevated metals.

Page 9/75 – Is this model remedy program to be used as a stand-alone option for cleanup or is planned to be paired with the VCP program as the mechanism for remediation? It seems that if folks are seeking a NFA, they need to proceed under the VCP, but can still use model remedies, which would waive the fee?

- Should a VCP be considered for a larger project (>2000 CY)? What would the mechanism be if those larger projects are encountered?

Page 15/75 – Has WA considered in-situ treatment of mine wastes, which is also referred to as in-situ phytostabilization? This would be using a limestone (pulverized or crushed) product to neutralize the acidity present, which also helps with reducing the availability and dissolution of metals in the soils. In situ is also often combined with other organic amendments such as fertilizers, compost, humates, mycorrhizae, native seed and mulch to raise organic rates and moisture retention to create a conducive growing medium. Sometimes this is a good option if metals concentrations are elevated enough to warrant action, but not enough so for consolidation. It looks like this could be considered under an "Additional Option" under page 24/75?

Page 16/75 – Ecology will conduct initial determination sampling at y our property at no cost. This is a really nice feature, but does this then put the owner on the hook to cleanup contamination if it is present? If so, this should likely be explicitly spelled out.

Page 17/75 – Concur with the 30 point composite sampling approach. We usually do that down here as well.

Page 53-4/75 - Compliance with State and Federal Laws. If contaminated mine waste is present on site and considered hazardous to ecological receptors or human health, how should an applicant deal with EPA? Does Ecology consult with EPA regional staff or is this MTCA process protective enough of the applicant?

- This program seems geared towards private landowners. Can a third party organization, like Trout Unlimited, work with a private landowner to complete these types of cleanups? This is often then case given the technical expertise that TU staff can bring, as well as the ability to generate grant funds or other sources of revenue to fund these sometimes expensive cleanups. Please advise?