ACER ASSOCIATES, LLC

June 19, 2024

Mr. Sean Dukes
Archdiocese of Philadelphia
222 N. 17th Street
Philadelphia, PA 19103

**RE: Soil Investigation**

Site: Conwell Egan High School, 611 Wistar Rd, Fairless Hills, PA 19030
ACER Project #: 20240076

Dear Mr. Dukes:

Acer Associates, LLC (ACER) was retained to conduct soil investigation activities at the above mentioned facility to evaluate the discharge of heating oil from a 20,000 gallon underground storage tank (UST).

## SOIL INVESTIGATION

The intent of the investigation was to determine the source of fuel oil discovered in the boiler room sump. It was reported to ACER that the supply and return line for the tank were replaced in 2023 due to a leak where the lines penetrate the transformer vault wall.

ACER's sampling plan included installing borings and collecting samples around the perimeter of the existing heating oil underground storage tank (UST) and along the associated product piping lines towards the building.

Due to the presence of multiple underground utilities in the vicinity of the tank, ACER's boring locations were adjusted in the field to avoid the utilities. In addition, probe refusal was encountered in multiple locations due to the building foundation and weathered bedrock at varying depths.

On March 6, 2024, ACER installed thirteen (13) borings (BA-1, BA-2 and B-1 through B-11) using Geoprobe direct push technology to screen soils utilizing a photoionization detector (PID), and by visual and olfactory senses (odor & staining), to evaluate soil quality in the vicinity of the existing 20,000 gallon heating oil underground storage tank (UST) and associated underground product piping. No samples were collected from borings BA-1 and BA-2, as refusal was encountered at approximately one foot (1') below ground surface (bgs) in these borings. Borings were advanced to depths ranging from ten feet (10') below ground surface (bgs) in boring B-4 to twenty-two feet (22') below ground surface (bgs) in boring B-8. Groundwater was encountered

at a depth of approximately 17.2' (feet) below ground surface (bgs). PID readings were detected in ten (10) of the eleven (11) borings installed. Soil samples SS-01 through SS-05, SS-07, SS-09 through SS-11were collected from respective borings B-1 through B-5, B-7 and B-09 through B-11 at varying depths (at the interval exhibiting the greatest level of contamination in each boring) ranging from 12-12.5' (feet) below ground surface (bgs) in boring B-10 (soil sample SS-10) to 17.5-18' (feet) below ground surface (bgs) in boring B-7 (soil sample SS-07). No soil samples were collected from borings B-6 or B-8.

Soil samples collected were logged onto a chain-of custody form and submitted to Hampton Clark Laboratories of Mount Laurel, New Jersey, a PADEP certified laboratory. The soil samples were analyzed for PA Short List#2 Heating Oil parameters. Table 1 summarizes the soil sample depth, analytical methods, and analytical results for soil samples SS-01 through SS-05, SS-07 an and compares the analytical results to the applicable Pennsylvania Department of Environmental Protection (PADEP) Statewide Health Standards (SWHS).

## Table 1: Soil Analytical Results

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **BORING #:** | B-1 | B-2 | B-3 | B-4 | B-5 | B-7 |
| | | | | **SAMPLE ID:** | SS-01 | SS-02 | SS-03 | SS-04 | SS-05 | SS-07 |
| | | | | **LAB ID:** | AD43125-1 | AD43125-2 | AD43125-3 | AD43125-4 | AD43125-5 | AD43125-6 |
| | | | | **COLLECTION DATE:** | 3/6/2024 | 3/6/2024 | 3/6/2024 | 3/6/2024 | 3/6/2024 | 3/6/2024 |
| | | | | **SAMPLE DEPTH:** | 12.5-13' | 12.5-13' | 14-14.5' | 14.5-15' | 16-16.5' | 17.5-18' |
| | | | | **SAMPLE UNITS:** | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| **Constituent** | **Table 3A&4A PA MSC 0-15ft Res Soil** | **Table 3A&4A PA MSC 0-2ft Non-Res Soil** | **Table 3A&4A PA MSC 2-15ft Non-Res Soil** | **Unsaturated Soil Action Levels** | **Result** | **Result** | **Result** | **Result** | **Result** | **Result** |
| 1,2,4-Trimethylbenzene | 1100 | 4700 | 5400 | 300 | 43 | 9.4 | 41 | 25 | 1.2 | 3.8 |
| 1,3,5-Trimethylbenzene | 1100 | 4700 | 5400 | 93 | 13 | 2.9 | 13 | 7.2 | 0.4 | 1.1 |
| Benzene | 57 | 280 | 330 | 0.5 | 0.41 | 0.12 | 0.33 | 0.31 | ND | ND |
| Ethylbenzene | 180 | 880 | 1000 | 70 | 5.4 | 1.4 | 4.8 | 3 | 0.14 | ND |
| Isopropylbenzene | 7600 | 10000 | 10000 | 2,500 | 2.7 | 0.76 | 2.5 | 1.4 | ND | 0.24 |
| Methyl-t-butyl ether | 1700 | 8500 | 9800 | 0.28 | ND | ND | ND | ND | ND | ND |
| Naphthalene | 13 | 66 | 77 | 25 | 2.8 | 2.7 | 2.5 | 2.9 | 1 | 0.55 |
| Toluene | 10000 | 10000 | 10000 | 100 | 2 | 1.3 | 3.6 | 1.2 | ND | ND |

