Hampton Oaks Business Park, 5904 Hampton Oaks Parkway, Suite F
Tampa, Florida 33610
United States
www.ghd.com

May 2, 2024

Our reference: 12637954
Your reference: Task Order No. 6

Fort Lauderdale Executive Airport
6000 NW 21st Avenue
Fort Lauderdale, Florida 33309

Attn: Mr. Rufus James
Airport Director

Soil Screening Report
Fort Lauderdale Executive Airport
Fort Lauderdale, Broward County, Florida

Dear Mr. James:

GHD Services, Inc (GHD) is pleased to submit this Soil Screening Report which describes recent soil sampling and screening completed at the Fort Lauderdale Executive Airport (FXE) in Broward County, Florida (**Figure 1**). The soil screening was conducted to identify possible lead concentrations in onsite soils within four (4) Areas of Concern (AOCs) identified by FXE personnel as having the highest potential for lead impacts to the shallow surface soils. The AOCs were chosen because these areas are used by pilots as "run up" areas where pre-flight checks are performed, including engine verification. The AOCs are illustrated in **Figure 2**. This work was completed under City of Fort Lauderdale (City) Task Order No. 6 pursuant to the General Environmental Engineering Consulting Services Contract No. 12355-106 between the City and GHD.

Scope of Work

Prior to mobilizing to the site, GHD prepared and Health and Safety Plan (HASP) for use by field personnel. The purpose of the HASP is to provide information on site and project safety protocols, emergency response actions, and potential chemical exposures. The HASP is reviewed in the field by all personnel to assure adherence to safety protocols. A copy of the complete HASP is included as **Appendix A**.

GHD personnel mobilized to the site on April 9, 2024, to begin soils screening and completed field activities on April 12, 2024. Soil samples were collected at 76 locations (SB001 through SB076) within the 4 AOCs using a fully decontaminated stainless steel hand auger. Samples were collected within each boring at two depth intervals, from ground surface to 0.5 feet below land surface (ft bls) and from 0.5 to 2.0 ft bls in accordance with Florida Department of Environmental Protection (FDEP) SOP FS 3000 for Soil Sampling. The two sample intervals are commonly used by FDEP to evaluate the exposure potential of potential contaminants to residents and workers in different scenarios. Each soil sample was placed in a clean plastic bag (i.e., Ziploc or equivalent) and the soils mixed to create a

homogenous sample. The samples were then screened in the field using an X-Ray Fluorescence (XRF) Analyzer calibrated for lead. The XRF allows for non-destructive testing to identify an element in a given sample based upon its response to an X-Ray source. The XRF data are read in parts per million (ppm), which is equivalent to the milligrams per kilogram (mg/kg) units used in the FDEP standard.

The borings installed and their associated AOC are shown in the following table:

AOC #	Borings Completed
1	SB001 – SB024
2	SB025 – SB043
3	SB044 – SB056
4	SB057- SB076

Boring locations are illustrated in **Figure 3** through **Figure 6**, while XRF screening data are detailed on **Table 1** through **Table 4**. The XRF lead concentrations data were compared to the Soil Cleanup Target Level (SCTL) established in Chapter 62-777 Florida Administrative Code (FAC) for both Commercial (1,400 mg/kg) and Residential (400 mg/kg) properties. The data indicated that lead concentrations, where detected in the soil samples from within the designated AOCs, are all below the more strident Residential SCTL. It should be noted that because the FXE property operates as a commercial/industrial property, soil lead concentrations would be compared to the Commercial SCTL for regulatory enforcement purposes.

A total of 152 samples were screened with the XRF. Of these 86 samples are listed as Not Detected (ND), or do not have a lead concentration quantifiable above the sample specific detection limit. Sixty-six (66) samples have a quantifiable lead concentration, with the highest lead concentration measured at 43 ppm in the shallow sample at boring SB048 located within AOC #3. The average or mean lead concentration for the 66 quantified samples is 9.4 ppm, while the median concentration is calculated at 6.5 ppm.

As a basis of comparison, the US Geological Survey has compiled background lead soil concentration data from sites within all 48 conterminous States. These data, collected from 2007 to 2010, provide a compilation of data by state which can be used for comparison to site specific data. The comparison of FXE data with the background information, as well as the SCTLs, allows users to evaluate the potential for lead exposure and impacts to site workers. A comparison of the FXE data with the USGS background data is shown in the following table:

Data Source	Number of Samples	Minimum	Maximum	Mean	Median
USGS (FL Specific)	88	0.3	16.3	6.2	4.7
FXE	66	4.2	43	9.4	6.5

This comparison indicates that soil lead concentrations at FXE trend slightly higher than the background concentrations compiled for the State of Florida. However, this is anticipated given the use of the airport and that the sample locations chosen at FXE were intended to provide potential worst-case concentrations.

Conclusions and Considerations

The soil screening data collected at Fort Lauderdale Executive Airport indicates that soil lead concentrations do not exceed regulatory levels established by FDEP. A comparison and evaluation of the FXE data with the USGS compiled background data for Florida shows that lead minimum, maximum, mean (average) and median concentrations trend slightly higher at FXE. However, as stated above, this is anticipated given the sampling locations chosen at FXE. As a result of the soil screening and evaluation, GHD does not recommend additional soil sampling at this time.

We are currently evaluating the US EPA, "*2020 National Emissions Inventory: Aviation Component*" Report which summarizes emissions data from airports based on source classification codes (SCC). This report provides a modeled estimation of the pounds of lead emitted by airports, including FXE. Once GHD has completed our evaluation of the report and compared the 2020 data with the data compiled by the EPA in 2017, we will issue a separate supplemental report.

