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June 25, 2025

Mrs. Laura Ward, Executive Director
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**Subject: FDEP Review of 2024 Remedial Action Status Report Dated October 31, 2024
Lockheed Martin Tallevast Site (Former American Beryllium Company Site)
1600 Tallevast Road
Tallevast, Manatee County, Florida Project
Number PRJ108482**

Dear Mrs. Ward and Mrs. Washington:

RES Florida Consulting, LLC (RES) is pleased to submit this letter in response to FDEP's April 14, 2025 letter (Review Letter) addressed to Lockheed Martin Corporation documenting FDEP's review of the 2024 Remedial Action Status Report (RASR) dated October 31, 2024 for the Lockheed Martin Tallevast (former American Beryllium Company) property ("the Facility"). The Site consists of both the Facility and the surrounding area where groundwater is impacted by the chemicals of concern.

FDEP's Review Letter states that they have reviewed the 2024 RASR and that their comments are outlined in an attached District Support Program (DSP) Review Memorandum dated March 27, 2025 (DSP Comments). The Review Letter states that the 2025 RASR shall be submitted to FDEP no later than October 31, 2025 and that the RASR should address the DSP Comments in that report.

We are concerned that the review letter does not require a timely response to comments as is ordinary for cleanup sites. Our concern is heightened because we have observed a pattern of Lockheed Martin dismissing FDEP's requests and FDEP responds with little scrutiny or the requests are dropped without a paper trail explanation. We have been unable to determine why FDEP does not require proper responses to their requests for this project as they do with other regulated parties. To demonstrate our specific concerns, this letter is organized in the following three sections:

- Comments related to FDEP's 2024 RASR Review,
- Examples of FDEP comments from the previous RASR, issued in 2023, that have never been sufficiently addressed but are no longer being discussed by FDEP, and
- Ongoing concerns that we have expressed and received no response.

FDEP'S 2024 RASR REVIEW COMMENTS

FDEP's 2024 RASR review comments state that the DSP reviewer concurs with AECOM's recommendations. However, in the comments there are two places where FDEP asks questions or requests Lockheed Martin perform additional work. Specifically, in the last paragraph of the DSP Comments it states that in the 2023 RASR, Lockheed Martin indicated that they were adding EWPARM for EW-2015, EW-2012 and EW-5002. In the 2024 RASR, they indicated that they were continuing EWPARM at EW-2015 and EW-5002 but do not indicate that EWPARM would be continued at EW-2015, and FDEP asks

Lockheed Martin about this discrepancy, but then in the Review Letter it indicates that Lockheed Martin should address the DSP Comments in the 2025 RASR. Additionally, in paragraph #4, of the DSP Comments, FDEP recommends "that PZ-USAS-19 also be included in the 2025 semi-annual and annual groundwater sampling events". However, as previously said, in the Review Letter it indicates that Lockheed Martin should address the DSP Comments in its 2025 RASR. It is notable that the FDEP does not require written confirmation, explanation, or response to the comments outlined in the Review Letter as is typical with other regulated cleanup sites, including in its past reviews for this site.

COMMENT RESPONSES FROM THE 2022 RASR YET TO BE ADDRESSED BY LOCKHEED MARTIN AND NO LONGER BEING RAISED BY FDEP WITH NO EXPLANATION PROVIDED TO THE COMMUNITY

We reference comments outlined in FDEP's RASR Review letter dated April 5, 2023 and DSP Review Memo dated March 6, 2023 in reference to the 2022 RASR directing responses and/or action by Lockheed Martin and Lockheed Martin's failure to act or respond, or its insufficient responses below:

FDEP Comment: *An additional Lower Surficial Aquifer System (LSAS) monitoring well should be installed adjacent to MW-260 to help delineate the extent of 1,4-dioxane in the LSAS.*

Lockheed Martin responded to this request stating that they will install this monitoring well as third party development activities allow. This generic reference to third party development has occurred multiple times, but Lockheed Martin has not provided nor has FDEP requested specific information on the development and why it precludes meeting this obligation. Lockheed Martin has drawn downgradient LSAS plume lines based on data from monitoring wells that are over 1/3 of a mile apart, leaving the downgradient area between them unassessed. **We have been requesting delineation of the LSAS since our first review letter in 2021 which was developed from our review of the first five RASRs (2014-2019). It then took four years for FDEP to require this assessment, and it has now been over two years since FDEP requested the monitoring well, and it still has not been installed. Without this well the LSAS remains undelineated.** Given the importance of this data Lockheed Martin should make the effort to access the area of the site and comply with FDEP's request in a timely manner.

