STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

May 23, 2013

Mr. David Knudsen
8323 Steilacoom Road SE
Olympia, WA 98513

Re: Further Action at the following Site:

- **Site Name:** The Ostrom Farms
- **Site Address:** 8322 Steilacoom Road SE
- **Facility/Site No.:** 1386
- **Cleanup Site ID No.:** 5033
- **VCP Project No.:** SW1283

Dear Mr. Knudsen:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Ostrom Farms 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

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

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:

- Petroleum hydrocarbons and related constituents into the Soil.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Insight Geologic, Inc., Report of Supplemental Environmental Services, Ostrom's Mushroom Facility, Lacey Washington. September 17, 2012.

2. Department of Ecology, Site Hazard Assessment Report for the Ostrom Company. June 29, 2010.

3. Department of Ecology, Environmental Report and Tracking System (ERTS) report # 601343, August 2, 2010.

4. The Ostrom Farms, Re: Ostrom Farms – Subsurface Environmental Assessment. December 17, 2007.

5. Insight Geologic, Inc., Report Subsurface Environmental Assessment, Ostrom's Mushroom Farm, Steilacoom, Washington. July 17, 2007.

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

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

Analysis of the Cleanup

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.**

   Ecology has determined your characterization of the Site is not sufficient to establish cleanup standards and select a cleanup action.

The Ostrom Farm Site is located at 8322 Steilacoom Road SE, Lacey, Washington. The 34-acre property has operated as a mushroom farm since the 1960s. The property is surrounded by residential properties, a sports facility, and a middle school.

A Site investigation was conducted at the Site in June 2007, including drilling 16 exploratory borings (B1 through B9, and B11 through B17) to 16 – 20 feet below ground surface (bgs), and digging five test pits (TP1 through TP4, and HA1). Soil samples were collected from the borings and the test pits, and selected samples were sent to a laboratory for chemical analysis. Groundwater was encountered only at B11 and B12 among all the borings. Groundwater samples were collected from both B11 and B12 borings. The parameters analyzed for soil and groundwater included gasoline- diesel-, and oil range total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), lead, and chlorinated pesticides.

The laboratory results indicated that a soil sample collected from boring B-6 at 4 feet bgs in the fueling area detected diesel-range TPH (TPH-Dx) at a concentration of 7,900 milligram per kilogram (mg/kg), and a soil sample collected from boring B-12 at 11 feet bgs detected heavy oil-range TPH at a concentration of 4,100 mg/kg, both exceeded the MTCA Method A cleanup level of 2,000 mg/kg.

Gasoline-range TPH (TPH-Gx), VOCs, and lead were either non-detect or detected at concentrations below the MTCA Method A cleanup levels. The chlorinated pesticide DDT (dichloro-diphenyl-trichloroethene) and its breakdown products DDD (dichloro-diphenyl-dichloroethylene) and DDE (dichloro-diphenyl-dichloroethene) were detected in the soil samples collected from the wastewater disposal pond area (two each from Boring B-11 and B-12) at concentrations less than the MTCA Method A cleanup level for the sum of the three compounds. Additionally, all TPH-Gx, TPH-Dx, VOCs and chlorinated pesticides were either non-detect or detected below the MTCA Method A cleanup levels for groundwater samples.

An interim cleanup action was conducted at the Site in June 2012 (see Section 4 of this letter for detail) and four confirmation soil samples were collected from the excavation pit.

Based on a review of Site investigation and interim cleanup action conducted at the Site, Ecology has determined the investigations were not sufficient to characterize the Site and has the following comments:

1. The June 2007 Site investigation report did not provide a map to illustrate the layout and relative locations with regard to the fueling area apron, stormwater catch basin, and the wastewater disposal pond. Without such information, it is difficult to determine whether the soil sampling was sufficient to characterize the fuel spill plume.

2. As described in the Insight Geologic, Inc. report, the fuel spill from the fuel apron area was likely responsible for the soil contamination with a flow route towards stormwater catch basin, and eventually the wastewater disposal pond. Soil near the wastewater disposal pond was found contaminated (Borehole B12 at 11 feet bgs). Soil at the banks/sidewalls of the stormwater catch basin and wastewater disposal pond may have potentially been contaminated as well. Soil samples are needed from the banks/sidewalls of the stormwater catch basin and wastewater disposal pond.

3. A Terrestrial Ecological Evaluation (TEE) needs to be completed for the Site. Please fill out the form on our website and submit it to Ecology (along with any supporting documentation, as appropriate) for review. The form can be found at: http://www.ecy.wa.gov/biblio/ecy090300.html.

