Kim Seely

From: Kimberly Kim <kkim@EnproEnvironmental.com>
Sent: Friday, August 21, 2020 1:09 PM
To: Kim Seely
Cc: Randy Herold
Subject: RE: Green Cove SAP for Comments
Attachments: 1903-00129-RI SAP.pdf

Hi Kim,

The SAP is attached and Ecology's comments are below. Anytime Monday is good for me.

Thank you,
Kim

From: Winslow, Frank (ECY) <fwin461@ECY.WA.GOV>
Sent: Tuesday, August 18, 2020 11:40 AM
To: Kimberly Kim <kkim@EnproEnvironmental.com>
Subject: RE: Green Cove SAP for Comments

Hi Kim,

Thank you for submitting your Sampling and Analysis Plan (SAP). As previously discussed, Ecology does not generally provide document review and comments for sites that are not currently enrolled in a program (i.e. Voluntary Cleanup Program (VCP) or under formal (Agreed Order) oversight). We have provided limited technical assistance on this site solely due to our currently having some capacity to do so; however, our ability to provide continued technical assistance cannot be assured.

Expedited VCP Process

We have also previously discussed potential entry into Ecology's new Expedited VCP process. For entry into the expedited VCP process, our guidance requires a completed remedial investigation report (RI) or equivalent. It should be noted that not all sites are appropriate for the Expedited VCP process. Our guidance discusses the following "Site Specific Conditions" which may preclude a site from entering the Expedited VCP process:

1. Threat: Projects on contaminated sites that pose a significant or immediate threat to human health or the environment.
2. Comingled contaminants: Projects on contaminated sites that include comingled contaminants from multiple releases, including the potential for migration from off-property.
3. Contaminated sediment: A release at the site is known or suspected to contaminate surface water or sediment.
4. Multiple properties: A release at the site is known or suspected to contaminate multiple parcels of real property.
5. Public interest: There is, or is likely to be, significant public interest in the site cleanup.

Subsequent to our initial telephone consultation on July 31, 2020 regarding the site, it has come to Ecology's attention that there may be site specific conditions of concern at the site, namely public interest. In addition, as indicated in our VCP website, https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Voluntary-Cleanup-Program/Before-you-apply#QualifyingForVCP, landfills are generally not considered to be suitable sites for the VCP. The historical disposal of materials at the site could be considered an unpermitted landfill.

Based on the above considerations, entry of the site into the Expedited VCP process cannot be assured. We recommend having another consultation call with Ecology after the remedial investigations are complete in order to assess whether or not the site could be a good fit with the Expedited VCP process. In general, a site that is a good candidate for the Expedited VCP process is one where there is a clear pathway toward a No Further Action Determination. We wish to assure that such a clear pathway is evident prior to the site being enrolled into the Expedited VCP process.

Sampling and Analysis Plan Comments Pertaining to Potential RI Data Gaps

Ecology has performed a limited review of the SAP and has identified the following potential concerns regarding potential RI data gaps:

SAP

The SAP should be stamped and signed by a Washington-licensed Hydrogeologist or Engineer.

MI/DU Approach – Composite Soil Samples

The SAP proposes a multi-incremental (MI) decision unit (DU) approach. Under this approach, grab sample aliquots are composited together to characterize a DU area. Ecology's guidance for Remediation of Petroleum contaminated sites states "samples should not be composited for testing purposes." This prohibition on sample compositing is so that any soils with contaminants above cleanup levels be cleaned up and not simply addressed by averaging contaminant concentrations.
The SAP excluded samples collected for VOC analysis from the compositing approach, and Ecology concurs with this. However, in addition to VOCs, grab samples should be collected and analyzed for potential site contaminants whenever the following conditions exist:

- Field screening indicates potential for contamination (e.g. staining, odor, PID readings). Grab samples should be collected from worst-case locations based on field screening. If no indications of contamination are present based on field screening, criteria for grab sampling depths should be pre-established (e.g. interval immediately above saturation)
- Samples targeting a location where previous information suggests potential contamination. Petroleum odors were noted in 2007 at Pit 10 at 0-10 feet depth and Pit 17 at 0-6 feet depth and the 2008 investigation did not specifically target these locations and depths.
- Soils containing materials such as wood waste or asphalt. Such samples have potential to include exceedances of various contaminants such as wood treatment-related contaminants and polycyclic aromatic hydrocarbons (PAHs). Exceedances for benzo (a) pyrene (BAP) and other carcinogenic PAHs can be common in soil containing asphalt.