FDEP Comment: *A Direct Push Technology (DPT) investigation should be conducted in the area between monitoring wells EW-2035 and MW-27 to help delineate groundwater contamination in the Upper Surficial Aquifer System (USAS) in this area. Following the investigation, a plan for the installation of permanent monitoring wells that will define and monitor the USAS in this area should be presented.*

This comment followed a FDEP February 4, 2021 memorandum to Lockheed Martin, where FDEP commented that there are several hot spots where contaminant concentrations remain quite a bit above the cleanup goals. Undetected hot spots in the shallow groundwater could be a source of vapor encroachment into homes and cause community exposure to volatile contaminants of concern.

Lockheed Martin responded to the request for DPT investigation by stating that it was not warranted. FDEP continued to require the DPT investigation in a response dated June 30, 2023 as follows: *The Department maintains that the DPT investigation in this area is needed and should be conducted as requested because it is important for the owner of private residences in this area to know what the levels of groundwater contamination are beneath their properties. The monitoring wells being used to delineate the groundwater contamination in this area are too widely spaced to provide adequate delineation of contamination."*

Lockheed Martin responded referencing an apparent meeting with FDEP in September 2023 asserting their opinion that assessment is not warranted because they conducted a Vibra-Push assessment in 2004 and installed a large amount of monitoring wells (in 2005 and 2006) to “establish the horizontal and vertical boundaries” within each impacted stratigraphic unit of the 200-acre plume.

This response is misleading and insufficient justification for not conducting the assessment requested by FDEP. Avoiding conducting an assessment in the “hot spots” in the middle of a vulnerable population is unacceptable. The nearly 20-year-old data referenced did not include assessment of the shallowest groundwater in the residential area that is the most viable pathway exposure for the residents. Also, the deeper testing that they did conduct showed high concentrations of PCE and TCE but also did not include 1,4-dioxane as an analytical parameter. As FDEP said, this information is not adequate for the owners or private residents to know the levels of groundwater contamination beneath their properties.

Lockheed Martin did not comply with this request, and Lockheed Martin has not addressed this in the last two RASRs. Further, FDEP has done nothing to move this issue forward in its RASR Reviews, and the community was never provided a reasonable explanation why FDEP is allowing Lockheed Martin to ignore this request for conducting shallow groundwater assessment in the area of the community members’ homes.

FDEP Comment: *AECOM should further consider if the GRTS is affecting area wetlands, and if so, if there are steps that could be taken to lessen the dewatering of TW-6 wetland and restore its hydroperiod in the near-term, while maintaining the effectiveness of the GRTS for contaminant removal and migration control.*

In response to this comment, Lockheed Martin acknowledged that the extraction system, discontinuing of recharge gallery RC-7002 operations and regional drought conditions affected the water levels in TW-6. RC-7002 was discontinued to improve the capture of the contamination spread outside of the southeastern portion of the capture zone. Lockheed Martin further indicated that the newly (2021) constructed Amazon stormwater retention pond enabled them to restart discharging water into RC-7002. Lockheed Martin stated that they would discuss findings and recommendations in the next Wetlands Monitoring Report. They then presented a case to eliminate monitoring the last reference wetland altogether but this request was rejected by Southwest Florida Water Management District (SWFWMD). However, ultimately Lockheed Martin was allowed to designate a reference wetland located within the area of influence of the GRTS. According to FDEP, a reference wetland is “a wetland that is considered good quality and is surrounded by natural land uses, with no external anthropogenic influences.” Lockheed Martin instead selected this highly impacted wetland that has been under the influence of the groundwater pumping since 2013. No regulatory agency has since challenged this. Even if this was an oversight, we pointed this out in our letter reviews of that RASR and the wetland monitoring report. **A regulatory compliant reference wetland should be established and monitored to properly evaluate the impact of the remediation system on the community’s wetlands.**

FDEP Comment: *The groundwater model should be rerun to include changes to the plume and capture zones.*

Lockheed Martin responded to this comment by stating that the groundwater flow model is updated every six months and the solute transport portion is updated annually. They further indicated that the results of the modeling are submitted to FDEP in five-year increments in the appendix of an annual RASR and that the next model update was expected to be included in the 2024 RASR.

