

**Subject:** RE: Vapor Project Phase 2C, LEAK #2205, Benton County Hwy Dept, Foley  
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**Date:** 9/28/2015, 3:41 PM  
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#### **LEAK #2205, Benton County Hwy Dept, Foley**

**Summary:** 7 USTs were removed in 1989, age unknown. 2 USTs were gasoline. 190 yd<sup>3</sup> of contaminated soil was excavated. LNAPL has been persistent in MW-7 and 11 with only hand bailing conducted. A CAD system including SVE was proposed but not installed in the early 1990's. The site was closed by "JHM" in 2000 with the following remarks: *This site has been monitored forever, has had very small amounts of product periodically, and fairly high levels in some wells. I do not see any reason to continue monitoring so I will close site.*

**Groundwater contamination:** Only 1 round of VOCs was completed for each monitoring well, with 1,2-DCA detected in MW-10 in 1990 at 43 ug/L. MTBE was detected with the highest concentration of 3400 ug/L in MW-11 in 1990 just prior to LNAPL showing up but this might be a false positive.

Soils at the site are described as clayey till consisting of clayey to silty sands with the water table occurring at 10-12 feet below grade. LS#122 describes the geology as 30' of clay till over gravel. Granite bedrock is present at 50-60' below grade. Municipal wells are screened in the glacial deposits at depths of 55', 60' and 108'. This makes the aquifer a sole source. The site is within the DWSMA and WPA with the aquifer sensitivity rated as high due to geologic setting and the presents of tritium in muni well samples. This means the age of the water used as a drinking water supply is less than 70 years (recharge occurred post 1945).

Reportedly city wells #1, #2 and #3 were impacted by DCA which created LS #122 in 1985 which was later closed in 1994 due to lack of further detections. The LS file was reopened in 2007 when city well #2 again was impacted by benzene and 1,2-DCA. The Benton County garage USTs are located 600' from former city well #2 and are also located 2000' from active city well #3 and 1200' from active city well #4. City well #4 was shown to be hydraulically connected to well #2 and is still considered vulnerable to the unknown source of petroleum contamination when it's in use.

There does not appear to be an adequate risk evaluation of drinking water impacts from DCA and EDB at this site, and there doesn't appear to be any risk assessment for private wells. There is no data on trends for DCA or EDB (which is always present with DCA as an additive) since VOC sampling was only conducted during the first round. The first consultant inaccurately described the DCA detected as chlorinated solvent compound not associated with the petroleum release.

**Conclusion:** This site is a strong possibility to be a source of contamination to the drinking water aquifer and Foley city well #2. This well was replaced with well #5 as the corrective action (pathway elimination). The comments for LS#122 (which is now closed) suggests that city well #4 could become contaminated if used too much. The city was reportedly to agree to a plan that limited pumping of well #4 but this does not appear to be formalized. This suggests muni wells #3 and #4 are still at risk. There is no mention of private well that may be at risk too.

**Recommendation:** A new 1/2 mile radius well receptor survey should be completed and if private wells are found a select set should be sampled for VOCs with low level EDB/DCA. In addition selected municipal wells should be analyzed for low level EDB/DCA in raw (at the well head) water. The site should be evaluated for addition remediation using LIF since it has impacted a sole source aquifer and likely an existing municipal drinking water supply.

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