

Smith, George

From: Madden, Melissa
Sent: Monday, April 18, 2022 10:04 AM
To: SWD_Waste
Subject: FW: Enterprise Road Class III Recycling and Disposal Facility - Response to inspection comment
Attachments: Enterprise response to 01_28_22 inspection gw issue 4_15_22_FINAL.pdf

Please feel free to contact me with any questions or concerns.

Thanks, Melissa

From: John Locklear <john@locklearconsulting.com>
Sent: Friday, April 15, 2022 2:34 PM
To: Tafuni, Steven <Steven.Tafuni@FloridaDEP.gov>; Madden, Melissa <Melissa.Madden@FloridaDEP.gov>
Cc: John Arnold <john.phillip.arnold@gmail.com>; Pradeep Jain <pjain@innovativetec.com>; ljbaker23@outlook.com <lisa@locklearconsulting.com>; Walker Wrenn <walker@locklearconsulting.com>
Subject: Enterprise Road Class III Recycling and Disposal Facility - Response to inspection comment

EXTERNAL MESSAGE

This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.

Good afternoon,

Attached please find our response to Comment 1.6 of the Department's February 24, 2022 correspondence. Please feel free to call me to discuss.

Best regards,

John Locklear, P.G.
President
Locklear & Associates, Inc.
(352) 682-0781



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April 15, 2022

Mr. Steven Tufani

Florida Department of Environmental Protection - Southwest District

13051 N. Telecom Parkway, Suite 101

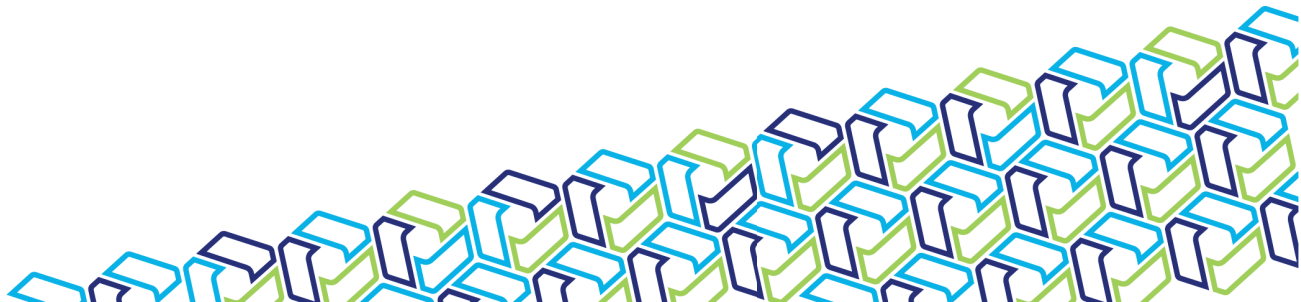
Temple Terrace, FL 33637-0926

RE: Angelo's Recycled Materials
Enterprise Road Landfill & Recycling Facility
Facility ID No.: 87895
FDEP Inspection Letter Dated February 24, 2022: Response to Comment 1.6

Dear Mr. Tufani:

On behalf of Angelo's Recycled Materials, I am writing in response to the Department's letter of February 24, 2022. Specifically, our response addresses Comment 1.6 from the Department's January 28, 2022 site inspection report which reads as follows:

The 2nd semi-annual (SA) 2021 Groundwater Monitoring Report (GWMR) was received on 12/23/2021. A complete review of historical data and trend analysis was not performed, however, recent exceedances of primary drinking water standards at certain wells were noted during the last several events, including mercury at MW-5BR (a designated Floridan compliance well) and benzene at MW-7A (a designated shallow aquifer detection well). An evaluation of the Mercury exceedances was provided in the 1st SA 2021 GWMR in accordance with Rule 62-701.510(6)(c), F.A.C., however, trending appears to indicate an increasing trend in this location following this evaluation. The evaluation does not appear to provide an explanation as to the source of the Mercury. Since this is a compliance well, corrective actions in accordance with Chapter 62-780, F.A.C. may still be necessary. Additionally, no discussion on benzene exceedances in MW-7A appear to have been included in corresponding reports. Note that