Lockheed Martin did include a 2023 updated model in an appendix of the 2024 RASR but with no explanation or discussion within the report text. Consistent with the 2018 model, the 2023 version continued to predict contamination outside of the capture zone and conflict with Lockheed Martin’s RASR maps. FOCUS brought this to FDEP’s attention in 2019 and again

this year, requesting that an independent review of the model be conducted. This conflict between the model and the capture and plume boundary estimates has never been acknowledged nor addressed by Lockheed Martin or FDEP.

Additionally, while Lockheed Martin contends that they update the groundwater flow model every six months, the 2023 model does not take into account the six-acre stormwater pond associated with the Manatee County Transit facility constructed in 2016, nor the five-acre pond associated with the Amazon warehouse that was constructed in 2021 and used to justify restarting recharge gallery RC-7002 in the previous comment. In contrast, reference wetland 3 (RW-3) that Lockheed Martin removed from the wetland monitoring plan due to it being permitted to be impacted by development remains part of the modeling analysis. This demonstrates the model is not being properly updated or the updates are inaccurate.

Although a response to FDEP's comment was provided and it was indicated that the model would be rerun, the concerns of the model run conflicting with Lockheed Martin's data and failure to update the model using more current hydrological conditions have not been addressed or acknowledged by FDEP or Lockheed Martin. We continue to request that FDEP require that Lockheed Martin rerun the model including the correct surface water features in the area to ensure the most accurate data is used to predict the plume configurations and capture zones and that FDEP use staff or if needed, outside experts, to perform an independent review of the model. The model outputs should be compared to the plume and capture zones and reconciled.

FDEP Comment: *EWPARM groundwater sampling logs should be provided.*

Lockheed Martin responded to this comment stating that extraction well samples are collected from sample ports in accordance with the FDEP's Standard Operating Procedures for drinking water sampling. This confirmed our concern that Lockheed Martin draws plume and capture zone boundaries using the results of these dynamic "drinking water" style samples instead of groundwater samples in several areas. We have pointed this out to FDEP on several occasions and requested that proper groundwater monitoring wells be used to delineate the contamination and capture zones. This has never been done. **Lockheed Martin's answer to FDEP's question merely confirmed the underlying concerns about the improper use of this data to determine the extent of the plume and reach of the remediation system. Yet, this failure has never been acknowledged or addressed by FDEP or Lockheed Martin.**

FDEP Comment: *Justification for eliminating private wells from the sampling plan should be provided.*

Lockheed Martin has eliminated monitoring all but two private wells and when asked to provide justification for removal of private wells from monitoring, incorrect and confusing information was provided to FDEP. Lockheed Martin stated that "a total of six private wells have been included in the groundwater monitoring program since start up" and four of the six private wells have been removed from the monitoring program, with two remaining in the program and then proceeded to justify removal of the four wells from monitoring. Per Table 13-1 of the 2009 RAPA, there were actually eight private wells to be monitored. These additional private wells were part of the approved monitoring plan, and Lockheed Martin excluded them from their answers and is no longer monitoring them:

- 1201 Tallevast Road
- 2105 Tallevast Road
- 8005 15th St E

We note that one of the private wells that is no longer being monitored, which was only sampled one time and displayed a 1,4-dioxane concentration of 95 ug/L, was never sampled again. It was abandoned without rationale and never replaced or discussed further. Lockheed Martin has yet to provide sufficient justification and reasoning for ceasing monitoring these three private wells or their status.

