



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

15 W Yakima Ave, Ste 200 • Yakima, WA 98902-3452 • (509) 575-2490

June 9, 2015

Joan Davenport  
City of Yakima  
129 N. 2nd St.  
Yakima, WA 98901

**Re: Further Action at the Following Site:**

- **Site Name:** Interstate 82 Exit 33A Yakima City Landfill
- **Site Address:** 805 N. 7th St., Yakima, WA 98901  
(Parcels 191318-41001 and 191318-42001)
- **Facility/Site No.:** 1927
- **VCP Project No.:** CE0406

Dear Ms. Davenport:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Interstate 82 Exit 33A Yakima City Landfill facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

**Issue Presented and Opinion**

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Is further remedial action necessary to clean up contamination at the Site?

**YES. Ecology has determined that further remedial action is necessary to clean up contamination at the Site.**

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

**Description of the Site**

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This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following release:

- Gasoline range organics, n-nitrosodiphenylamine, and 4,4'-DDD into soil.



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- Heavy oils, vinyl chloride, bis(2-ethylhexyl)phthalate, 3,3'-dichlorobenzidine, arsenic, iron, manganese, nitrate, sodium, and low pH into the groundwater. Lead and chromium were initially detected above MTCA cleanup levels in site hazard assessment sampling conducted in 1997, although neither has been detected since that time.

Please note a parcel of real property can be affected by multiple sites. The Boise Cascade Mill facility (# 450) also affects parcel(s) of real property associated with this Site. This opinion does not apply to any contamination associated with the Boise Cascade Mill facility.

### **Basis for the Opinion**

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This opinion is based on the information contained in the documents listed below:

1. Landau Associates, April 14, 2015. *Remedial Investigation – Interim Data Report (September 2014 Through January 2015) Closed City of Yakima Landfill Site Yakima, Washington*
2. Landau Associates, November 26, 2014. *Closed City of Yakima Landfill Site September 2014 Soil and Groundwater Investigation Summary and Results.*
3. SLR International Corporation, July 17, 2012. *Soil Vapor and Groundwater Sampling Report – May 2012 Event, Closed City of Yakima Landfill, Yakima, Washington*
4. SLR International Corporation, March 17, 2010. *Additional Investigation Report, Closed City of Yakima Landfill Site*
5. International Corporation, October 12, 2009. *Remedial Investigation Report, Closed City of Yakima Landfill Site*
6. Parametrix, October 2008, *Phase II Environmental Site Assessment, Former City of Yakima Municipal Landfill, Yakima, Washington*
7. Contents of Ecology site file

Those documents are kept at the Central Regional Office (CRO) of Ecology for review by appointment only. You can make an appointment by calling the CRO resource contact (509) 575-2490.

This opinion is void if any of the information contained in those documents is materially false or misleading.

## Analysis of the Cleanup

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Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

### 1. **Characterization of the Site.**

The focus of this opinion letter, at the request of the City of Yakima, is to provide an opinion regarding the supplemental remedial investigation currently being conducted at the Site.

Ecology has determined your characterization of the Site is not sufficient to select a cleanup action, however, if the supplemental remedial investigation is completed as planned, including any additional work to be identified after the four consecutive quarters of groundwater monitoring, your characterization of the Site should be sufficient to select a cleanup action.

The Site is described as releases associated with a former municipal landfill that operated during the 1960s. It is important to note that groundwater contamination may be potentially comingled with plumes associated with the upgradient Boise Cascade Mill site.

In February 2008, a Phase II site assessment was conducted and work consisted of a geophysical survey, 14 test pits, two soil borings, installation of one new monitoring well, three soil vapor probes, and collecting samples from three monitoring wells. A rough lateral extent of the municipal solid waste (MSW) was delineated. Iron, manganese, and vinyl chloride were detected in groundwater above MTCA Method B cleanup levels. Soil vapor concentrations of methane were found near the boundaries of the MSW above the lower explosive limit (LEL), including near the plywood plant building. No soil samples were ever analyzed for any contaminants of concern.

In October 2009 through May 2012, a remedial investigation was conducted and work consisted of 56 test pits to delineate lateral extent of the MSW, 41 soil borings to define vertical extent of the landfill, five temporary monitoring wells to assess groundwater quality, 20 soil vapor probes, installation of eight new monitoring wells for continued monitoring of groundwater, and sampling of 11 monitoring wells. Based on the investigation, the landfill is estimated to hold ~408,500 cubic yards of MSW. Arsenic, iron, manganese, sodium, nitrate, and low pH were detected in groundwater above MTCA cleanup levels or EPA MCLs. Soil vapor concentrations of methane were found above the LEL near the boundary of the MSW at the plywood plant building and the eastern boundary of the landfill. Besides limited sampling for disposal purposes, no soil samples were analyzed during this investigation.

