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Re: Lockheed's Response to FDEP's Comments on the 2022 RASR.

Dear Ms. Washington,

I recently received and reviewed Lockheed's response, dated May 23, 2023 to comments by the Florida Department of Environmental Protection (FDEP) on the 2022 Remedial Action Status Report (RASR). In this response Lockheed stated its position with regard to a number of additional work items that FDEP had requested for the remedial action currently ongoing at the Tallevast Site. The purpose of this letter is to respond further to this Lockheed communication.

In a prior letter, dated May 5, 2023, I noted that FDEP was requesting Lockheed to undertake additional work in four areas[1] that I had previous recommended in my own comments on the 2022 RASR. These included:

- Continued monitoring for 1,4-D in four USAS piezometers in the Southeast area;
- Installing a new monitoring well in the LSAS near MW-260 to monitor the southern boundary of the LSAS 1,4-D plume;
- Conducting a DPT USAS investigation in the residential area south of the Lockheed facility to better define the boundary of the area that is noncompliant with GCTLs; and
- Further investigation of the impact of GRTS pumping on the TW-6 wetland and evaluation of steps to lessen this impact.

In its response to FDEP's comments, Lockheed agreed to install the new LSAS monitoring well near MW-260 to further delineate the southern boundary of the 1,4-D plume in this aquifer. It also noted recent changes to the GRTS operations to restart the RC-7002 infiltration trench near the TW-

[1] Another (fifth) recommendation in my prior comments on the 2022 RASR involved further investigations of the GRTS performance in the USAS wells north of the Lockheed facility across Tallevast Road. FDEP stated in a subsequent letter to FOCUS that *" …we have also concluded that the reduction in contaminant concentrations in this area appear to have reached a point that would warrant some changes to the remediation system to speed up the cleanup…"* , but it did not indicate what specifically it wanted to see done. It also did not address this issue in its subsequent RASR comments to Lockheed, so it is unclear at present how/whether FDEP intends to pursue this issue.

6 wetland[2], and noted this would have a beneficial impact in restoring the natural hydroperiod of this wetland. Both actions are warranted and provide a positive next step to addressing the underlying issues.

With regard to the remaining two work items in FDEP's comments noted above, Lockheed declined to undertake the work FEDP was requesting. First, regarding the continued testing of piezometers PZ-USAS-15 through 19 for 1,4-D, Lockheed stated that these monitoring points are intended for water level measurements only, and their prior use for measurement of water quality has since been replaced by permanent monitoring wells in the same area. The area in question is in the heart of the 1,4-D plume that was discovered in the Southeast Area when the piezometers were first tested. The new monitoring wells Lockheed is referring to are located along the western and southern boundaries of this plume area and monitor the periphery of the plume, and hence provide no information on the disposition of the core of this plume by the continued operation of its GRTS. Lockheed is now (in 2022) mapping the boundary of the 1,4-D plume as lying between PZ-USAS-17 and -18, but this is a conclusion that it cannot demonstrate by actual testing data. The last time these piezometers were tested in 2021, both piezometers had 1,4-D concentrations well above the GCTL.

The importance of the water chemistry data these piezometers provide is further heightened by Lockheed's recent conclusion that the Amazon stormwater pond is helping to contain the southern migration of the 1,4-D plume to the southeast, a conclusion that it uses as a rationale to support its decision to restart the operation of the RC-7002 infiltration trench near TW-6. This conclusion is not obviously demonstrated, however, by the water level data in the 2022 RASR, but is seemingly directed more by the observed decline in 1,4-D concentration in PZ-USAS-19, which Lockheed retested in 2022. The coincident impact of pond seepage on concentrations in piezometers PZ-USAS-17 and -18 (which lies closer to the pond and are more reflective of the core of the plume) is unknown, as these two piezometers were not retested in 2022. At this point it is unclear, therefore, if the pond seepage is in fact containing the 1,4-D plume or is rather causing it to dilute and disperse over a larger area. None of the new monitoring wells Lockheed has constructed in the Southeast Area replace the important monitoring information these piezometers can provide regarding these questions about the influence of the Amazon stormwater pond and the longer-term disposition of the core of the 1,4-D plume, because most of these wells lie too far to the south and west to provide useful information. I would, therefore, encourage FDEP to insist that Lockheed restore the use of these piezometers for 1,4-D monitoring.

Second, Lockheed declined to undertake the DPT investigation FDEP requested in the residential area south of its facility. Their rationale for this declination focused on the question as to whether the plume is captured and contained by the current pumping system. This focus on the question of containment in the periphery areas, however, overlooks the fact the much of the more interior areas overlying the plume are private residential properties, and it is important to the future use and value of those properties as to whether the shallow groundwater beneath them remains contaminated after nearly a decade of Lockheed's remedial efforts. The currently mapped

[2] Lockheed has asserted that the restart of the infiltration trench is warranted because the seepage from the unlined Amazon stormwater pond is now helping to contain the migration of the 1,4-D plume in the Southeast area. This is a conclusion that has not yet been discussed or demonstrated in Lockheed's past RASRs or other publicly published reports.

boundary of the GCTL exceedances for CVOCs in the USAS aquifer in the 2022 RASR is shown as lying east of the rail ROW (see RASR Figure 13F), i.e., outside the residential area. The wells used to map this boundary, however, are too widely spaced to allow for accurate delineation, and one of these wells (EW-2035, the only one of the two that currently shows CVOCs below the GCTL) is used for water extraction and hence is subject to dilution effects from the pumping. A DPT investigation of the area south of the Lockheed facility and west of the rail ROW would provide more accurate information to confirm whether or not the USAS in this residential area currently meets the GCTLs as Lockheed is depicting, and also to more accurately define the extent of the persistent CVOC hotspot that remains in the area of MW-27. FDEP should insist, therefore, that Lockheed undertake this investigation which it has already requested.

Finally, I would reiterate the comments I have made regarding the need for a further investigation of the performance of the GRTS in the USAS north of Tallevast Road. This area has shown little to no improvement in water quality for 1,4-D since the GRTS began operation and clearly something more needs to be done to remove the contaminants more effectively from the shallow aquifer. In a recent letter to FOCUS FDEP seemingly agreed that more needed to be done but did not state what specific steps it had in mind. Neither did it follow-up with Lockheed in its recent comments on the 2022 RASR. To facilitate further discussion on this topic, I outlined my thoughts on the detailed steps that could be taken to this end in my prior letter of May 5, 2023. I would encourage FDEP to further consider my proposed steps to investigate this issue, and to follow-up with Lockheed on the need for additional work to improve the GRTS performance in this area north of Tallevast Road.

Very truly yours,

Robert L Powell, PhD, PE
Principal