The MI/DU approach, including compositing, appears to have merit when contamination cannot be targeted based on previous information or field screening. However, if a contaminant is detected in a composite sample but is below cleanup levels, there is a distinct possibility that cleanup level exceedances may be present in aliquots that comprise the composite sample. Therefore, additional grab sampling may be suggested by composite soil sampling results with contaminant detections, regardless of whether or not the detections were cleanup levels. Collecting contingency grab samples (to be run only if suggested based on composite sample results) is one approach that can be applied.

No discussion was included in the SAP regarding compositing methodologies. Proper compositing of soil samples is dependent on soil texture; sandy soils are much more amenable to compositing than clay-rich soils. In addition, proper compositing includes use of appropriate tools and compositing and decontamination procedures.

Test Pits versus Drilling

One challenge is that test pits or trenches are more difficult to properly field screen compared to boreholes. A continuous soil sample from a soil boring can be screened continuously whereas backhoe buckets from a trench are by nature discontinuous. The trenching offers an advantage in that more spatial coverage of subsurface soils is provided.

Because the two locations with indications of petroleum in 2007 were not characterized with detailed depth profiling during the 2008 investigation, Ecology suggests that soil borings be done at those two locations to provide additional verification of subsurface conditions. Ecology also suggests that detailed soil boring logs be prepared at all locations with sonic drilling, including PID readings every one foot, and detailed field descriptions, including any anthropogenic materials, staining, or odors.

Use of DU Data

The SAP states:

> *If COPCs are detected at concentrations less than the Method A cleanup levels in an MI or discrete soil sample, the soil from that DU/location may be re-used on site at the Client's discretion.*
>
> *If COPCs are detected at concentrations greater than the Method A cleanup levels, but within the PRS acceptance criteria, the soil from that DU/location shall be transported to PRS. If COPCs detected in an MI or discrete soil sample exceed the Method A cleanup levels and do not meet the PRS acceptance criteria, the soil shall be disposed of at a permitted hazardous waste landfill.*

As discussed above, cleanup level exceedances are compared directly with grab sample results, not composite sample results, since compositing can include aliquots that are both above and below a cleanup level. If contaminants are detected in a composite sample below cleanup levels, additional sample analysis may be warranted, depending on the specific results.

Interim Actions such as excavation and offsite disposal may be performed as part of Independent Cleanup under the Model Toxics Control Act (MTCA). However, Ecology requires sufficient confirmation soil sampling (based on grab samples) prior to determining that a cleanup action is sufficient such that a No Further Action (NFA) determination can be issued.

Groundwater Sampling

The SAP stated that groundwater sampling from temporary monitoring wells will occur at locations adjacent to trenches if perched groundwater is encountered in trenches. Ecology anticipates that shallow groundwater will likely be found throughout the site and should not be contingent on trench observations. Rather, locations proposed for groundwater characterizations should be pre-determined and drilling conducted until a depth where a sufficient thickness of saturated material is encountered to install a monitoring well (either temporary or permanent). Installation of permanent monitoring wells would allow resampling as well as characterization of groundwater flow directions over time by surveying the wells and collecting water level measurements. Locations for monitoring wells would be appropriately determined to 1) spatial coverage to characterize the potentiometric surface, 2) including locations of potential historical operations or fill materials of concern, and 3) include locations with previous indications of contamination concerns (e.g. petroleum odors at 2007 Pit 10 and Pit 17).

We hope that this feedback helps in your development of a Remedial Investigation that will sufficiently address site data gaps. As discussed above, once you have completed your Remedial Investigation, we can schedule a consultation call to discuss next steps.

Thanks, Frank

Frank P. Winslow, LHG
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I can be reached at the following cell phone number while we are teleworking:

(509) 424-0543 (cell)

Thanks, Frank

From: Kimberly Kim <kkim@EnproEnvironmental.com>
Sent: Friday, August 14, 2020 4:42 PM
To: Winslow, Frank (ECY) <fwin461@ECY.WA.GOV>
Subject: Green Cove SAP for Comments

Hi Frank,

Please see the attached SAP. We have attempted to address all the issues discussed via phone and email and we are keen to receive your comments. We really appreciate your help and look forward to joining the expedited VCP program.

Thank you,
Kim