Beginning September 2014 through present, a supplemental remedial investigation is currently being conducted. Work completed to date includes installation of 10 additional groundwater monitoring wells and collection of associated soil samples, three quarterly groundwater monitoring events of the 24 wells associated with the Site including the 10 new wells (results are pending for the third event), 14 test pits (no soil samples) to delineate the extent of MSW along the eastern boundary, installation of four new gas probes (two replacements) and associated soil samples, and one site-wide landfill gas survey. Gasoline range organics, n-nitrosodiphenylamine, and 4,4'-DDD were detected in soil above MTCA cleanup levels. Other hazardous substances, including carcinogenic polycyclic aromatic hydrocarbons (cPAHs) were detected just below MTCA cleanup levels, and will be further evaluated during upcoming work. Within the MSW landfill footprint or down gradient, heavy oils, vinyl chloride, bis(2-ethylhexyl)phthalate, 3,3'-dichlorobenzidine, arsenic, and low pH (outside of the range of 6.5-8.5) were detected in groundwater above MTCA cleanup levels. Manganese, iron, and sodium exceeded EPA secondary MCLs.

Additional landfill gas probes (5) were installed along the eastern portion of the MSW footprint in April 2015 and a landfill gas (LFG) survey is scheduled to be conducted throughout the Site in June 2015. One additional groundwater monitoring event is currently scheduled for June 2015, for a total of four quarterly events.

Give the framework chosen for selecting screening levels, the EDB screening level for groundwater should be the Method A cleanup level 0.01 ug/L instead of Method B cleanup level (0.022), although the laboratory reporting limit was equal to 0.01 ug/L.

## 2. Establishment of cleanup standards.

Ecology has determined the cleanup/screening levels you established for the Site, as presented in the April 14, 2015 Landau Associates *Remedial Investigation – Interim Data Report* meet the substantive requirements of MTCA. A point of compliance for soil and groundwater has not been established for the Site at this point in the process, although a standard point of compliance throughout the Site for soil has been proposed and a conditional point of compliance for groundwater and landfill gas is under consideration. Please keep in mind that the extent of the cleanup site is anywhere contamination is present that is associated with the Site and that this may extend beyond the MSW footprint.

### a. Cleanup levels.

The use of MTCA Method A and B soil and groundwater cleanup levels for Unrestricted Land Uses are appropriate throughout the Site.

This includes the current MTCA Method A groundwater cleanup level for arsenic of 5 ug/L. The April 2015 Landau report references a 2010 Ecology draft document regarding a statewide/regional arsenic in groundwater background level of 10.7 ug/L. The April 2015 report does use 5 ug/L as a screening level in the data table. Ecology has not finalized any changes to cleanup levels or determined this to be the statewide/regional background level at this time, although possible changes are still currently under consideration.

**b. Terrestrial Ecological Evaluation (TEE).**

A simplified TEE was conducted for the Site. MSW and hazardous substances including priority contaminants of ecological concern (e.g. bis-2-ethylhexylphthalate) have been detected within 15 feet of the ground surface at the Site. It is proposed that if institutional controls are placed at the Site with a conditional point of compliance (6 feet below ground surface), Site conditions will meet the TEE simplified evaluation procedure criteria for no further evaluation. The conditional point of compliance of 6 feet may or may not be necessary, depending on the type of barrier installed.

**3. Selection of cleanup action.**

No cleanup action has been selected for the Site.

**4. Cleanup.**

No significant cleanup has occurred at the Site. A small amount of MSW was removed and disposed of at the Terrace Heights Landfill during construction of the freeway off-ramp in 1996.

**5. Professional License Requirements.**

Any site investigation/cleanup document containing geologic or engineering work (generally, interpretation of geologic or groundwater data, design calculations, plans, or as-built plans) must be submitted under the seal of the appropriately licensed professional.

**6. Environmental Information Management System (EIM).**

In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated for Independent Remedial Actions shall be submitted simultaneously in both a written and electronic format. For additional information regarding electronic format requirements, see the website <http://www.ecy.wa.gov/eim>.

Data must be submitted to Ecology in this format for Ecology to issue a No Further Action determination.

An EIM data submittal has been received for the 2009, 2010, and 2012 remedial investigations for this Site. EIM data has also been received for initial data collected as part of the supplemental remedial investigation started in 2014.

Please submit any additional data that is collected.

**Limitations of Opinion**

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**1. Opinion does not settle liability with the state.**

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion does not:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

**2. Opinion does not constitute a determination of substantial equivalence.**

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

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**3. State is immune from liability.**

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

**Contact Information**

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Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: [www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm](http://www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm). If you have any questions about this opinion, please contact me by phone at (509) 454-7835 or e-mail at [matthew.durkee@ecy.wa.gov](mailto:matthew.durkee@ecy.wa.gov).

Sincerely,



Matthew Durkee, LHG  
Site Manager  
CRO Toxics Cleanup Program

cc: Jeffrey Fellows, Landau Associates  
Kurt Peterson, Cascadia Law Group  
Dennis Radocha, OfficeMax Inc.  
Greg Demers, LeeLynn, Inc. & Wiley Mt., Inc.  
Brad Hill, LeeLynn, Inc. & Wiley Mt., Inc.  
Ryan Mathews, Fulcrum Environmental Consulting  
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