## Table 1: Soil Analytical Results (cont.)

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|---|---|---|---|---|---|---|---|
| | | | | **BORING #:** | B-9 | B-10 | B-11 |
| | | | | **SAMPLE ID:** | SS-09 | SS-10 | SS-11 |
| | | | | **LAB ID:** | AD43125-7 | AD43125-8 | AD43125-9 |
| | | | | **COLLECTION DATE:** | 3/6/2024 | 3/6/2024 | 3/6/2024 |
| | | | | **SAMPLE DEPTH:** | 13-13.5' | 12-12.5' | 13.5-14' |
| | | | | **SAMPLE UNITS:** | mg/Kg | mg/Kg | mg/Kg |
| **Constituent** | **Table 3A&4A PA MSC 0-15ft Res Soil** | **Table 3A&4A PA MSC 0-2ft Non-Res Soil** | **Table 3A&4A PA MSC 2-15ft Non-Res Soil** | **Unsaturated Soil Action Levels** | **Result** | **Result** | **Result** |
| 1,2,4-Trimethylbenzene | 1100 | 4700 | 5400 | 300 | 15 | 41 | 120 |
| 1,3,5-Trimethylbenzene | 1100 | 4700 | 5400 | 93 | 4.3 | 12 | 34 |
| Benzene | 57 | 280 | 330 | 0.5 | ND | 0.2 | 1.1 |
| Ethylbenzene | 180 | 880 | 1000 | 70 | 1.4 | 4.2 | 15 |
| Isopropylbenzene | 7600 | 10000 | 10000 | 2,500 | 0.79 | 2.1 | 7.7 |
| Methyl-t-butyl ether | 1700 | 8500 | 9800 | 0.28 | ND | ND | ND |
| Naphthalene | 13 | 66 | 77 | 25 | 1.6 | 3.5 | 15 |
| Toluene | 10000 | 10000 | 10000 | 100 | 0.4 | 2.1 | 11 |

Non Detect mg/kg- micrograms per milligram

Laboratory analytical results revealed the following:

- Volatile organic compound (VOC) concentrations below PADEP Statewide Health Standards and Unsaturated Soil Action Levels in soil samples SS-01 through SS-05, SS-07, SS-09, and SS-10
- Benzene concentrations above the Unsaturated Soil Action Levels in soil sample SS-11

Boring logs are included as Attachment A, a sample location map is included as Attachment B and the analytical data package is included as Attachment C.

## CONCLUSIONS AND RECOMMENDATIONS

ACER confirmed evidence of a release of fuel oil from the UST based on the results of visual screening, field instrument screening and laboratory analysis. However, no evidence of free product was observed in the soil borings.

ACER's investigation of the product piping and the area between the UST and the building was severely limited due to the presence of underground utilities and refusal from an underground vault and foundations (encountered in borings BA-1, BA-2 and B-6).

Based on the presence of fuel oil product seeping through the floor/walls of the transformer vault and stairway and the low levels of contamination in the vicinity of the UST, it is ACER's opinion that the fuel oil being detected in the boiler room sump likely originated from the pipe leak at the transformer vault wall.

ACER recommends the UST be removed and contaminated soil be excavated to the extent possible to reduce/eliminate any ongoing source of fuel oil. This will require temporary cutoff and/or rerouting of multiple underground utilities in the vicinity of the UST and vault.

Once the groundwater treatment system is installed (week of March 25-29, 2024), ACER recommends several groundwater recovery wells or sumps in the floor of the stairwell and transformer vault to recover product trapped beneath the concrete slab. The recovery wells can be attached to the groundwater treatment system to remove all product and contaminants before discharging into the storm sewer system.

Should you have any questions or wish to discuss, please contact us at your earliest convenience at (856) 809-1202.

