



DEPARTMENT OF
ECOLOGY
State of Washington

Response to Comments

Draft Cleanup Action Plan, Consent Decree, and State Environmental Policy Act Documents for the BNSF Railway Black Tank Property

Facility Site ID: 98615712

Cleanup Site ID: 3243

Public comment period held:

May 13 – June 11, 2019

Summary of a public comment period and responses to comments

June 2019

Publication and Contact Information

This document is available on the Washington State Department of Ecology's website at <https://fortress.wa.gov/ecy/gsp/CleanupSiteDocuments.aspx?csid=3243>.

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Toxics Cleanup in Washington State

Accidental spills of dangerous materials and past business practices have contaminated land and water throughout the state. The Washington State Department of Ecology (Ecology) Toxics Cleanup Program works to remedy these situations, which range from cleaning up contamination from leaking underground storage tanks, to large, complex projects requiring engineered solutions.

Contaminated sites in Washington State are cleaned up under the Model Toxics Control Act (MTCA, Chapter 173-340 Washington Administrative Code), a citizen-mandated law passed in 1989. This law sets standards to ensure toxics cleanup protects human health and the environment and includes opportunities for public input.

Public Comment Period Summary

Ecology held a comment period from May 13 through June 11, 2019, for the following draft documents for the BNSF Railway Black Tank Property cleanup site:

- [Cleanup Action Plan](#)¹ – explains the cleanup methods we are proposing for this site
- [Consent decree](#)² – legal agreement requiring the parties responsible for cleanup to enact the cleanup plan that includes a [Scope of Work and Schedule](#)³ for completing cleanup
- State Environmental Policy Act (SEPA) documents – we have reviewed the proposed cleanup actions using the [SEPA checklist](#)⁴, and decided they won't adversely affect people or the environment ([Determination of Non-significance](#)⁵)

We selected excavation for the contaminated surface soil, and a combination of bioventing and biosparging to address deep soil and groundwater contamination, with the possibility of adding steam-enhanced extraction for the deep contamination if groundwater remediation does not meet the cleanup schedule.

Ecology appreciates the concerns raised and the support for the cleanup action expressed in the comments we received from six people, which we address in the Response to Comments section that begins on page 2. After considering the comments, we have finalized the draft documents without further changes.

BNSF Railway Black Tank Property Background

The site covers roughly 18 acres in Spokane's Hillyard neighborhood at

¹ <https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=82410>

² <https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=82411>

³ <https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=82416>

⁴ <https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=82409>

⁵ <https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=82414>

3202 East Wellesley Avenue, and is in the path of the North Spokane Corridor freeway the Washington State Department of Transportation is building. The property is owned by BNSF Railway (BNSF), which is responsible for cleanup along with Marathon Oil Company (Marathon) because it leased and operated facilities at the site. The companies are collectively called the potentially liable persons (PLPs).

The site housed a 50-foot-diameter, above-ground black tank that stored petroleum products, primarily the thick, heavy oil known as bunker C for fueling trains. Later, the black tank stored asphalt and other petroleum-based mixtures that were used by BNSF's tenants. Residual petroleum products were stored until 2006 when BNSF removed the tank and 10,270 tons of contaminated soil.

The site also had an above-ground red tank that was used to store and transfer diesel. The diesel was used to thin bunker C, so it could be pumped into trains.

Index of Comments Received

Everyone who submitted comments is listed below in alphabetical order by their last name, followed by the date we received their comments and the page on which their comments are printed as received. Contact information (postal and email addresses and phone numbers) has been omitted.

Name and organization (if applicable)	Date received	Page
Thomas Brady	June 4	2
Jennifer Brock Olson	June 11	3
G. Stanley Fergin	June 10	3
Sue Koller	June 7	4
Mike Petersen, The Lands Council	June 8	4
Ivan Smith	June 4	7

Response to Comments

Comment letters are below printed verbatim followed by Ecology's responses.

Thomas Brady

The cleanup needs to include all sub soils with any residual contamination in order to protect our aquifer drinking water.

Ecology's response: Thank you for your comment. There will be longer-term cleanup of the deep contamination. The cleanup action plan calls for using bioventing and biosparging, with steam-enhanced extraction as a contingent method if bioventing and biosparging don't reduce the petroleum plume at a rate that meets Washington's cleanup timeframe requirements.

Bioventing/biosparging forces air underground through wells to speed up natural biodegradation of petroleum. Micro-organism activity is limited by the amount of oxygen available, so bioventing will increase their activity and the rate of petroleum degradation as they consume it. Steam-enhanced extraction injects steam underground through wells to heat up the thick petroleum, so it can be pumped to the surface through extraction wells and processed to separate petroleum and water.

Jennifer Brock Olson

As a citizen of Spokane the only thing I need to see that there is “contaminant” close to the “aquifer.” I am not convinced that our drinking water is not at risk. Please begin with this cleanup as soon as possible.

