

## REGIONAL MUNICIPALITY OF DURHAM

WHITBY, ONTARIO

### **DURHAM YORK ENERGY CENTRE: 2020 SOIL TESTING REPORT**

RWDI #2000603

October 20, 2020

#### **SUBMITTED TO**

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Ms. Lyndsay Waller, B.Sc., EP  
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**RE: 2020 Soil Testing Report**  
**Durham York Energy Centre**  
**RWDI Reference No. 2000603, 8000**

Dear Ms. Waller,

RWDI AIR Inc. (RWDI) is pleased to provide this 2020 Soil Testing Report for the Durham York Energy Centre (DYEC) in consideration of the document entitled '*Durham York Energy Centre Soil Testing Plan, Revision 4*' dated July 10, 2020.

Field work associated with the 2020 Soil Testing Program was completed on August 19, 2020. Complete soil analytical results were received from the laboratory on September 29, 2020. This report provides details of the soil testing program completed in 2020 for DYEC and an interpretation of the 2020 monitoring data, including our conclusions and recommendations. Relevant technical data are appended.

We trust that this 2020 Soil Testing Report for DYEC provides sufficient information for your requirements. Should there be any questions or comments, please contact us.

Yours very truly,

**RWDI AIR Inc.**

A handwritten signature in black ink, appearing to read 'Philippe Janisse', is written over a light blue circular stamp.

Philippe Janisse, B.Sc., P.Geo.  
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PEJ/CIF/hta

Attach.



## EXECUTIVE SUMMARY

DYEC is an energy-from-waste facility located in the Municipality of Clarington, Regional Municipality of Durham, Ontario. DYEC is situated on the southwest corner of Osborne Road and Energy Drive. DYEC is bounded by commercial and industrial property uses to the north and east, the Canadian National Railway to the south and undeveloped lands to the west. A Location Map is presented in **Figure 1**.

DYEC is operated under multi-media Environmental Compliance Approval No. 7306-8FDKNX, dated June 28, 2011 (ECA). A baseline soil quality study was undertaken as part of the Environmental Assessment (EA) to characterize background soil conditions in the vicinity of DYEC prior to its operation. The soil quality results of the baseline study satisfied the Table 1 criteria, where applicable, of the *Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (MOECC, April 15, 2011)*. Per Condition 7(10) and 13 (4) of the ECA, the Soil Testing Plan (*Durham York Energy Centre Soil Testing Plan, The Regional Municipality of Durham*, dated March 7, 2014) was prepared. The Soil Testing Plan was based, in part, on the findings of the baseline soil study.

The Soil Testing Plan was subsequently revised in 2020 (*Durham York Energy Centre Soil Testing Plan, Revision 4* dated July 10, 2020). Included in the revisions was discontinuing soil sampling at the DYEC property line station, as the ambient air monitoring station at this location was decommissioned in 2018. Soil sampling is completed at each of the DYEC ambient air monitoring stations and given the ambient air monitoring station at this location was decommissioned, the soil quality assessment is no longer necessary. The Ministry of the Environment Conservation and Parks (MECP) approved the removal of this soil quality assessment station from the Soil Testing Plan per an email from Philip Dunn, Senior Environmental Officer, MECP to Andrew Evans, Project Manager - Waste Planning and Technical Services, Region of Durham, dated August 31, 2020 (**Appendix A**).

This report was prepared to satisfy the requirements of the Soil Testing Plan as well as ECA No. 7306-8FDKNX.

The following conclusions are based on the findings presented in this report.

- The soil sampling grid established at the upwind sampling location was constructed by RWDI personnel based on a previously established metal T-fence post benchmark installed at the southeast corner of the grid outline. The soil sampling grid established at the downwind location was left in place from the previous sample collection efforts.
- Overall, parameter concentrations observed at the upwind and downwind soil sampling locations in 2020 were generally comparable to historical concentrations.
- The observed concentrations of the analyzed parameters for the Upwind and Downwind sample aliquots satisfied the Table 1 criteria of the MECP Standards.



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# 1 INTRODUCTION

## 1.1 Background

Durham York Energy Centre (DYEC) is an energy-from-waste facility located in the Municipality of Clarington, Regional Municipality of Durham, Ontario. DYEC is situated on the southwest corner of Osborne Road and Energy Drive. DYEC is bounded by commercial and industrial property uses to the north and east, the Canadian National Railway and the Courtyce Water Pollution Control Plant (CWPCP) to the south and undeveloped lands to the west. A Location Map is presented in **Figure 1**.

DYEC is operated under a multi-media Environmental Compliance Approval 7306-8FDKNX, dated June 28, 2011 (ECA). A baseline soil quality study was undertaken as part of the Environmental Assessment (EA) to characterize background soil conditions in the vicinity of DYEC prior to its operation. The soil quality results of the baseline study satisfied the Table 1 criteria, where applicable, of the *Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (MOECC, April 15, 2011)*. Per Condition 7(10) and 13 (4) of the ECA, the Soil Testing Plan (*Durham York Energy Centre Soil Testing Plan, The Regional Municipality of Durham*, dated March 7, 2014) was prepared. The Soil Testing Plan was based, in part, on the findings of the baseline soil study.

