

Posted on Sat, Oct. 29, 2005

# Tallevast Plume 'Moving Fast'

**DONNA WRIGHT**

Herald Staff Writer

**TALLEVAST** - The Tallevast plume is almost to U.S. 301 east of the neighborhood and may have reached the Floridan aquifer, perhaps compromising public drinking water, warns an independent geologist who tested residents' private wells.

Samplings from 35 drinking water and irrigation wells reveal a "deep diving plume" that has not been adequately defined, said Michael Graves of Environmental Sciences & Technologies in Lakeland.

Tallevast residents selected Graves, a geologist with extensive experience in investigating underground pollution, to run independent tests on their wells to compare with data collected by Lockheed Martin Corp., the company responsible for cleaning up the pollution.

Lockheed has repeatedly reassured residents that it has defined the plume, now known to measure more than 131 acres. The toxins underground, Lockheed insists, are too deep to be dangerous to the community

But Graves' data paints a different, frightening picture of a fast-moving plume that may be exposing residents to significant health risks.

And the plume is growing, Graves warned.

Graves attributes the plume's movement to changes in pressure.

When Tallevast residents were connected to county water in the summer of 2004 they were told to stop using their contaminated wells. The drop in pressure caused the plume to shift, Graves said.

Meanwhile, residents and businesses surrounding Tallevast that still pump water through private wells are drawing the plume toward their properties, Graves said.

Graves presented his results to Tallevast leaders, their attorneys, state and county health officials and representatives of the Florida Department of Environmental Protection at a meeting held Friday at Mount Tabor Missionary Baptist Church.

Lockheed did not attend because officials did not receive their invitations until late Thursday night, said Gail Rymer, director of communications.

Rymer declined comment, saying she could not discuss data she had not yet seen.

As the owner of the former Loral American Beryllium Co. plant, 1600 Tallevast Road E., when the leak from an underground sump was discovered, Lockheed has assumed full responsibility.

Although Lockheed reported the toxic spill to the county and DEP, almost four years would pass before residents would learn of the pollution under their homes.

Graves' data raises serious questions about Lockheed's data and conclusions, said Tim Varney, a scientist with Chastain Skillman and Tallevast's technical consultant.

Varney described Lockheed's monitoring wells as state of the art, but he said the sampling methods used were not adequate to define the plume. Some of Lockheed's monitoring wells were sampled too early after they were drilled, Varney said. In some cases, the wells were not sampled deep enough to tell how far down the contaminants may have sank.

"This data raises serious questions on whether the plume has been fully characterized, both vertically and horizontally," said Varney. "And Graves' data puts an exclamation point after those statements, especially in regard to the well on Heidi Booth's property."

Booth is a Tallevast cattewoman who refused to let Lockheed Martin Corp. cut a path through her pine forest to drill a monitoring well. But Booth did offer Lockheed permission to test her own 500-foot well used to water her cattle.

Lockheed declined, Booth said.

Graves did run tests on Booth's well. He found contamination that may have compromised the Floridan aquifer, but Graves won't know for sure until he has more data on the well's construction.

Located just west of the Tallevast Post Office near U.S. 301, Booth's well was drilled two years ago. While Graves determined the hole for the well is 500 feet deep, he does not know how far the casing of the well extends down the sides.

Graves found high levels of 1,4-Dioxane almost 20 times the allowable standard at the bottom of the 500-foot hole. If the casing goes all of the way down to the bottom, that means the contamination is at that level and has entered the Floridan aquifer, Graves said.

But if the casing stops somewhere above the bottom, the contaminates could have leaked through the soil from above, he added.

Either way, Varney said, finding 1,4-Dioxane on Booth's property means the solvent has spread far from its source at the former beryllium plant.

That finding is significant, said Graves, because 1,4-Dioxane is very soluble and moves quickly through groundwater, making its presence an indicator of the leading edge of the plume.

But Booth's property is not drawn inside Lockheed Martin's current composite plume map, which the defense giant said marks the edge of the plume.

Varney said Graves' test data on Booth's well challenges Lockheed's cleanup plans, which currently call for removing solvents in the groundwater beneath industrial site primarily through a pump-and-treat method.

"It would be very hard to remediate a plume extending all of the way to 301 by a pump-and-treat method," said Varney. "You could not pump and treat from just one location to remediate a plume this size."

Varney said remediation of the plume would require a distribution of treatment areas throughout the Tallevast community.

Lockheed maintains that it is not necessary to remediate the groundwater contamination in the residential areas because the pollutants are too deep.

Lockheed has proposed removing contaminated groundwater from only under the former beryllium plant.

Limiting remediation to the site of the old beryllium plant would mean Lockheed would only have to meet industrial cleanup standards, which are much lower than residential cleanup levels.

Bill Kutash, DEP's point man on the Tallevast cleanup project, said he could not comment on remediation methods, but he did agree that a larger plume is much harder to clean up than a smaller one.

Tallevast leaders say Graves' data shows the toxins in their backyards present clear health risks and remediation must include the residential neighborhood.

J.B. Harris, an attorney representing Tallevast residents, asked Varney if his data indicates residents have been exposed to higher risk levels than Lockheed has assumed.

"We know 21 of the wells have levels of contaminants that exceed groundwater clean-up standards under the Safe Drinking Water Act," said Varney. "Some of those compounds are carcinogenic and some cause systemic health problems."

Factoring those levels into computer programs to measure exposure risk over time would likely indicate significant excess risk, Varney said.

DEP sampled and tested Tallevast's private wells one year ago. That well survey missed several wells in Tallevast. Graves also questioned how they tests were conducted.

Past tests of private wells did not go far enough or deep enough, said J. Gregory Webb, another attorney representing residents.

"Testing was very inadequate early on," said Webb. "One could say they chose methods to assess the plume that would minimize their results."

Graves said more testing must be done before the true size of the plume is known.

"They have spend a lot of money on the assessment process," Graves said, "but the more that is spent, the more we find out. This will take time."

Graves said he was most surprised by the heavy concentration of 1,4-Dioxane south of Tallevast Road behind the old beryllium plant and east of a golf driving range near Sarasota-Bradenton International Airport.

"It is moving fast," said Graves. "The plume is dynamic, and it is changing all of the time."

Which is why, Graves added, his data and all of the other existing data must be combined into a dynamic three-dimensional model that will show not only the horizontal and vertical characteristics of the plume but also how groundwater is moving through the area known to be contaminated.

Until that model is constructed, any plans for remediation would be premature, Varney said.

Earlier this year, county staff urged Tallevast residents to have their private wells capped, but leaders of the advocacy group FOCUS - or Family Oriented Community United Strong - refused.

FOCUS President Laura Ward told county leaders last winter that capping the wells before they could be independently tested would eliminate any opportunity to test DEP's prior well test data.

Graves' findings, FOCUS leaders said, prove how important it was to keep the wells open.

On Sept. 1, Tallevast residents filed a negligence lawsuit against Lockheed, claiming the plume has damaged their property values and caused emotional distress.<sup>1</sup>

---

<sup>1</sup> There are several issues illustrated by this news article: 1) That test wells can be inadequate to catch a "deep diving plume" from a leaking underground sump. 2) That an unabated leaking underground sump can be a serious threat to the environment. 3) That there is legal liability from residential and business property owners surrounding Chopra's service stations. 4) That Shell, like Lockheed, cannot be solely trusted to assess the risk and clean-up at Satish Chopra's locations. 5) There may need to be a public airing of the problem with an independent investigation of the facts.