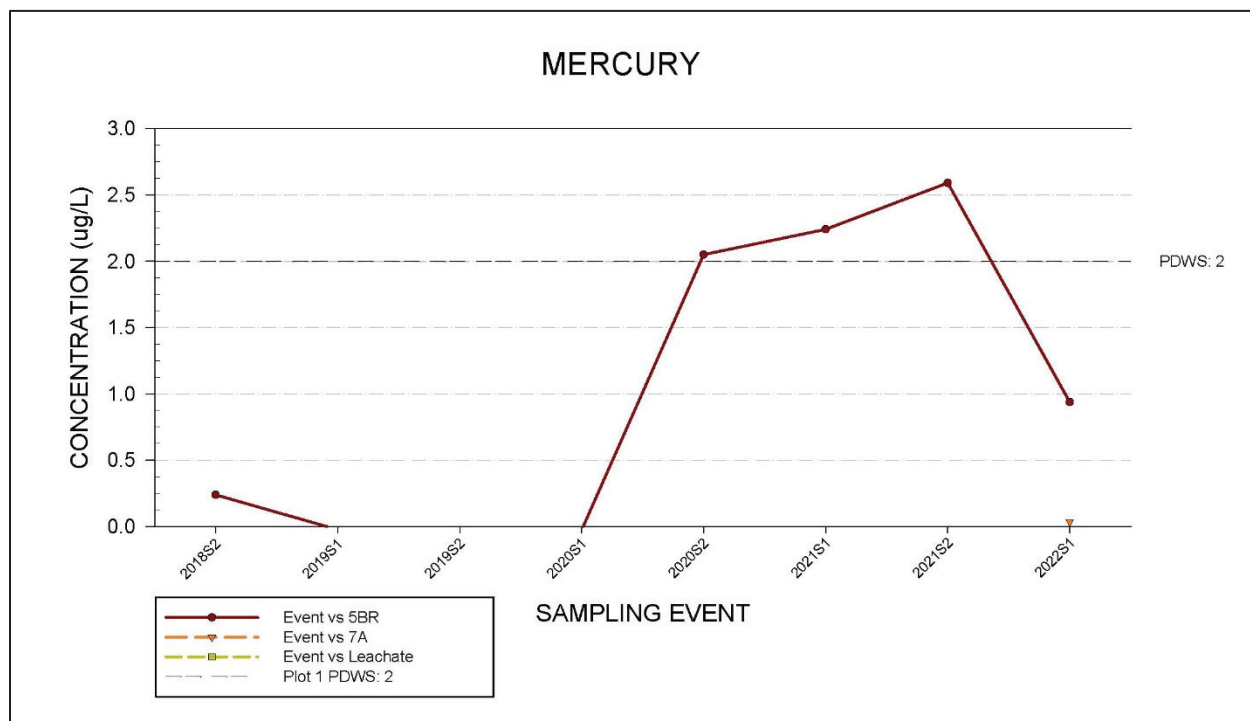
evaluation monitoring in accordance with Rule 62-701.510(6)(b), F.A.C. at this location may be necessary if exceedances continue.

In order to further evaluate the issues raised by the Department, analytical data was reviewed for samples collected from the leachate wet well and from monitoring wells MW-5BR and MW-7A. The data points from the second semiannual 2018 event through the first semiannual 2022 event were used to prepare time-series plots for mercury, benzene, and leachate indicator parameters (chloride, sodium, specific conductance, and total dissolved solids).

MERCURY

Mercury was reported above the Method Detection Limit (MDL) in samples collected from MW-5BR in four of the eight monitoring events. Three of the detections were slightly above the Primary Drinking Water Standard (PDWS) of 2 µg/L as shown in Figure 1. The most recent data shows Mercury below the PDWS in the MW-5BR sample. Mercury has not been detected in any of the leachate samples collected from the leachate wet well during the entire period. This suggests that the landfill leachate is not the source of exceedances observed at MW-5BR.