Subsequent soil testing events were undertaken in 2013 (prior to DYEC operations), 2015 (representing year 1 of DYEC operations), in 2016 (representing year 2 of DYEC operations), and in 2017 (representing year 3 of DYEC operations). Soil samples were collected from the designated upwind and downwind sampling locations, as well as on-site during the 2015, 2016, and 2017 sampling events.

The Soil Testing Plan was subsequently revised in 2020 (*Durham York Energy Centre Soil Testing Plan, Revision 4* dated July 10, 2020). Included in the revisions was discontinuing soil sampling at the DYEC property line station, as the ambient air monitoring station at this location was decommissioned in 2018. Soil sampling is completed at each of the ambient air monitoring stations and given the ambient air monitoring station at this location was decommissioned, soil quality assessment is no longer required. The Ministry of the Environment Conservation and Parks (MECP) approved the removal of this soil quality assessment station from the Soil Testing Plan per an email from Philip Dunn, Senior Environmental Officer, MECP to Andrew Evans, Project Manager - Waste Planning and Technical Services, Region of Durham, dated August 31, 2020 (**Appendix A**).

This report was prepared to satisfy the requirements of the Soil Testing Plan as well as ECA No. 7306-8FDKNX, dated June 28, 2011 (plus amendments).

## 1.2 Objectives and Scope

The objectives of the 2020 Soil Testing Program for DYEC are outlined below.

- To evaluate soil quality upwind and downwind of DYEC for potential effects as a result of DYEC operations.



- To compare the current year's soil quality data to the baseline data, historical data, the Table 1 criteria of the MECP "Soil, Groundwater, and Sediment Standards For Use Under Part XV.1 of the Environmental Protection Act", (MECP Standards), as well as soil quality data between soil sampling locations.
- To determine whether or not there is the need to implement a contingency plan as outlined in the Soil Testing Plan, in consideration of soil testing findings.
- To provide a report presenting the findings of the Soil Testing Program to Durham Region and the MECP.

The primary aspects of the Soil Testing Program are data collection, analysis, and interpretation. This 2020 Soil Testing Report documents the data collected as part of the 2020 Soil Testing Program and the data were interpreted in consideration of the requirements set forth in the Soil Testing Plan, as well as historical data.

To evaluate the soil quality upwind and downwind of the Site, analytical results were assessed against the Table 1 criteria of the MECP Standards. The 2020 Soil Testing Program involved a data collection component and a comprehensive analysis and interpretation component. Historical data were provided to RWDI by Durham Region. The 2020 data was collected, assembled, and analyzed by RWDI.

### 1.3 Assumptions and Limitations

Relevant historical data were provided to RWDI by Durham Region. The historical data provided by Durham Region for the purposes of preparing this 2020 Soil Testing Report has been relied upon by RWDI for our assessment. RWDI has assumed that the information provided was factual and accurate as presented.

## 2 METHODOLOGY

Soil samples were collected from each designated sampling location (upwind and downwind of DYEC). Each soil sampling location was established adjacent to an existing ambient air monitoring station. The upwind soil sampling location was established at the western portion of the Courtice Water Pollution Control Plant (CWPCP), about 600 metres southwest of the Site. The location of the upwind soil sampling location is presented in **Figure 2**. The downwind soil sampling location was established on a parcel of private property leased by Durham Region, which is located near the southeast corner of the Baseline Road and Rundle Road intersection, about 2 kilometres northeast of DYEC. The location of the downwind soil sampling location is presented in **Figure 3**.

### 2.1 Soil Sampling Location Preparation

The upwind soil sampling location was constructed by RWDI personnel based on a previously established metal fence post. The metal post was installed at the southeast corner of the soil sampling location. A measuring tape was used to lay out the remaining three (3) corners of the sampling location to establish sub-plots within a sampling grid. Wooden stakes were installed at each corner, creating a ten (10) metre by ten (10) metre square. Nine (9) equally distributed sub-plots were then established within each ten (10) metre square using the measuring tape and wooden stakes. Each sub-plot consisted of a 3.3 metre by 3.3 metre square. The sampling grids were then completed by delineating each sub-plot with rope secured to the metal posts and wooden stakes.



The downwind soil sampling location remained relatively unchanged from the previous sampling event and was considered relatively undisturbed. As such, the soil sample was collected within the established grid at the downwind soil sampling location. It should be noted the tall vegetation prevented the delineation of the sub-plots using rope. RWDI personnel used caution such that sample was accurately collected within the established grid. Photographs of each sample grid are presented in **Figure B-1, Appendix B** for reference.

The position of each corner of the sampling locations was recorded using a handheld GPS unit. The coordinates were recorded in UTM NAD 83 format for reference, if required. Following sample collection, the temporarily constructed grid established at the upwind soil sampling location was removed, with the exception of the aforementioned metal fence post benchmark, which was maintained for future reference at this location. The downwind soil sampling location was left in place following sample collection, in consideration of past practice.

