

DEPARTMENT OF ECOLOGY

Toxics Cleanup Program

MEMORANDUM

DATE: October 9, 2024

TO: Valerie Bound, Section Manager
Central Regional Office

FROM: John Zinza, PE, Cleanup Project Manager
Central Regional Office

SUBJECT: East-West Corridor Roadway Project.
Ecology comments on agency review of draft Initial Investigation East-West Corridor Roadway, Yakima County to Environmental Assessment Work Plan, dated 8/28/2024

Ecology received the Maul Foster & Alongi, Inc., draft Initial Investigation Report, East-West Corridor Roadway, Yakima County (MFA-II Report)¹ on August 29, 2024, for the Yakima County's (County) East-West Corridor Roadway Project.

I understand that the environmental investigation work performed by the County is an initial investigation² under the provisions of an independent remedial action³ of the Model Toxics Control Act (MTCA) Chapter 70A.305 RCW.⁴ The advice and assistance presented in this memorandum are consistent with a technical consultation with Ecology as part of an independent remedial action and consistent with our authority under MTCA. Provided below are the Department of Ecology's (Ecology) comments on the draft MFA-II Report. Ecology welcomes a discussion of the comments if needed.

Comment 1: General Comment. Ensure the submittals are consistent with Ecology's expectations to facilitate reviews.

Discussion: Ecology has developed "checklists and templates for site investigation reports and cleanup plans"⁵ to help:

- Clarify our expectations about what needs to be included in these documents
- Improve the quality and consistency of the documents
- Expedite our review of the documents

¹ <https://apps.ecology.wa.gov/cleanupsearch/document/146971>

² <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-310>

³ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-515>

⁴ <https://app.leg.wa.gov/rcw/default.aspx?cite=70A.305>

⁵ <https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/cleanup-report-checklists-and-templates>

Resolution: To facilitate reviews, we strongly suggest that you follow Ecology's checklists and templates.

Comment 2: Cover page. The cover page needs to be clear that this is an environmental discovery investigation per the MTCA cleanup process.

Discussion: When we last commented on the title of the report, we identified this effort as the initial investigation phase per the Ecology cleanup process (see link). However, it's really important to Ecology that your effort is part of the environmental cleanup process under MTCA. The WACs below provide the MTCA text onsite discovery and initial investigation, which defines Ecology's role in the initial investigation.

- Cleanup process - Washington State Department of Ecology.⁶
- WAC 173-340-300, Site discovery and reporting⁷
- WAC 173-340-310, Initial Investigation⁸

Resolution: Qualify the type of report by adding "environmental" and "MTCA" where appropriate.

Comment 3: Page ii, footer. Regarding "Sargent Engineers, Inc."

Discussion: Help Ecology understand the connection/relationship between MFA, the County, and Sargent Engineers, Inc.

Resolution: Identify the relationship for Ecology's benefit.

Comment 4: Page vi, Abbreviations. Make some changes to the abbreviations.

Discussion: The effort to align the abbreviations with Ecology's needs and language is appreciated. Some changes need to be made as indicated in the resolution below.

Resolution: Clarify that the Yakima Landfill/Yakima City Landfill is the Ecology "Interstate 82 Exit 33A Yakima City Landfill" site, which is CSID 3853 and FSID 1927. Add "FSID" to the list, which stands for "Facility Side ID".

Comment 5: Page 1, Section 1 Introduction, opening paragraph and first sentence³ about "...this initial investigation report to describe environmental investigation activities performed...". More of the story needs to be told.

⁶ <https://ecology.wa.gov/spills-cleanup/contamination-cleanup/cleanup-process>

⁷ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-300>

⁸ <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-310>

Discussion: This paragraph is an opportunity to set the stage and make it clear what is happening, why, and where things are going.

Resolution: Provide some clear background on why these environmental investigation activities came about. Associate the word “environmental” with this effort.

Comment 6: Page 1, Section 1 Introduction, opening paragraph, reference to Figure 1-1. There needs to be an overall Boise Cascade Mill Site map that shows the extent of the entire mill operations and that it encompasses the County’s roadwork project.

Discussion: The text and referenced Figure 1-1 do not provide the context of how the County site ties into the historical mill site operations.

