THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

Division of Spill Prevention and Response
Contaminated Sites Program

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July 21, 2015

Jan Shifflett
Response and Remediation SME
Alyeska Pipeline Service Company
900 East Benson Blvd
Anchorage, AK 99519

Re: Change in Contaminated Sites Program Database site status to Active

Dear Mr. Shifflett:

The Alaska Department of Environmental Conservation (DEC), Contaminated Sites Program has reviewed the 2014 Groundwater Monitoring Report for the Former Bentley Trust Property, which included a 5-Year Review of the 2006 Risk Assessment results. DEC is changing the status of the former Bentley Tax Lot 201 site (listed as site 102.38.123, Hazard ID 3685) from Cleanup Complete – Institutional Controls (ICs) to Active in its Contaminated Sites Database, consistent with the 2006 Record of Decision (ROD) document that states… "Under 18 AAC 75.380(d)(1), ADEC may require additional cleanup action if new information is discovered which leads DEC to make a determination that the cleanup described in this ROD is not protective of human health, safety, and welfare or the environment." DEC is making this change in site status for the following reasons:

1. There are some apparent data gaps in delineation of the dissolved phase groundwater plume that extends into off-site properties.
2. The assumptions used in the Johnson & Ettinger (J&E) model to estimate indoor air concentrations for contaminants may not pertain to off-site locations of the groundwater plume, and
3. It is uncertain if Institutional Controls (ICs) recorded in the ROD are sufficiently protective of off-site receptors (the term "off-site" pertains to those properties located down gradient from the former Bentley Tax Lots 201 and 203).

Please note the cleanup levels and ICs identified in the ROD, including contaminated soil and groundwater management stipulations for Tract A, will remain in effect during this change in site status.

To address the data gaps and uncertainty described above, DEC request the following actions be completed under a DEC-approved work plan:

For contaminated groundwater associated with the former Bentley Tax Lot 201:

1) collect sufficient groundwater data to fully delineate the extent of the dissolved phase TCE-contaminated groundwater plume that extends from the former Double-jointing and Surfcote buildings source area(s), so that the leading edge of the plume (below the groundwater cleanup level for TCE) can be identified in all directions. DEC considers this information critical to identify potential risk to overlying residential and/or commercial properties in off-site portions of the plume;

2) conduct Mann-Kendall, regression or similar trend analysis on groundwater data to ascertain if the plume size and contaminant concentrations are stable, increasing or decreasing for each monitoring well.

3) in addition to trend analysis for contaminants, analyze geochemical data (following DEC's 2000 Guidance on Monitored Natural Attenuation or more recent EPA Guidance on MNA evaluations, referenced below) and biological data (e.g., qPCr or CSIA data) as three lines of evidence to evaluate the progress of Monitored Natural Attenuation as a groundwater cleanup Remedy, to determine:

    a. the predominant degradation mechanism(s),
    b. a rate of degradation,
    c. the estimated time to reach cleanup levels;

4) once the groundwater plume is fully delineated, identify all properties impacted by contaminated groundwater above the DEC cleanup level for TCE (5 µg/L);

5) of those properties impacted by the TCE-contaminated groundwater plume, conduct a well survey to identify any property having a private groundwater well;

6) of those properties impacted by the TCE-contaminated groundwater plume, identify any properties or structures that fall outside a 250-ft distance to Golden Heart Utility (GHU)service connections or other public water supplies;

7) propose Institutional Control that are consistent with DEC guidance and regulation to effectively control the use of groundwater and inform current and future landowners of the risks associated with TCE-contaminated groundwater;

DEC considers use of the J&E model inappropriate to estimate indoor air concentrations of contaminants during vapor intrusion (VI) evaluations where there are buildings with crawl spaces, where the capillary fringe is contaminated beneath the building, or in locations where there may be shallow groundwater, which may be the case for buildings with full basements. As a result, DEC is requesting the VI exposure pathway be re-examined in both on-site and off-site portions of the TCE-contaminated groundwater plume.

For off-site buildings located above contaminated groundwater (above the 5.2 µg/L vapor intrusion target level):

8) evaluate buildings over the plume to determine foundation types and other building characteristics that could facilitate vapor intrusion;

9) collect soil gas, sub-slab soil gas, and/or indoor air in properties were VI risks are most likely, based on results of the building survey and location in the TCE-contaminated groundwater plume;

10) if modeling is to be used to estimate indoor air concentrations anywhere, collect additional supporting data, such as such as indoor air exchange rates or indoor/outdoor air pressure differentials representative of off-site buildings most likely at risk of vapor intrusion based on construction characteristics and proximity to contaminated groundwater;

For buildings located on-site of the former Bentley Tax Lot 201:

11) confirm that buildings (e.g., Sports Authority and other nearby buildings) were built with vapor barriers that are sufficient to prevent vapor intrusion of chlorinated solvents into buildings;

12) identify HVAC systems or similar air handling systems in on-site buildings that may mitigate vapor intrusion;

Depending on the results of the investigations above, additional investigation or exposure mitigation may be necessary.

DEC understand there are alternative measures to estimate indoor air concentrations in lieu of collecting actual indoor air samples. However, DEC cautions that any modeling efforts be verified with field data from locations having the greatest risk of vapor intrusion.

If any of the actions above necessitate a change in the 2006 ROD, or require informational outreach to residents or the general public, DEC is willing to assist in those matters.

Please don't hesitate to contact me should you have any questions.

Sincerely,

Jim Fish
Environmental Program Specialist

Cc (by email): Scott Rose, SLR International Corporation
Mark Stelljes, SLR International Corporation

References and Guidances for evaluating Monitored natural Attenuation of groundwater contaminants:

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