## 2.2 Soil Sampling

One (1) composite soil sample was collected from each soil sampling location on August 19, 2020. Compositing samples consisted of combining soil aliquots collected from nine (9) sub-plots for each soil sampling grid, which were established per Section 2.1. An equal volume of soil (approximately 500 mL) was collected from each sub-plot, for a total of approximately 4,500 mL of soil that was collected from each soil sampling location. The soil was collected from surface to approximately two (2) centimetres below ground surface (cm BGS) using a stainless-steel trowel. Vegetation and rootlets were excluded from the sample, where practical. The soil aliquots from each sub-plot were placed into a stainless-steel bowl and homogenized prior to filling the laboratory provided sample jars.

Per Section 4.4 of the Soil Testing Plan, one (1) replicate soil sample was collected from each of the two (2) soil sampling locations. The replicate samples were retained by Durham Region personnel, in consideration of past practices.

### 2.2.1 Soil Sample Holding Times

Per Section 4.5 of the Soil Testing Plan (*Sample Handling*), container requirements for parameter analysis, storage, and preservation requirements for soil samples were carried out in accordance with the document *Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act* by MOECC Laboratory Services Branch, dated July 1, 2011. As noted in previous Soil Testing Reports, the soil sample holding times specified in the aforementioned document vary compared to the sample holding times recommended by Eurofins Environment Testing Canada Inc. (Eurofins) for select parameters, as outlined below.

| Parameter Grouping      | Eurofins Holding Time | MOECC Analytical Protocol* |
|-------------------------|-----------------------|----------------------------|
| Metals                  | 28 days               | 180 days                   |
| Chromium VI             | 28 days               | 30 days                    |
| Mercury, Methyl Mercury | 28 days               | 28 days                    |
| PAH's                   | 14 days               | 60 days                    |
| Dioxins and Furans      | 1 year                | Indefinite                 |

**Note:** \*Denotes protocol as per *Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act* by MOECC Laboratory Services Branch dated July 1, 2011.



Analytical results of the above parameters may be affected, should analysis be completed beyond the prescribed sample holding times. Soil samples submitted for analytical testing did not surpass their respective holding times for this soil sampling event.

## 2.2.2 Decontamination Procedure

The stainless-steel trowels and bowls used for soil sample collection were decontaminated between each soil sampling location. The decontamination procedure was undertaken in accordance with Section 4.5 of the Soil Testing Plan, such that the equipment was washed with an environmental grade cleanser and rinsed with de-ionized water, followed by acetone and hexane rinses. The sampling equipment was air-dried prior to being placed in sealed containers for storage in between soil sampling locations.

## 2.3 Laboratory Analytical Parameters

The soil samples collected during the 2020 Soil Testing Program were submitted to Eurofins under chain of custody procedures for analysis of the parameters listed below. Eurofins is a Canadian Association for Laboratory Accreditation (CALA) certified laboratory for analysis of the parameters listed below except for benzo(a)fluorene, benzo(b)fluorene, methyl mercury, phosphorous, and dioxins and furans (polychlorinated dibenzodioxins (PCDD) / polychlorinated dibenzofurans (PCDF)). Analysis of benzo(a)fluorene, benzo(b)fluorene, methyl mercury, and dioxins and furans were subcontracted by Eurofins to ALS Canada Ltd. (ALS). Phosphorous was subcontracted to Paracel Laboratories Ltd. (Paracel) . Both ALS and Paracel are CALA certified laboratories for the noted respective analyses.

| Parameter Grouping                              | Parameter                                                                                                                                                                                                   |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Metals</b>                                   | Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Chromium VI, Cobalt, Copper, Lead, Mercury, Methyl Mercury, Molybdenum, Nickel, Phosphorus, Selenium, Silver, Thallium, Tin, Vanadium, Zinc |
| <b>Polycyclic Aromatic Hydrocarbons (PAH's)</b> | Anthracene, Benzo(a)fluorene, Benzo(a)pyrene, Benzo(b)fluorene, Fluorene                                                                                                                                    |
| <b>Dioxins and Furans (PCDD/PCDF)</b>           | Total PCDD/PCDF                                                                                                                                                                                             |

# 3 RESULTS AND EVALUATION

## 3.1 Quality Assurance and Quality Control

Quality assurance and quality control (QA/QC) measures for DYEC's Soil Testing Program in 2020 included field-prepared duplicate samples, laboratory duplicates, laboratory spiked samples, as well as percent recovery of analysis and data review.





The laboratory analyzed several control samples to verify that the analytical equipment was functioning properly and that it would report results accurately at the time of analysis for the samples collected. The control samples had an expected target value, which was compared against pre-determined data quality objectives. For the laboratory control samples, the results were within acceptable laboratory data quality criteria.