Resolution: Provide the right context as to where the county’s work fits into the bigger picture environmentally.

Comment 7: Page 1, Section 1.1 Regulatory Framework paragraph. There is no regulatory framework presented.

Discussion: Note per the definitions in MTCA an “Initial investigation” means a remedial action that consists of an investigation conducted under WAC 173-340-310.”

Resolution: Introduce the regulatory framework, by referencing MTCA (the rule and/or code) and the specific reference for the step in the cleanup process.

Comment 8: Page 1, Section 1.1 Regulatory Framework paragraph, second sentence. This paragraph needs some work since this is no longer on the path of an independent cleanup action.

Discussion: Per the definitions in MTCA an “Independent remedial action” means a remedial action conducted without ecology oversight or approval and not under an order or decree.” An “independent remedial action” cannot be the cleanup vehicle under a de minimis consent decree.

Resolution: Work on this paragraph to show that this may have started with the idea of an independent cleanup action. Based on your findings, the County’s work area is part of another site (Boise Cascade Mill), and the County’s goals put your work on the road for a formal cleanup.

Comment 9: Page 1, Section 1.1 Regulatory Framework paragraph, last sentence. There needs to be clarity as to why the County expects to enter a de minimis consent decree.

Discussion: This whole section is weak in providing a picture of where an independent cleanup action is leading to a de minimis consent decree.

As a result, this section raises more questions than it provides answers. Granted this is an introduction, but it needs more text to introduce enough details for the reader to understand how the County expects a de minimis consent decree. Remember the public needs to be able to understand what is going on and follow along.

Resolution: Provide sufficient background in the form of text, graphical representation, and links to Ecology's contaminated sites database for the reader to know that the County "anticipates" performing a targeted remedial cleanup under a de minimis consent decree.

Comment 10: Section 2 Background and Physical Setting. Expand on the background text related to the Ecology cleanup sites.

Discussion/Resolution: The Boise Cascade Mill and Interstate 82 Exist 33A Yakima City Landfill (Former Yakima Landfill) are Ecology Cleanup Sites located due west of the E-W Corridor investigation area over I-82. Include a discussion of known contaminants of concern, general locations of contamination, and known or potential off-site migration of contamination from these Sites to the E-W Corridor areas on the east side of I-82.

Note: Ecology views the County's work on the east side of I-82 to be within the extent of the Boise Cascade Mill Cleanup Site).

Comment 11: Page 2, Section 2.1 Property Description. There needs to be clarity in this section on the County's work areas relationship to the Boise Cascade Mill Site. In the third paragraph, it would be helpful to identify that the planned project is a County project with the official county project name. The first figure needs to be an overall area figure that shows the extent of the entire former Boise Cascade Mill operations and the relationship of the County's work footprint to the Boise Cascade Mill Site.

Discussion: This detail is necessary to understand the context of the work the County is doing and the relationship to the site. This section should provide a segway as to why the Boise Cascade mill site is being introduced in Section 2.2

Resolution: As necessary, please add more detailed text and graphically.

Comment 12: Page 2, Section 2.2 Property History and Current Use, first paragraph. There is a need for clarity and context as to what the Boise Cascade Mill site is in terms of the MTCA.

Discussion: There needs to be a brief description as to what the Boise Cascade Mill site is to allow the reader to make the connection that it is an active cleanup site to comply with MTCA. It should be clear that the Boise Cascade mill site is not defined by property lines but by the nature and extent of contamination.

Resolution: As necessary, please add more detailed text and graphically.

Comment 13: Page 3, Section 2.2.1 Cultural Context. Ecology defers any comments from the Yakama Nation on this section.

Discussion: Ecology has not seen comments from the Yakama Nation at the time of preparing this specific comment on this section. However, we typically concur with the Yakama Nations' comments and concerns about the protection of cultural resources.

Resolution: Please address the Yakama Nations comments if provided in this section.

Comment 14: Page 3, Section 2.3 Previous Environmental Investigations. Provide clarity regarding the City Landfill Site.

Discussion: This is the first time the City Landfill Site is introduced and it seems like it is coming out of nowhere. There are opportunities to provide context by opening this section up with a description of sites being regulated by Ecology under MTCA both in text and graphically.