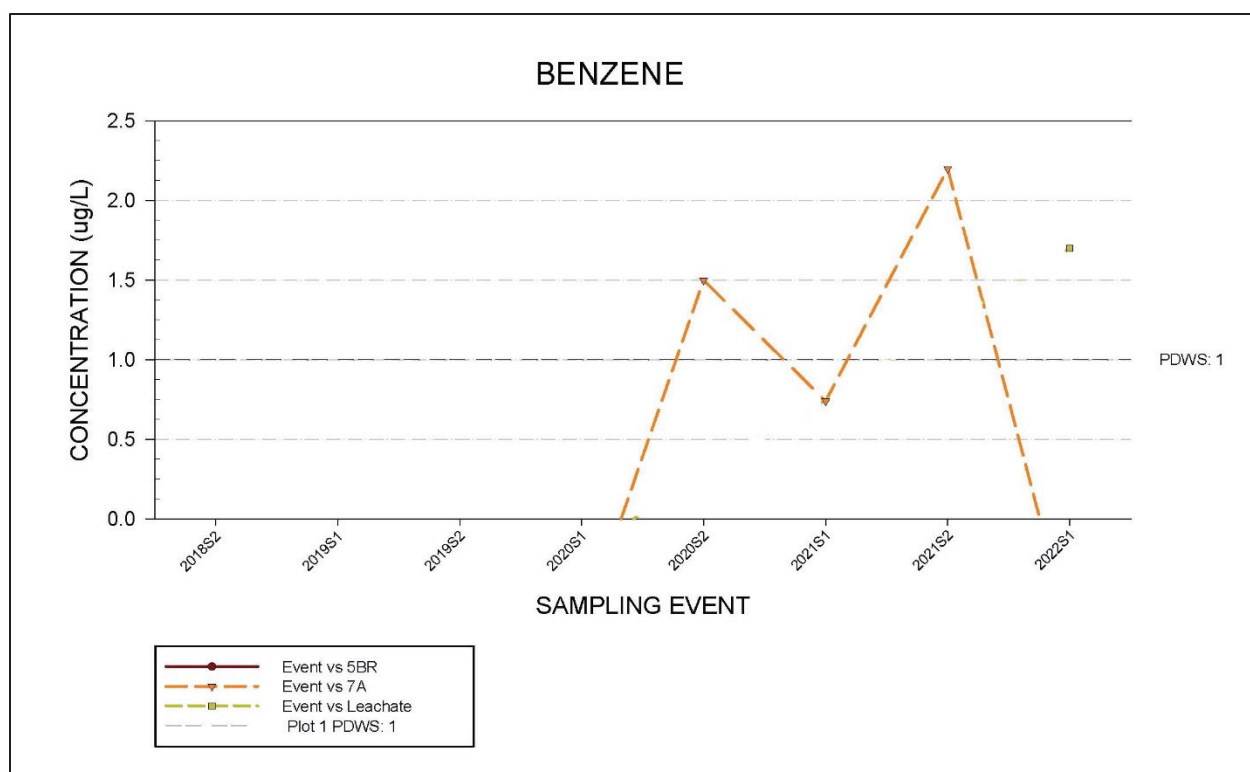
FIGURE 1



BENZENE

Benzene was reported above the MDL in samples collected from MW-7A in three of the eight monitoring events. Two of the detections were slightly above the PDWS of 1 µg/L as shown in Figure 2. Benzene was not detected in the most recent sample collected from MW-7A. A Sample collected from the leachate wet well during the first semiannual 2022 sampling event was analyzed for benzene. Benzene was not detected in the leachate sample collected from the leachate wet well. Since benzene monitoring is not required for leachate, the leachate wet well samples historically have not been analyzed for benzene.

