

Operator Comments Document – COGCC Remediation Project #17320

Great Western would like to respond to the COA associated with the COGCC approved Form 27 Supplemental Work Plan, Document #402925922.

COA: “COGCC removed closure of this remediation. Based on initial site investigation (Doc #402631704) impacts were observed at soil sample Schneider-16 at 16’. No documentation that these impacts have been removed or resampled has been provided. Operator shall sample the area of soil impacts prior to requesting closure.”

Using hydrovac equipment, Great Western immediately removed soil impacts to a depth of 16 feet below ground surface (ft-bgs). Laboratory samples collected on February 16, 2021, indicated concentrations of 1,2,4-trimethylbenzene (TMB) and 1,3,5-TMB of 0.0104 milligram/kilogram (mg/kg) and 0.100 mg/kg, respectively. These soil concentrations are greater than the COGCC Table 915-1 standards for the Protection of Groundwater Soil Screening Levels (PGW SSLs) of 0.0081 mg/kg and 0.0087 mg/kg, respectively. However, the actual soil concentrations are significantly less than their respective Residential Soil Screening Levels (RSSLs) of 30 mg/kg and 27 mg/kg.

The depth to groundwater in monitoring well MW-1, which is immediately adjacent to the release location, has ranged from 15.73 ft-bgs to 18.93 ft-bgs during the past four quarters of monitoring and sampling. This indicates that the soil sample collected from a depth of 16 ft-bgs on February 16, 2021, was likely collected from the smear zone and in close contact with groundwater. Therefore, leaching of petroleum constituents from the soil to the groundwater will have occurred. However, the actual groundwater concentrations in monitoring well MW-1 have not only been less than the Table 915-1 standards for 1,2,4-TMB and 1,3,5-TMB, they have been consistently below the laboratory’s detection limit of 1.0 microgram/Liter (µg/L). The Table 915-1 standards for 1,2,4-TMB and 1,3,5-TMB in groundwater are both 67 µg/L.

Based on this information, Great Western requests that the Table 915-1 RSSLs be applied to this release. This request is consistent with the COGCC’s 900 Series Rules and Guidance packages.

Specifically, Footnote #7 of Table 915-1 states: “If there is no pathway for communication with Groundwater, then residential soil screening levels apply for organic compounds and metals. If the Director determines that a pathway to Groundwater exists, then the protection of Groundwater screening levels will apply, secondary to actual measured concentrations of the contaminants of concern in Groundwater.”

Further, in the COGCC Operator Guidance *Rule 915.a – Soil Concentrations – Determination of Pathway to Groundwater*, COGCC states: “COGCC considers the Protection of Groundwater SSLs to be secondary to measured concentrations of Organic Compounds in Groundwater when Groundwater is in contact with or proximate to impacted soil. Operator may demonstrate that the Protection of Groundwater SSL for Organic Compounds or Metals in Soil do not apply by conducting Groundwater monitoring that demonstrates concentrations of Organic Compounds in Groundwater do not exceed the Cleanup Concentrations in Table 915-1 and Water Quality Control Commission (“WQCC”) Regulation 41.” As noted above, four quarters of sampling and analyses at monitoring well MW-1 have demonstrated that this requirement has been achieved and groundwater concentrations are less than the Table 915-1 standards.

Finally, in the Operator Training presentation dated March 2, 2021 and presented by John Axelson, one slide states: "Groundwater protection SSLs are **secondary** to actual measured concentrations of contaminants in groundwater. Groundwater sampling can be used to eliminate the groundwater pathway." The word "secondary" is bolded in the presentation to emphasize the importance of using actual sampling and analyses to eliminate the use of the groundwater pathway. Further, another slide in this presentation titled "Important Takeaways to Remember" has a bullet that states: "Protection of Groundwater Soil Screening Levels Concentrations are secondary to the actual measured concentrations in groundwater."

It is clear from the multiple published statements that COGCC will allow the use of actual groundwater sampling and analyses to take precedence over the PGW SSLs in favor of the RSSLs for soil cleanup. This is specifically the case at the Schneider HD North Pad release site.

Therefore, since Great Western has achieved the soil cleanup criteria for Residential SSLs and has demonstrated through four COGCC-compliant quarters of groundwater monitoring that the release has been adequately remediated, Great Western requests that the COGCC approve closure of COGCC Remediation Project #17320.