

**From:** [Helton, Kelsey](#)  
**To:** [Miller.Scott@epamail.epa.gov](mailto:Miller.Scott@epamail.epa.gov)  
**Cc:** [Helton, Kelsey](#); [Kulakowski, Zoe](#); [Haberfeld, Joe](#); [Cowdery, Robert](#); [Brouman, Mitch \(Pittsburgh\) USA](#); [Council, Greg](#); [Erickson, Jim](#); [John Mousa](#); [Hutton, Richard H](#)  
**Subject:** FW: DEP Review of Proposed DNAPL Recovery and Monitoring Wells in the former Process Area at Koppers  
**Date:** Thursday, March 21, 2013 6:41:05 PM

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Scott-

DEP has reviewed the above proposal and offers the following comments. These comments reflect previous recommendations contained in the DEP April 3, 2012 comments on the ISGS Pilot Study Work Plan and expressed in the November 2012 meeting where the DNAPL/soil boring data collected from the former Process Area at Koppers was presented. We understand that there have been one or two subsequent conference calls in 2013, which DEP staff were not able to attend, to discuss stakeholders questions but have seen nothing summarizing the outcome of those discussions,. We understand that the scope proposed in the December 2012 work plan remains the same for the process area, with the addition of soil borings to the north where DNAPL was not delineated. The primary objective of the proposed DNAPL recovery wells in the Upper Hawthorn (UHG) is to collect baseline or pre-injection DNAPL recovery rate data prior to the pilot, to support an evaluation of the effectiveness of ISGS in immobilizing DNAPL at the site, based on a comparison to post-injection DNAPL recovery rates.

- The locations of the proposed DNAPL recovery wells and additional Upper Hawthorn and surficial aquifer monitoring wells are acceptable, based on the limited number of cross-sections that were provided to summarize the DNAPL distribution in that area.
- Additional DNAPL delineation is needed in the vicinity of the former process area: to the north (within the surficial and Upper Hawthorn); to the east (Upper Hawthorn); and southwest (Upper Hawthorn).
- DEP reiterates previous recommendations for installation of Lower Hawthorn (LHG) wells proximal to the former Process Area. We recommend Lower Hawthorn wells at the following locations:
  - In the area of HG-33S or HG35S
  - At a location generally west/northwest of HG32S but north of M-24A/B
  - At a location within or immediately downgradient of the ISGS pilot area.

LHG well installations are needed for three reasons:

- To characterize the Lower Hawthorn groundwater quality and aquifer conditions in this area.
- To provide baseline and post injection monitoring points to demonstrate compliance with Chapter 62-528, UIC requirement, that the injected fluid remain in the injection zone.
- To provide valuable performance data during the ISGS pilot study that will allow Beazer to confirm that the injectate is being distributed where intended; to realistically interpret the response of the DNAPL in the UHG to treatment based on confirmed delivery of a known amount (mass balance); and to optimize methods of injection and distribution and therefore the effectiveness of the ISGS remedy.

- Background groundwater quality and groundwater elevations for the Upper and Lower Hawthorn need to be established as well before pilot implementation. Groundwater elevations and flow directions are estimated for the south quarter of the site. A background Floridan aquifer well is also needed.

We are available to discuss these comments further. Thank you.

*Kelsey*

Kelsey Helton  
DEP- Bureau of Waste Cleanup  
Hazardous Waste Cleanup Section  
Tallahassee, FL  
850-245-8969

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