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April 25, 2018

Estate of Sophie Sussman  
Portland Avenue Associates, LLC  
Attn: Mr. Loren R. Dunn  
Beveridge & Diamond PC  
600 University Street, Suite 1601  
Seattle, WA 98101-3109

**Re: Department of Ecology comments on *Revised Draft Remedial Investigation and Feasibility Study*, prepared for the Estate of Sophie Sussman by Aspect Consulting, dated February 28, 2018.**

- **Site Name:** Tacoma Metals
- **Site Address:** 1919 Portland Ave., Tacoma 98421-2804 Pierce County
- **Agreed Order:** DE 97-5435
- **Facility/Site No.** 1257
- **Cleanup Site ID No.** 3910

Dear Mr. Dunn:

Thank you for submitting the above-referenced report for our review. We appreciate the effort that your consultant has made in preparing this document. Please revise the report to incorporate the following comments:

1. Section 1.3, page 8, footnote 1: Hart-Crowser (2003) and City of Tacoma (2006) are cited here but they are not included in the reference list at the end of the text. Please add these references.
2. Section 2.1.1, 3<sup>rd</sup> paragraph, last sentence: Please add a reference to Figure 16A which appears to show the location of the 1989 cleanup extent.
3. Section 2.1.4, footnote 3: Please expand on what construction details were not available for review. Also, we suggest that Section 2.1.4 include a summary of the information that is known from Hart-Crowser (2003) and City of Tacoma (2006) and any other relevant sources.
4. Section 2.2.1.8, Forensic Evaluation of Hydrocarbons: Please also summarize at the end of this section the approach that is outlined in the interim action work plan (IAWP). The IAWP states that total petroleum hydrocarbons (TPH) cleanup levels are not appropriate for the B36

Area because the hydrocarbon compounds there are from a pyrogenic (formed from heat) source rather than a petrogenic (formed by rock) source. Areas B and D also contain impacts from pyrogenic sources. However, in the absence of polycyclic aromatic hydrocarbons (PAH) data, TPH concentrations can be indicative of the presence of carcinogenic PAHs (cPAHs). For the proposed interim action, locations that exceed Method A industrial soil cleanup levels will be considered indicative of an exceedance of cPAH cleanup levels.

5. Section 2.3.3.3, Naphthalenes: The statement that there are no MTCA Method A table-value cleanup levels for naphthalenes is incorrect. Washington Administrative Code (WAC) 173-340-900, Table 745-1, Method A Soil Cleanup Levels for Industrial Properties, shows a cleanup level of 5 mg/kg.
6. Please globally replace “ug/L” with “µg/L.”
7. Page 28, 2<sup>nd</sup> bullet, steel pipes: The text implies that petroleum hydrocarbon odor and/or stains were found in all four test pits. This does not appear to be accurate. For example, the test pit log for TP-14 does not mention hydrocarbons. Please clarify and/or reword the text.
8. Section 3.1, 2<sup>nd</sup> sentence: Replace “likely” with “may have.”
9. Page 37, Section 3.1, last paragraph: Replace “lumber mill, the Creosoting Plant, and/or the Coke Plant” with “previous facilities.”
10. Section 4.2, page 42, footnotes 7 and 8: These footnotes state that all soils above cleanup or remediation levels will be excavated, contained, or removed. This is not completely consistent with the cleanup alternatives because they have a depth limitation. Also, please add “treated” to incorporate the planned interim action (in-situ soil solidification).
11. Section 4.2.1: Please correct the table number references in the first paragraph.
12. Section 4.2.1, 1<sup>st</sup> bullet: Please also mention the total petroleum hydrocarbons (TPH) forensics work that was done previously, conclusions regarding pyrogenic and petrogenic hydrocarbon origin, and the locations where forensics analysis or other documentation suggest that TPH (petrogenic) cleanup levels are applicable. For example, Figure 5 from the 2014 *Revised Augmented Remedial Investigation and Feasibility Report* identifies Area C as consisting of petroleum hydrocarbon impacted soil. Also, in Friedman & Bruya’s (2007) data review, they identified “Group 5” as samples that appeared to contain petroleum with no obvious sign of creosote. This group of seven samples were from E 18<sup>th</sup> Street Right of Way locations B26, B27, B28, B29, B30, B31, and B32. However, of these seven samples, only B28 (6-7’; 2,306 mg/kg) exceeded the MTCA Method A cleanup level of 2,000 mg/kg (diesel- and oil-range TPH combined).
13. Page 46, Section 4.3.1, 4<sup>th</sup> paragraph: Please delete the sentence beginning with “The likely sources of TPHs to this area...” Metals recycling is also a potential source. The exact source(s) for the releases are not known but could have been any one or a combination of the previous facilities.

