



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

Department of Environmental Conservation

Division of Spill Prevention and Response  
Contaminated Sites Program

610 University Ave.  
Fairbanks, Alaska 99709-3643  
Main: 907.451.2127  
Fax: 907.451.2155  
[www.dec.alaska.gov](http://www.dec.alaska.gov)

File: 102.26.001

November 22, 2017

Ken Murray  
Ken Murray Insurance  
P.O. Box 71007  
Fairbanks, Alaska, 99707-1007

**Re: Lucky Sourdough**

Dear Mr. Murray:

The Alaska Department of Environmental Conservation (DEC) has recently reviewed the administrative file and recent groundwater monitoring results regarding the Lucky Sourdough contaminated site at 402 Barnette Street in Fairbanks. This letter discusses the site background and the regulatory requirements that apply.

**Site Background:**

Two 1,000-gallon gasoline tanks were removed in 1992 from the southeast corner of Lot 1A. An air sparge/soil vapor extraction system was installed to remediate soil and groundwater contamination in 1996 and expanded in 1999. The system was replaced with a dual phase extraction system in 2002, which operated through 2003 and was decommissioned in 2004. Groundwater monitoring began in 1992 and continued at least yearly until 2007. At one point, groundwater monitoring wells extended ½ mile downgradient (northwest) of the property. Petroleum contamination at Lucky Sourdough appears to have co-mingled with solvent contamination associated with the Gaffney Road groundwater contamination plume (DEC file number 102.38.084).

In January 2002, Nortech submitted a site characterization report. In June 2004, Nortech submitted a report summarizing the site information and requesting site closure. Three soil borings were installed at 402 Barnette Street. One boring was placed in the vicinity of the former USTs east of the building, and two were installed on the west side of the building. No contaminants were found above DEC soil cleanup levels. Groundwater contamination remained at the subject property, and beneath the remainder of Block 65, Fairbanks Townsite, and in the surrounding road right-of-ways northwest of the subject property.

In addition to soil and groundwater sampling, the 2004 report described an indoor air quality investigation completed in the buildings located at 709 and 715 4<sup>th</sup> Avenue to evaluate the potential for petroleum vapor intrusion from the site contamination. Three indoor air samples collected in May 2004 in these buildings did not contain petroleum compounds that exceeded DEC's residential indoor air target levels.

DEC responded in a letter dated October 4, 2006, that additional groundwater monitoring would be required due to the high concentrations in groundwater under downgradient properties. An additional groundwater monitoring event was completed in January 2007.

**April 2016 Groundwater Sampling:**

DEC received a groundwater monitoring report dated October 13, 2016, for a monitoring event completed in April 2016. Prior to this event, groundwater monitoring had not been conducted since 2007. The sample results indicated that many of the contaminant concentrations have decreased; however, DEC's groundwater cleanup levels were updated in November 2016. The table below shows the groundwater sampling results that were present in 2016 at concentrations above the new groundwater cleanup levels. The table compares this data to the DEC vapor intrusion target levels for groundwater.

**Sample Results Compared to DEC Groundwater Cleanup and  
Vapor Intrusion Target Levels (all data in µg/L)**

Analyte	MW-32	MW-33/ duplicate	Vapor Intrusion Target Level	Groundwater Cleanup Level
Benzene	1.36	5.35/5.02	16/69	4.6
Ethylbenzene	630	599/595	35/150	15
Xylenes	2310	1280/1250	380/1600	190
Trichloroethene	3.24	1.05/ND (0.960)	5.0/21	2.8
1,2,4-Trimethylbenzene	1580	449/447	29/120	15
1,3,5-Trimethylbenzene	497	89.5/89	NA/NA	120
Naphthalene	ND (5.00)	ND (5.00)	46/200	1.7

ND = Not detected above the limit of quantification shown in parentheses.

**DEC Requirements:**

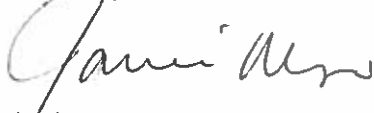
In order to comply with DEC's cleanup regulations (18 AAC 78) the following activities should be completed before the site can be evaluated for closure. For assistance with understanding closure requirements, DEC has posted the *Site Closure Memorandum*, dated August 30, 2016, at [http://dec.alaska.gov/spar/csp/guidance\\_forms/docs/SiteClosureMemoCSP\\_8-30-16.pdf](http://dec.alaska.gov/spar/csp/guidance_forms/docs/SiteClosureMemoCSP_8-30-16.pdf).

1. The April 2016 groundwater sample results indicated that concentrations are greatly reduced in the two wells that are still monitored (MW-32 and MW-33); however, contaminant levels remain elevated in each well. Due to the long period of time that has elapsed since the previous sampling event, additional sampling should be completed to confirm these results. DEC recommends sampling during high groundwater conditions to verify that similar trends are present at that time.
2. Evaluate the historical groundwater data set to determine if a decreasing trend can be identified for contaminants remaining above DEC's current groundwater cleanup levels. The DEC *Site Closure Memorandum* describes how site closure can be achieved with remaining groundwater contamination at the site.
3. Complete a vapor intrusion evaluation to determine if vapors from contaminated soil or groundwater will effect indoor air quality in the building at 402 Barnette Street, 709 4<sup>th</sup> Avenue and 715 4<sup>th</sup> Avenue. Air sampling at 709 and 715 4<sup>th</sup> Avenue occurred once in 2004; however, groundwater concentrations in the vicinity of these buildings remains above the DEC vapor intrusion target levels for groundwater and DEC must evaluate the potential for seasonal changes to affect vapor intrusion. Additional evaluation should be completed at 709 and 715 4<sup>th</sup> Avenue to determine if vapor intrusion may be occurring at different times of the year. DEC generally recommends evaluating vapor intrusion in the fall when soil is warm, and in the winter when buildings are typically closed and heating is occurring.
4. Prior to closure cumulative risk should be calculated as discussed in DEC's *Cumulative Risk Guidance*. If cumulative risk remains, institutional controls will be necessary on affected properties. In addition, DEC will require that monitoring wells and any remaining underground system components are properly decommissioned before a closure letter is issued.

Please note that any characterization and cleanup work must be completed under a work plan prepared by a Qualified Environmental Professional and submitted for DEC approval. Final reporting and closure are described in 18 AAC 75.380.

Thank you for your ongoing efforts at this property, and for your proactive coordination efforts with DEC. Please feel free to contact me at (907) 451-2127 if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Janice Wieggers".

Janice Wieggers  
Environmental Program Specialist

Cc (via email): Peter Beardsley, Nortech