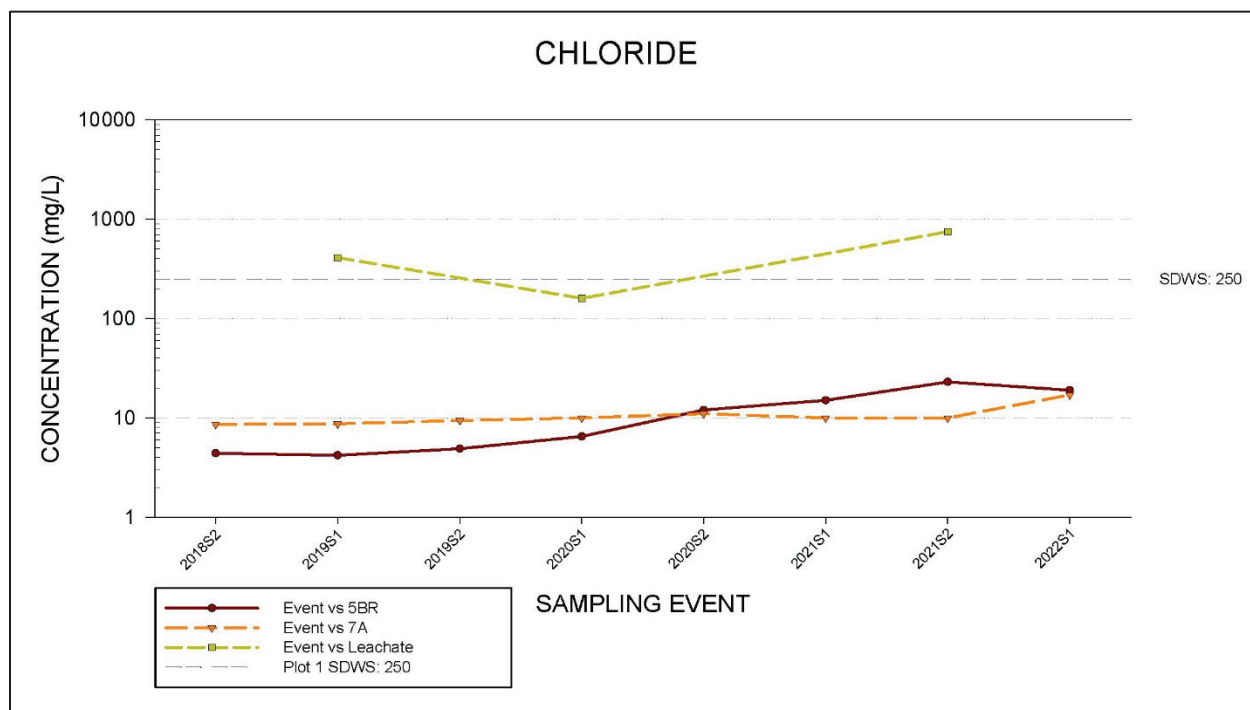
FIGURE 2



LEACHATE INDICATOR PARAMETERS - CHLORIDE

Chloride is widely known and used as an indicator parameter for monitoring leachate migration into groundwater (US EPA, 2020¹). Leachate typically has significantly higher chloride concentrations than that groundwater. As shown in Figure 3, chloride concentrations reported for the leachate wet well samples have been two orders of magnitude higher than those reported for samples collected from monitoring wells MW-5BR and MW-7A. Chloride concentrations in all samples collected from monitoring wells MW-5BR and MW-7A have been significantly below the Secondary Drinking Water Standard (SDWS) and have been relatively consistent over time.

