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| **From:** | Roe, Dilan, Env. Health |
| **To:** | "Pham, Trinh@Waterboards" |
| **Cc:** | Detterman, Mark, Env. Health |
| **Subject:** | RE: Arco #04931, 731 W. Macarthur Blvd., Oakland (T0600100110) |
| **Date:** | Thursday, March 20, 2014 5:24:00 PM |

Hi Trinh:

Based on our review of the case files the site fails the Low Threat Closure Policy for General Criteria d (Free Product), General Criteria f (Secondary Source Removal), Groundwater Media Specific Criteria, and the Vapor Intrusion to Indoor Air. A summary of our main concerns is provided below. We would like to schedule a conference call with you next week to go over in more detail.

Groundwater Media Specific Criteria:

- The downgradient extent of the dissolved phase plume is not delineated. Well A-8 is the most downgradient onsite well located immediately adjacent to the tank pit and it has had concentrations of benzene fluctuating between 610 ug/l to 2,400 ug/l since 2001. MTBE is also fluctuating between 27 and 1200 ug/l since 2005. This is the only well with significant benzene and its lack of degradation may be related to elevated detection limits for ethanol also detected in the well. This well is also a former free phase well and is located immediately upgradient of a residential neighborhood (100 feet).

- The site hydrogeology has not been adequately defined. Depth to water in monitoring wells ranges from approximately 3 feet to 11 feet, however it is not clear whether this represents semi-confined or confined conditions in a gravel unit located depth. A review of boring logs indicates water is at a depth of approximately 9 feet in many borings.

- The well network appears to be compromised as several of the wells appear to be broken. Additionally, wells AR-2, and AR-3, located adjacent to tank pits are submerged and therefore may not be able to detect free product. These wells are located in the vicinity of soil vapor probes SV-2 and SV-6 that have significantly elevated concentrations of TPHg and benzene and may be indicative of free product or secondary source that has not been removed.

- An adequate up to date well survey has not been provided nor has a preferential pathway study been preformed to assess sensitive receptors.

Vapor Intrusion to Indoor Air:

- As discussed above, hydrogeologic conditions have not been adequately defined however evidence exists that there is not a ten foot bioattenuation zone and may not be a five foot bioattenuation zone. Although the site is an active commercial fueling facility, the benzene concentrations in well A-8 pose a threat for vapor intrusion to indoor air in the downgradient residential neighborhood. Since the plume is not defined and no details have been provided on the foundations or presence of basements in the residential

structures, the potential for vapor intrusion to indoor air is an offsite concern.

- Additionally, residential structures adjacent to the upgradient former tank pit, where elevated soil vapor concentrations have been detected are also at risk.

We look forward to discussing this case with you further.

**Dilan Roe, P.E.**
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PDF copies of case files can be reviewed/downloaded at:

*http://www.acgov.org/aceh/lop/ust.htm*

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**From:** Pham, Trinh@Waterboards [mailto:Trinh.Pham@waterboards.ca.gov]
**Sent:** Tuesday, March 18, 2014 10:55 AM
**To:** Detterman, Mark, Env. Health; Roe, Dilan, Env. Health
**Subject:** FW: Arco #04931, 731 W. Macarthur Blvd., Oakland (T0600100110)

Hi Mark/Dilan,

I was wondering if you had a chance to take a look at this Site. Please let me know your response as soon as possible since I will need to discuss this Site with my supervisor.

Thank you.

Trinh

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**From:** Pham, Trinh@Waterboards
**Sent:** Thursday, March 13, 2014 2:53 PM
**To:** 'mark.detterman@acgov.org'
**Cc:** 'dilan.roe@acgov.org'
**Subject:** Arco #04931, 731 W. Macarthur Blvd., Oakland (T0600100110)

Hi Mark,

Resolution No. 2012-062 requires the State Water Board staff to review a lead agency's decision when the lead agency has denied a request by a responsible party for UST case closure. We did not see your response to the closure request on GeoTracker but the LTCP Checklist states that the case should not be closed.

We are reviewing this case and would like to know your specific objections to case closure.

Your prompt response would be greatly appreciated.

Trinh Pham
Water Resource Control Engineer
State Water Resources Control Board
UST Cleanup Unit II
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