

**From:** [Winslow, Frank \(ECY\)](#)  
**To:** ["Stuart M. Brown"](#)  
**Cc:** [Mark Havighorst](#)  
**Subject:** RE: XN0043 - ABC Recycling Marine Drive Property  
**Date:** Tuesday, March 19, 2024 8:29:32 AM

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Hi Stuart,

Thank you for submitting these proposed sampling locations and analyses. As we have discussed, the sampling locations are intended to address data gaps with respect to the lateral and vertical extent of contamination, and to assess the groundwater pathway. The following are Ecology's comments on the proposed locations and analyses:

--Analysis for Dioxin/Furans (DFs) is proposed only in the vicinity of TP-5, where a DF exceedance was previously found. However, only three soil samples were previously analyzed for DFs, therefore the lateral extent of contamination is currently highly uncertain. Ecology suggests two soil samples in the eastern half of the fill area be analyzed for DFs to ensure spatial coverage of the entire fill area.

--The table indicates depths of 0.5-1.5 and 0.5-bottom in the first two rows. Soil sample intervals collected for laboratory analysis should be no longer than six inches.

--For all soil borings, please record and report photoionization detector (PID) readings from headspace samples on a minimum 2-foot interval. If any soil samples have PID readings above background, please run associated soil samples for VOCs by Method 8260. In addition, indications of contamination such as sheen, staining, and odor should be reported in boring logs along with lithological descriptions. Additional analyses may be warranted based on field observations.

--Screened intervals of 5-15 feet are proposed for the temporary monitoring wells. Such screened intervals should be adjusted, as appropriate, based on field saturation observations such that the groundwater levels are within the upper portion of the screened interval.

--The table is currently unclear that the proposed analyses for the temporary monitoring well locations are water samples. Soil samples would be appropriate at these locations where cleanup level exceedances previously occurred in soil samples, in order to define the vertical extent of contamination (e.g. DFs at TP-5; NAP at TP-6; and metals at TP-9)

--It is important that the temporary monitoring wells be developed until clear, and that groundwater sampling target minimum turbidity. Field filtering samples for metals analysis (dissolved metals) is appropriate. Turbidity readings should be recorded and reported. If any cleanup level exceedances are found, permanent monitoring wells are anticipated to be needed.

--For the first table, the intermediate soil samples at approximately 2.5 are shown as "reserve". Rather than running the samples at approximately 5 feet (native) first, Ecology suggest that both the 2.5 and 5.0 feet be held in reserve. If the 0.5 foot sample has cleanup level exceedances, then the 2.5 foot sample should be analyzed, and if the 2.5 foot samples has cleanup level exceedances, then the 5 foot sample should be analyzed. That way the vertical extent of contamination will be more precisely defined (and it can be determined if all of the fill has contamination concerns, not just the top 6 inches). If field observations indicate contamination, then soil samples should be analyzed regardless of shallower sampling results.

-Ecology notes that the proposed scope of work carries uncertainties regarding addressing data gaps with one mobilization. The possibility of unanticipated results cannot be precluded. We are all hopeful that this scope of work will sufficiently define the lateral and vertical extent of contamination. Ecology suggest that results be transmitted via maps and tables when available so that our concurrence on sufficiency can be provided as soon as possible.

We look forward to reviewing the results of your investigation.

Thanks, Frank

**Frank P. Winslow, LHG**

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**From:** Stuart M. Brown <[sbrown@geoengineers.com](mailto:sbrown@geoengineers.com)>  
**Sent:** Monday, March 18, 2024 3:45 PM  
**To:** Winslow, Frank (ECY) <[fwin461@ECY.WA.GOV](mailto:fwin461@ECY.WA.GOV)>  
**Cc:** Mark Havighorst <[mhavighorst@geoengineers.com](mailto:mhavighorst@geoengineers.com)>  
**Subject:** XN0043 - ABC Recycling Marine Drive Property

External Email

Hi Frank,

Please refer to the attachments for sample locations and analytical suites for the proposed investigation at the ABC Recycling Marine Drive Property in Bellingham, Washington.

As discussed during our call on March 13, we have proposed an investigation consisting of the following:

- Advancing twelve (12) direct push borings in central portion of the Property to evaluate for the potential presence of COPCs in select areas.
- Collection of shallow soil samples at nineteen (19) locations throughout the Property to evaluate for the presence/thickness of fill material and select metals.
- Installing four (4) temporary groundwater monitoring wells in direct push borings to assess shallow groundwater for potential COPCs previously encountered on the Property, and to interpret groundwater elevation and flow direction in the Central portion of the Property.

Please contact Mark Havighorst or me if you have any questions or would like to discuss

further.

Thanks,

**Stuart M. Brown**  
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