From: **Jeanne Zokovitch Paben** <jeanne.pabenlaw@gmail.com>
Date: Mon, Mar 17, 2025 at 2:43 PM

Subject: Lockheed Contamination in Tallevast: Comments from Consent Order Consultant Ramboll on Lockheed's (AECOM) January 2025 Interim Report

To: Bland, Mike <Mike.Bland@floridadep.gov>, Wilkerson, Philip <philip.wilkerson@floridadep.gov>, Sellers, Robert <Robert.Sellers@floridadep.gov>, Smith, Leah J. <Leah.J.Smith@floridadep.gov>, Bahr, Tim <Tim.Bahr@floridadep.gov>

Mike and Bob,

On behalf of Laura Ward and Wanda Washington as Co-Executive Directors of FOCUS and the Tallevast community attached are comments from Ramboll, the scientific consulting firm under Lockheed's consent order with the State, regarding Lockheed's Jan 2025 Interim Report prepared by their consultants AECOM and submitted to FDEP. As you know, Lockheed's plume in Tallevast continues to spread and this interim report discusses additional groundwater sampling that Lockheed conducted to evaluate groundwater contamination recently found which is beyond Lockheed's current ability to capture/clean up.

The Interim Report was submitted because it was determined that additional sampling must be done in these areas to try to more expeditiously document and then hopefully contain the contamination. To that end, it is clear from this report that it is imperative that FDEP mandate additional assessment and immediate additions to the RAP and Lockheed's clean up system to prevent further spread.

Additionally, FOCUS requests that FDEP meet with our consultants and us as soon as possible to discuss the many outstanding directions that have been given to Lockheed Martin but remain unfulfilled. Please let us know when in the next two weeks you can be available.

Thanks

Jeanne

RAMBOLL

ENVIRONMENT
& HEALTH

Ms. Wanda Washington
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Re: Review of AECOM's January 2025 Interim Report, Tallevast Site, Florida

February 25, 2025

Dear Ms. Washington,

At your request I have reviewed the *Interim Report Groundwater Level and Analytical Results* (AECOM; January 2025) for the Tallevast Site. This report describes a recent (December 2024), limited ground water sampling investigation in areas north and southeast of the Lockheed Martin Corporation (LMC) facility on Tallevast Road in Manatee County, Florida (the "Site"). The purpose of this investigation was to further evaluate the progress in reestablishing the historic capture zone in the Upper Shallow Aquifer System (USAS) following several hurricanes in the Summer 2024, and to confirm the detection of contaminants (principally 1,4-Dioxane [1,4-D]) in certain monitoring and extraction wells. Having completed my review of this report, I would offer the following observations.

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Water Levels and Capture Zones in the USAS

Following the excessive rainfall and infiltration caused by the passage of the three hurricanes near or through Manatee County in the Summer 2024, groundwater levels in the USAS rose approximately five feet in areas north and southeast of the LMC facility.[1] In both areas (N and SE) this resulted in a shrinkage of the historic GRTS capture zones, such that contamination was now beyond the capture zone boundaries of the USAS to a moderate (N) or significant (SE) degree. To try to recover this contamination and restore the aquifer control, LMC restored continuous pumping of the aquifer, presumably at its "normal" rates, following the approval of the County to resume GRTS operations. By December 2024, this pumping has lowered the water table approximately two feet from its peak, resulting in some gradual restoration of the capture zones towards their historic norms. Particularly in the SE area, however, this water table rise caused a new spread of 1,4-D contamination to a degree that is likely beyond LMC's ability to capture it with the current pumping system. Specific observations in both areas are as follows.

[1] This rise in water level was in part due to the large rainfall in these storms, but also in part to the suspension of ground water pumping during/following the storms at the direction of Manatee County.

North

North of Tallevast Road the capture zone by August 2024, as depicted in the 2024 RASR, shrank approximately 200 feet to the south due to the rise in water levels (see *Interim Report*, Figure 1A), such that certain contaminated wells (e.g., EW-2012) were no longer within the capture zone boundary. With continued pumping, by December 2024, the historic capture in this area was nearly fully restored, such that there was probably little to no expansion of the area of 1,4-D contamination remaining over this time. I note, however, that in the December measurements of water levels in the north area there is an over-reliance on measurements in extraction wells on the south side of the 1,4-D plume to draw the Water Level Contour Map. As previously stated in prior communications, there are different purposes of extraction wells vs. monitoring wells. I have previously raised concerns about using extraction wells to depict contamination levels. Similarly, it is not good field practice to use extraction wells for water level measurements, as the water levels in wells that are being pumped are artificially lowered in the well casing by the pumping and do not reflect the true ground water level in the aquifer. As a result, the water table configuration depicted in Figure 1A is noticeably steeper on the south side as compared to the historic mapping in this same area. Monitoring wells should have been measured instead, as has been the practice in the past for water level measurements in this area. LMC should correct this error in future water level monitoring/mapping events.