FIGURE 3



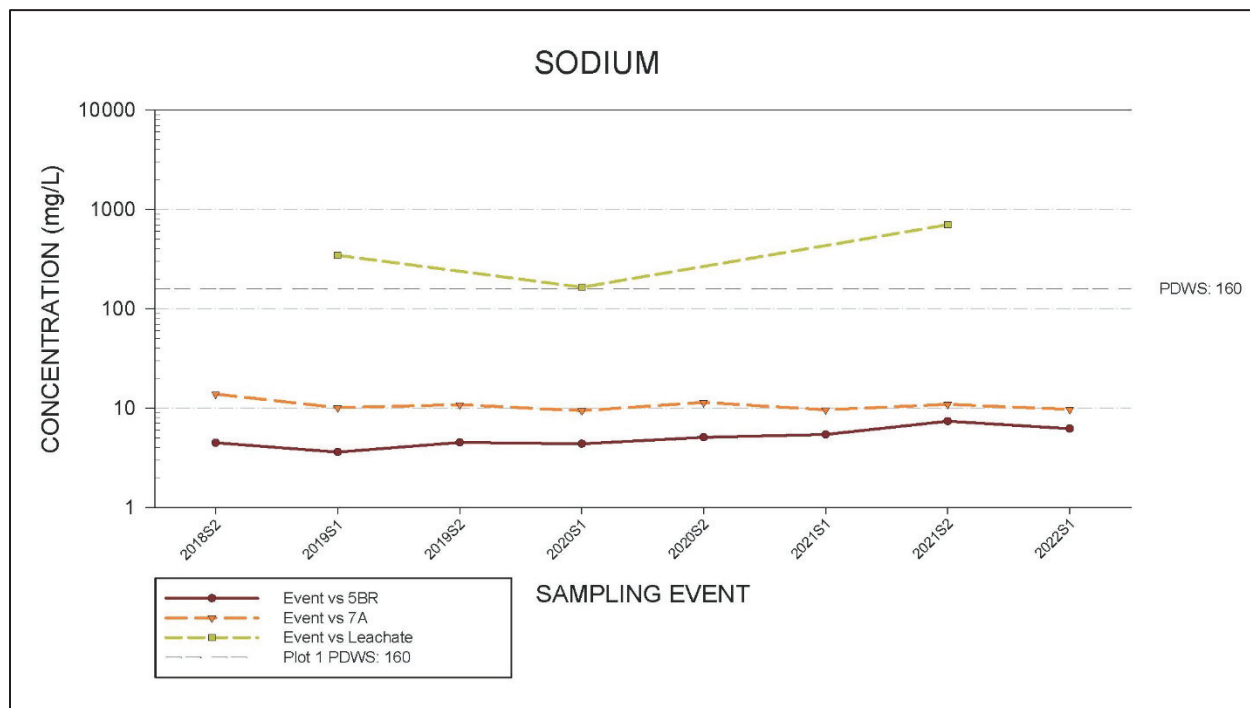
LEACHATE INDICATOR PARAMETERS - SODIUM

Sodium is also widely known as an indicator of leachate in groundwater. Leachate typically has significantly higher sodium concentrations than that of groundwater. As shown in Figure 4, chloride concentrations reported for the leachate wet well samples have been two orders of magnitude higher than those reported for samples collected

¹ US EPA (2020). Technical Considerations for Evaluating the Environmental Emissions from RCRA Subtitle D Landfills Beyond the 30-Year Post-Closure Care Period. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-20/346, 2020.

from monitoring wells MW-5BR and MW-7A. Sodium concentrations in all samples collected from monitoring wells MW-5BR and MW-7A have been significantly below the SDWS and have been relatively consistent over time.