Resolution: As necessary, please add more detailed text and graphically.

Comment 15: Page 3 and 4, Section 2.3 Previous Environmental Investigations. Provide clarity regarding the previous investigations as to where and why, and to the type of investigations.

Discussion: It seems like a list of investigations may be helpful for the reader to track with this section. Additionally, it should be clear that the geotechnical investigations were both geotechnical and environmental when that is the case. Section 2.3 only mentions previous geotechnical work, not geotechnical and environmental investigations. This is confusing since the 2023 Shannon and Wilson Report is titled Cascade Mill Parkway Phase 3, Geotechnical Engineering and Environmental Report.⁹

Resolution: As necessary, please add more detailed text and graphically. Revise references to the report title to include "environmental" and include language clarifying that this was both a geotechnical and environmental investigation.

Comment 16: Page 3 and 4, Section 2.3 Previous Environmental Investigations. Note that Ecology was not provided with the Shannon & Wilson Geotechnical and Environmental investigations.

Discussion: This section raises the question about whether or not Ecology has been involved in these earlier investigations by Shannon & Wilson.

Resolution: Provide clarity about Ecology's past involvement.

⁹ <https://apps.ecology.wa.gov/cleanupsearch/document/146972>

Comment 17: Page 4, Section 2.3 Previous Environmental Investigations. Second full paragraph, last sentence. Regarding the analytical results, and in particular the “few exceptions,” were these results reported to Ecology?

Discussion: Per MTCA “within 90 days of discovering a release or threatened release of a hazardous substance to the environment that may pose a threat to human health or the environment, an owner or operator must report the release to Ecology.” See WAC 173-340-300 Side discovery and reporting. (2) Applicability and timing.

Per WAC 173-340-330¹⁰ Definitions, a “Release” means any intentional or unintentional entry of any hazardous substance into the environment, including but not limited to the abandonment or disposal of containers of hazardous substances.

Resolution: Confirm if the release that is the subject of this section was reported to Ecology and if not, do you have plans to do so? Ecology requires electronic copies of all past environmental reports related to environmental work conducted by the county.

Comment 18: Page 4, Section 2.4 Topography. Is the topography (contours) depicted on any of the figures? Since surface conditions are discussed, should this section also be called “Topography and Surface Conditions”?

Discussion: It would be helpful to make connections to a figure and provide clarity as to what this section covers.

Resolution: Provide clarity by updating the section title and making a connection to a figure.

Comment 19: Page 5, Section 2. Geology and Hydrogeology, paragraph 1. Provide clarity as to whether or not the geotechnical borings were also environmental borings. Associate the specific study or investigation with the referenced findings.

Discussion: Same as previously...it would be helpful to make connections to a figure and provide clarity as to what this section covers.

Resolution: Same as previously, provide clarity by updating the section title and making a connection to a figure.

Comment 20: Page 5, Section 2.5. Geology and Hydrogeology, paragraph 2. From the previous paragraph, it has the connotation that the Fellows and Barr efforts were geotechnical.

Discussion/Resolution: Clarify whether the investigation effort was geotechnical, environmental, or both geotechnical and environmental.

¹⁰ <https://apps.leg.wa.gov/wac/default.aspx?cite=173-340-200>

Comment 21: Page 5, Section 2.6. Surface Water. Associate the levee features with a figure. Describe how this federal connection, floodplains, and regulatory floodplain connect or not connect to this environmental investigation.

Discussion/Resolution: Clarify as appropriate with figures and text.

Comment 22: Page 5 & 6, Section 2.7. Beneficial Water and Land Uses, general. Are there any concerns about the hyporheic zone?

Discussion: Since this section describes aquatic life, it would be helpful to understand how this site interacts with the hyporheic zone.

Resolution: Provide supportive text and figures.

Comment 23: Page 6, Section 2.7. Beneficial Water and Land Uses, 3rd paragraph from the bottom of the page. Is the mitigation a regulatory requirement? Include a figure showing where downstream the mitigation work (in the form of restoration) will occur in relation to the overall Boise Cascade Mill operations.

