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Michael W. Thomas
Attorney
Trainor Robertson
701 University Avenue
Sacramento, CA 95825-6700

Ref: Hidden Lakes Estates Homeowners – Tony Wood / Ted Allegra Properties

Dear Mr. Thomas,

In response to your question pertaining to evidence of the source of the water, that was sampled from the shallow sample points in the two yards, please consider the following:

1. The pond appears to be a man-made impoundment. Fill materials appear to have been used to create a levee between the pond and the subject properties.
2. A hydraulic differential head of about 9 feet exists between the surface of the upper Hidden Lakes Estate Pond and the surface of the sampling points. This would serve as the driving force to move pond water through the subject properties. While the sample points were only three feet deep, the high rates of flow into the well points and the total volume of water available to re-fill the well bore, suggests good flow paths from a plentiful water source. The most available water source is the nearby pond.
3. The chemical content of the water sampled in the various locations appears to have been affected by associated land uses. The chemical analysis of the water in the pond and in the well point samples is supportive of the observation that it is more probable than not the water is moving from the pond through the subject yards. The measurements for Barium, Fluoride, Bromide, Chloride, and Sulfate all demonstrated contributions from the soil to add to the measured levels in the pond water. Only the Allegra well point sample for nitrate did not follow this trend. A comparison of the "sump" water to the pond water is reasonably close with the exception of the reduced nitrate and sulfate which are anticipated to be reduced by the biological growth observed in the cobbles.

Sincerely,



Dr. C. Hugh Thompson, PE, DEE
President
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