

October 6, 2005

Mr. Brett Goodman, P.E.  
Gainesville Regional Utilities  
P.O. Box 147117  
Gainesville, FL 32614-7117

**Subject:** Response to the GRU's Letter Dated September 7, 2005

Dear Mr. Goodman:

GeoTrans, Inc. (GeoTrans) is writing in response to the Gainesville Regional Utilities' (GRU) letter to GeoTrans dated September 7, 2005. The purpose of GeoTrans' prior letter to GRU and Dr. Robert Cleary with Princeton Groundwater, Inc. dated July 14, 2005 was to respond to several misleading statements made in the Gainesville Sun Editorial dated June 26, 2005. Interestingly, your letter of September 7, 2005 does nothing to refute the points made in our July 14, 2005 letter other than to simply state that you "stand by the facts". Instead of providing credible and substantiated arguments refuting our concerns with the misleading and inappropriate statements contained in the June 26 Gainesville Sun editorial, which we supported with references, GRU simply provides a list of new misleading statements. Once again, these misleading statements are inappropriate, and we are left with no alternative but to set the record straight with this response.

In your most recent letter, you state that GRU's "confidence in GeoTrans' commitment to protecting our water supply has been eroded due to several factors". In the following text, each "factor" is listed followed by our response.

*GRU Bullet #1: Endorsing a groundwater model that does not represent, in a suitably conservative manner, contaminant migration in the Floridan aquifer or the Hawthorn group*

GeoTrans always has endorsed using a groundwater model that is appropriate for the regional scale considered. An underlying basis for our groundwater flow model is the GRU Floridan aquifer groundwater flow model developed by CH2MHill (1993). GeoTrans built on this GRU model to create our current model. In constructing the model, GeoTrans used customary practices consistent with industry standards and consistent with other models applied to the Floridan aquifer. In meetings with agencies and stakeholders, we have indicated a willingness to update and improve the model, as needed. This is documented in Beazer's letter to Ms. Amy Williams dated February 23, 2005. As part of our response in that letter to the Preliminary Report of the GRU DNAPL Consultant Team, we state in Attachment 1 (p. 29), "GeoTrans will add additional model layers to the lower portion of the model. The lower Hawthorn clay unit will be subdivided into three layers, and the Upper Transmissive Zone of the Upper Floridan aquifer will be subdivided into two model layers. In addition, the semi-confining

unit separating the Upper from the Lower Transmissive Zones will be explicitly added to the model and represented by three layers. These adjustments will be made as a sensitivity analysis to determine their effect on the constituent fate and transport results of the Site Model.” In compliance with the best science available, we are willing to continue to make changes/improvements to our groundwater model, when warranted.

GeoTrans believes that the main issue implied within the statement “a suitably conservative manner” is the value we use for effective porosity. A low value for effective porosity has led GRU to conclude that predicted travel times for contaminants from the Site to reach the City of Gainesville’s Murphree Well Field (over 2 miles away) may be as low as 4 to 5 years. Available data do not support this conclusion and are inconsistent with GRU’s model results. Installation of a monitoring well (FW-6) into the Upper Floridan aquifer allowed a small quantity of contaminated drilling fluids to enter the Floridan aquifer. The resulting elevated naphthalene concentrations observed in FW-6 have never been detected in downgradient wells FW-2, FW-7, FW-4, and MWTP-MW-1; more than 1 year after the naphthalene was introduced into the Floridan aquifer. Consequently, existing data demonstrate that the predicted 4- to 5-year travel time is wrong. Further, when realistic natural attenuation is considered in the GRU model, the 4- to 5-year travel time is no longer possible to achieve.

*GRU Bullet #2: Continuing to disregard contamination found in the Floridan aquifer at levels 100 times the clean up standard with supporting evidence of contamination at other Floridan wells at the site*

The Beazer Team does not disregard the contamination found at FW-6, which is the only well with any organic constituent concentrations significantly above cleanup standards. As discussed with agencies and stakeholders at numerous meetings and in correspondence, the most likely explanation for the contamination observed at FW-6 is the unavoidable loss of impacted drilling fluid. In the 2005 2<sup>nd</sup> Quarter Floridan Aquifer Groundwater Monitoring Report (RETEC, 2005), naphthalene continued to decline in FW-6 to a value of 1,000 ug/l, which supports this explanation. However, we acknowledge that there are other possible explanations for the constituents found in FW-6. Consequently, the Beazer Team proposed additional Floridan aquifer wells to help resolve this issue in the February 28, 2005 work plan that was submitted to the Stakeholders, which includes GRU. Thus, our actions prove that we do not disregard these data and we are implementing additional investigations to resolve this issue.