Discussion: It would be beneficial for Ecology to understand the requirements related to this work and where the work will occur in relation to the site.

Resolution: Provide supportive text and figures.

Comment 24: Page 7, Section 3. Field and Analytical Methods, subsection 3.1 Soil and 3.2 Groundwater. Were elevations established respective to the ground surface at the soil boring/monitoring well locations?

Discussion/Resolution: Provide a response.

Comment 25: Page 8, Section 4.1 Data Usability and Relevant Tables. Please expand on your discussion by including Total Toxic Mobility Equivalent Concentrations (TMEQs) for soil and wood waste.

Discussion/Resolution: Include a discussion of TMEQs for soil and wood waste and add these calculations to Tables 6-3 and 6-4.

Comment 26: Page 8, Section 4.1 Data Usability, first paragraph, regarding the submittal (upload) to the Ecology - Environmental Information Management database (EIM),¹¹ confirm and provide the EIM submittal to Ecology's Cleanup Project Manager.

¹¹ <https://ecology.wa.gov/research-data/data-resources/environmental-information-management-database>

Discussion: Due to the delay in processing the data, Ecology's Cleanup Project Manager cannot access the data in EIM.

Resolution: Please provide confirmation that the data has been submitted and provide the EIM submittal to Ecology's Cleanup Project Manager. Ecology's Cleanup Project Manager will check the field entries and if necessary, provide comments that require a resubmittal.

Comment 27: Page 8, Section 4.1 Data Usability, first paragraph, regarding Ecology's Environmental Information Management (EIM) System database. Confirm if "all validated analytical data" includes previous sampling events conducted by Shannon & Wilson.

Discussion: Ecology is requiring all environmental analytical data collected for the County and for the County's road project, to be uploaded to the EIM system.

Resolution: If the Shannon & Wilson efforts were submitted to the EIM data coordinator then just acknowledge that effort and provide the EIM study ID. If not, then see the below comment requiring EIM submissions.

Comment 28: Page 10, Section 5 Preliminary Conceptual Site Model. General Comments

Discussion: WAC 173-340-200 defines a Conceptual Site Model (CSM) as:

"Conceptual site model" means a conceptual understanding of a site that identifies known or suspected:

- (a) Hazardous substance sources and release mechanisms;
- (b) Hazardous substance types and concentrations;
- (c) Hazardous substance transport, including preferential pathways;
- (d) Contaminated environmental media, including the general extent and distribution of contamination within the media;
- (e) Current and potential human and ecological receptors and exposure pathways (complete and incomplete; and
- (f) Physical and habitat features, including current and potential future land and water uses and any sensitive environments.

This model is typically developed during the scoping of a remedial investigation and further refined as additional information is collected about the site during the remedial investigation. The model is a tool used to assist in making decisions at a site.

The CSM in Section 5 does not include items (b) Hazardous substance types and concentrations, or (d) Contaminated environmental media, including the general extent and distribution of contamination within the media.

Items (a) Hazardous substance sources and release mechanisms and (c) Hazardous substance transport, including preferential pathways; have been preliminarily addressed, but no investigation data (current or previous) was included to refine the CSM.

Resolution: Refine the CSM using data collected for this investigation and previous investigations. This should include potential migration from off-site sources on the west side of I-82. The CSM should include both a discussion and figure(s).

Comment 29: Page 10, Section 5 Preliminary Conceptual Site Model. Provide a figure that depicts the CSM.

Discussion: The figure should show the Boise Cascade Mill and the Interstate 82 Exit 33A Yakima City Landfill cleanup sites as potential offsite sources. The figure should show the extent of the former Mills' log yard operations.

Resolution: Add a visual CSM.

Comment 30: Page 11, Section 5.4 Potential Receptors. Since the park is a playground for kids, it should be noted that the human receptors could include children.

Discussion:/Resolution: Add children to the use.

Comment 31: Page 12, Section 6. Data Evaluation. Provide a discussion regarding the PSLs and PCULs.

Discussion/Resolution: Discuss and clarify whether the PSLs used in this report are comparable to the PCULs used at the Boise Cascade Mill and Former Yakima Landfill. The reader should be able to understand if these are the same thing using different nomenclature.