Sincerely,
Acer Associates, LLC

Prepared By:

Theresa A. Eifert

Theresa A. Eifert
Assistant Project Manager

Reviewed By:

J. Scott Horn

J. Scott Horn, PG, CHMM, LSRP
President

Attachments:

- A- Boring Logs
- B- Boring Location and Sample Location Maps
- C- Analytical Data Package

**Attachment A**

**Boring Logs**

# SOIL BORING LOG

**PROJECT:** Conwell-Egan High School **PROJECT #:** 20240076
**DATE:** March 6, 2024 **BORING NUMBER:** B-1
**DRILLER:** Red Drill **RIG TYPE:** Geoprobe 7822DT
**GROUNDWATER DEPTH:** N/A **ASPHALT DEPTH** 6”

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 6” | Asphalt | |
| 6” – 1.5’ | Brownish yellow (10YR 6/8) SILT and clay | |
| 1.5’ – 5’ | Grayish brown (10YR 5/2) SILT, some clay, trace fine sand | 0.7 ppm @ 4’<br>0.9 ppm @ 5’ |
| 5’ – 11’ | Dark grayish brown (10YR 4/2) SILT, some sand | 0.3 ppm @ 6’<br>0.8 ppm @ 7’<br>0.6 ppm @ 8’<br>5 ppm @ 9’<br>4.9 ppm @ 10’<br>217 ppm @ 10.5’ |
| 11’ – 13’ | Very dark gray (10YR 3/1) SILT and fine sand | 170 ppm @11’<br>106 ppm @ 12.5’<br>230 ppm @ 13’ |
| | Refusal @ 13’ Concrete<br>hold down pad<br>*odor starts @ 8’ | |
| | Approximately 3’ of oily water in tank after sticking it around 8’ bgs | |
| | SS-01 collected @ 12.5’ – 13’ | |
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# SOIL BORING LOG

**PROJECT:** Conwell-Egan High School **PROJECT #:** 20240076
**DATE:** March 6, 2024 **BORING NUMBER:** B-2
**DRILLER:** Red Drill **RIG TYPE:** Geoprobe 7822DT
**GROUNDWATER DEPTH:** N/A **ASPHALT DEPTH** 6”

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 6” | Asphalt | |
| 6” – 3’ | Brown (10YR 5/3) SILT, trace fine sand, trace fine gravel | 19 ppm @ 1’<br>13.5 ppm @ 2’<br>12.6 ppm @ 3’ |
| 3’ – 6’ | Brownish yellow (10YR 6/8) SILT, some clay | 11.5 ppm @ 3.5’<br>10.5 ppm @ 4’<br>10.2 ppm @ 4.5’<br>9.6 ppm @ 5’<br>9.7 ppm @ 5.5’<br>9.4 ppm @ 6’ |
| 6’ – 10’ | Yellowish brown (10YR 5/8) SILT, little clay | 9 ppm @ 6.5’<br>8.8 ppm @ 7’<br>8.8 ppm @ 7.5’<br>8.7 ppm @ 8’<br>8.4 ppm @ 9.5’<br>9.7 ppm @ 10’ |
| 10’ – 13.5’ | Light yellowish brown (10YR 6/4) SILT, fine sand | 13.7 ppm @ 11’<br>44.5 ppm @ 11.5’<br>26.1 ppm @ 12’ |
| 13.5’ | Rock fragments (weathered schist) | 394 ppm @ 13.5’ |
| | Refusal @ 13.5’ Due to weathered rock | |
| | SS-02 collected @ 12.5’ – 13’ | |
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# SOIL BORING LOG

**PROJECT:** Conwell-Egan High School **PROJECT #:** 20240076
**DATE:** March 6, 2024 **BORING NUMBER:** B-3
**DRILLER:** Red Drill **RIG TYPE:** Geoprobe 7822DT
**GROUNDWATER DEPTH:** N/A **ASPHALT DEPTH** 6”

