

Smith, Frosti K. (ECY)

From: Parker, Kyle (ECY)
Sent: Monday, November 6, 2023 8:54 AM
To: Dan Blaes
Subject: Circle K #6042 (Sun Mart 21 - VCP# CE0489)
Attachments: 2023.MAR.03.CircleK6042.PhoneLog.pdf

Dan,
As noted in the phone log, Ecology can close out a site that meets cleanup criteria using statistical analysis. We suggested sampling MW-3 again and then performing statistical analysis to see if MW-3 then meets the closure criteria. Ecology's [Guidance for Remediation of Petroleum Contaminated Sites](#) outlines how to determine compliance using statistics (Section 10.3.2, document pg. 162 or pg. 182 in a pdf viewer). This method requires the use of the last 3 years of sampling data to meet the MTCA three-part statistical test. We need to use data back to June 12, 2020, to meet the requirement of using the last three years of sampling data. The three-parts of the statistical test are:

1. The upper 95th percentile confidence limit on the true mean of the test results from the monitoring point must be less than the groundwater cleanup level. (NOTE: True mean is not the sample mean; it is a statistical estimate of the actual average water quality in a monitoring point.)
 - a. MW-3 true mean does not meet this criterion for TPH-Gx. The exceedance on November 9, 2020, causes the true mean to exceed cleanup standard of 1000 µg/L (no benzene present). Two more quarterly samples at or below 1000 µg/L should resolve this issue (sampling through April of 2024).
2. Less than 10% of the samples exceed the groundwater cleanup level.
 - a. Two samples with in the last three years exceed the 1000 µg/L (November 9, 2020, and November 14, 2022). Again, two more quarterly samples at or below 1000 µg/L should resolve this issue.
3. No single sample is greater than two (2) times the groundwater cleanup level.
 - a. The November 2020 sample is more than two times the groundwater cleanup level of 1000 µg/L. Sampling through April 2024 (two more quarters of sampling) would remove this sample from the three-year requirement.

MW-3 is the only sample location that needs further action. Ecology is willing to use the 1000 µg/L (absence of benzene) cleanup level if benzene is not present in the next two sampling events. As outlined above, the next two quarters of sampling must remain below the 1000 µg/L to meet the three-part statistical test. The additional two quarters of sampling will also help TPH-Dx meet sampling requirements for statistical analysis and direct comparison.

If you would like, Ecology will write a NFA likely opinion outlining the above information.

Regards,
Kyle

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