Ecology's response: Thank you for your comment. Ecology's first priority is protecting human health and the environment, including the sole-source aquifer upon which we all depend. Groundwater samples from and around the site, along with the position and distance of the nearest drinking water supply well relative to the site, provide enough information for us to confidently say that drinking water supplies are not currently affected by this site. We will continue to monitor groundwater throughout the cleanup process.

G. Stanley Fergin

The most practical, safest and fastest method to slow down and reduce the contamination from the black oil accumulation just above the aquifer is to prevent the percolation of water which puts hydrostatic pressure on the oil contaminated dirt by sealing off the plume area. The North Corridor freeway will seal off a large part of the contaminated area using an appropriate heavy plastic liner under the freeway. The rest of the plume area should be sealed in likewise manner. All freeway runoff water must be directed to areas free of contamination and beyond to assure that water will not re-enter the contaminated area. As future scientific methods are developed to safely decontaminate the oil plume by injection of other means, the seal will buy this necessary time.

G. Stanley Fergin, Certified Industrial Hygienist (Retired)

Ecology's response: Thank you for your comment. The cleanup levels for contaminants in soil have been set to be protective of groundwater; therefore, the entire site will not be capped. However, we agree that stormwater should not be collected from the North Spokane Corridor, concentrated, and infiltrated over the contaminated area. Ecology is working with the Washington State Department of Transportation to ensure that stormwater collected from the North Spokane Corridor will be managed in areas far enough from the site to ensure contamination will not be mobilized from soil into groundwater. The cleanup methods for this site

(bioventing/biosparging) have been shown to safely decontaminate petroleum in soil and groundwater.

Sue Koller

This is a much needed cleanup. Have campaigned for a No Second Bridge over Lake Pend Oreille for the reason that coal dust levels in the lake are increasing exponentially with increased train traffic. As does potential train derailments. This plan will help our fight for a water cleanup.

Ecology's response: Thank you for your comments. We agree this cleanup is necessary to protect groundwater.

Mike Petersen, Executive Director, The Lands Council

On behalf of The Lands Council, I want to thank Ecology for their work to ensure clean-up at the Black Tank site. Ecology has identified the impacts of the BNSF site on the Hillyard Trough of the Spokane Valley-Rathdrum Prairie Aquifer (Aquifer) and has come up with a path forward. We would like to provide comments on the clean-up plan.

The Feasibility Study estimates that 8 and 14 years of bioventing/biosparging would be required to remediate mobile LNAPL in the medium and high RTF areas, respectively. Performance monitoring would be conducted to measure degradation rates. Progress of the remedial action toward achieving the CULs within the 20-year RTF needs to be measured on a continual basis to ensure that this timeline is being reached.

The Cleanup Plan (CUP) states that *"If performance monitoring indicates that meeting the 20-year RTF would be at risk, then subsequent phases of bioventing/biosparging optimization would be implemented. As described in the FS, optimization techniques could include increasing the air flow to existing wells, combining air injection with extraction in a push-pull configuration, increasing the density of injection wells, additional biosparging, bioaugmentation, and/or heated bioventing."*

We have concerns that the PLP's are not taking the optimal steps to clean up the contamination, and that no set timeline for switching to Alternative D (or E) is in the CUP. The CUP at page 24 states that Alternatives D and E will do a quicker and more thorough job:

Deep Contamination: Although all the alternatives would eventually be protective, DC-D and DC-E would be more protective than DC-B or DC-C, as the time required to reduce risk and attain cleanup standards would be much shorter, assuming remedy effectiveness. DC-C is slightly more protective than DC-B, as cleanup would occur in slightly less time, again assuming remedy effectiveness;

Deep Contamination: DC-D and DC-E would be more permanent than DC-B or DC-C, as less soil contamination and smear zone contamination would remain at the conclusion of SEE or smoldering compared to the amount of contamination that would remain at the end of bioventing. DC-C and DC-B have a similar level of permanence;

Deep Contamination: DC-D and DC-E would rank higher than DC-B or DC-C, as less soil contamination and smear zone contamination (less residual risk) would remain at the conclusion of SEE or smoldering compared to the amount of contamination that would remain at the end of bioventing. DC-C and DC-B have a similar level of long-term effectiveness.

Given the financial resources of the PRP, threats to the sole-source aquifer, and scale of the contamination, The Lands Council believes a quicker, more thorough, and more permanent cleanup of the site is warranted.

We are concerned that the PRP's are creating the Compliance Monitoring Plan (CMP), for Ecology's review and approval, since they have an obvious bias to not undertake Alternative D or E. We are very concerned that the CAP (Page 33) essentially give the PRP's 30 years to clean up the site to meet standards, and even if the bioventing/biosparging alternative is not working in the first four years, the contingent remedy would not start.