Comment 32: Page 12, Section 6 Data Evaluation, 2nd paragraph. Regarding the definition of CUL, why don't you just quote MTCA? Also, at this point the CULs are preliminary.

Discussion: The double negative "... not pose unacceptable ..." makes the sentence confusing.

Resolution: Quote MTCA: "Cleanup level" means the concentration of a hazardous substance in soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions." Point out that the CULs are preliminary.

Comment 33: Page 14 – 18. Section 6 Data Evaluation, Subsection 6.3 Screening Results.

Based on the hazardous substances present in the samples collected, there has been a “release” at this “contaminated site”.

Discussion: Per MTCA the below definitions help with the understanding of why Ecology can make the above comment.

WAC 173-340-200 Definitions.

“Release” means any intentional or unintentional entry of any hazardous substance into the environment, including but not limited to the abandonment or disposal of containers of hazardous substances.

“Contaminated site” means a site for which ecology or PLIA has determined further remedial action is necessary under the state cleanup law to: (a) Confirm whether there is a threat to human health, or the environment posed by a release or threatened release; or (b) Address the threat posed by a release or threatened release, based on the criteria in WAC 173-340-330(5). A contaminated site is referred to as a hazardous waste site in Chapter 70A.305 RCW.

Resolution: Apply all appropriate requirements per MTCA for a contaminated site.

Comment 34: Reference Section, page 20. This section identifies the Shannon & Wilson 2023 Geotechnical Engineering and Environmental Report (S&W 2023 GE&E-Report). The S&W 2023 GE&E-Report lists a 2020 environmental report on page 35 of its reference section, that is not in Ecology’s possession. We are requesting copies of that report and any other associated environmental reports.

Discussion: Ecology was provided the Shannon & Wilson 2023 report for the first time with the MFA work plan. The Shannon & Wilson 2023 report references the “Shannon & Wilson, 2020, Final design, geotechnical engineering and environmental report, stages 1 and 2, East-West Corridor Project, Yakima County, Washington: Report prepared by Shannon & Wilson, Inc., Seattle, Wash., 21-1-22425-002, for HW Lochner, Lacey, Wash., February”, which Ecology has not been provided a copy.

Resolution: Provide Ecology a copy of this 2020 report and all other related environmental documents from environmental sampling efforts (e.g., reports, sampling results, technical memorandum, etc.). This request includes the 2014 and 2017 environmental sampling.

Comment 35: Referenced S&W 2023 GE&E-Report. Is there a Quality Assurance Plan (QAP) / Sampling and Analysis Plan (SAP) associated with this work?

Discussion: Ecology requires our records to be complete.

Resolution: Provide Ecology copies of the QAP and SAP associated with the sampling events covered in this report and the previous environmental reports.

Comment 36: Referenced S&W 2023 GE&E-Report and other environmental reports. Ecology requires submission of environmental sampling data to Ecology's Environmental Information Management System (EIM).

Discussion: The investigations occurred on an Ecology site and the data needs to be uploaded to EIM.

Resolution: Upload environmental data and submit it to EIM.

Comment 37: Figures. General comments. Provided below are a series of comments about the figures.

Discussion/Resolution: The following comments regarding the report figures should be addressed:

- a. Include a figure or figures with all locations of previous investigations. Figure 1-1 Site Overview only includes some of the previous sample locations. Presumably, this is because the other sample locations weren't relevant to the areas of this investigation. If this is the case, include the samples in the figure to illustrate their location relative to the areas of the investigation.
- b. Include contaminant concentrations on a figure for both the current and previous investigations.
- c. Provide a figure showing the groundwater flow direction for this sampling event.
- d. Provide figures illustrating contaminant concentrations spatially for soil, wood waste, and groundwater.
- e. Provide a cross-section(s) showing the thickness of wood waste relative to the underlying soil and contaminant concentrations.
- f. Provide a figure and table incorporating both soil and wood waste results for each location. The goal is to understand how the two are related in the subsurface and potentially impact each other.
- g. Provide a figure(s) illustrating the CSM.