*GRU Bullet #3: Asserting that creosote contamination is not mobile in lower aquifer units when limited investigations shows[sic] that creosote NAPL [nonaqueous phase liquid] has been observed at depths 120 [ft] below surface and that there is creosote contamination in the Floridan aquifer*

The presence of creosote in soil borings at a specific location is an indication that creosote was mobile in the past; however, one cannot conclude that NAPL is currently migrating. The presence of free-phase NAPL in a well is not an indication of on-going NAPL migration, as an example, the NAPL could be in a stratigraphic trap. Further, the weekly NAPL recovery program at the Site demonstrates limited mobility of creosote NAPLs in the Hawthorn Group deposits. FW-6 has been monitored weekly for creosote NAPL for over a year and none has ever been detected. Also, creosote NAPLs have never been detected in any of the additional seven

Upper Floridan aquifer monitoring wells on the Site over the 1 to 3 years since the wells were installed. At a meeting with the agencies and stakeholders on March 8, 2005, GeoTrans gave a presentation on DNAPL mobility. At your request, a paper copy of that presentation was mailed to GRU on March 25, 2005. The last three slides in that presentation specifically address the question “Is creosote still moving?” The last page of that presentation states, “Monitoring well data suggest that the only location with potentially mobile creosote is in the Upper Hawthorn Group and that this is associated with a stratigraphic feature near the middle clay. Downgradient Upper Floridan aquifer wells do not support movement of creosote into the Floridan aquifer based on lack of chemicals detected. Data are not conclusive leading to other possible interpretations.” We continue to examine the issue of DNAPL mobility.

*GRU Bullet #4: Dismissing the fact that the surficial aquifer contains arsenic at 500 times the drinking water standard and supporting the argument that there is no potential for this arsenic to migrate down to the Floridan even with evidence of natural pathways for creosote, large downward hydraulic gradients and arsenic contamination in the Floridan aquifer*

GeoTrans and the Beazer Team have never dismissed the fact that elevated arsenic concentrations exist in the Surficial aquifer and that there is the potential for downward migration. GeoTrans and Beazer East, Inc. have understood and discussed on numerous occasions with the agencies and stakeholders that there are different hypotheses that might explain the presence of arsenic in the Floridan aquifer. As you are aware, Beazer delayed an extensive study of the arsenic issue until GRU’s consultant, Dr. Thomas Pichler, completed his evaluation. His report was not available to us until May 2005. Comments on the report were provided in a letter to GRU from Dr. Richard K. Waddell and Dr. Roman Pyrih dated June 13, 2005. They point out that Dr. Pichler’s report provided “limited analyses in support of the conclusions”, an approach inconsistent with “the best science available” that GRU professes to employ in its September 7, 2005 letter. Drs. Waddell and Pyrih further point out that there are data/observations that are contrary to the hypothesis that the arsenic found in the Floridan aquifer is connected to the arsenic found in the Surficial aquifer, namely: (1) Concentrations in the intervening Hawthorn Group are considerably lower than measured in the Upper Floridan aquifer. (2) In general, concentrations in FW-7 and FW-3 have continued to decline. (3) Elevated As concentrations are associated with recovery of oxygenated water that has been injected into the Upper Floridan aquifer. (4) Elevated As concentrations were also observed in F-6F, which is located more than 8,000 feet to the west of the Murphree Well Field and outside of any potential impact from the Site. Please see this letter for more details. At the close of their letter, Drs. Waddell and Pyrih indicate that, “Beazer is committed to evaluating As geochemistry processes in the Upper Floridan aquifer and to develop technically defensible explanations for the observed concentrations.” Our arsenic study has begun and will include data that will be collected as part of the current Upper Floridan aquifer well drilling effort.

*GRU Bullet #5: Promoting long open boreholes in the Florida[n] that are of limited value in characterizing the magnitude and nature of contamination in the Floridan Aquifer and that allow mixing between zones in the Floridan that could render future multilevel monitoring ineffective*

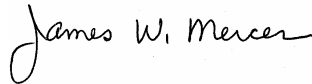
The Beazer Team disagrees that multi-level monitoring is required at this Site. Wells that are completed across the entire Upper Floridan aquifer provide more complete sampling of

permeable zones within the aquifer and provide data that are more representative of groundwater that may be used for a drinking water source. In addition, the Beazer Team proposed a phased approach to evaluating potential impacts in these wells that provided an option for completing the wells to allow for collection of discrete vertical samples.

Finally you requested that “GeoTrans and its staff consider the prospects of contamination in their respective drinking water supplies as it evaluates the Gainesville site. In other words, would GeoTrans accept in its own community drinking water naphthalene at 13 ug/L, one part per billion under the cleanup standard or accept taste and odor problems even though the drinking water might satisfy numeric standards?” We understand that all public water supply utilities strive to provide the highest quality drinking water to their users. All drinking water contains inorganic and organic constituents at various concentrations. Extensive human-health studies have been performed over the years to establish what is safe for public consumption. As a result, federal and state agencies have established standards for constituents in drinking water. As scientists we can appreciate the research used to establish drinking water standards. Similarly, GRU scientists and engineers recognize that the presence of low concentrations of constituents in drinking water is safe; “The presence of contaminants does not necessarily indicate that the water poses a health risk” (The GRU Water Quality Report, 2005). Therefore, in answer to the question posed by GRU, GeoTrans’ staff and family members would accept drinking water that meets federal and state standards, and do so every day.

In conclusion, GeoTrans and the Beazer Team remain committed to protecting the Floridan aquifer and the water supply for the City of Gainesville. The on-going field investigations, monitoring, computer analyses and remedy evaluation demonstrate this commitment. We will continue to use the “best science available” to meet this objective.

Sincerely,



James W. Mercer  
Principal Hydrogeologist  
Florida PG275



James R. Erickson  
Principal Hydrogeologist

cc: Mike Slenska (Beazer)  
Amy McLaughlin (EPA)  
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