Also, one of the private wells that had been monitored since 2009 without a GCTL exceedance has recently experienced an increase in concentrations of 1,4-dioxane. More specifically, in the 2024 RASR it was reported that a concentration of 1,4-dioxane was identified above the GCTL for the first time. The private well was resampled in September and December 2024 and the results were below the GCTL. The results are as follows:

Private Well Groundwater Data Collected in 2024 7561-7571 15 th St E	
Sample Collection Date	1,4-dioxane concentration in micrograms per liter
August 13, 2024	4.0
September 12, 2024	2.1
December 2, 2024	2.5

Lockheed Martin recommended increasing sampling frequency to quarterly beginning in December 2024. It should be strongly noted that this private well is at a residential property and the top of the screen is at 30 feet below ground surface. We highlight this so that FDEP is diligent in enforcing the quarterly monitoring and consider having Lockheed Martin abandon all private wells in the community. This demonstrates that a private well can be uncontaminated for many years but as the concentrations fluctuate, they can increase to above GCTLs and go unnoticed because Lockheed Martin is not sampling them anymore. **All private wells in proximity to the contamination plume should be removed from service and the properties connected to public water supply, especially because they are not being monitored. Even if properties are now connected to public water supply, the potential exposure pathway continues to exist as there is no limitation on how this water may be used on private properties.**

ONGOING CONCERNS THAT HAVE NOT BEEN ACKNOWLEDGED OR ADDRESSED

Additional concerns that we identified during our review of the 2024 RASR and previous documents are outlined below and more detailed information about our discussions throughout this letter can be reviewed in our letters dated January 11, 2021 (2020 and earlier RASR Reviews), December 20, 2021 (2021 RASR Review), February 1, 2023 (2022 RASR Review), December 29, 2023 (2023 RASR Review) and January 23, 2025 (2024 RASR Review):

The updated model report shows that the southeast edge of the capture zone does not reach the extent of the 1,4-dioxane plume in the USAS. This area that was never properly assessed has been a vocal concern of the community dating back to the approval of the 2009 RAPA and it has still not been sufficiently addressed. We remain concerned that the horizontal delineation relies on monitoring wells located 600 feet (east) and 1,000 feet (west) away, and therefore, cannot be considered sufficient for knowing where the contamination is, forecasting its migration path, or confirming the extent of the capture zone. **USAS monitoring wells closer to PZ-USAS-19 are needed to properly characterize this area of contamination. The groundwater elevations in the monitoring wells and piezometers in this area should be monitored to confirm the capture zone. This was Initially brought to FDEP's attention in our RASR review letter dated January 11, 2021 and discussed in subsequent letters.**

The leading edge of the plume in the southeast is not properly vertically delineated. Further, the vertical delineation of 1,4-dioxane at PZ-USAS-19 is based on a LSAS monitoring well that is located about 300 feet northwest (upgradient) of PZ-USAS-19, meaning that there is no deeper monitoring well either downgradient or below PZ-USAS-19. We insist that even with the additional sampling being proposed, the area is not properly assessed. **Deep monitoring wells closer and southeast of PZ-USAS-19 are needed to properly characterize and delineate this area of contamination. Previous**

efforts in this area have not been successful in delineating or controlling the plume, and it continues to spread. Urgent action should be taken to stop and recover the contamination spread. This was Initially brought to FDEP's attention in our RASR review letter dated January 11, 2021 and discussed in subsequent letters.

The plume has been substantially impacted by severe storm events. Plans should be put in place to reduce the future effects of severe storms. Because of Hurricane Debby, Manatee County required that Lockheed Martin temporarily cease discharge of the groundwater recovery system to the POTW and the remediation system was temporarily shut down for four days. This impacted the ability of the system to capture the plume. Maps from a monitoring event conducted three weeks later show the contamination plume extending beyond the capture zone in both the northwest and southeast areas. It is expected that with the lack of pumping and heavy precipitation this severe weather event may have exacerbated plume spread. These are two areas of the plume where we have repeatedly expressed concerns about the system being insufficient to recover and treat the plume. **FDEP should require an interim assessment of the impact of these storms, report any system outages that may have occurred, and remedial measures needed to abate the impact. Additionally, with the increased frequency of severe storm events, Lockheed Martin should prepare a severe event response plan to include resilient remedial and reporting strategies. This was brought to FDEP's attention in our 2024 RASR review letter dated January 23, 2025.**

