



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

Department of Environmental
Conservation

Division of Spill Prevention and Response
Contaminated Sites Program

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April 22, 2013

David Rawson
Rawson, Blum, and Company
Law Offices of Thomas H. Bomar
505 Sansome Street, Suite 450
San Francisco, CA 94111

Re: Re-opening of Bentley Mall East Satellite Site as a Contaminated Site

Dear Mr. Rawson:

The Alaska Department of Environmental Conservation (DEC), Contaminated Sites Program has reviewed the administrative file and recent groundwater monitoring and indoor air sampling reports associated with the Bentley Mall East Satellite (Tax Lot 217) contaminated site. This site is currently closed but has undergone active soil and groundwater remediation via soil vapor extraction and air-sparging, respectively. In a letter dated August 31, 2011, an alternate cleanup plan was approved by DEC. Under this alternate cleanup plan, the soil vapor extraction and air-sparge system were decommissioned, and groundwater cleanup continues under a Monitored Natural Attenuation (MNA) approach. DEC has decided to re-open this site as a contaminated site listed in its public database until additional evaluation is completed. This decision is based on new information obtained since site closure, described below in detail.

Increasing concentrations of PCE and TCE in groundwater (MW-1, MW-5)

Beginning in 2010, ERG reported an increasing concentration of tetrachloroethylene (PCE) in monitoring well 1 (MW-1), which had historical PCE levels less than 50 µg/L and non-detectable levels of trichloroethylene (TCE). In 2011, after shut-down of the remediation system, PCE and TCE concentrations in MW-1 began to rise. In 2012, PCE was detected at 850 µg/L, while TCE was again detected at 10 µg/L.

The observed increase of chlorinated solvents in MW-1 was attributed to an up-gradient, off-site source area – likely the current VIP Cleaners, an operating dry cleaner. DEC recently contacted and visited VIP Cleaners and did not find an apparent release of PCE from this facility. DEC requested the facility owner pursue a release investigation through an environmental consultant.

DEC also recommended additional site characterization activities to ERG in a letter dated March 4, 2013. Substantial elevated concentrations of PCE and TCE were also seen in monitoring well MW-5 during 2012, following remedial system shut-down in 2011. Whether the observed increase in chlorinated ethenes is a result of “rebound” after system shut-down, or migration from an upgradient release to

groundwater, remains unclear. DEC anticipates that elevated concentrations of PCE and TCE in groundwater are likely to persist and will require further evaluation and remedial action.

Further evaluation of vapor intrusion risk associated with groundwater plume (Noyes Street) is required

In October 2010, ERG collected passive soil gas samples from the Bentley Mall area, and along Noyes Street (across Noyes Slough), to the west of the Bentley Mall, and downgradient of the contaminant source area at the East Satellite Building). ERG detected elevated mass of PCE in soil gas samples collected between 620 and 640 Noyes Street, and interpreted the finding to suggest an undocumented release(s) of PCE from leaking wastewater or stormwater sewers and drainages in this area. ERG concluded further source characterization along Noyes Street was not necessary and detections of PCE were likely unrelated to the historical sources of subsurface PCE associated with the Bentley Mall. DEC does not concur with this conclusion drawn by ERG and requires further evaluation of PCE sources in the Noyes Street area. DEC considers detections of PCE potentially to be related to the same source of PCE at the Bentley Mall because the Noyes Street area has historically been a residential area, lacking industrial sources of PCE. In 2008, Alaska Resources and Environmental Services (ARES) surveyed the residences in the Charles Slater subdivision (including Noyes Street) and identified 36 residential structures that had basements, some of which may be unlined crawlspaces. Occupants of such residences may be at risk to PCE or TCE exposure through vapor intrusion. Because these risks may be associated with PCE sources at the Bentley Mall, DEC requires further evaluation of vapor intrusion risks within the Charles Slater subdivision. Specifically, DEC requests passive soil gas and indoor air samples be collected at residences with basements and located within the Bentley Mall groundwater plume.

EPA's recent IRIS toxicological review of acute exposure risk associated with TCE

The current Integrated Risk Information System (IRIS) toxicological review of TCE (U.S. Environmental Protection Agency, October, 2011) acknowledges potential short-term (acute) TCE exposure risks for pregnant women. Fetal cardiac malformations may occur when the mother is exposed to TCE during a 21-day early gestation window. Because of potential acute risk from short-term TCE exposure to this sensitive population, DEC recommends a precautionary approach to identify those locations where exposure to TCE from multiple pathways may exist. The target levels for indoor air and drinking water should be considered as "not-to-exceed" values, as averaged over any 21-day period of time, when women of child-bearing age may be exposed.

