

TECHNICAL MEMORANDUM

TO: Rick Hutton
FROM: DNAPL Team
DATE: January 16, 2009
SUBJECT: Comment on “Upper Floridan Aquifer Interim Remedial Measure (IRM) Work Plan, Cabot Carbon / Koppers Superfund Site, Gainesville, FL” by GeoTrans dated December 2008

General

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It appears to be the position of GeoTrans that all of the detections of creosote compound in the Floridan aquifer are most likely due to leakage from the Lower Hawthorn to the Upper Floridan along fissures or fractures associated with inadequate annular seals at FW-6 and FW-21B. They attribute the findings in FW-6, FW-12B, FW-16B, FW-20B, and FW-22B to leakage at FW-6. They attribute the findings at FW-21B and FW-16B to leakage at FW-21B. No other parties (i.e. GRU, GRU DNAPL Team, Alachua County, Florida DEP or US EPA) agree with this conclusion. Other parties agree that leakage may contribute some portion of the compounds detected, but that leakage is not the sole or primary source of groundwater contamination observed in the Floridan aquifer.

In any event, pumping at FW-6 and FW-21B, if adequately monitored, may provide some insight into the nature of creosote contamination and hydrogeologic conditions in the Floridan aquifer.

Recommendation for Adequate Monitoring

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The Beazer Panel concluded that creosote contamination in the Floridan aquifer most likely resulted from leakage along fissures or fractures associated with the annular seals of FW-6 and FW-21B and that the travel time for such leakage between the Lower Hawthorn sediments and the Floridan would be a matter of

minutes. The performance monitoring proposed by GeoTrans is inadequate to support any assessment of this scenario. The monitoring proposed by GeoTrans :

- Is too infrequent at early times given the alleged rapid travel times for the leakage.
- Does not include volatile organic compounds.
- Does not include sampling of the Hawthorn groundwater from which the leakage is alleged to originate.
- Does not include monitoring of groundwater elevations.

The following are recommendations for adequate monitoring of the IRM.

1. Groundwater Sampling and Analysis

All groundwater samples should be analysed for volatiles, semi-volatiles, and arsenic using methods able to obtain the analytical detection limits achieved in previous groundwater testing at the Koppers site during 2004 to 2007. The methods and detection limits proposed by GeoTrans in the Comprehensive Groundwater Monitoring and Sample Analysis Plan are inadequate.

2. Hawthorn Sampling

Groundwater samples should be collected from HG-10D and HG-16D near FW-6 and from HG-12D near FW-21B before pumping each IRM well. Additional samples from the noted Hawthorn wells should be collected after the start of IRM pumping on the first day of pumping, weekly for the first month, monthly for 2 months, and then quarterly – or at the end of the test(s) if the test ends before a scheduled sampling event. Sampling the Hawthorn groundwater is essential to compare the chemical composition and any temporal changes to the groundwater recovered from FW-6 and FW-21B.

3. Floridan Sampling

Groundwater samples should be collected from FW-6 and FW-21B (multi-level removed) immediately before pumping starts. Samples should be

collected hourly for the first four hours of the test(s) and then daily for the first week, weekly for the next month, monthly for 2 months, and then quarterly - or at the end of the test(s) if the test ends before a scheduled sampling event. Because the alleged travel time for leakage to the Floridan is very short, initial groundwater samples should be collected hourly for the first four hours of the test and then daily for the first week.

Groundwater samples should be collected from surrounding Floridan wells FW-12B, FW-16B, FW-20B, monthly for the first 3 months and the quarterly.

4. Groundwater Elevations

Groundwater elevations should be measured and recorded in all wells immediately prior to starting the pumps and each time groundwater samples are collected.

Westbay Considerations

1. The pumping rate in FW-21B must be sufficient to prevent groundwater entering the Well at Zone 1 from flowing out of the well in Zone 2.
2. The Westbay system in FW-21B should be reinstalled after the IRM test.