Accurate groundwater elevation data and scrutiny of potentiometric figures are needed to properly determine the capture zone, which is critical to stop the on-going spread of the plume. The 2024 RASR map includes an estimated capture zone from a February 2024 event to show both a pre-hurricane and more ordinary condition. The capture zone in that area is inferred because of a lack of monitoring well coverage further south. We note again that the 2023 model shows the capture zone in the southeast to fall short of where contamination is documented. Because of the lack of historical assessment in that area, insufficient elevation data south of the capture zone, and with inconsistencies between the model and Lockheed Martin's predictions, the groundwater recovery system has been shown to be inadequate to prevent the contamination from migrating to the southeast even prior to the hurricanes. **We recommend that groundwater elevation measurements for monitoring wells MW-259, MW-260, MW-261, PZ-USAS-18, PZ-USAS-19 be added to the regular elevation monitoring schedule so that Lockheed Martin can depict a proper capture zone (not an estimated, dashed line) in the downgradient area of plume spread. This was Initially brought to FDEP's attention in our RASR review letter dated January 11, 2021 and discussed in subsequent letters.**

We have also repeatedly pointed out that there is insufficient information to substantiate the capture zone boundaries, more broadly. In several additional cases, the groundwater elevations within the capture zone within the USAS are at lower elevations than those from inside the capture zone. There are numerous locations where there are no data points to estimate the capture zones at all. **We urge an independent expert review of the potentiometric figures and the groundwater model to confirm the extent of the estimated capture zones and to determine additional data points necessary to substantiate the estimated capture zone configuration. This was Initially brought to FDEP's attention in our RASR review letter dated January 11, 2021 and discussed in subsequent letters.**

Groundwater remediation effectiveness is stalling in the northwest area of the plume. In the northwest area, more than two million gallons of groundwater have been recovered from EW-2011, EW-2012 (extraction wells closest to the plume). While EW-2011 has shown a decrease of 1,4-dioxane concentrations since 2013, concentrations of 1,4-dioxane in samples collected from EW-2012 have shown little net improvement over time. Additionally, the groundwater concentrations of 1,4-dioxane for the two indicator monitoring wells in that area, MW-108 and MW-109, have gone from 6.6 micrograms per liter (µg/L) to 5.2 µg/L and 12 µg/L to 13 µg/L since 2009. Review of this data suggests that the model is correct in estimating that the plume is not being properly recovered in that area and that a more aggressive and focused remedial strategy is appropriate. However, Lockheed Martin has made no changes to the GRTS in this area, nor discussed why it does not need to address the model's findings. **This supports our previous and current request to have the model independently reviewed and the remedial action strategy re-evaluated. This was brought to FDEP's attention in our 2024 RASR review letter dated January 23, 2025.**

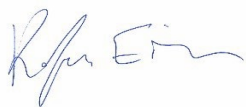
There are no vertical wells delineating the plume in the western portion of the plume. The locations where the highest concentrations of 1,4-dioxane, TCE and 1,1-dichloroethene (1,1-DCE) are from monitoring wells on the golf course and the private property to the south. The highest concentrations are measured from dynamic samples collected from extraction wells which, as outlined above, should not be used to define plumes as they are not representative of static groundwater conditions. There are no deeper wells in this area to define the vertical extent of impacts beneath this most contaminated area. **We recommend AF gravel wells be installed in the golf course to delineate the vertical extent of contamination in the area of the highest contaminant concentrations in the LSAS. This was Initially brought to FDEP's attention in our RASR review letter dated January 11, 2021 and discussed in subsequent letters.**

We strongly recommend that FOCUS' concerns be taken into consideration by FDEP and Lockheed Martin and addressed and that the community be informed of FDEP's decisions and rationale for not requiring Lockheed Martin to comply with their requests.

We appreciate the opportunity to offer our professional services to you. If you have any questions concerning our evaluation, please contact us at 954-484-8500.

Sincerely,

RES Florida Consulting, LLC dba E Sciences



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