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 6” | Asphalt | |
| 6” – 4’ | Grayish brown (10YR 5/2) SILT, little clay | 19 ppm @ 1’<br>17 ppm @ 1.5’<br>17 ppm @ 3’<br>16.6 ppm @ 4’ |
| 4’ – 9’ | Brownish yellow (10YR 6/6) SILT, little clay | 16 ppm @ 4.5’<br>16.3 ppm @ 5’<br>18 ppm @ 5.5’<br>17.5 ppm @ 8’<br>15.6 ppm @ 9’<br>16 ppm @ 9.5’<br>15.7 ppm @ 10’<br>32 ppm @ 10.5’ |
| 9’ – 13.5’ | Light yellowish brown (10YR 6/4) SILT, trace fine sand | 16 ppm @ 9.5’<br>15.7 ppm @ 10’<br>32 ppm @ 10.5’<br>63 ppm @ 11’<br>30 ppm @ 11.5’<br>137 ppm @ 12.5’<br>173 ppm @ 13’ |
| 13.5’ – 15’ | Very dark gray (10YR 3/1) fine sand and silt, little fine to medium gravel | 242 ppm @ 14’<br>206 ppm @ 15’ |
| 15’ – 20’ | Very pale brown (10YR 7/3) fine SAND and rock fragments | 57 ppm @ 16’<br>57 ppm @ 18’<br>143 ppm @ 19’<br>111 ppm @ 20’ |
| | End of boring @ 20’<br>*Odor starting at 2’ bgs | |
| | SS-03 collected @ 14’ – 14.5’ | |
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# SOIL BORING LOG

**PROJECT:** Conwell-Egan High School **PROJECT #:** 20240076
**DATE:** March 6, 2024 **BORING NUMBER:** B-4
**DRILLER:** Red Drill **RIG TYPE:** Geoprobe 7822DT
**GROUNDWATER DEPTH:** 22' **ASPHALT DEPTH** 6"

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 6" | Asphalt | |
| 6" – 4' | Brown (10YR 5/3) SILT, some clay<br>Roots @ 4' | 12.7 ppm @ 1'<br>12.4 ppm @ 2'<br>12 ppm @ 3' |
| 4' – 10' | Grayish brown (10YR 5/2) SILT, little clay, trace fine sand | 11.7 ppm @5'<br>11.4 ppm @ 5.5'<br>11.6 ppm @ 7'<br>11 ppm @ 9'<br>11.3 ppm @ 9.5'<br>11.4 ppm @ 10' |
| 10' – 17' | Grayish brown (10YR 5/2) SILT, some fine sand | 11.7 ppm @ 11'<br>10.6 ppm @ 12'<br>63 ppm @ 13'<br>49 ppm @ 14'<br>317 ppm @ 14.5'<br>467 ppm @ 14.8'<br>238 ppm @ 15'<br>125 ppm @ 15.5'<br>157 ppm @ 16'<br>185 ppm @ 16.5'<br>224 ppm @ 17' |
| 17' – 22' | Yellowish brown (10YR 5/6) SILT, fine sand (weathered) | 177 ppm @ 17.5'<br>58 ppm @ 18'<br>43 ppm @ 19'<br>42 ppm @ 19.5'<br>38 ppm @ 20'<br>29 ppm @ 20.5'<br>27 ppm @ 21'<br>27 ppm @ 21.5'<br>26 ppm @ 22' |
| | End of boring @ 22'<br>*odor starts ~5.5' | |
| | SS-04 collected @ 14.5' – 15' | |
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# SOIL BORING LOG

**PROJECT:** Conwell-Egan High School **PROJECT #:** 20240076
**DATE:** March 6, 2024 **BORING NUMBER:** B-5
**DRILLER:** Red Drill **RIG TYPE:** Geoprobe 7822DT
**GROUNDWATER DEPTH:** N/A **ASPHALT DEPTH** 6”

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 6” | Asphalt | |
| 6” – 5’ | No Recovery | |
| 5’ – 10’ | Pale brown (10YR 6/3) SILT | 19 ppm @ 5’<br>9 ppm @ 6’<br>8.7 ppm @ 9’<br>8.6 ppm @ 10’ |
| 10’ – 15’ | Gray (10YR 5/1) SILT, fine sand | 22.3 ppm @ 10.5’<br>19.9 ppm @ 11’<br>12.2 ppm @ 11.5’<br>12.1 ppm @ 12’<br>9.5 ppm @ 12.5’<br>9.5 ppm @ 13’<br>8.1 ppm @ 14’<br>7.5 ppm @ 15’ |
| 15’ – 20’ | Yellowish brown (10YR 5/4) SILT, fine sand (weathered) | 27.6 ppm @ 15.5’<br>32.8 ppm @ 16’<br>53 ppm @ 16.5’<br>30.3 ppm @ 17’<br>58 ppm @ 18’<br>19 ppm @ 18.5’<br>10.6 ppm @ 19’<br>8.8 ppm @ 20’ |
| | End of boring @ 20’<br>*odor starts ~10’ | |
| | SS-05 collected @ 16’-16.5’ | |
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# SOIL BORING LOG