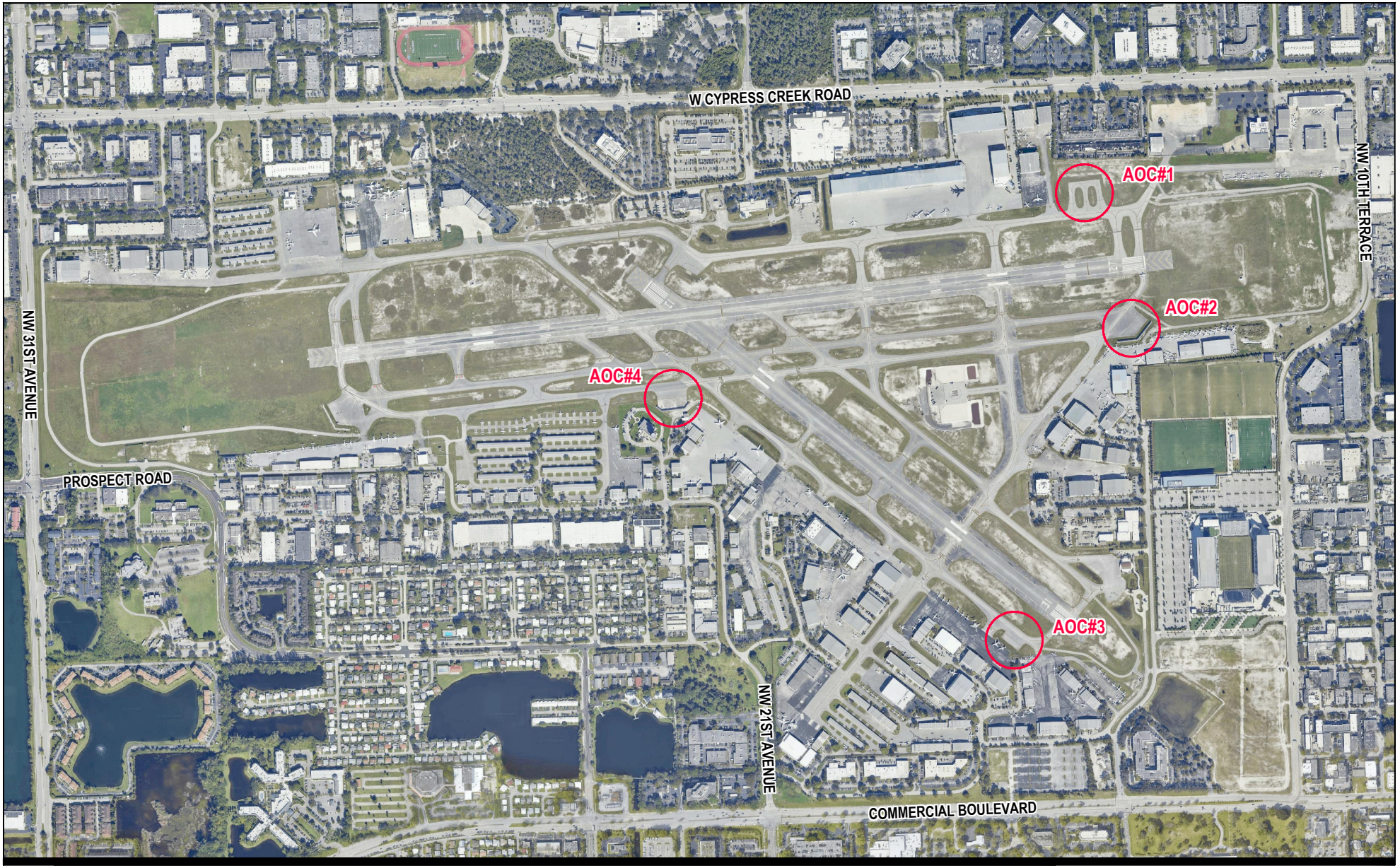
It should be noted that the distribution of lead in the built (not natural or undisturbed state) environment is due to many factors including past use of lead additives in vehicular (i.e., automobile) fuels, paints, waste incineration, lead solder in pipes and other manufacturing processes. This report is intended to provide an evaluation of the current soil lead concentrations within the FXE property, at locations which should represent the most probable source(s) of lead.

We appreciate the opportunity to work with the City of Fort Lauderdale and the Airport. Please contact the undersigned at 813-257-0625 if you require further information or clarification.

Regards,

GABRIELLE M. ENOS LICENSE No. 605 STATE OF FLORIDA PROFESSIONAL GEOLOGIST

Gabrielle M. Enos, P.G.
Senior Professional Geologist
Gabrielle.enos@ghd.com



0 500 1000 ft

1" = 1000 ft

Coordinate System: FL83-EF

N

GHD

FORT LAUDERDALE EXECUTIVE AIRPORT (FXE)
6000 N.W. 21ST AVE., FORT LAUDERDALE, FL

FXE AREAS OF CONCERN

Project No. **12637954**
Date **April 2024**

CAM 24-0672
Exhibit 1
Page 4 of 4

FIGURE 2

Filename: N:\US\West Palm Beach\Projects\565\12637954\Digital_Design\ACAD\Figures\RPT001\12637954-GHD-00-00-RPT-EN-D102_WA-001.dwg
Plot Date: 22 April 2024 1:50 PM

Data Source: Plex-Earth - Image from Google Maps, 11/4/2023