Concentrations of TCE in many of the monitoring wells associated with the Bentley Mall groundwater plume exceed DEC's groundwater cleanup levels and target levels for vapor intrusion risk for both commercial and residential facilities. (e.g., MW-4, MW-5, MW-10, MW-12, as well as sparge well SW-7). DEC recommends continued evaluation/mitigation of vapor intrusion at the Wells Fargo Bank and any additional buildings that may be located near wells with groundwater that exceeds DEC's groundwater target levels for vapor intrusion for any site COPC.

Indoor air sampling was last conducted in September of 2011 at the Wells Fargo Bank. No subsequent indoor air sampling at this facility has occurred since 2011. Indoor air was most recently sampled at the East Satellite building in March, 2013. PCE and TCE levels did not exceed current DEC indoor air target levels for a commercial facility, but PCE levels did exceed indoor air target levels for residential facilities when indoor air was not mixed with outdoor air during operation of the building ventilation system. DEC understand that pending occupancy of the East Satellite Building may include a sensitive population of occupants (e.g., medical patients). As a precautionary approach, DEC recommends permanently mitigating vapor intrusion potential into the East Satellite Building to eliminate risks

associated with this pathway. DEC is aware that ERG has investigated the application of a geotechnical sealant or similar textile material onto the concrete slab and concurs this would be a better form of vapor prevention than continuous HVAC system operation in the building.

DEC also requests evaluation of MNA

According to the Record of Decision (March 2, 2007) and the DEC-approved Alternate Cleanup Plan (August 31, 2011), monitored natural attenuation will be evaluated in accordance with DEC's guidance, *The Selection of Natural Attenuation as a Cleanup Alternative for the Restoration of Soil and Groundwater at Contaminated Sites*, dated January 2000. In a letter dated March 4, 2013, DEC requested additional evaluation of MNA; specifically, trend analysis (e.g., Mann Kendall, regression, or Mass-Flux & Mass Discharge analyses, or solute transport models such as REMChlor or BioChlor) of contaminant concentrations was recommended to evaluate whether the contaminated groundwater plume is decreasing in both mass and concentration since remedial shut-down, or is simply stable. Without an evaluation of MNA that is consistent with DEC's guidance referenced above, DEC believes significant data gaps exist in the current Conceptual Site Model (CSM) and the evaluation of risks to receptors.

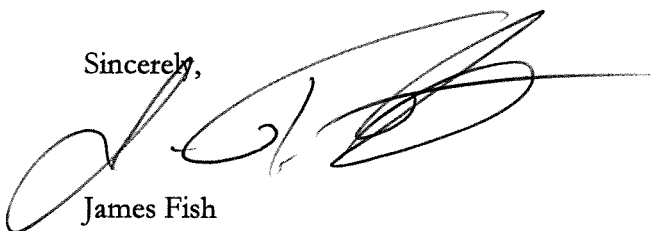
According to the alternate cleanup plan of 2011, two groundwater sampling events will be conducted in 2013, and groundwater sampling will transition to an annual sampling regime beginning in 2014. DEC recommends continuing with two seasonal groundwater sampling events for MNA evaluation and contaminant trend analysis based on known seasonal groundwater dynamics (e.g., periods of low groundwater elevation and periods of higher groundwater elevations). DEC also requests analyzing for the contaminant 1,4-dioxane in groundwater samples. This compound is an emerging contaminant of potential concern (COPC) associated with solvents (notably TCE, but also with other solvents) and should be considered a COPC analyte for the Bentley Mall groundwater plume. A modified EPA Method 8260 is required to analyze environmental media for 1,4-dioxane.

Because DEC is re-opening the Bentley Mall East Satellite as a contaminated site, please include a work plan for DEC review and approval prior to conducting further site characterization and evaluation, following DEC's guidance *Site Characterization Work Plan and Reporting Guidance for Investigation of Contaminated Sites*, September 2009 (found at:<http://dec.alaska.gov/spar/csp/guidance/site-characterization-wp&r.pdf>), and *Draft Field Sampling Guidance*, May 2010, found at: <http://dec.alaska.gov/spar/csp/guidance/Draft%20Field%20Sampling%20Guidance.pdf>.

Please feel free to contact me at james.fish@alaska.gov or 907-451-2117 if you have any questions regarding DEC's decision to re-open this site, or requirements for further evaluation.

Thank you for continuing to work with DEC on this matter.

Sincerely,



James Fish
Environmental Program Specialist

cc: Benjamin Wells, ERG