**PROJECT:** Conwell-Egan High School **PROJECT #:** 20240076

**DATE:** March 6, 2024 **BORING NUMBER:** B-6

**DRILLER:** Red Drill **RIG TYPE:** Geoprobe 7822DT

**GROUNDWATER DEPTH:** N/A **ASPHALT DEPTH** 6”

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 6” | Asphalt | |
| 6” – 3’ | Brown (10YR 5/3) SILT, clay, trace fine sand | 1.8 ppm @ 1’<br>1.5 ppm @ 3’ |
| 3’ – 5’ | Grayish brown (10YR 5/2) SILT, clay | 1.3 ppm @ 5’ |
| 5’ – 10’ | Yellowish brown (10YR 5/4) SILT, clay, trace fine sand | 1.1 ppm @ 6’<br>1 ppm @ 7’<br>0.9 ppm @ 10’ |
| | Refusal @ 16’ Potentially on foundation | |
| | No sample collected | |
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# SOIL BORING LOG

**PROJECT:** Conwell-Egan High School **PROJECT #:** 20240076
**DATE:** March 6, 2024 **BORING NUMBER:** B-7
**DRILLER:** Red Drill **RIG TYPE:** Geoprobe 7822DT
**GROUNDWATER DEPTH:** N/A **TOPSOIL DEPTH** 1”

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 1” | Topsoil | |
| 1” – 5’ | Pale brown (10YR 6/3) SILT, some clay | |
| 5’ – 10’ | Light yellowish brown (10YR 6/4) SILT, clay | 0.4 ppm @ 7’<br>0.4 ppm @ 8’ |
| 10’ – 15’ | Yellowish brown (10YR 5/4) SILT, fine sand | 0.1 ppm @ 15’ |
| 15’ – 20’ | Grayish brown (10YR 5/2) SILT, fine sand (weathered) | 4 ppm @ 16’<br>2.4 ppm @ 17’<br>40 ppm @ 17.5’<br>51 ppm @ 18’<br>13.5 ppm @ 18.5’<br>7.8 ppm @ 19’<br>6.1 ppm @ 20’ |
| | End of boring @ 20’<br>Refusal on rock | |
| | *0 – 15’ all in one 5’ sleeve due to soft soils | |
| | SS-07 collected @ 17.5’ – 18’ | |
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# SOIL BORING LOG

**PROJECT: Conwell-Egan High School** **PROJECT #: 20240076**

**DATE: March 6, 2024** **BORING NUMBER: B-8**

**DRILLER: Red Drill** **RIG TYPE: Geoprobe 7822DT**

**GROUNDWATER DEPTH:** **ASPHALT DEPTH 6”**

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 6” | Asphalt | |
| 6” – 5’ | Yellowish brown (10YR 5/4) SILT, clay | 0 ppm |
| 5’ – 12’ | Pale brown (10YR 6/3) SILT, clay | 0 ppm |
| 12’ – 21’ | Dark grayish brown (10YR 4/2) SILT, fine sand (weathered) | 0 ppm |
| 21’ | Weathered rock | 0 ppm |
| | End of boring @ 21’<br>Refusal on rock | |
| | Hand augured to ~5’<br>*no odors or PID hits | |
| | No sample taken | |
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# SOIL BORING LOG

**PROJECT: Conwell-Egan High School** **PROJECT #: 20240076**

**DATE: March 6, 2024** **BORING NUMBER: B-9**

**DRILLER: Red Drill** **RIG TYPE: Geoprobe 7822DT**

**GROUNDWATER DEPTH: 17.2'** **ASPHALT DEPTH 6"**

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0' – 6" | Asphalt | |
| 6" – 5' | Grayish brown (10YR 5/2) SILT, little clay | |
| 5' – 10' | Brownish yellow (10YR 6/6) SILT, some clay | |
| 10' – 14' | Yellowish brown (10YR 5/4) SILT, little fine sand | 5.1 ppm @ 10'<br>3.4 ppm @ 10.5'<br>2.4 ppm @ 11'<br>1.9 ppm @ 11.5'<br>4.9 ppm @ 12'<br>39 ppm @ 12.5'<br>33 ppm @ 13'<br>126 ppm @ 13.3'<br>198 ppm @ 13.5'<br>120 ppm @ 14' |
| 14' – 17' | Grayish brown (10YR 5/2) SILT, some fine sand, trace fine gravel | 167 ppm @ 14.5'<br>60 ppm @ 15'<br>22 ppm @ 16'<br>22.7 ppm @ 16.5'<br>19.2 ppm @ 17' |
| 17' – 20' | Grayish brown (10YR 5/2) SILT, little fine sand (weathered) | 18.8 ppm @ 17.5'<br>16.5 ppm @ 18'<br>12.8 ppm @ 19'<br>11.7 ppm @ 19.5'<br>11.1 ppm @ 20' |
| | End of boring @ 20'<br>*odor starting at ~10' | |
| | SS-09 collected @ 13' – 13.5' | |
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# SOIL BORING LOG

