San Mateo County
Health System

12903

August 28, 2013

SMCo Site #440050 / RO1575
APN: 025-150-160

Robert Trommer
Senior Engineering Geologist
Chief, Technical Review Unit
UST Cleanup Fund
PO Box 944212
Sacramento, CA 94244-2120

SUBJECT: LOP STAFF COMMENTS ON DRAFT FIRST REVIEW SUMMARY REPORT FOR FORMER RED CARPET CAR WASH, 1436 EL CAMINO REAL, MENLO PARK, CALIFORNIA

Dear Mr. Trommer:

Thank you for the draft UST Cleanup Fund (Fund) letter dated August 12, 2013, requesting San Mateo County Groundwater Protection Program (GPP) staff to notify the Fund within 45 days on whether we agree or disagree with the Fund's case closure recommendation. In our opinion, the subject case does not satisfy all the criteria specified in the State Water Resources Control Board Low-Threat Closure Policy (LTCP). The following paragraphs justify our position.

General Criteria

We do not concur the mobility (stability) of the release has been assessed (bottom of Page 4 of the Fund's letter). The soil sample collected from Boring B-8 at approximately 24 feet below grade (fbg) contained 64,000 mg/kg of TPH-gas. This concentration is indicative of free product and the depth of this sample indicates this free product is in the unsaturated zone approximately 10 to 12 feet above the water table based on the last three well gauging events (the depth to groundwater in adjacent MW-1 has historically fluctuated between approximately 30 to 38 fbg). What concerns us is the registered professional has not demonstrated this free product is not migrating towards the water table. Migration of this product is suggested by comparing the soil sampling results versus the depth of collection between MW-1 (1998) and adjacent Boring B-8 (2007). Frankly, we are concerned the relatively benign dissolved-phase hydrocarbon concentrations reported in the groundwater samples may represent impact from an earlier fuel release and perhaps not the release represented by the product identified in B-8 at 24 fbg.

We do not concur free product and secondary source have been removed to the extent practicable (Pages 4 and 5 of the Fund's letter). The free product identified in B-8 is immediately below the source area (see attached Figure 8), and therefore, qualifies for secondary source removal to the extent practicable. In addition, it does not appear the soil vapor extraction/air sparging pilot testing

work in 2004 and the Regenox injection work in 2006 and 2007 was performed in accordance with expected practice. Improper and/or inappropriate remedial actions should not qualify toward satisfying the "extent practicable" requirement. Therefore, in the absence of data demonstrating the free product in B-8 is stable or part of the same release that already reached groundwater, GPP staff consider it necessary to use appropriate methods to attempt to reduce the secondary fuel source beneath the former USTs.

Media-Specific Criteria - Groundwater

Site conditions technically do not satisfy media-specific groundwater Criterion 2 as indicated on Page 5 of the Fund letter because potential well receptors have not been investigated within 1,000 feet of the plume. However, our June 2013 letter only required a 1,000 foot receptor survey radius because the LTCP specifies a 1,000 foot search radius. However, if acceptable to the Fund, we would consider the 350- to 750-foot search radius used in the previous receptor survey (report dated February 9, 2001) sufficient under current conditions providing the free product identified below the former UST cavity is not migrating toward the water table. Please note, the February 2001 receptor survey report identified a well approximately 550 east of the LUFT site that provides water for irrigation and laundering, so we do not agree with the Fund that no water supply wells are present within 1,000 feet.

We agree no free product is currently in groundwater. However, we question whether the intent of the no free product requirement in Criterion 2 is satisfied when potentially unstable product exists approximately 10 to 12 feet above the current water table.

Media-Specific Criteria – Vapor Intrusion to Indoor Air

The Consulting Engineers Corporation report dated November 1, 2012, (the site-specific risk assessment cited in the Fund letter) concluded there is little to no vapor inhalation risk to the occupants of the LUFT site. We agree with this conclusion. Our concern is the potential vapor intrusion risk to the occupants of the residential dwelling immediately adjacent to the former UST cavity (see attached Figure 2) where free product has been identified in unsaturated zone soil at <30 fbg and where the benzene concentration in groundwater exceeds 1,000 ug/l (MW-1). We do not consider it valid to use the laboratory vapor sampling results from the 5 fbg samples collected from vapor probes V-1A and V-2A as a surrogate for evaluating the potential vapor inhalation risk to the occupants of the adjacent residential dwelling because these vapor samples were collected within the clean permeable soil that was used to backfill the former UST cavity (the hydrocarbon-affected soils in this area were previously excavated to approximately 12 fbg). Twelve feet of permeable fill does not exist under the adjacent residence and no soil samples have been collected to demonstrate hydrocarbon-affected soil (potential vapor source) does not exist at shallower depths under the adjacent residence. In addition, the November 2012 report indicates the concentration of benzene in the air samples collected within the adjacent residence exceed the indoor air Environmental Screening Level established by the Regional Water Quality Control Board by a factor of 19. While we are aware indoor air samples can be biased by

substances and furnishings used in the household, we have no data to demonstrate this was the case and the benzene concentrations in the indoor air sample exceeded those reported in the outdoor air (control) samples. Even the November 2012 report concluded the source of the benzene in the indoor air samples was "unknown" and could possibly represent intrusion of subsurface vapors. Therefore, GPP staff consider it necessary to sample subsurface vapor beneath the slab of the residence given the proximity of the residence to the source area because the human health risk to the occupants of the residential dwelling has not been established.

Closing Comments

Based on the foregoing discussion, GPP staff do not consider it unreasonable to request a workplan to evaluate the hydrocarbon concentrations in sub-slab vapor beneath the residence adjacent to the former fuel UST cavity and to remove secondary fuel hydrocarbon source beneath the former UST cavity from approximately 24 fbg. We consider these the final impediments to case closure and would support case closure if the results from work to resolve these impediments yields favorable results.

Although we do not consider naphthalene a significant concern at this site, we do not consider it appropriate for the Fund to use soil benzene concentrations and the typical percentage of benzene and naphthalene in fresh gasoline to estimate the concentration of naphthalene in soil (Page 2 of Fund letter). This is because benzene and naphthalene degrade at different rates in the subsurface and the residual concentrations of these compounds are affected by implemented remedial actions. Comparison of the benzene and naphthalene concentrations in the recent soil sample collected from V-1B at 15 fbg does not support the Fund's assumption (the concentration of naphthalene exceeded that of benzene by a factor of at least 7).

Please contact me at (650) 372-6292 or at dmilano@smcgov.org if you have any questions.

Sincerely,

Deno G. Milano, PG
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Groundwater Protection Program

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