



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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April 21, 2020

Keith Woodburne  
TRC  
19874 141<sup>st</sup> Place NE  
Woodinville, WA 98072

**RE: Ecology Review of Draft Supplemental Remedial Investigation Report**

- **Site Name:** Michael Irrigation (aka John Michael Lease Site)
- **Site Address:** 5640 Sunset Highway, Cashmere
- **Facility/Site No.:** 3154383
- **Cleanup Site ID No.:** 2149
- **Agreed Order No.:** DE 15684

Dear Keith Woodburne:

Thank you for submitting the “*Draft John Michael Lease, Cashmere, Washington, Supplemental Remedial Investigation Report Prepared by TRC,*” dated April 9, 2020. The Supplemental RI Report was intended to summarize existing data collected to date in order to determine appropriate next steps at the Site.

Ecology has the following comments on the above-referenced report. Although these comments express areas of disagreement between TRC/BNSF and Ecology, these areas of disagreement do not strongly effect next steps at the Site. Therefore, no revision and reissue of the RI Report is requested by Ecology. The Supplemental RI Report will next undergo public review and comment. It is anticipated that this letter will accompany the Supplemental RI Report for that public review and comment.

**General Comment #1 – Release Information (Section 4.1)**

The RI Report states:

*“The source of petroleum-related hydrocarbons in soil and groundwater reportedly originated from a derailment and subsequent release of crude oil from a compromised tank car that reportedly occurred in the 1930s (EMR, 2005). The derailment was verbally communicated by residents to staff during field activities (Farallon, 2008). The COPCs are DRO, ORO, and GRO, cPAHs, benzene, and naphthalenes. These COPCs were detected at concentrations exceeding MTCA Method A CULs in soil and as dissolved phase in*



*groundwater as summarized below. Light non-aqueous phase liquid (LNAPL) has not been observed in monitoring wells at the property.”*

Ecology agrees with TRC/BNSF that the bulk of the remaining contamination at the Site appears to be heavy weathered petroleum that may be consistent with a crude oil release from the 1930s. However, this discussion ignores that fact that dumping of solid waste took place at the Site and historical dumping may have also been a source of observed contamination. In addition, the presence of gasoline and benzene may not be consistent with a crude oil release. Additional information regarding the nature of the release(s) at the Site does not appear to be forthcoming; however, this does not appear to be of significant concern with respect to identifying appropriate next steps at the Site.

### **General Comment #2 – Soil-to-Groundwater (Section 4.2.2).**

Ecology concurs with TRC/BNSF regarding the importance of turbidity with respect to groundwater contamination in monitoring well MW-1. No groundwater contamination has been found above Method A cleanup levels in samples from this monitoring well during the most recent four monitoring rounds conducted by TRC. The initial monitoring round with exceedances of diesel range organics (DRO) and heavy oil range organics (ORO) had elevated turbidity readings. Prior to monitoring conducted by TRC, no turbidity measurements had been taken. Ecology concludes that the petroleum contamination in soil at this location has extensively weathered such that dissolvable petroleum fractions have largely attenuated, and remaining contamination is primarily in a sorbed phase.

During drilling and installation of MW-5 in October 2018, Ecology witnessed sheen in saturated soils as shown in the following photograph. However, no petroleum was detected in groundwater samples from that monitoring well during four quarterly monitoring events. This further validates the conceptual site model that most remaining contamination is associated with solids (i.e. sorbed) rather than in dissolved phase. The exception to this is MW-7 which had DRO and ORO exceedances in two of five quarterly groundwater monitoring rounds. Based on these data, Ecology concludes that the soil to groundwater pathway appears to be inactive, except in the immediate vicinity of MW-7. Contaminated groundwater above cleanup levels is limited to the area surrounding MW-7, and Ecology agrees that impacts to the Wenatchee River are unlikely.



**Petroleum sheen in saturated soils from MW-5.**

### **General Comment #3 – Terrestrial Ecological Evaluation (TEE) Pathway (Section 4.5)**

Ecology disagrees with the discussion and conclusions presented in Section 4.5. The TEE pathway has been discussed many times between Ecology and TRC/BNSF, including during telephone meetings and in emails.