14. Page 46, Section 4.3.1, 5<sup>th</sup> paragraph: Please delete this paragraph. As mentioned above, the exact source(s) for the releases are not known. The main purpose of the RI is to determine the extent of contamination from all sources. Creosote plant operations are a potential source; however, TPH cleanup levels are not applicable for pyrogenic sources (see also the above comment on the forensic evaluation of hydrocarbons). Metals recycling operations also released TPH and in some locations (for example TP-11, 6-10') the depth of release extends to a depth equal to and/or below the water table. On the TP-11 chromatogram, the analyst noted that it appeared to consist of transformer oil + motor oil. (However, PCBs were not analyzed from this sample.)
15. Page 47, Section 4.3.1, last sentence: Please delete remaining portion of the sentence beginning with "and the potential sources for NAPL..." for the reasons stated above.
16. Section 6.1.1: The statement that the proposed interim action "may be implemented independent of the final cleanup action" needs to be reworded. The final cleanup action needs to take into consideration all of the previous work at the site, which includes the proposed interim action.
17. Section 6.1.5, Institutional Controls: The text of the 4<sup>th</sup> bullet regarding future redevelopment activities is not acceptable. Any future development which may disturb the paved or capped area of the Site will require Department of Ecology (Ecology) written approval prior to development. Ecology shall review the proposed development and make a fact-specific determination whether the proposal is considered to be a substantial change that requires an amendment to the Cleanup Action Plan or if it is a minor change that can just be documented in writing. Also, Ecology shall review and approve any applicable plans that are needed (for example the construction management plan, worker health and safety plan, and the materials management plan). A construction stormwater general National Pollutant Discharge Elimination (NPDES) permit would also likely be required.
18. Sections 6.2 and 6.3, Alternatives 1 and 2, 2<sup>nd</sup> bullet, 1<sup>st</sup> sub-bullet (unpaved portion of the On-Property Area): Delete "or the water table."
19. Sections 6.2 and 6.3, Alternatives 1 and 2, 3<sup>rd</sup> bullet, 1<sup>st</sup> sub-bullet (paved area On-Property): Change "(to the water table)" to "(to a depth of 15 feet below grade)."
20. Sections 6.2 and 6.3, Alternatives 1 and 2, excavation soil volume estimates for the unpaved area: Currently, different volumes are assumed for the soil excavation in the unpaved area for the two alternatives. In order to objectively compare the alternatives, the same volume estimates need to be used for each since the two alternatives involve essentially the same actions for this portion of the Site.
21. TPH and/or creosote conveyance piping: Some TPH and/or creosote conveyance piping removal may be necessary for Alternatives 2 and 3, particularly in the vicinity of TP-14, -55, -63, and -65, if free product and/or significant levels of contamination are encountered that appear to be from the pipes. Please include this in the scope of these alternatives.