For the field-prepared duplicate sample, the analytical results for the required parameters of analysis were evaluated by RWDI for the relative percent difference (RPD) of parameter concentrations using the USEPA National Functional Guidelines (US EPA 540-R-10-011) as a general QA/QC RPD screening mechanism. The RPD screening mechanism is such that for concentrations greater than five (5) times the reported detection limit (RDL), a concentration difference of less than or equal to 20% is deemed acceptable. For concentrations less than or equal to five (5) times the RDL, a concentration difference of equal to or less than the RDL is deemed acceptable. Where a calculated RPD is outside of the tolerance of the general QA/QC RPD screening mechanism, the results for the required parameters of analysis are evaluated against the applicable performance standards for sample duplicates noted in Tables 5.1 to 5.15 of the MOECC's *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*, dated March 8, 2004, and amended July 1, 2011.

For the results found to be outside of the tolerance of each QA/QC evaluation, a laboratory data quality review (DQR) of the results is requested such that the concentrations are accurate as presented and are within acceptable laboratory data quality criteria. Soil duplicate samples were analyzed for the complete analytical parameter list.

One (1) field prepared soil duplicate sample was collected during the 2020 Soil Testing Program. The field-prepared soil duplicate sample was collected from the upwind soil sampling location (designated 'Soil Dup'). The RPD results for the field prepared soil duplicate sample are included in **Table 1**. Per **Table 1**, the analyzed metals parameters satisfied QA/QC tolerances. Select PAHs, and dioxin and furan parameters showed RPD values that were above the control limits. Soil dioxin and furan concentrations were detected very close, within five times, of the respective RDL. As the measured result approaches the RDL, the uncertainty associated with the value increases. It is noted the laboratory internal QA analysis satisfied the relevant acceptance limits. Given the heterogeneity associated with soil as a sample media, the RPD analysis for PAHs, and dioxins and furans should be interpreted with caution.

Although QA/QC exceptions were identified, the relevant sample results were deemed to be representative of actual conditions at the time of sampling.

## **3.2 Field Documentation**

Per Section 4.6 of the Soil Testing Plan, detailed field notes were collected at the time of sampling by RWDI personnel. The following table summarizes the data collected in the field.



| Data Type                                                                     | Information Collected                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Site Name &amp; Photograph</b>                                             | Durham York Energy Center. Site photographs are included in <b>Appendix B</b> .                                                                                                                                                                                  |
| <b>GPS Coordinates for Sample Plot Locations (UTM NAD 83)</b>                 | Upwind NE Corner: 680044, 4860028<br>Downwind NE Corner: 681968,4861867                                                                                                                                                                                          |
| <b>Field Personnel's Name</b>                                                 | Jessica Vu, Timothy Boc, Carlos Pena                                                                                                                                                                                                                             |
| <b>Date, Time and Location of Sample Collection</b>                           | Upwind: August 19, 2020, 9:30<br>Downwind: August 19, 2020, 12:30                                                                                                                                                                                                |
| <b>Sample Number/ID</b>                                                       | Upwind Grid: 'Upwind'<br>Downwind Grid: 'Downwind'                                                                                                                                                                                                               |
| <b>Whether QA/QC Samples Were Collected</b>                                   | One (1) field prepared duplicate sample.<br>One (1) replicate sample collected for retention by Durham Region at each sample grid location.                                                                                                                      |
| <b>Type of Containers Used for Collection</b>                                 | Four (4) 250 mL glass amber jars for each sampling grid were provided by Eurofins.                                                                                                                                                                               |
| <b>Whether samples were Preserved</b>                                         | Samples were not preserved, as specified by Eurofins.                                                                                                                                                                                                            |
| <b>Sampling Method and Composite Collection Pattern/Map of Test Plot Area</b> | As specified in <b>Section 2</b> and <b>Figures 2</b> and <b>3</b> of this Report.                                                                                                                                                                               |
| <b>Unusual Site Conditions</b>                                                | The Downwind sample grid was covered with waist high vegetation. A mound of soil measuring approximately 0.8x0.65x0.25 meters was observed within the Downwind soil sampling grid. The approximate position of the soil mound was documented in the field notes. |
| <b>Weather Conditions</b>                                                     | Clear , approximately 20°C.                                                                                                                                                                                                                                      |

Field notes collected at the time of sample collection are maintained on file by RWDI for future reference, if required.

### 3.3 Soil Quality

The soil analytical results were received in full from the laboratory on September 29, 2020. The laboratory certificates of analysis are provided in **Appendix C**.

#### 3.3.1 Metals

The laboratory analytical results for the metals parameters analyzed at the upwind and downwind soil sampling locations in August 2020, historical data dating back to 2013 including the DYEC fence line soil sampling location (denoted DYEC), as well as a comparison to Table 1 criteria of the MECP Standards is provided in **Table 2**. Per **Table 2**, the metals parameter concentrations observed in August 2020 satisfied the Table 1 criteria of the MECP Standards. The 2020 concentrations were generally consistent with the historical metals' concentrations.



Concentrations of hexavalent chromium were consistently below the laboratory method detection limit (MDL) during past soil sampling events. Concentrations at the upwind and downwind sampling locations in 2020 were observed slightly above the MDL, however the observed concentrations were below the Table 1 criteria of the MECP Standards.