Ecology has completed Table 749-1 and concludes that the simplified process is not ended by this table, contrary to what TRC/BNSF asserts.

Ecology calculates an area of 7.26 acres as the answer to Question 1. This area has been previously reviewed with Ecology's TEE expert, who indicated that lands across the Wenatchee river do apply to the definition of contiguous (connected) undeveloped land. Question 1 is provided as follows for reference purposes:

*Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre).*

*"Undeveloped land" means land that is not covered by existing buildings, roads, paved areas or other barriers that will prevent wildlife from feeding on plants, earth-worms, insects or other food in or on the soil.*

Ecology also disagrees with the classification of habitat as low quality and would select intermediate habitat quality, especially considering the contiguous riparian corridor. However, this designation does not affect the outcome of the Table 749-1 analysis. Ecology notes that TRC referenced in previous correspondence an assessment of the terrain by a Biologist based on analysis of aerial photographs. Ecology strongly disagrees with this methodology for assessment of habitat quality.

Ecology has concluded that potential ecological receptors at the Site are likely limited on the portion of the Site southwest of the railroad tracks. That area is used as unpaved parking with a compacted soil and gravel surface. Equipment and materials are stored in this area. Ecology has also concluded that ecological receptors are likely present on the part of the Site northeast of the railroad tracks. This area is dominated by unmanaged grass and weeds, and is bordered by riparian deciduous forest adjacent to the Wenatchee River.

Although Ecological receptors may be present in the area northeast of the railroad tracks, no contamination shallower than six feet has been identified in this area, based on the data presented in the RI, and previously verified by TRC/BNSF in correspondence. Based on this analysis, Ecology has concluded that the TEE process can be ended.

#### **General Comment #4 – Next Step Recommendations (Section 6.2)**

Ecology generally agrees with the TRC/BNSF's recommendations presented in Section 6.2, with the following clarifications:

- Two environmental covenants (ECs) are needed for the Site to address soil contamination above Method A cleanup levels; an EC for parcel 231905120070 and a second EC for the BNSF ROW. The ECs must be recorded with Chelan County, and within BNSF's property management system. Ecology will file the ECs with Chelan County after signatures are complete.
- Ecology generally prefers to avoid issuing environmental covenants for groundwater contamination that is accessible. During the last two monitoring rounds of MW-7, results were below Method A cleanup levels. Ecology requests an additional two quarters of monitoring of this well.

If results are below Method A cleanup levels, then Ecology will consider issuing a Satisfaction of Order and a No Further Action (NFA) determination, provided the ECs for soil contamination are in place. If the Method A cleanup levels are exceeded within the next two monitoring rounds of MW-7, then Ecology may request additional monitoring of this well and/or remedial actions, until Method A cleanup levels have been achieved for four consecutive quarters.

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Although MTCA has a general predisposition toward cleanup to the extent possible, Ecology concurs that ECs are an appropriate approach to manage the soil contamination at the Site based on the following considerations:

- If contaminated soil was excavated, a considerable amount of contaminated soil would likely still remain beneath the railroad tracks that could not be safely removed.
- If contaminated soil was excavated, there is a possibility of some contamination that is currently in a sorbed phase becoming dissolved and impacting groundwater. This concern could potentially be mitigated by dewatering during excavation; however, given the high permeability of the sediments, excavation dewatering may offer significant challenges.
- With the soil-to-groundwater and TEE pathways eliminated, the direct contact pathway is the only remaining soil pathway of concern. The likelihood of future activities at the Site resulting in direct contact to contaminated soils is relatively low, and this pathway is appropriately mitigated through the use of ECs.

Based on the above, Ecology concludes that no Feasibility Study is needed for the Site since remaining contamination concerns are most appropriately addressed at this time by an EC for soil, and continued monitoring for groundwater.

Ecology appreciates the continued progress being made at the Michael Irrigation site. Please contact me at (509) 454-7835 or (509) 424-0453 (cell) or [Frank.Winslow@ecy.wa.gov](mailto:Frank.Winslow@ecy.wa.gov) if you have any questions or would like clarification of any portion of this letter.

Sincerely,



Frank P. Winslow  
Site Manager  
Toxics Cleanup Program  
Central Regional Office

cc: Shane DeGross, BNSF Railway