Southeast

In the southeast area the capture zone by August 2024 had retreated to the north approximately 500 feet (see *Interim Report*, Figure 1B) such that a significant portion of the southeast 1,4-D plume between and around PZ-USAS-17 and -18 was no longer within the bounds of the capture zone. With continued pumping, by December the capture zone slightly expanded back to the south approximately 100 feet, but PZ-USAS-17 and -18 still remain outside its boundary. At the current rate of expansion, and without any significant rainfall, it will likely be some time mid-2025 (Summer months) before the capture zone in this area approaches its historic southern norm around/near PZ-USAS-18. As discussed below, this loss of capture has allowed the 1,4-D plume to expand in the southeast area.

Finally, I note that a number of important monitoring wells/piezometers in the southeast area continue to be overlooked in the water level surveys. The “data” for these wells are being reported as “NM” – no measurement. These wells were modified early in 2023 to protect them against damage during the construction of Project Woodworking and have not been resurveyed since that time, although the wells have been accessible for sampling water quality. As a result, there has been a lack of hard water level data, and an overreliance by AECOM on “professional judgement”, in depicting the southern boundary of the capture zone in the southeast area throughout 2024. In my opinion, AECOM’s “judgement” has overstated the significance of the drainage ditch on the north boundary of the Project Woodworking property in controlling local ground water movement, and the resulting capture zone in February 2024 as depicted on Figure 8A of the 2024 RASR implies it is further south than the actual water level data supports. The pre-hurricane, stable capture zone in this area following construction of the Amazon pond is more likely near or just above PZ-USAS-18, as depicted for August, 2023 on Figure 8 of the 2023 RASR. It is important to the integrity of the remediation program that judgements about its

effectiveness in controlling contamination migration be based on hard data, not conjecture. AECOM should immediately take whatever steps are necessary to restore these wells as reliable locations for measurement of ground water levels. Any conclusions being made until this time about the effectiveness of the GRTS to control contaminant migration in the USAS to the south are not being supported by hard data.

Water Quality in the USAS

Groundwater from limited wells north and southeast of the LMC facility were retested in December 2024 for 1,4-D. To the north, the testing indicates that the plume remained stable as compared to recent historic measurements, with only minor changes in concentrations. I note though that one well (MW-116) on the extreme northwest edge of the monitoring network where 1,4-D was detected for the first time in August, 2024 was not retested, although water level measurements were taken here. I understand LMC believes the 1,4-D in this well is from a Tropitone facility several hundred feet to the north and that this is separate from its own 1,4-D plume. However, I have seen nothing in response from FDEP to indicate that it has concurred with this conclusion nor that it believes such concern should obviate LMC's responsibility to continue to monitor this area.

In the southeast area the rapid rise in the water table in the Summer 2024 caused a significant outflow of 1,4-D in the USAS to the southeast from the area of PZ-USAS-17. As a result, there is now a continuous area of contamination with concentrations above the GCTL (3.2 ug/L) extending from PZ-USAS-17, through PZ-USAS-18, to at least as far as PZ-USAS-19. Two other wells even farther south (MW-260 and 261) are also now showing 1,4-D contamination, albeit still below the GCTL. Previously (pre-hurricanes), the concentrations being reported in PZ-USAS 18 and 19 in August 2023 were below the GCTL and "Not Detected" was being reported in MW-260 and 261. I also note that 1,4-D concentrations in December 2024 were even higher as compared to August in these same wells. The extent and magnitude of the 1,4-D in this outermost area of the southeast plume is apparently still growing despite AECOM's restoration of pumping.

Even if the historic capture zone is eventually reestablished later this year, it is likely to be positioned near or just north of PZ-USAS-18, as depicted in the 2023 RASR for August 2023. The contamination that currently exists beyond, south of this well is likely not recoverable with the current pumping system, particularly with the year-round infiltration from the unlined Amazon pond, which supports the formation of a low hydraulic divide off its western end. Absent the extension of new pumping systems into the area beyond PZ-USAS-18, 1,4-D will likely continue to drift south/southeast and further disperse in the USAS ground water. Given that concentrations in some wells are above the GCTL and in others currently still increasing, it is important that AECOM continue to monitor this migration (with both water level and water quality testing). This should include the piezometers along with the permanent monitoring wells. Since the contamination in the SE area is still migrating and there is likely no ability with current pumping systems to fully capture/remove it, LMC should begin considering what additional remedial actions may be warranted. This is a topic that should be explicitly addressed in the next (2025) RASR, if not before, after a new, more "stable" position of the plume and capture zone have been verified in the August 2025 sampling event.

Additionally, I understand from discussions with FOCUS that the affected properties, in addition to Project Woodworking, include a proposed multi-family community just south of the Amazon facility, and a plumbing supply facility just north of Project Woodworking. Without additional remediation in this area the 1,4-D contamination of the USAS will likely become a longer-term condition under these properties, as ground water movement is slow and 1,4-D is a relatively stable compound. In this case it is important that the current/future owners of the affected properties are notified and made aware of the condition so they can plan for it in the development of their projects.

If you have any questions regarding these thoughts and comments on this *Interim Report*, I would be happy to discuss them with you further.

Very truly yours,

Robert L Powell, PhD, PE
Principal