4. 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. Be advised that according to the policy, any reports containing sampling data that are submitted for Ecology review are considered incomplete until the electronic data has been entered. Please ensure that data generated during on-site activities is submitted pursuant to this policy. **Data must be submitted to Ecology in this format for Ecology to issue a No Further Action determination.** Please be sure to submit all data in this format. Data collected prior to August 2005 (effective date of this policy) is not required to be submitted; however, you are encouraged to do so if it is available. Be advised that Ecology requires up to two weeks to process the data once it is received.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site do not meet the substantive requirements of MTCA. Additional characterization of soil to define the boundary of the contamination is needed prior to establishing points of compliance.

The MTCA Method A cleanup levels for unrestricted land uses for soil and groundwater are being used for the Site.

Standard points of compliance are currently being used for the Site. The point of compliance for protection of groundwater shall be established in the soils throughout the Site. For soil cleanup levels based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway, the point of compliance shall be established in the soils throughout the Site from the ground surface to 15 feet bgs.

3. Selection of cleanup action.

Ecology has determined the cleanup actions you selected for the Site have not met the substantive requirements of MTCA.

Cleanup actions selected to date included soil excavation.

Additional characterization is warranted prior to selecting a final cleanup action.

4. Cleanup.

Ecology has determined the cleanup you performed has not met any cleanup standards at the Site. The cleanup activities conducted so far at the Site included:

- An unknown amount of soil was excavated in June 2012 from an area around borehole B-11, which was drilled and sampled during June 2007 Site investigation. The area was excavated to the depth of 6 to 9 feet bgs. The soil excavated appeared to be fill, containing a large percentage of trash, including oil filters, tires, bits of metals, glass, and bricks.

- Four confirmation soil samples (TP1 through TP4) were collected from the four walls of the excavation pit at 8 – 9 feet bgs. All samples were non-detect for TPH-Gx, TPH-Dx, mineral oil-range TPH, and oil-range TPH.

- A stormwater pond improvement work was also conducted in summer of 2012 (no specific date available), including expanding and lining of the pond, yet no information was provided on whether such improvement work has removed any contaminated soil. One soil sample was collected from the stormwater catch basin at 6 inches bgs on June 29, 2012 and detected oil-range TPH at 1,150 mg/kg, below MTCA Method A cleanup level. However, it is not clear this sample was collected before or after the pond improvement, since the layout of the oil spill versus the stormwater catch basin was not provided, it is also not clear whether the soil sample was representative.

Based on the soil excavation and the June 2007 Site investigation, Ecology has the following comments:

1. The June 2007 Site investigation detected TPH-Dx and heavy oil-range TPH at boreholes B6 and B12. The soil excavation, however, was conducted around borehole B-11. Cleanup is still warranted in the vicinity of borings B6 and B12.

2. The confirmation soil samples were only from sidewalls. Ecology requires that a bottom soil sample(s) also be collected.

Even though an interim cleanup action was taken at the Site, the Site remains insufficiently characterized, and the soil excavation did not excavate the detected soil contamination at boreholes B-6 and B-12. Further characterization of soil contamination is needed prior to identifying a final cleanup action.

Limitations of the Opinion

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.

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

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. If you have any questions about this opinion, please contact me by phone at (360) 407-6265 or by e-mail at hqiu461@ecy.wa.gov.

Sincerely,

Hans Qiu, L.HG.
Site Manager
SWRO Toxics Cleanup Program

HQ/ksc:SW1283 Site FA Ostrom Farms

Enclosures: A – Description and Diagrams of the Site

By certified mail: (7012 1010 0003 0195 9302)

cc: William E. Halbert, Insight Geologic, Inc.
Gerald Tousely, Thurston County Health Department
Dolores Mitchell – Ecology
Scott Rose – Ecology

Enclosure A

Description and Diagrams of the Site

Site Description

The Ostrom Farms Site is located at 8322 Steilacoom Road SE, in Lacey, WA, and the parcel number is 11814140500. The 34-acre property is operated as a mushroom farm since the 1960's. The property is surrounded by residential properties to the east and north, a middle school across Marvin Road to the west, and a Regional Athletic Complex facility across Steilacoom Road to the south. The Regional Athletic Complex facility was previously an Ostrom-owned agricultural property, but was developed into the current sports facility in 2008 to 2009.

