

December 14, 2009

Rick Hutton, P.E.
Supervising Utility Engineer, Strategic Planning
Gainesville Regional Utilities
4322 NW 53rd Ave
Gainesville, FL 32653

Subject: Responses to Comments on the *Upper Floridan Aquifer Well Installation Workplan: Investigation of Northwestern Area of Koppers Inc. Site, Gainesville, Florida*

Dear Mr. Hutton:

On behalf of Beazer East, Inc. (Beazer), enclosed with this letter is our response to comments on the November 4, 2009 *Upper Floridan Aquifer Well Installation Workplan: Investigation of Northwestern Area of Koppers Inc. Site, Gainesville, Florida* (the Workplan).

Beazer appreciates the Gainesville Regional Utilities (GRU) comments on the Workplan provided in an email to the U. S. Environmental Protection Agency (EPA) dated November 16, 2009. Beazer' responses to the GRU comments are contained in Attachment A with this letter.

Sincerely,



James R. Erickson
Principal Hydrogeologist

Attachment A

cc: Scott Miller, USEPA
Bill O'Steen, USEPA
Kelsey Helton, FDEP
John Mousa, ACEPD
Mitchell Brouman, Beazer
Donna Kopach, Beazer
Greg Council, GeoTrans

Attachment A
Responses to GRU Comments:
***Upper Floridan Aquifer Well Installation Workplan: Investigation of
Northwestern Area of Koppers Inc. Site, Gainesville, Florida***

December 14, 2009

The GRU comments that were provided in a November 16, 2009 email to the U. S. EPA. The GRU comments are repeated below along with Beazer's response to the comment.

Comment # 1: GeoTrans does not propose Westbay completions for sentinel wells FW-29B or FW-29C – this is consistent with the other two sentinel well clusters; however, we continue to believe that all multiscreened wells should be completed using Westbay or equivalent sampling hardware.

Response: As stated in the comment: “..this is consistent with the other two sentinel well clusters..”. The technical justification for this completion is consistent with existing Sentinel wells FW-25B/C and FW-26B/C that were installed in fall 2008.

Comment #2: GRU and FDEP requested one or more Floridan Westbay wells downgradient of FW-16B at the Drip Track source area. GRU maintains that those wells are necessary and we look forward to seeing them installed in the near future.

Response: Beazer is not currently proposing the installation of a new well downgradient of FW-16B as part of this Workplan. It is Beazer's position that the installations of the proposed new wells in the NW area of the site have a higher priority than installing a new well downgradient of FW-16B. Discussions concerning the technical need for this well and responsible parties for installing the well are on-going with the EPA.

Comment # 3: A larger well diameter, even just upsizing to 6-inch dia., would allow pumping at higher rates if there is a possibility that this would be desirable in the future. We understand this may require more expense and potentially a CUP for the extraction well, but a higher pumping rate may be necessary to see a response in observation wells. Recording a response from the constant rate test in the observation wells FW-22B and FW-22C might allow better calculation of aquifer parameters.

Response: The installation of a 4-inch diameter recovery well in the UF Aquifer UTZ, with approximately 90 feet of stainless steel screen, will allow for adequate groundwater extraction rates to mitigate impacts observed in well FW-22B. It is Beazer's position that the significant increase in costs associated with the installation of a 6-inch diameter well is not warranted at this time

The installation of a 6-inch diameter well would require the installation of larger diameter isolation casings. The larger diameter casings will result in additional costs for drilling and stainless steel casing/well materials. In addition, it is

estimated that the IDW will more than double in volume for a 6-inch well. The model predicted pumping rate required for groundwater capture at well FW-31BE is about 20 gallons per minute (gpm). Should it be necessary to increase the pumping rate, a 4-inch submersible pump, capable of up to approximately 95 gpm, is commercially available.

Given previous aquifer tests performed in the UF Aquifer at the Site, it is difficult to predict in advance the water-level response at FW-22B due to pumping at extraction well FW-31BE. Further, we do not expect to see significant water-level responses in FW-22C, since it is completed in the LTZ approximately 100 feet below the UTZ.

Comment #4: Background monitoring of groundwater levels in the pumping and observation wells prior to testing should be conducted for a duration of at least 24 to 48 hours. At some sites we collect 5 days of background (static) water level data in the pumping and observation wells. If influences on static groundwater levels at this site are well understood then it would be acceptable to shorten the duration of background monitoring for just the step-drawdown test.

Response: Hydrologic fluctuations in the UF Aquifer are fairly well known for this Site. Approximately 3 years (October 2006 to August 2009) of daily water-level elevations and fluctuations have been collected with pressure transducers in monitoring wells FW-4, FW-6 and FW-8. These data indicate that daily water-level changes are on the order of a few tenths of a foot and that the magnitude and direction of water-level change varies across the Site.

It is Beazer's intent to monitor water levels in observation wells FW-22B and FW-22C prior to performing hydrologic testing in well FW-31BE. In addition, longer-term, semi-continuous monitoring will be performed in these well after system start-up. Pressure transducers will be installed in FW-22B, FW-22C and FW-31BE to monitor water-level changes during testing and system startup. Manual water-level measurements will be obtained from FW-24B and FW-2 during hydraulic testing and the initial phase of system startup.

Comment # 5: There should be better definition of the pumping water level stability (i.e. pumping "until drawdown is asymptotic"). On water supply APT specs and plans we use the statement, "...or until achieving stability as defined by a change in water level that is not more than 0.1 feet in 1 hour." Same comment for recovery of water levels.

Response: It should be recognized that the long-term hydrologic test of the extraction well and the UF Aquifer will be performed during system startup and operation of the extraction well. The aquifer tests proposed in the Workplan are intended to provide some initial short-term data on the performance of the well and drawdown at various pumping rates. These proposed hydrologic tests will help identify if additional well development is needed and the final set depth for the submersible pump. A more complete evaluation of the UF Aquifer hydrologic parameter values will be performed during and after system startup. A separate

document will be prepared that describe the proposed system startup and longer-term operation of the extraction well.

Beazer will exercise professional judgment for when to end the hydrologic testing and/or move to the next phase. In general, the test will be run until the water-level change is approaching an asymptotic response; however, it is our experience that it is better to make this call in the field during the test. A real-time analysis of water-level responses will be performed in the field during these tests to allow for a more informed decision on when to end the testing.

Comment # 6: GeoTrans should collect water quality samples at the beginning and end of the hydraulic testing. Samples should be analyzed for those compounds reported for the quarterly sampling events.

Response: No groundwater samples are planned during the initial extraction well testing. The proposed groundwater sampling during system startup and operation will be described in a separate document.