22. Alternative 3: Delete the limit “15 feet deep” and/or “to the water table” for excavation. This alternative shall include the standard point of compliance for soil protection of groundwater: soils throughout the site, WAC 173-340-740(6)(b), with no depth limitation for excavation and/or treatment. This alternative shall be configured to meet the requirements of a permanent cleanup action or permanent solution. Please also include in this alternative the removal of all TPH and/or creosote conveyance piping.
23. Section 8, Preferred Remedial Alternative: Please add a diagram that shows the estimated depths and locations of soil excavation and/or treatment (including both the interim and final remedial actions) for the preferred alternative. Please note that the depths of exceedances in Figure 18B (depth of metals exceedances in soil) are likely not sufficient for all constituents. For example, while it is true that most of the TPH exceedances are co-located with the metals exceedances, there are some locations where the TPH exceedances are deeper. Examples include: TP-10, -11, -30, -55, -61, and -63.
24. Table 3: Please add the results for B-12 (MW-22) to the table.
25. Table 4: Please add the results for B-34, -35, -36 and -12 (MW-22) to the table.
26. Table 6, Draft Groundwater Cleanup Levels: Change the total xylenes final groundwater cleanup level from 80 µg/L to 5 µg/L to ensure that the target organs hazard quotient is no greater than 1.0.
27. Table 7, Draft Soil Cleanup Levels and Remediation Levels:
  - a. Pages 1 and 2: Please format the table so that consistent row centering is used.
  - b. Page 1 of 2, Soil Protective of Groundwater: For soil protection of groundwater, revise the table so that both vadose at 13 degrees Celsius and saturated cleanup levels are shown. In January 2017, EPA published new cancer and noncancer toxicity values for Benzo(a)pyrene (BaP) on the Integrated Risk Information System (IRIS) database. Ecology’s Cleanup Levels and Risk Calculation (CLARC) web site is being updated to reflect these new values. While this new update is not yet posted to the web, the table values have been provided internally to Ecology staff and staff have been directed to implement the new values.

The revised values for BaP are: protective of groundwater vadose at 13 degrees Celsius = 3.90 mg/kg; protective of groundwater saturated = 1.90E-01 mg/kg.
  - c. Page 2 of 2, Preliminary Cleanup Levels Column: Please provide text and/or table(s) that show how these preliminary cleanup levels were calculated.
  - d. Page 2 of 2, Benzo(a)pyrene (BaP) Modified Method C Cleanup Level: As mentioned above, EPA published new cancer and noncancer toxicity values for BaP in 2017, in IRIS. Ecology’s CLARC web site is being updated to reflect these new values.

The revised values for BaP are: inhalation reference dose = 5.70E-07 mg/kg-day; inhalation cancer potency factor = 2.10 kg-day/mg; oral reference dose = 3.00E-04; and oral cancer potency factor = 1.00 kg-day/mg.

However, because EPA concluded that BaP causes cancer by a mutagenic mode of action, the 2017 Ecology update will further lower BaP cleanup levels for non-industrial receptors to account for increased childhood toxicity. Please calculate the BaP Modified Method C cleanup level using the updated BaP values.

- e. Page 2 of 2, BaP Remediation Level: In 2016, Ecology provided comments on the 2014 *Revised Augmented Remedial Investigation and Feasibility Report* that included a Remediation Level for BaP of 12 mg/kg for depths of less than 6 feet below ground surface and 18 mg/kg for depths from 6 to 15 feet below ground surface. This Remediation Level is not affected by the 2017 EPA update mentioned above. This is because the Remediation Level in Ecology's comment letter incorporated a further reduction below the direct contact cleanup level to provide greater protection of groundwater. Therefore, revise the table to show the final remediation level for BaP as 18 mg/kg/12 mg/kg, as shown in Ecology's previous comment letter.

28. Table 8, Modified Method C Analysis for Soil: Please revise the table to incorporate the BaP 2017 updated exposure parameters.
29. Figures 14B and 15B: Please add to the legend an explanation of the B36 Area, Area B, and Area D that are illustrated on the figures.

If you have any questions, please contact me at (360) 407-6247 or via e-mail at [steve.teel@ecy.wa.gov](mailto:steve.teel@ecy.wa.gov).

Sincerely,

*SS Teel*

Steve Teel, LHG  
Cleanup Project Manager/Hydrogeologist  
Toxics Cleanup Program  
Southwest Regional Office

By certified mail 91 7199 9991 7037 0238 2671

cc: (Via electronic mail)  
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Philip J. Slowiak, IP, Senior Project Manager  
Nick Acklam, Ecology  
John Level, Office of the Attorney General

Date: May 14, 2018

Kari Heikkila:

The following is in response to your May 14, 2018 request for delivery information on your Certified Mail™ item number 9171999991703702382671. The delivery record shows that this item was delivered on April 30, 2018 at 11:52 am in SEATTLE, WA 98101. The scanned image of the recipient information is provided below.

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