### **3.3.2 Polycyclic Aromatic Hydrocarbons**

The laboratory analytical results for the PAH parameters analyzed at the upwind and downwind soil sampling locations in August 2020, historical data dating back to 2013, including the DYEC soil sampling location, as well as a comparison to the Table 1 criteria of the MECP Standards is provided in **Table 3**. Per **Table 3**, the PAH parameter concentrations observed in August 2020 satisfied the Table 1 criteria of the MECP Standards. The 2020 concentrations were generally consistent with historical PAH concentrations. Concentrations of benzo(a)fluorene and benzo(b)fluorene were consistently below the MDL during past soil sampling events, but were observed slightly above the MDL in 2020. Notwithstanding, though these aforementioned parameters were detected in the soil, there are no Table 1 criteria of the MECP Standards for these parameters.

### **3.3.3 Dioxins and Furans**

The laboratory analytical results for dioxins and furans analyzed at the upwind and downwind soil sampling locations in August 2020, historical data dating back to 2013, as well as a comparison to the Table 1 criteria of the MECP Standards is provided in **Table 4**. Per **Table 4**, the dioxins and furans concentrations observed in August 2020 satisfied the Table 1 criteria of the MECP Standards. The current concentrations noted in the soil for the 2020 sampling event were generally consistent with the historical soil dioxins and furans concentrations.

## **4 FUTURE MONITORING**

Per Section 4.2 of the Soil Testing Plan, the Soil Testing Program was undertaken annually during the first three (3) years of DYEC operations. In accordance with Condition 7.10) (b) of the ECA, following the 2017 soil sampling event, monitoring transitioned to sampling once every three (3) years, commencing in 2020. As such, the next soil testing event is currently scheduled to be undertaken in 2023. It is suggested that the soil sampling program take place within the same season (i.e. August) to remain consistent with past sampling frequencies.

## **5 CONCLUSIONS AND RECOMMENDATIONS**

The following conclusions are based on the findings presented in this report.

- The soil sampling grid established at the upwind sampling location was constructed by RWDI personnel based on a previously established metal T-fence post benchmark installed at the southeast corner of the grid outline. The soil sampling grid established at the downwind location was left in place from the previous sample collection efforts.



- Overall, parameter concentrations observed at the upwind and downwind soil sampling locations in 2020 were generally comparable to historical concentrations.
- The observed concentrations of the analyzed parameters for the Upwind and Downwind sample aliquots satisfied the Table 1 criteria of the MECP Standards.

The following recommendations are respectfully submitted.

- The contingency plan, per the Soil Testing Plan, does not need to be implemented at this time.
- Soil sampling should continue to follow the established three (3) year schedule. As such, the next soil sampling event is currently scheduled to be undertaken in 2023.

## 6 STUDY LIMITATIONS

This report was prepared using scientific principles and professional judgment in assessing available facts and presenting subjective interpretations. The professional judgments presented within this document are based on available facts within the limits of the existing information, budgeted scope of work, and schedule. It is RWDI's intent that the professional judgment and interpretive conclusions be utilized as guidance and not be necessarily construed as a firm course of action, unless explicitly stated otherwise. We make no warranties, expressed or implied, including without limitation, or warranties as to merchantability or fitness of the property for a particular purpose. The information presented in this report is not to be construed as legal advice.

RWDI relied on information obtained from Site representatives, independent sources, and other historical documentation as referenced in this report. The accuracy and completeness of third-party sources was not verified. It is noted that regulatory guidelines, standards, and related documents as they may be referenced in this report are subject to interpretation and may change over time.

This report was prepared for the exclusive use of the Regional Municipality of Durham and the Ministry of the Environment Conservation and Parks. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. RWDI accepts no responsibility for damages, if any, suffered by any third party as result of decisions made or actions based on this report.



## 7 CLOSURE

We trust that this 2020 Soil Testing Report for the Durham York Energy Centre is satisfactory. Please do not hesitate to contact us with any questions you may have.

Yours very truly,

**RWDI**

A handwritten signature in black ink, appearing to read 'Carlos Pena', is positioned above the name and title.

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## TABLES



**Table 1: Relative Percent Difference Analysis - Soil**  
Durham York Energy Center  
The Regional Municipality of Durham  
Project No. 2000603.8000