**PROJECT: Conwell-Egan High School** **PROJECT #: 20240076**

**DATE: March 6, 2024** **BORING NUMBER: B-10**

**DRILLER: Red Drill** **RIG TYPE: Geoprobe 7822DT**

**GROUNDWATER DEPTH: N/A** **ASPHALT DEPTH 6”**

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 6” | Asphalt | |
| 6” – 2.5’ | Pale brown (10YR 6/3) SILT, some clay | 1.2 ppm @ 1’<br>1.1 ppm @ 1.5’<br>1 ppm @ 2.5’ |
| 2.5’ – 5’ | Yellowish brown (10YR 5/6) SILT, clay | 1.2 ppm @ 3’<br>1 ppm @ 3.5’<br>2.3 ppm @ 4’<br>5.2 ppm @ 4.5’<br>3.4 ppm @ 4.8’<br>2.5 ppm @ 5’ |
| 5’ – 12’ | Brown (10YR 5/3) SILT, little clay, little fine sand | 2.1 ppm @ 5.5’<br>15.6 ppm @ 7’<br>83 ppm @ 8’<br>50.7 ppm @ 9’<br>95 ppm @ 10’<br>103 ppm @ 11’<br>163 ppm @ 11.5’ |
| 12’ – 12.5’ | Gray (10YR 6/1) SILT, rock fragments (weathered rock) | 250 ppm @ 12.5’ |
| | Refusal on rock @ 12.5’<br>*odor starts ~6’ | |
| | SS-10 collected @ 12’ – 12.5’ | |
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# SOIL BORING LOG

