GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Land Protection Branch
2 Martin Luther King, Jr. Drive
Suite 1054, East Tower
Atlanta, Georgia 30334
404-657-8600

September 18, 2018

VIA E-MAIL AND U.S. MAIL

Cessna Aircraft Company
c/o Mr. Gregory Simpson
Director, Site Remediation
40 Westminster Street
Providence, Rhode Island 02903

Subject: Voluntary Remediation Program
Pre-Design Investigation & Final Design Report, August 1, 2018
Semi-Annual Progress Report #4, September 7, 2018
Cessna Aircraft Company
4800 Cargo Drive
Columbus, Muscogee County, Georgia
Tax Parcel: 112 003 002

Dear Mr. Simpson:

Pursuant to the Georgia Voluntary Remediation Program Act (the Act), the Georgia Environmental Protection Division (EPD) has reviewed the Pre-Design Investigation & Final Design Report dated August 1, 2018 and the Semi-Annual Progress Report #4 dated September 7, 2018 for the above referenced property (the Property). EPD has the following comments, which should be addressed in accordance with the Act:

PRE-DESIGN INVESTIGATION & FINAL DESIGN REPORT

General Comments

1. The corrective action activities proposed involve the installation of a biobarrier through the injection of nutrients and microorganisms into two impacted formations. The injection wells included in the pilot test cross the Upper Unit A, the Lower Unit A, and Unit B. Historical hydraulic conductivity measurements from Lower Unit A (25 ft/day) are considerably higher than measurements from Upper Unit A (3 ft/day) and Unit B (1 ft/day). A "Lower Clay" unit has been observed separating Unit A from Unit B. EPD believes that it is reasonable to assume that most of the injectate would enter the Lower Unit A. Where the "Lower Clay" is present, EPD notes that this could inhibit the treatment of impacts in Unit B.

2. The overall approach employed seems reasonable given the difficulty accessing the downgradient property. Several sections suggest that the injections are intended to prevent discharge to a downgradient surface water body. It is recommended that routine surface water monitoring be

conducted during the corrective action activities. It should be noted that in a letter dated September 12, 2018, EPD requested that Kemira provide access to its property for the purpose of conducting surface water and groundwater sampling. In the absence of Kemira providing access to its property, monitoring activities should be conducted in monitoring wells MW-7A and MW-7A/B to monitor the effect of the corrective action on groundwater conditions near the stream.

3. EPD notes that on Table 2-1: Groundwater Analytical Results and Table 3-1: Groundwater VOC Trends that in instances where specific constituents of concern (COCs) were not detected at concentrations exceeding the laboratory detection limit, that results were tabulated as BRL (Below Reporting Level).

   As part of ongoing reporting activities, in instances where a COC is not reported at a concentration exceeding the laboratory detection limit, please tabulate the data as less than (<) followed by the corresponding detection limit concentration (i.e., <5.0).

Hydraulic Testing

4. The hydraulic testing confirms some of the historically determined values. The transmissivities determined through testing averaged 210 ft^2/day. This average value is comparable to the historically determined value of 198 ft^2/day.

Injection Design

5. The addition of a mild buffering agent like sodium bicarbonate appears appropriate based on the low pH values observed in the injection area. However, care should be taken to avoid overdosing with buffer as the precipitation of carbonate minerals can clog pore space and modify groundwater flow.

Biobarrier Model

6. The degradation rates and cleanup times proposed in the model appear optimistic.

Underground Injection Control (UIC) Permit

7. The Draft UIC Permit Application appears appropriate for use as part of a formal UIC Permit Application. Please proceed with formal UIC Permit Application preparation and submittal for approval prior to the planned implementation of the remedial activities in early 2019.

SEMI-ANNUAL PROGRESS REPORT #4

General Comments

1. A review of Figure 1: VRP Schedule suggests that the schedule presented is incorrect and that the correct schedule should be the same as the schedule presented in the Pre-Design Investigation & Final Design Report (i.e., Figure 4-2 Groundwater Remediation Schedule).

2. A review of Figure A-2 Groundwater Data Summary includes analytical testing data for Trichloroethene (TCE) only. However, EPD notes that additional constituents of concern (COCs) were identified at concentrations in excess of the laboratory detection limit in various groundwater samples collected and analyzed during the August 2018 sampling event which included Carbon Disulfide, cis-1,2-Dichloroethene (cis-1,2-DCE), and 1,1-Dichloroethane (1,1-DCA). As previously noted, in future reports, please include:

    a. A standalone isoconcentration contour map for TCE and other COCs as applicable, depicting the extent of COCs throughout the Property. The outermost isoconcentration contour line should be the Type 1 RRS for a particular COC, while inner isoconcentration contours should be based on the analytical data findings for discrete wells.

3. EPD notes that on Table A-2: Groundwater VOC Results that in instances where specific COCs were not detected at concentrations exceeding the laboratory detection limit, that results were tabulated as BRL (Below Reporting Level). Additionally, a review of Figure A-2 Groundwater Data Summary indicates that in instances where specific COCs were not detected at concentrations exceeding the laboratory detection limit, that results were shown as BRL. As previously noted, in future reports:

    a. In instances where a COC is not reported at a concentration exceeding the laboratory detection limit, please tabulate the data as less than (<) followed by the corresponding detection limit concentration (i.e., <5.0). Please also post analytical testing data on accompanying figures with call-out boxes for all COCs reported in excess of the laboratory detection limit with analytical testing data presented in micrograms/liter (µg/L).

4. EPD acknowledges that the SVE system at the Property appears to be effective in terms of reducing TCE and other COC concentrations and concurs that continued soil vapor monitoring should be conducted to assess the effectiveness of the SVE system in remediating soils to RRS and/or mitigating the long-term vapor intrusion risk toward a potential endpoint in the future.

5. EPD notes that Attachment B-2 VISL Calculator Output is based upon a Target Carcinogenic Risk (TCR) of 1E-05 and a Target Hazard Quotient (THQ) of 0.1. EPD typically utilizes a cumulative TCR of 1E-05 and a cumulative Hazard Index of 1.0 in evaluating potential risk associated with vapor intrusion.

The above comments must be addressed to EPD's satisfaction in order to demonstrate compliance with the provisions, purposes, standards and policies of the Act. The next semi-annual progress report is due

by March 27, 2019. If you have any questions regarding this matter, please contact Will Lucas of the Response and Remediation Program at (404) 656-3851 or via email at william.lucas@dnr.ga.gov.

Sincerely,

David Hayes
Unit Coordinator
Response and Remediation Program

cc: Philip Hendershot, CDM Smith (via email) <HendershotPT@cdmsmith.com>
Tom Duffey, CDM Smith (via email) <DuffeyJT@cdmsmith.com>

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