*Further, given the additional effort and cost needed to implement the contingent remedy, it should not be implemented if the primary remedy can still, with additional optimization efforts, attain cleanup standards within a reasonable period **beyond 20 years**. Therefore, the contingent remedy would not be considered for implementation:*

- *During Years 1 through 4, or*
- *During Years 5 through 7, if the calculated Restoration Timeframe of bioventing/biosparging in the high RTF area is **30 years or less** and additional optimization efforts can and will be undertaken, or*
- *During Years 8 through 10, if the calculated Restoration Timeframe of bioventing/biosparging in the high RTF area is 25 years*

We ask that Ecology take a hard look and ensure that specific contaminant levels and dates are part of the CMP if the final decision chooses Alternative B for the deep contamination sites. We also ask that the pilot testing of the steam enhanced extraction begin as soon as possible.

A concern was earlier raised by the Lands Council whether an adequate cleanup of the BNSF site can occur simultaneously with the NS Corridor construction. This is mentioned as a footnote in the CAP on page 33:

Because contingent remedy infrastructure cannot be installed within the footprint of an active freeway, portions of the high RTF area, if any, that are inaccessible because of the NSC freeway may not be addressed using the contingent remedy.

We ask that the CAP clearly state which portion of the high RTF area falls within the footprint of the freeway and how this will impact the overall cleanup.

The CAP on page 7 mentions other potential contaminants:

Groundwater samples collected in March 2016 were analyzed for PCBs, total cadmium, sulfate, nitrate and nitrite, ferrous iron, total organic carbon, dissolved methane (CH₄), and total alkalinity.

It was not clear from the CAP whether historically-identified PCBs and other toxins at the BNSF site are at levels that require cleanup? The bioventing/biosparging would not work to break down PCB's or cadmium - only removal with Alternative D would work.

Thank you for the opportunity to comment.

Ecology's response: Thank you for your comments. Ecology appreciates that The Lands Council believes a quicker, more thorough, and more permanent cleanup of the site is warranted. We also understand that some alternatives, when compared to the proposed alternative, were rated as "more permanent" and would achieve environmental compliance in a shorter timeframe; however, the disproportionate cost analysis (DCA) required by MTCA evaluates, on an equal footing, many other thresholds. For example, cost and short-term risk are thresholds that often compete with achieving compliance in a shorter time frame. In addition, the DCA does not include an evaluation of the PLPs' ability to afford a more aggressive cleanup technology. When the DCA was completed, it was determined that, if compliance is in fact achieved in 20 years or less, bioventing/biosparging was the best alternative available for the deep contamination. A contingent remedy of steam-enhanced extraction was added for the most contaminated area if it is determined that a cleanup time frame of 20 years will not be achieved in that area.

The intent behind allowing the contingent remedy determination to be a 30-year restoration time frame (RTF) at Years 5-7, a 25-year RTF at Years 8-10, and a 20-year RTF at Years 11+ was to allow for the progressive enhancement of the bioventing/biosparging system over time. This way, the PLPs can continue to optimize the bioventing/biosparging system, and the contingent remedy will not be implemented until we are positive that the overall 20-year RTF cannot be achieved. Note that these time periods are concurrent; they all reference the same "Time Zero." For example, if the baseline is the year 2021, and in 2027, we estimate that the RTF will be 40 years, the contingent remedy would be implemented if feasible. If in 2030, we estimate that the RTF is more than 25 years, measured from 2021, the contingent remedy would be implemented if feasible. If in 2033, we estimate that the RTF is more than 20 years, measured from 2021, the contingent remedy would be implemented if feasible.

Ecology understands your desire that the CAP clearly state which portion of the high RTF area falls within the footprint of the freeway. Ecology believes the best available information has been included in the CAP text. In addition, the figure attached to the SEPA checklist provides the most up-to-date visual depiction of the overlap of the cleanup site and the North Spokane Corridor.

Lastly, the only contaminants in deep soil and groundwater that had concentrations that required the issuance of cleanup levels were petroleum hydrocarbons and polycyclic aromatic hydrocarbons, both of which are expected to undergo enhanced degradation under the primary and contingent remedies. Cadmium and naphthalene levels only required the issuance of cleanup levels for surface soil. Polychlorinated biphenyls (PCBs) were not detected in soil or groundwater above any MTCA thresholds.

Ivan Smith

Re: BNSF Black Tank Cleanup

BNSF should certainly be responsible for the cost of clean up as well as any city infrastructure that needs to be built to assist in the clean up process. You'd think if they use the railroad to transport the contaminated soil, it's a win-win for BNSF!?

Get 'er done! Been too long. Thank you.

Ecology's response: Thank you for your comments. According to MTCA, all PLPs at a cleanup site are jointly and severally liable for all costs related to site cleanup. BNSF and Marathon are responsible for cleanup costs at the Black Tank site.