Comment 38: Figures. General comment on all figures in regard to the "Approximate" Footprint of Roadway Improvements. Does the improvement footprint represent the total impact of construction (access, disturbed areas, laydown, staging, etc.)? Also, does the footprint extend onto the west side of I-82, as well as extending to the river?

Discussion/Resolution: Provide clarity as to the impact of construction. Provide clarity as to the footprint of the roadway improvements.

Comment 39: Figures. General comment on the vertical impact of construction. It would be helpful for Ecology to understand the vertical extents of the planned construction in relation to the environmental investigation through a graphical representation.

Discussion/Resolution: Provide a mechanism to depict the vertical limits of construction.

Comment 40: Figures Section, General Comment. There needs to be an overall Boise Cascade Mill Site map that shows the extent of the entire mill operations and that it encompasses the County's roadwork project.

Discussion: Figure 1-1 does not provide the context of how the County site ties into the historical mill site operations.

Resolution: Provide an overall site map showing the extent of the former mill sites' historical operations, the Boise Cascade Mill cleanup site (Ecology CSID 12095), and the Interstate 82 Exit 33A Yakima City Landfill cleanup site (Ecology CSID 3853).

Comment 41: Figures Section, Figure 6-1. We see no PSL exceedance symbol associated with MW-15, which we know was an existing well, but others may not know that.

Discussion/Resolution: Add a note or designation to indicate that MW-15 was existing and not sampled for wood waste.

Comment 42: Figures Section, Figure for Soil Sampling Results. We see no PSL exceedance symbol associated with MW-15, which we know was an existing well, but others may not know that. Also was there a figure number associated with this figure?

Discussion/Resolution: Add a note or designation to indicate that MW-15 was existing and not sampled for wood waste. Add a figure number.

Comment 43: Figures Section, Figure 6.3 Sampling Results: Groundwater. For MWEC-02 there is no blank PSL symbol, so was MWEC-02 sampled? You can't tell by the figure, but you can tell by the table. Also, the figure seems to convey the message that the samples collected were only analyzed for metals, which is not the case.

Discussion/Resolution: Look at this from the perspective of someone using this drawing that is not familiar with the site or work plan. Add in additional information to increase the functionality of the figure.

Comment 44: Table 2-1 Previous Investigation Soil Analytical Data Summary. Please consider this series of comments in Table 2-1:

a. Discussion: Not all previous investigation data has been included in this table.

Resolution: Include all previous investigation data. In the event that a sample location is not relevant to this E-W Corridor investigation; provide an explanation in Section 2, include the sample location on a figure to illustrate its position relative to the area being investigated in this report, and include a note in the table acknowledging the sample results weren't included and why.

b. Discussion: The Preliminary Cleanup Levels (PCULs) for the Former Yakima Landfill and Boise Cascade Mill are included for reference, but the previous investigation results haven't been evaluated against the PSLs established for the E-W Corridor in Section 6 and Tables 6-1 and 6-2.

Resolution: Evaluate the previous investigation results against the PSLs established for the E-W Corridor and include them in the relevant text and table.

c. Discussion/Resolution: The geotechnical report has the units of the 2014 pentachlorophenol results in ug/kg. Verify units of results and revise if necessary.

d. Discussion: This table shows the Former Yakima Landfill as not having a PCUL for 1,2,4-Trichlorobenzene. The PCUL for 1,2,4-Trichlorobenzene is 0.05 mg/kg based on Soil Method B Protection of Surface Water upward adjusted to the PQL.

Boring location B-2-17, Sample ID ES-6 at 8.8 ft bgs has a detected concentration of 0.027 mg/kg; exceeding the Former Yakima Landfill PCUL.

Resolution: Ecology hasn't checked the entire table for accuracy. Please verify the table information is correct.

Comment 45: Tables Section, Table 2-1 Previous Investigations Soil Analytical Data Summary. There should be a reference (or note) on this table to associate the name and conductor of the previous investigations.

Discussion/Resolution: Identify the study and conductor of the previous investigations.

Comment 46: Table 3-1 Sample Summary. Comment about previous investigations.

Discussion/Resolution: The previous investigation samples in Table 2-1 should be included in Table 3-1 or a separate sample summary table. This should include all previous samples collected and discussed in the 2023 geotechnical report.