**PROJECT: Conwell-Egan High School** **PROJECT #: 20240076**

**DATE: March 6, 2024** **BORING NUMBER: B-11**

**DRILLER: Red Drill** **RIG TYPE: Geoprobe 7822DT**

**GROUNDWATER DEPTH: N/A** **ASPHALT DEPTH 6”**

| Sample Depth | Soil Description | PID Reading |
|---|---|---|
| 0 – 6” | Asphalt | |
| 6” – 5’ | Grayish brown (10YR 5/2) SILT, clay | 3.5 ppm @ 1’<br>4.2 ppm @ 2’<br>4.9 ppm @ 3’<br>4.8 ppm @ 4’<br>7.1 ppm @ 5’ |
| 5’ – 10’ | Brownish yellow (10YR 6/6) SILT, little clay, trace fine gravel | 7.4 ppm @ 6’<br>6.1 ppm @ 6.5’<br>5.1 ppm @ 7’<br>6.6 ppm @ 7.5’<br>5.7 ppm @ 8.5’<br>12.8 ppm @ 10’ |
| 10’ – 14’ | Yellowish brown (10YR 5/6) SILT, some clay | 19 ppm @ 10.5’<br>40 ppm @ 11’<br>79 ppm @ 11.5’<br>63 ppm @ 12’<br>177 ppm @ 12.5’<br>175 ppm @ 13’<br>148 ppm @ 13.5’<br>289 ppm @ 13.8’<br>185 ppm @ 14’ |
| 14’ – 19’ | Brown (10YR 5/3) SILT, little fine sand (weathered) | 109 ppm @ 14.5’<br>111 ppm @ 15’<br>36 ppm @ 15.5’<br>34 ppm @ 16’<br>27 ppm @ 16.5’<br>29 ppm @ 17’<br>35 ppm @ 17.5’<br>53 ppm @ 18’<br>25 ppm @ 19’ |
| | End of boring @ 19’<br>*odor starts ~10’ | |
| | SS-11 collected @ 13.5’ – 14’ | |
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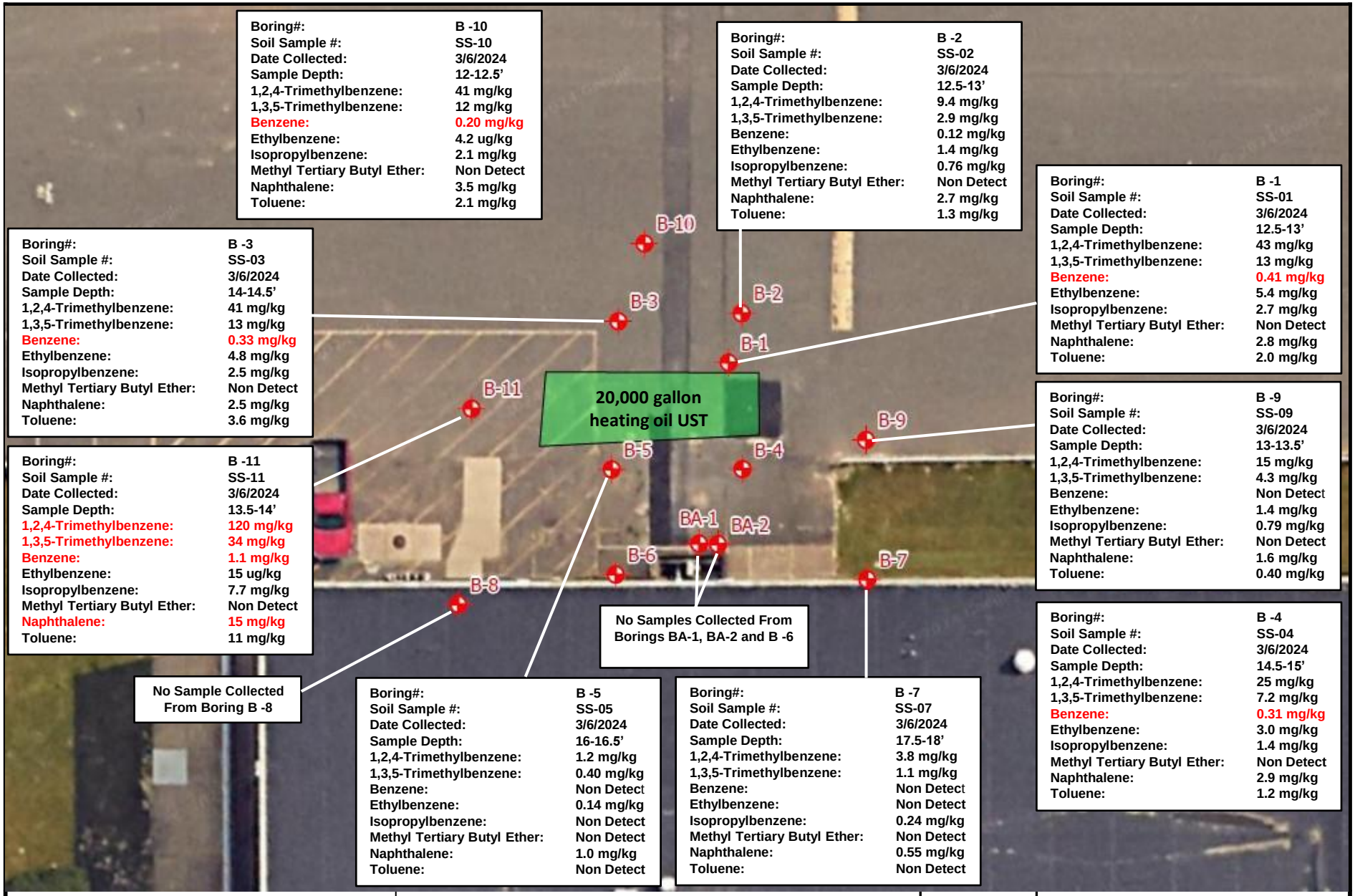
**Attachment B**

**Boring Location and Sample Location Maps**




| Boring#: | B -10 |
|---|---|
| Soil Sample #: | SS-10 |
| Date Collected: | 3/6/2024 |
| Sample Depth: | 12-12.5’ |
| 1,2,4-Trimethylbenzene: | 41 mg/kg |
| 1,3,5-Trimethylbenzene: | 12 mg/kg |
| Benzene: | 0.20 mg/kg |
| Ethylbenzene: | 4.2 ug/kg |
| Isopropylbenzene: | 2.1 mg/kg |
| Methyl Tertiary Butyl Ether: | Non Detect |
| Naphthalene: | 3.5 mg/kg |
| Toluene: | 2.1 mg/kg |

| Boring#: | B -2 |
|---|---|
| Soil Sample #: | SS-02 |
| Date Collected: | 3/6/2024 |
| Sample Depth: | 12.5-13’ |
| 1,2,4-Trimethylbenzene: | 9.4 mg/kg |
| 1,3,5-Trimethylbenzene: | 2.9 mg/kg |
| Benzene: | 0.12 mg/kg |
| Ethylbenzene: | 1.4 mg/kg |
| Isopropylbenzene: | 0.76 mg/kg |
| Methyl Tertiary Butyl Ether: | Non Detect |
| Naphthalene: | 2.7 mg/kg |
| Toluene: | 1.3 mg/kg |