| SAMPLING EVENT                 | SAMPLE IDENTIFIER | PARAMETER                                      | UNITS | REPORTED DETECTION LIMIT | SAMPLE CONCENTRATION | REPLICATE CONCENTRATION | CONCENTRATION <5X RDL       |                       |         | CONCENTRATION >5X RDL |               |         |
|--------------------------------|-------------------|------------------------------------------------|-------|--------------------------|----------------------|-------------------------|-----------------------------|-----------------------|---------|-----------------------|---------------|---------|
|                                |                   |                                                |       |                          |                      |                         | DIFFERENCE IN CONCENTRATION | CONTROL LIMIT (± RDL) | COMMENT | RPD %                 | CONTROL LIMIT | COMMENT |
| Aug-20                         | UPWIND (SOIL DUP) | <b>Metals</b>                                  |       |                          |                      |                         |                             |                       |         |                       |               |         |
|                                |                   | Antimony                                       | µg/g  | 1                        | 1                    | 1                       | 0.00                        | 1.00                  | OK      |                       |               |         |
|                                |                   | Arsenic                                        | µg/g  | 1                        | 3                    | 3                       | 0.00                        | 1.00                  | OK      |                       |               |         |
|                                |                   | Barium                                         | µg/g  | 1                        | 97                   | 103                     |                             | 1.00                  |         | 6                     | 30            | OK      |
|                                |                   | Beryllium                                      | µg/g  | 1                        | 1                    | 1                       | 0.00                        | 1.00                  | OK      |                       |               |         |
|                                |                   | Boron                                          | µg/g  | 5                        | 5                    | 6                       | 1.00                        | 5.00                  | OK      |                       |               |         |
|                                |                   | Cadmium                                        | µg/g  | 0.4                      | 0.4                  | 0.4                     | 0.00                        | 0.40                  | OK      |                       |               |         |
|                                |                   | Chromium, Total                                | µg/g  | 1                        | 23.0                 | 26.0                    |                             | 1.00                  |         | 12                    | 30            | OK      |
|                                |                   | Chromium, Hexavalent                           | µg/g  | 0.20                     | 0.22                 | 0.20                    | 0.02                        | 0.20                  | OK      |                       |               |         |
|                                |                   | Cobalt                                         | µg/g  | 1                        | 7                    | 8                       |                             | 1.00                  |         | 13                    | 30            | OK      |
|                                |                   | Copper                                         | µg/g  | 1                        | 15                   | 16                      |                             | 1.00                  |         | 6                     | 30            | OK      |
|                                |                   | Lead                                           | µg/g  | 1                        | 11                   | 12                      |                             | 1.00                  |         | 9                     | 30            | OK      |
|                                |                   | Mercury                                        | µg/g  | 0.10                     | 0.1                  | 0.1                     | 0.00                        | 0.10                  | OK      |                       |               |         |
|                                |                   | Molybdenum                                     | µg/g  | 1                        | 1                    | 1                       | 0.00                        | 1.00                  | OK      |                       |               |         |
|                                |                   | Nickel                                         | µg/g  | 1                        | 16                   | 17                      |                             | 1.00                  |         | 6                     | 30            | OK      |
|                                |                   | Phosphorus                                     | µg/g  | 10                       | 760                  | 870                     |                             | 10.00                 |         | 13                    | 30            | OK      |
|                                |                   | Selenium                                       | µg/g  | 1                        | 1                    | 1                       | 0.00                        | 1.00                  | OK      |                       |               |         |
|                                |                   | Silver                                         | µg/g  | 0.2                      | 0.2                  | 0.2                     | 0.00                        | 0.20                  | OK      |                       |               |         |
|                                |                   | Thallium                                       | µg/g  | 1                        | 1                    | 1                       | 0.00                        | 1.00                  | OK      |                       |               |         |
|                                |                   | Tin                                            | µg/g  | 5                        | 5                    | 5                       | 0.00                        | 5.00                  | OK      |                       |               |         |
|                                |                   | Vanadium                                       | µg/g  | 2                        | 29                   | 31                      |                             | 2.00                  |         | 7                     | 30            | OK      |
|                                |                   | Zinc                                           | µg/g  | 2                        | 79                   | 72                      |                             | 2.00                  |         | 9                     | 30            | OK      |
|                                |                   | <b>Polycyclic Aromatic Hydrocarbons (PAHs)</b> |       |                          |                      |                         |                             |                       |         |                       |               |         |
|                                |                   | Fluorene                                       | µg/g  | 0.05                     | 0.05                 | 0.05                    | 0.00                        | 0.05                  | OK      |                       |               |         |
|                                |                   | Anthracene                                     | µg/g  | 0.05                     | 0.05                 | 0.05                    | 0.00                        | 0.05                  | OK      |                       |               |         |
|                                |                   | Benzo(a)pyrene                                 | µg/g  | 0.05                     | 0.05                 | 0.05                    | 0.00                        | 0.05                  | OK      |                       |               |         |
|                                |                   | Benzo(a)fluorene                               | µg/g  | 0.000099                 | 0.0277               | 0.00835                 |                             | 0.00                  |         | 107                   | 40            | EXCEEDS |
