Richard, Philip E - DNR

From: Mike.Niebauer@CH2M.com
Sent: Friday, October 25, 2013 1:00 PM
To: Martin.LindaB@epamail.epa.gov; Richard, Philip E - DNR; Endsley, Erin A - DNR
Subject: Penta Wood - Sampling Modifications
Attachments: LNAPL Sampling Memo 10_25_2013.pdf

Hi Linda, Phil and Erin,

Please see the attached memo detailing modifications for the planned LNAPL sampling in November.

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Penta Wood Products LNAPL Scope Modification

Penta Wood Products Site, Town of Daniels, Wisconsin
Work Assignment No. 132-LRLR-05WE, Contract No. EP-S5-06-01

PREPARED FOR:	U.S. Environmental Protection Agency
COPIES:	Wisconsin Department of Natural Resources
PREPARED BY:	CH2M HILL
DATE:	October 25th, 2013

LNAPL Mobility and Recoverability Testing

An LNAPL investigation is currently scheduled to be completed at the Penta Wood Products Site in Siren Wisconsin which will involve the collection of intact soil cores from within the LNAPL smear zone. A final review was completed of the overall strategy and CH2M HILL has identified three changes that will help provide higher quality data for the ultimate goal of providing an estimate of LNAPL mobility and recoverability. These changes are a modification to the field sampling plan submitted to the USEPA and the WDNR on September, 13th 2013 and to the work assignment revision request #2 submitted to the USEPA on July 11th, 2013. Three changes that have been proposed are as follows:

- One of the four borings will be used as an exploratory boring so that intact cores can be targeted more precisely to the current LNAPL smear zone. Due to this change we will only be collecting LNAPL cores from three borings instead of four. Although this change reduces the amount of data, it will increase the likelihood that we will get quality data from the other three borings.
- Secondly we are going to collect a grab sample of LNAPL and water from one of the monitoring wells and have it analyzed for dynamic viscosity and fluid density at three temperatures representative of groundwater conditions (e.g., 45, 55, and 65 degrees Fahrenheit), specific gravity, surface tension for each fluid, and interfacial tension (three phase pairs; oil/water, oil/air, and water/air) (ASTM D1481, ASTM D445, ASTM D971).
- We will also be adding a test called the Drainage Capillarity Package for air and water. This testing package will allow for the analysis of initial and residual fluid saturations, final water production vs. capillary pressure, effective (total) porosity, bulk density, air permeability and hydraulic conductivity (ASTM D6836, API RP40).

These changes are not a substantial change to the scope of the investigation but they will augment the modeling that is planned. These changes will ultimately allow for a more precise analysis of the mobility and recoverability of the LNAPL source area at the Penta Wood Products Site.

Please feel free to call (608) 298-7770 or email mike.niebauer@ch2m.com to discuss if you have concerns.

Michael Niebauer