| Boring#: | B -1 |
|---|---|
| Soil Sample #: | SS-01 |
| Date Collected: | 3/6/2024 |
| Sample Depth: | 12.5-13’ |
| 1,2,4-Trimethylbenzene: | 43 mg/kg |
| 1,3,5-Trimethylbenzene: | 13 mg/kg |
| Benzene: | 0.41 mg/kg |
| Ethylbenzene: | 5.4 mg/kg |
| Isopropylbenzene: | 2.7 mg/kg |
| Methyl Tertiary Butyl Ether: | Non Detect |
| Naphthalene: | 2.8 mg/kg |
| Toluene: | 2.0 mg/kg |

| Boring#: | B -3 |
|---|---|
| Soil Sample #: | SS-03 |
| Date Collected: | 3/6/2024 |
| Sample Depth: | 14-14.5’ |
| 1,2,4-Trimethylbenzene: | 41 mg/kg |
| 1,3,5-Trimethylbenzene: | 13 mg/kg |
| Benzene: | 0.33 mg/kg |
| Ethylbenzene: | 4.8 mg/kg |
| Isopropylbenzene: | 2.5 mg/kg |
| Methyl Tertiary Butyl Ether: | Non Detect |
| Naphthalene: | 2.5 mg/kg |
| Toluene: | 3.6 mg/kg |

| Boring#: | B -9 |
|---|---|
| Soil Sample #: | SS-09 |
| Date Collected: | 3/6/2024 |
| Sample Depth: | 13-13.5’ |
| 1,2,4-Trimethylbenzene: | 15 mg/kg |
| 1,3,5-Trimethylbenzene: | 4.3 mg/kg |
| Benzene: | Non Detect |
| Ethylbenzene: | 1.4 mg/kg |
| Isopropylbenzene: | 0.79 mg/kg |
| Methyl Tertiary Butyl Ether: | Non Detect |
| Naphthalene: | 1.6 mg/kg |
| Toluene: | 0.40 mg/kg |

| Boring#: | B -11 |
|---|---|
| Soil Sample #: | SS-11 |
| Date Collected: | 3/6/2024 |
| Sample Depth: | 13.5-14’ |
| 1,2,4-Trimethylbenzene: | 120 mg/kg |
| 1,3,5-Trimethylbenzene: | 34 mg/kg |
| Benzene: | 1.1 mg/kg |
| Ethylbenzene: | 15 ug/kg |
| Isopropylbenzene: | 7.7 mg/kg |
| Methyl Tertiary Butyl Ether: | Non Detect |
| Naphthalene: | 15 mg/kg |
| Toluene: | 11 mg/kg |

| Boring#: | B -4 |
|---|---|
| Soil Sample #: | SS-04 |
| Date Collected: | 3/6/2024 |
| Sample Depth: | 14.5-15’ |
| 1,2,4-Trimethylbenzene: | 25 mg/kg |
| 1,3,5-Trimethylbenzene: | 7.2 mg/kg |
| Benzene: | 0.31 mg/kg |
| Ethylbenzene: | 3.0 mg/kg |
| Isopropylbenzene: | 1.4 mg/kg |
| Methyl Tertiary Butyl Ether: | Non Detect |
| Naphthalene: | 2.9 mg/kg |
| Toluene: | 1.2 mg/kg |

No Samples Collected From Borings BA-1, BA-2 and B -6

No Sample Collected From Boring B -8

| Boring#: | B -5 |
|---|---|
| Soil Sample #: | SS-05 |
| Date Collected: | 3/6/2024 |
| Sample Depth: | 16-16.5’ |
| 1,2,4-Trimethylbenzene: | 1.2 mg/kg |
| 1,3,5-Trimethylbenzene: | 0.40 mg/kg |
| Benzene: | Non Detect |
| Ethylbenzene: | 0.14 mg/kg |
| Isopropylbenzene: | Non Detect |
| Methyl Tertiary Butyl Ether: | Non Detect |
| Naphthalene: | 1.0 mg/kg |
| Toluene: | Non Detect |

| Boring#: | B -7 |
|---|---|
| Soil Sample #: | SS-07 |
| Date Collected: | 3/6/2024 |
| Sample Depth: | 17.5-18’ |
| 1,2,4-Trimethylbenzene: | 3.8 mg/kg |
| 1,3,5-Trimethylbenzene: | 1.1 mg/kg |
| Benzene: | Non Detect |
| Ethylbenzene: | Non Detect |
| Isopropylbenzene: | 0.24 mg/kg |
| Methyl Tertiary Butyl Ether: | Non Detect |
| Naphthalene: | 0.55 mg/kg |
| Toluene: | Non Detect |

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# Soil Sample Location Map

**Attachment C Analytical**

**Data Packages**