|                                |                   | Benzo(b)fluorene                               | µg/g  | 0.000099                 | 0.0159               | 0.0042                  |                             | 0.00                  |         | 116                   | 40            | EXCEEDS |
|                                |                   | <b>Dioxins &amp; Furans</b>                    |       |                          |                      |                         |                             |                       |         |                       |               |         |
|                                |                   | 2,3,7,8-Tetra CDD                              | ng/kg | 0.034                    | 0.034                | 0.035                   | 0.001                       | 0.034                 | OK      |                       |               |         |
|                                |                   | 1,2,3,7,8-Penta CDD                            | ng/kg | 0.042                    | 0.0860               | 0.0712                  | 0.0148                      | 0.042                 | OK      |                       |               |         |
|                                |                   | 1,2,3,4,7,8-Hexa CDD                           | ng/kg | 0.22                     | 0.22                 | 0.17                    | 0.05                        | 0.22                  | OK      |                       |               |         |
|                                |                   | 1,2,3,6,7,8-Hexa CDD                           | ng/kg | 0.20                     | 0.27                 | 0.28                    | 0.01                        | 0.20                  | OK      |                       |               |         |
|                                |                   | 1,2,3,7,8-Hexa CDD                             | ng/kg | 0.21                     | 0.23                 | 0.14                    | 0.09                        | 0.21                  | OK      |                       |               |         |
|                                |                   | 1,2,3,4,6,7,8-Hepta CDD                        | ng/kg | 0.33                     | 16.00                | 7.50                    |                             | 0.33                  |         | 72                    | 40            | EXCEEDS |
|                                |                   | Octa CDD                                       | ng/kg | 1.1                      | 116                  | 55.7                    |                             | 1.1                   |         | 70                    | 40            | EXCEEDS |
|                                |                   | 2,3,7,8-Tetra CDF                              | ng/kg | 0.062                    | 0.091                | 0.19                    | 0.099                       | 0.062                 | EXCEEDS |                       |               |         |
|                                |                   | 1,2,3,7,8-Penta CDF                            | ng/kg | 0.060                    | 0.10                 | 0.104                   | 0.004                       | 0.060                 | OK      |                       |               |         |
|                                |                   | 2,3,4,7,8-Penta CDF                            | ng/kg | 0.053                    | 0.358                | 0.294                   |                             | 0.053                 |         | 20                    | 40            | OK      |
|                                |                   | 1,2,3,4,7,8-Hexa CDF                           | ng/kg | 0.083                    | 0.35                 | 0.261                   | 0.089                       | 0.083                 | EXCEEDS |                       |               |         |
|                                |                   | 1,2,3,6,7,8-Hexa CDF                           | ng/kg | 0.078                    | 0.170                | 0.180                   | 0.01                        | 0.078                 | OK      |                       |               |         |
|                                |                   | 2,3,4,6,7,8-Hexa CDF                           | ng/kg | 0.12                     | 0.23                 | 0.241                   | 0.011                       | 0.12                  | OK      |                       |               |         |
|                                |                   | 1,2,3,7,8,9-Hexa CDF                           | ng/kg | 0.087                    | 0.12                 | 0.096                   | 0.024                       | 0.087                 | OK      |                       |               |         |
|                                |                   | 1,2,3,4,6,7,8-Hepta CDF                        | ng/kg | 0.080                    | 3.04                 | 2.24                    |                             | 0.08                  |         | 30                    | 40            | OK      |
|                                |                   | 1,2,3,4,7,8,9-Hepta CDF                        | ng/kg | 0.13                     | 0.287                | 0.15                    | 0.137                       | 0.13                  | EXCEEDS |                       |               |         |
|                                |                   | Octa CDF                                       | ng/kg | 0.40                     | 11.40                | 7.36                    |                             | 0.40                  |         | 43                    | 40            | EXCEEDS |
|                                |                   | Total Tetrachlorodibenzodioxins                | ng/kg | 0.034                    | 0.529                | 0.691                   |                             | 0.034                 |         | 27                    | 40            | OK      |
|                                |                   | Total Pentachlorodibenzodioxins                | ng/kg | 0.042                    | 0.959                | 0.776                   |                             | 0.042                 |         | 21                    | 40            | OK      |
|                                |                   | Total Hexachlorodibenzodioxins                 | ng/kg | 0.22                     | 5.54                 | 1.68                    |                             | 0.22                  |         | 107                   | 40            | EXCEEDS |
|                                |                   | Total Heptachlorodibenzodioxins                | ng/kg | 0.33                     | 58.8                 | 14.9                    |                             | 0.33                  |         | 119                   | 40            | EXCEEDS |
|                                |                   | Total PCDDs                                    | ng/kg |                          | 182                  | 73.7                    |                             | 0.00                  |         | 85                    | 40            | EXCEEDS |
|                                |                   | Total Tetrachlorodibenzofurans                 | ng/kg | 0.062                    | 1.18                 | 2.55                    |                             | 0.062                 |         | 73                    | 40            | EXCEEDS |
|                                |                   | Total Pentachlorodibenzofurans                 | ng/kg | 0.060                    | 4.59                 | 4.13                    |                             | 0.060                 |         | 11                    | 40            | OK      |
| Total Hexachlorodibenzofurans  | ng/kg             | 0.12                                           | 1.96  | 3.87                     |                      | 0.12                    |                             | 66                    | 40      | EXCEEDS               |               |         |
| Total Heptachlorodibenzofurans | ng/kg             | 0.13                                           | 8.67  | 2.24                     |                      | 0.13                    |                             | 118                   | 40      | EXCEEDS               |               |         |
| Total PCDFs                    | ng/kg             |                                                | 27.8  | 20.2                     |                      | 0.00                    |                             | 32                    | 40      | OK                    |               |         |