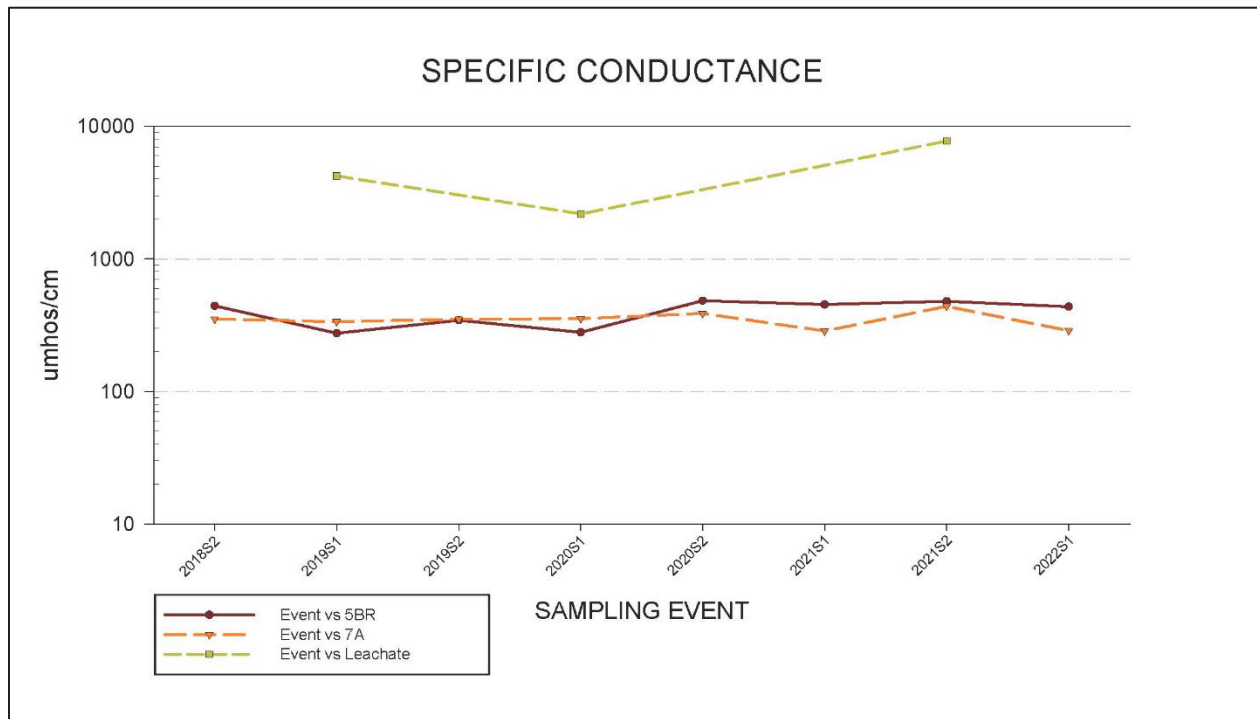
FIGURE 4



LEACHATE INDICATOR PARAMETERS – SPECIFIC CONDUCTANCE

Specific conductance is another widely accepted indicator of leachate in groundwater. Leachate typically has significantly higher specific conductance values than that of groundwater. As shown in Figure 5, specific conductance values reported for the leachate wet well samples have been over two orders of magnitude higher than those reported for samples collected from monitoring wells MW-5BR and MW-7A. Specific conductance values in all samples collected from monitoring wells MW-5BR and MW-7A have been consistent over time.

