DIVISION OF WATER QUALITY RESPONSE TO COMMENTS ON THE PROPOSED UST CASE CLOSURE OF FRENCH PROPERTY 147 BASELINE AVENUE, SAN BERNARDINO (SITE) – DWQP-0221

We received ONE comment letter during the public comment period, which ended on December 27, 2013 at noon. The comments and our responses are presented here.

Comment letter ONE of ONE received:

1. KEVIN D. BROWN,

SUMMARY OF COMMENT 1: The case closure summary states all general and media-specific criteria of the LTCP have been met, and further elaborates the "Site MEETS ALL EIGHT GENERAL CRITERIA under the Policy." It is clear from the record that a Secondary source (e.g., contaminated soil) has not been removed to the extent practicable, which is required by the LTCP. Shallow soil remediation has been conducted at the site, but significant residual soil pollution remains from approximately 25 to 35 feet below the ground surface, including TPH-gasoline, benzene, ethylbenzene, naphthalene, and related volatile organic compounds (VOCs) at unusually high concentrations. What efforts have been expended to remediate the deeper contamination?

RESPONSE: The commenter asserts that the Site does not meet the General Criteria presented in the UST Low-Threat Case Closure Policy (Policy) because the secondary source has not been removed to the extent practicable. The following site conditions and corrective actions were considered by the State Water Board staff during the assessment of the secondary source beneath the Site:

1. The secondary source is located between 25-35 feet below grade surface (bgs).
2. The bioattenuation zone is a continuous zone that provides a separation of at least 30 feet both laterally and vertically between the secondary source in soil and the foundation of existing buildings.
3. At least 35 feet of clean soil exists beneath any detectable petroleum hydrocarbons in soil.
4. Soil sampling/logging confirmed the presence of the site-wide low-permeability silt zone between approximately 26 and 38 feet deep. This relatively thick, low permeability soil zone has been the dominant site feature affecting contaminant migration. Historical soil data have indicated this soil zone absorbed the vast majority of the gasoline mass, and greatly impeded its further downward migration. Samples collected in the top of the dominant silt zone did have significant detections of TPH in excess of 100 mg/kg, but samples collected in the bottom of this silt did not. Data indicate that soil both above and below the low permeability silt zone has no significant remaining impacts, and has been adequately remediated by the SVE activities.
5. All reasonable efforts have previously been made to focus on contaminant extraction from the low permeability silt zone, including the following: Use of Dual-completion Vapor Extraction Wells – Each dual completion well set has a shallow well screened within the upper portion of the low permeability zone and a deep well screened up to near the bottom of the low permeability zone; Addition of Supplemental Wells – In June 2008, wells VW12A and VW13A were installed in the source release area and screened from 27 to 32 feet (i.e. only in the low permeability zone.); High Well Density – A relatively high density of vapor extraction wells has been used. A total of 22 vapor extraction wells exist within an area of only approximately 75 by 100 feet; and SVE Duration – SVE activities have been completed at the site for a total of approximately 45 months (3.75 years).

SUMMARY OF COMMENT 2: No technical rationale was provided in the case closure summary to support the tenuous statement that "Any remaining petroleum constituents do not pose significant risk to human health, safety or the environment." In 2012, soil samples were collected and analyzed to evaluate the remedial effectiveness of soil vapor extraction (SVE) and to quantify the remaining petroleum impacts in soil. It has been well established for many years that there can be a significant loss of VOCs in soils during sample collection and preservation, which can lead to substantial under-reporting of VOC concentrations and therefore the underestimation of risk. What's the best way to evaluate VOCs in the subsurface? Complete a competent soil vapor study, of course.

RESPONSE: The commenter asserts that the Site does not meet the Media-Specific Criteria for Petroleum Vapor Intrusion to Indoor Air. The following site information and corrective actions were considered by the State Water Board staff during the assessment of the secondary source beneath the Site:

1. A Report on Confirmation Soil Borings, dated March 30, 2012 provides an assessment of post remediation contamination in soil beneath the Site. Sample analyses were completed in general accordance with an approved work plan and subsequent email discussions with the Regional Water Board. Information provided in the report indicates that Site characteristics meet Media-Specific Criteria for Petroleum Vapor Intrusion to Indoor Air – Criteria (2) a, Scenario 2.

SUMMARY OF COMMENT 3: In 2012, the Regional Water Board required the responsible party to submit a work plan to complete a shallow soil vapor survey to evaluate whether shallow VOCs could pose a risk to current and future building occupants. This is a reasonable and prudent course of action. However, such a work plan was not submitted, so technically speaking the site is out-of-compliance with Regional Water Board directives and is not eligible to receive reimbursement monies from the UST Cleanup Fund.

RESPONSE: The Site Activities Report in the Geotracker provides a summary of recent activities that have changed a previously established scope or plan of action for the Site.

1. During February 2012, the Regional Water Board approved a plan to conduct confirmation soil borings pursuant to a previously established scope. The results of the assessment were submitted during March 2012. A subsequent fee title holder search was conducted during what appears to be the first of several Site closure activities.
2. During May 2012, it was determined that the Site has a new owner. The Regional Water Board changed the established scope or plan of action for the Site based on potential future use and the soil contamination that the former Site owner "proposes to leave beneath another's property."
3. Sometime during September 2014, it appears that the Regional Water Board and the current Site owner's attorney agreed on a plan that required the Petitioner to demonstrate that the soil contamination beneath the site poses NO RISK for future Site use. During October 2012, the Regional Board Requested that the Petitioner complete a soil vapor survey and risk assessment that "must be certified by licensed toxicologist to ensure sound data and conclusions."
4. On October 18 2012, a Petition was filed with the State Water Board. The survey vapor survey has not been completed.

5. During October 2013, the State Water Board provided a public notice of a proposed site closure based on the Policy.
6. It is not necessary to address the conclusion stated concerning UST Cleanup Fund eligibility because that issue is not relevant to the closure decision.

No soil vapor survey is necessary because the site meets the vapor intrusion criteria in the Policy.

SUMMARY OF COMMENT 4: The summary states "There are no shallow soil samples (sic) results in the case record for naphthalene." Why not? It is noted that in deeper soil samples, naphthalene was detected up to 324 mg/kg, a very high concentration. Collecting shallow soil vapor samples can resolve an obvious data gap.

RESPONSE: Confirmation borings CB1 through CB4 provide shallow soil data analysis. Benzene in shallow soil was non-detectable between 10 and 25 feet bgs at all four locations. There are no soil samples results in the case record for naphthalene. However, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2% benzene and 0.25% naphthalene. Therefore, benzene concentrations can be used as a surrogate for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Table 1 of the Policy. Therefore, estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact with a safety factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

SUMMARY OF COMMENT 6: The proposed closure of this UST case is premature. An argument has been made that evaluating shallow soil vapor is not necessary. However, a soil vapor study is necessary to evaluate whether a potential vapor intrusion risk exists at the site. Such a study is sensible and will hopefully demonstrate, through the use of good empirical data and not suspect soil data, that the site does not pose a risk to human health and the environment.

RESPONSE: Site meets the vapor intrusion criteria in the Policy.

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