COMMENT LETTER*

TO: State Water Resources Control Board – Division of Water Quality
Attn.: USTClosuresComments@waterboards.ca.gov

FROM: Kevin D. Brown, CEG #2180; geobrown@earthlink.net

DATE: January 19, 2014

SUBJECT: **Comment Letter – Tom's Sierra Bulk Plant Case Closure Summary**

SITE ADDRESS: 335 Railroad Avenue, Grass Valley, California 95945

***Disclaimer:** **The views and opinions expressed in this comment letter are solely those of the author in his private capacity and do not in any way reflect the views of his employer or any related entity.**

Dear State Water Resources Control Board,

I have reviewed the November 15, 2013, "NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT" and the November 14, 2013, "UST CASE CLOSURE REVIEW SUMMARY REPORT" for the referenced site. I have also evaluated information in GeoTracker, and compared the case attributes to the August 17, 2012, State Water Board's *Low-Threat Underground Storage Tank Case Closure Policy* (LTCP).

Based on the available information, the site fails to satisfy the criteria of the LTCP. Therefore, the case should not be closed. My evaluation follows.

Background

The property, a bulk fuel distribution plant, is located in the foothills of Grass Valley, Nevada County, California. The site is currently improved with multiple buildings, including several office structures and related improvements. Underground storage tank (UST) and above-ground storage tank (AST) complexes have been present on the property for years, and the site has a long history of contamination issues related to the unauthorized releases of petroleum products. Wolf Creek exists along the northern property boundary. Two water supply wells are located in close proximity to the site (one 400 feet to the north and the other 300 feet south).

Four phases of high-vacuum extraction (dual-phase extraction) were completed in 2008 and 2009, reportedly removing nearly 2,500 pounds of gasoline from shallow soil and groundwater. Ten USTs and three ASTs were reportedly removed in December 2012 to "facilitate a comprehensive upgrade of the Site." Approximately 640 tons of petroleum hydrocarbon-impacted soil were reportedly excavated and hauled away. However, a report describing this property upgrade project and soil remediation activities is not available in GeoTracker for public review. It is unknown if the USTs and ASTs were replaced.

In 2007 and 2010, **very high concentrations of** volatile organic compounds ("VOCs") were detected in several shallow (four feet) soil vapor samples at levels that pose a serious threat to human health and the environment. In November 2007, **benzene, ethylbenzene, and 1,2-DCA were detected in excess of 1,100,000 µg/m^3, 1,000,000 µg/m^3, and 2,400,000 µg/m^3**, respectively. In July 2010, TPH-gasoline and 1,2-DCA were detected in a vapor probe (five feet deep) in excess of 63,000,000 µg/m^3 and 182,000 µg/m^3, respectively.

Discussion

On Page 2 of the closure summary, under a section titled "Indoor Air Risk from Residual Petroleum Hydrocarbons", it states, "a professional assessment of site-specific risk from potential exposure to petroleum constituents as a result of vapor intrusion found there to be no significant risk of petroleum vapors adversely affecting human health." On Page 6 of the summary, the question - *Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?* – has been checked "Yes." A human health risk assessment (HHRA) is not available in GeoTracker to review.

Since soil vapor data has been collected for the site, it is appropriate to use Appendix 4, Scenario 4 of the LTCP to evaluate the potential threat from petroleum-related VOCs to indoor air; it is not appropriate to make an argument using groundwater data (i.e., benzene in groundwater) when soil vapor data is readily available or can be readily obtained (there are multiple soil vapor probes at the site). The soil vapor/gas criteria for benzene and ethylbenzene at sites where no bioattenuation zone is present, under a commercial land use scenario, are <280 µg/m^3 and <3,600 µg/m^3, respectively. The shallow soil gas "CHHSL" for 1,2-DCA is 167 µg/m^3.

The case closure summary states, "This case meets all of the required criteria of the Policy." However, it is clear from the available record that the petroleum vapor intrusion to indoor air criteria has not been satisfied, which is required by the LTCP. It appears the site does not meet any of the soil vapor scenario criteria presented in the LTCP.

Questions

- Is this a site with "unique attributes" as defined by the LTCP?
    - Is the site a "fractured bedrock" site? It is noted that the main reference used during the creation of the LTCP was the controversial 1995 Lawrence Livermore National Laboratory (LLNL) report on low risk fuel/UST sites; fractured bedrock sites were specifically excluded from the LLNL study.
    - Is the perched groundwater table reflective of the site's shallow bedrock setting?
    - Are TPH-gasoline and 1,2-DCA in soil vapor considered "petroleum vapors" and are they risk drivers at this site?
- Can the 2012 report on the removal of the USTs and ASTs be uploaded to GeoTracker for review?
- Can the HHRA be uploaded to GeoTracker for review?
- What is meant by "abandonment of monitoring wells?"

Conclusions

The proposed closure of this UST case is premature. The site poses an unknown threat to human health and, by definition, should not be considered a low-threat case under the LTCP. No technical rationale or data were provided in the case closure summary to support the tenuous position that, "Any remaining petroleum constituents do not pose significant risk to human health, safety or the environment."

As noted in the record, subsurface vapor concentrations exceed the LTCP and other risk-based standards. Although active remediation has been conducted at the site, the case does not meet the required criteria for closure under the LTCP. It is possible that soil excavation in December 2012 helped to reduce the future threat of future vapor intrusion to indoor air. However, data is not available in GeoTracker nor has data been adequately presented in the closure summary, including the HHRA that was completed, to allow for an independent evaluation of risk.

What is the planned future use of the site? Additional studies, including an up-to-date soil vapor investigation and a human health risk assessment, and possibly additional remediation, are needed before the case can be considered low-threat and an acceptable candidate for closure.

Thank you for accepting my comments. I look forward to receiving a written response in the near future.

Sincerely,

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