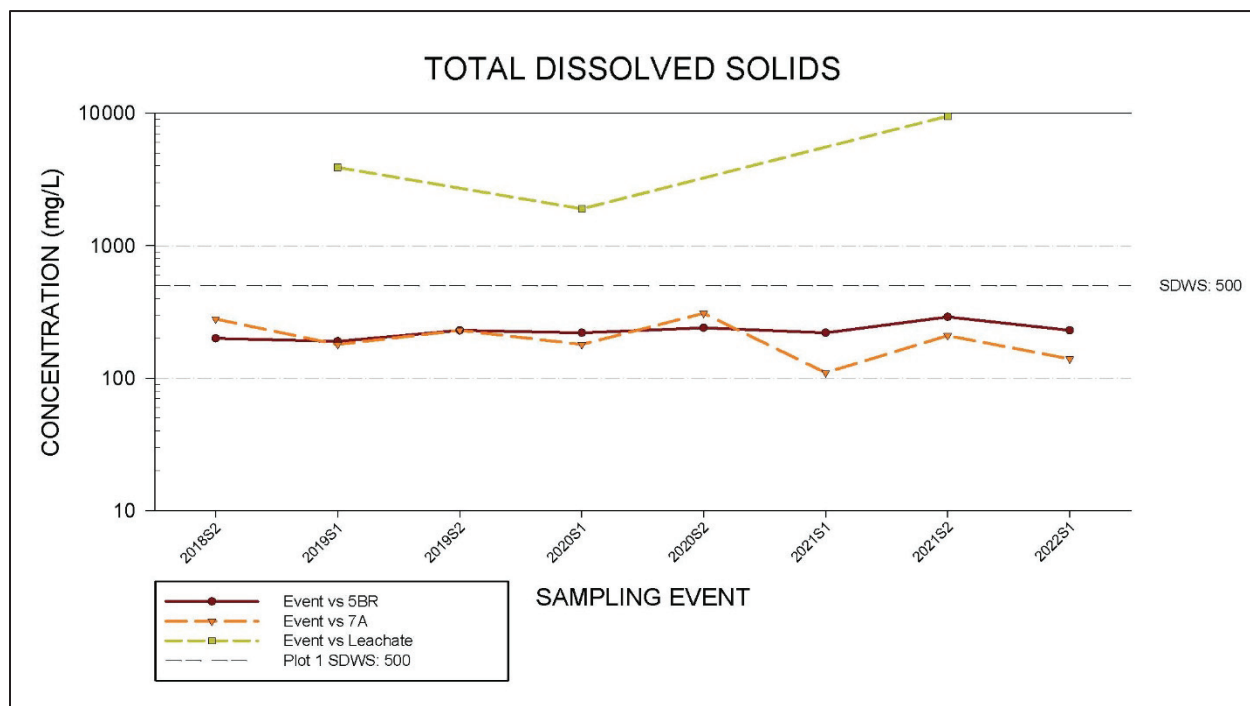
FIGURE 5



LEACHATE INDICATOR PARAMETERS – TOTAL DISSOLVED SOLIDS

Total dissolved solids (TDS) are another indicator of leachate in groundwater. Leachate typically has significantly higher TDS than that of groundwater. As shown in Figure 6, TDS concentrations reported for the leachate wet well samples were over two orders of magnitude higher than those reported for samples collected from monitoring wells MW-5BR and MW-7A. TDS concentrations in all samples collected from monitoring wells MW-5BR and MW-7A have been significantly below the SDWS and have been consistent over time.

FIGURE 6



CONCLUSIONS

The following conclusions have been drawn based on the data provided herein:

Mercury. Mercury has been reported at concentrations at or slightly above the PDWS in three of the last four semiannual samples collected from monitoring well MW-5BR. The most recent measurement was below the PDWS. Mercury has not been detected in any leachate samples collected from the leachate wet well during the reporting period. This suggests that leachate is not likely the source of mercury exceedance at MW-5BR. Mercury is documented to be present in Florida soils (Chen et al. 1999²). Variations in groundwater chemistry can cause naturally-occurring mercury to mobilize.

Benzene. Benzene has been reported at concentrations at or slightly above the PDWS in two of the last four semiannual samples collected from monitoring well MW-7A. Benzene was not detected in the first semiannual 2022 sample collected

² Chen M., Ma, L., and Harris, W., 1999. Baseline concentration of 15 trace elements in Florida soils. *Journal of Environmental Quality*, 28(4): 1173–1181.

from the leachate wet well. Benzene monitoring is not required for leachate. Therefore, historically, benzene has not been measured in leachate samples.

Leachate Indicator Parameters. No elevated concentrations or significant increases of leachate indicator parameters (sodium, chloride, specific conductance, and total dissolved solids) were observed in any of the samples collected from monitoring wells MW-5BR and MW-7A during the reporting period.

The absence of mercury and benzene in the leachate wetwell samples and the absence of elevated concentrations of leachate indicator parameters in groundwater samples collected from MW-5BR and MW-7A, respectively, suggest that leachate is not the cause of the concentrations observed at MW-5BR and MW-7A.

RECOMMENDATIONS

The following actions are recommended based on the data discussed herein:

- Mercury concentrations should continue to be monitored in both monitoring well MW-5BR and the leachate wet well. The time-series plot provided herein should be updated in the semiannual monitoring reports to further evaluate potential trends.
- Benzene concentrations should continue to be monitored in both monitoring well MW-7A and the leachate wet well. The time-series plot provided herein should be updated in the semiannual monitoring reports to further evaluate potential trends.

Please feel free to call me to discuss this report. I can be reached at (352) 682-0781 or john@locklearconsulting.com.

Sincerely,

A handwritten signature in black ink, appearing to read "John Locklear", with a stylized flourish at the end.

John Locklear, P.G.

President

Locklear & Associates, Inc.

Cc: Melissa Maddon, FDEP
John Arnold, ARM
Dr. Pradeep Jain, IWCS