A column should be added to discuss whether the sample location was outside of the E-W Corridor investigation study area and why it was removed from consideration.

Comment 47: Table 6-1 Soil Preliminary Screening Levels and Table 6-2 Groundwater Preliminary Screening Levels

Discussion/Resolution: The following comments regarding clarification or correction should be addressed.

- a. The PCULs for the Former Yakima Landfill and Boise Cascade Mill are included for reference in these tables. These PCULs are incorrect in at least one case (See Comment #44, d), and don't necessarily reflect the most protective values for all media. For example, if a contaminant was detected in groundwater in some well locations, but the down-gradient wells closest to surface water did not have a detection, the groundwater-to-surface water pathway was eliminated and PCULs were adjusted up or down accordingly. Including the PCULs is confusing without a reference to their basis. Especially, contaminants without a PCUL because they weren't detected at one or both Sites.
- b. Include columns with the PQLs of the analytical lab used for this investigation.
- c. Include columns with the PSLs selected and a reference to its basis. Example, "Soil protective of groundwater upward adjusted to the PQL".
- d. Make the selected PQLs in the columns more noticeable by highlighting or other formatting.

Comment 48: Table 6-3 Wood Waste Soil Analytical Results and Table 6-4 Soil Analytical Results

Discussion: The tables are different between vadose and saturated soil results. There doesn't appear to be enough information about the investigated area to make this distinction. Particularly, the likelihood of fluctuating groundwater levels due to the proximity to the river and seasonal irrigation recharge.

Resolution: Provide a discussion and corroborating evidence in the text of the report to justify using different PSLs for vadose zones and saturated soils. If the soil is determined to potentially be saturated intermittently, then revise the tables to reflect one (1) PSL based on the lower of the two (2).

Comment 49: Tables – General comment regarding PSLs

Discussion: The analytes evaluated in Tables 6-1 and 6-2 to determine the PSLs do not directly coincide with analytes reported by the lab and are summarized in results tables (6-3, 6-4, and 6-5). This has caused errors in the results tables where the PSL is listed as No Value (NV). For example, the PSL for hexavalent chromium is listed as NV in Tables 6-3, 6-4, and 6-5. A PSL for hexavalent chromium can be determined based on information available in CLARC.

Resolution: Check all PSLs listed as NV and revise as necessary.

Comment 50: Section 6.3 Screening Results

Discussion/Resolution: The following comments regarding clarification or needed discussion should be addressed.

- a. Total Petroleum Hydrocarbons (TPH) in soil and wood waste have higher concentrations using silica gel cleanup than without. This seems unusual due to the high organic content in the samples. Please verify this information is correct.
- b. Iron concentrations in soil and wood waste are an order of magnitude higher in some locations. Provide additional discussion on potential sources, fate, and transport.

Comment 51: Appendix A Geologic Boring and Monitoring Well Construction. General regarding your raw field notes, which we did not find.

Discussion/Resolution: Please include your raw field notes with the revised report.

Comment 52: Appendix B Combustible Gas Monitoring Forms. General regarding your raw field notes, which we did not find.

Discussion/Resolution: Please include your raw field notes with the revised report.

Comment 53: Appendix D Well Development Forms. General regarding your raw field notes, which we did not find.

Discussion/Resolution: Please include your raw field notes with the revised report.

Comment 54: Appendix E Groundwater Field Sampling Data Sheets. General regarding your raw field notes, which we did not find.

Discussion/Resolution: Please include your raw field notes with the revised report.

Comment 55: Appendix E Groundwater Field Sampling Data Sheets. Regarding the field comment on the condition of MW-15.

Discussion: Thank you for your comment on the condition of MW-15. Due to the damage to the well, may be inappropriate to use for future sampling.

Resolution: Any future sampling from MW-15 will require a hydrogeologist to confirm if the condition of the well is appropriate for continued sampling.

Comment 56: Ecology consulted with the Yakama Nation Fisheries (represented by R. Elena Ramirez Groszowski, L.G.) as part of our review. We understand that the Yakama Nation may be submitting comments separately from Ecology.

Discussion/Resolution: Please consider the Yakama Nation's comments when completing revisions of the document.

END OF COMMENTS