The Ostrom Farms facility is operated for the commercial production of mushrooms, included in the operation is the production of compost used as the growing media for mushrooms, stormwater is used for compost production, landscape irrigation, or being recycled.

On-Site drillings indicated that the soil from surface to 20 feet below ground surface (bgs) is loose or dense silty gravel, silty sand, with lenses of sand, and gravelly silt. Groundwater was encountered at 10 feet to 15 feet bgs.

There is a stormwater catch basin and a wastewater disposal pond at the Site. The stormwater catch basin has an Ecology issued stormwater discharge permit, #ST6217.

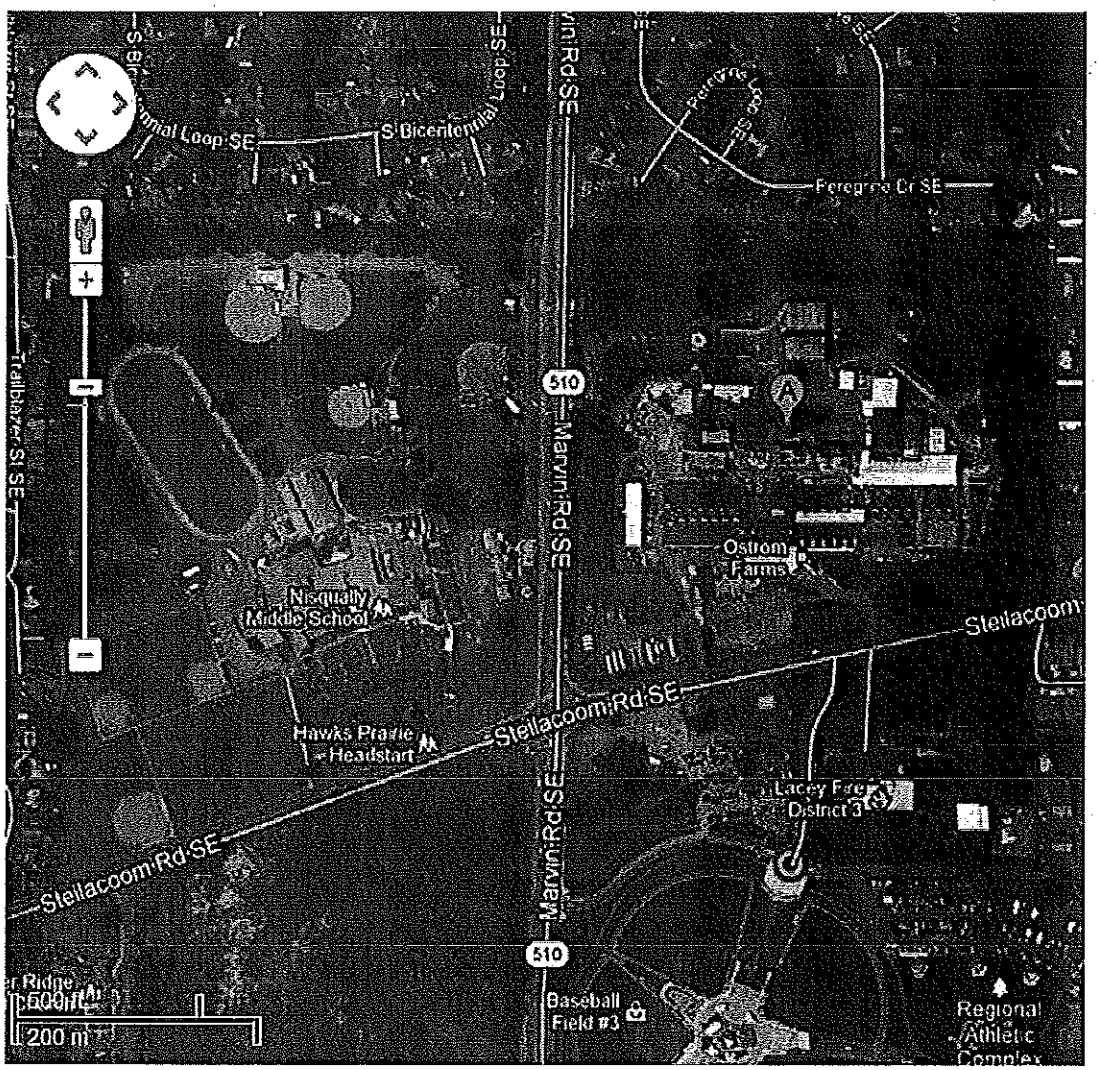
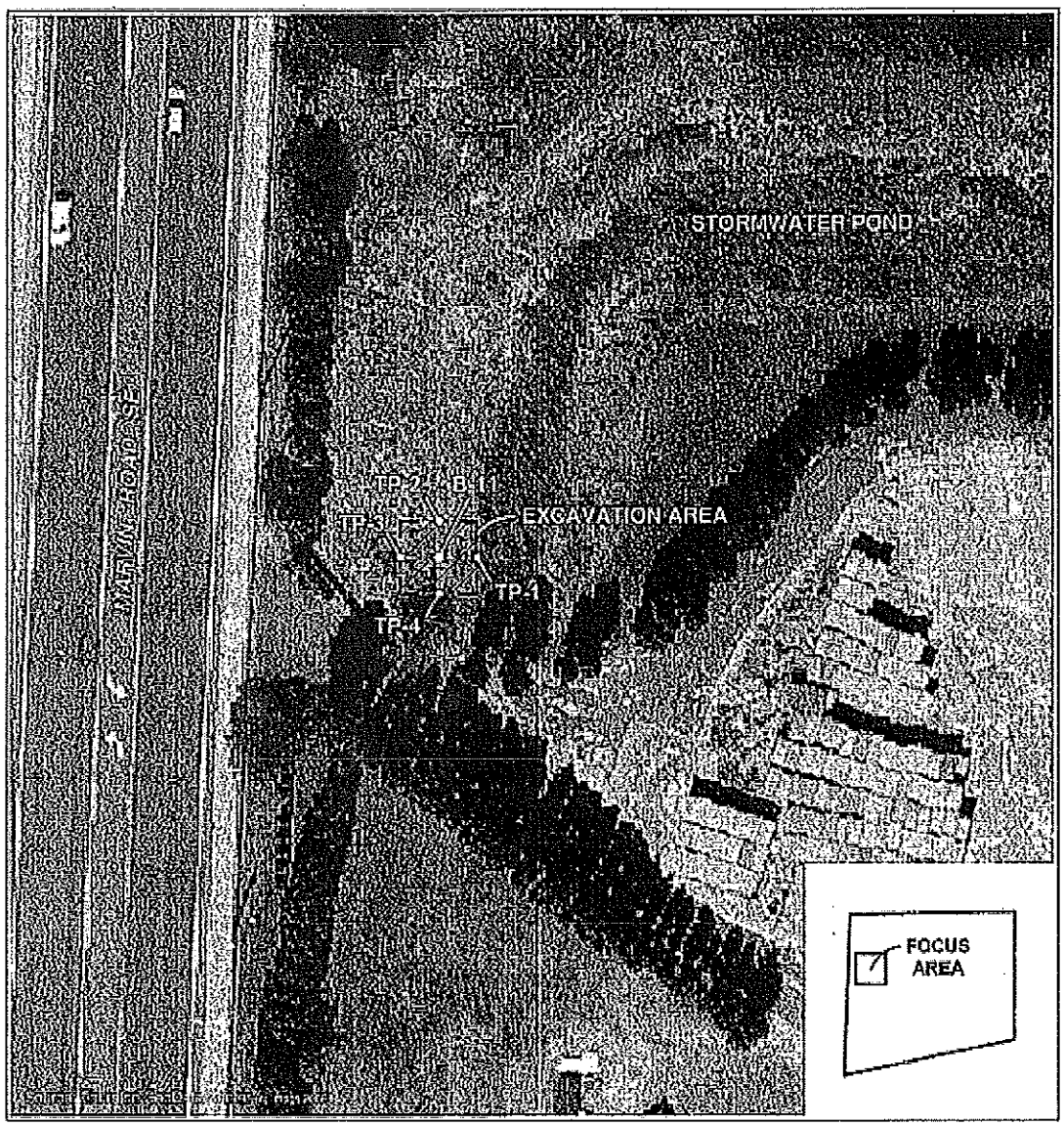


Fig 1. Location of Ostrom Farms Site (from Google Maps)



LEGEND:

B-11 • APPROXIMATE BORING LOCATION

TP-1 • APPROXIMATE TEST PIT LOCATION

APPROXIMATE PROJECT BOUNDARY

0 25 50

SCALE: 1" = 50'

OSTROM'S FARMS

LACEY, WASHINGTON

INSIGHT GEOLOGIC, INC.

Figure 2
Site Plan

Figure 2. The Location of the Soil Excavation at Ostrom Farm in June 2012