Notes: (1) "RPD" indicates Relative Percent Difference.  
(2) Concentrations reported below the RDL are presented as the RDL.



**Table 2: Soil Analytical Results - Metals**

Durham York Energy Center  
 The Regional Municipality of Durham  
 Project No. 2000603.8000

| Parameters            | Soil Standards | UPWIND    |           |           |           |           | DYEC      |           |           | DOWNWIND  |           |           |           |           |
|-----------------------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                       |                | 22-Aug-13 | 25-Aug-15 | 17-Aug-16 | 23-Aug-17 | 19-Aug-20 | 25-Aug-15 | 17-Aug-16 | 23-Aug-17 | 22-Aug-13 | 25-Aug-15 | 17-Aug-16 | 23-Aug-17 | 19-Aug-20 |
| <i>Metals</i>         |                |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Antimony              | 1.3            | <0.8      | <0.8      | <0.8      | <0.8      | <1        | <0.8      | <0.8      | <0.8      | <0.8      | <0.8      | <0.8      | <0.8      | <1        |
| Arsenic               | 18             | 2         | 2         | 3         | 3         | 3         | 2         | 3         | 3         | 3         | 3         | 3         | 3         | 3         |
| Barium                | 220            | 87        | 76        | 100       | 94        | 97        | 54        | 81        | 97        | 68        | 59        | 74        | 67        | 83        |
| Beryllium             | 2.5            | 0.5       | 0.6       | 0.6       | 0.6       | <1        | 0.5       | 0.6       | 0.6       | <0.5      | 0.5       | 0.6       | <0.5      | <1        |
| Boron                 | 36             | 6         | 7         | 9         | 6         | 5         | 5         | 7         | 5         | 5         | 7         | 8         | 5         | 7         |
| Cadmium               | 1.2            | <0.5      | <0.5      | <0.5      | <0.5      | <0.4      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.4      |
| Chromium, Total       | 70             | 18        | 20        | 23        | 21        | 23        | 16        | 20        | 22        | 14        | 15        | 18        | 16        | 18        |
| Chromium, Hexavalent  | 0.66           | <0.2      | <0.2      | <0.2      | <0.2      | 0.22      | <0.2      | <0.2      | <0.2      | <0.2      | <0.2      | <0.2      | <0.2      | 0.33      |
| Cobalt                | 21             | 6.8       | 7.1       | 7.7       | 7.9       | 7         | 4.5       | 5.6       | 6.6       | 4.8       | 4.9       | 5.6       | 4.9       | 5         |
| Copper                | 92             | 15        | 12        | 15        | 16        | 15        | 9         | 14        | 17        | 11        | 9         | 11        | 10        | 12        |
| Lead                  | 120            | 10        | 9         | 10        | 11        | 11        | 10        | 13        | 15        | 13        | 12        | 14        | 15        | 16        |
| Mercury               | 0.27           | <0.10     | <0.10     | <0.10     | <0.10     | <0.1      | <0.10     | <0.10     | <0.10     | <0.10     | <0.10     | <0.10     | <0.10     | <0.1      |
| Methyl Mercury (ng/g) | -              | <1.3      | <0.4      | <0.4      | <0.4      | 0.20      | 0.75      | <0.4      | <0.4      | <1.3      | <0.4      | <0.4      | <0.4      | 0.22      |
| Molybdenum            | 2              | <0.5      | <0.5      | <0.5      | <0.5      | <1        | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <1        |
| Nickel                | 82             | 16        | 13        | 15        | 17        | 16        | 9         | 12        | 14        | 11        | 9         | 10        | 9         | 11        |
| Phosphorus            | -              | 729       | 815       | 891       | 691       | 760       | 911       | 973       | 813       | 609       | 668       | 705       | 592       | 700       |
| Selenium              | 1.5            | <0.8      | <0.8      | <0.8      | <0.8      | <1        | <0.8      | <0.8      | <0.8      | <0.8      | <0.8      | <0.8      | <0.8      | <1        |
| Silver                | 0.5            | <0.4      | <0.4      | <0.4      | <0.4      | <0.2      | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      | <0.2      |
| Thallium              | 1              | <0.4      | <0.4      | <0.4      | <0.4      | <1        | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      | <1        |
| Tin                   | -              | <1        | <1        | <1        | <1        | <5        | 1         | 2         | 1         | <1        | <1        | <1        | <1        | <5        |
| Vanadium              | 86             | 27        | 29        | 33        | 32        | 29        | 23        | 27        | 31        | 24        | 26        | 28        | 25        | 29        |
| Zinc                  | 290            | 63        | 58        | 67        | 69        | 79        | 54        | 70        | 78        | 51        | 49        | 60        | 53        | 63        |

- Notes:** 1. Soil Standard as per Table 1 of the Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act (MOECC, April 15, 2011.)  
 2. '-' denotes Soil Standard criteria not established.  
 3. **BOLD** and shaded indicate an exceedance of the Soil Standards  
 4. Units are in µg/g unless otherwise noted.

**Table 3: Soil Analytical Results - Polycyclic Aromatic Hydrocarbons**

Durham York Energy Center  
 The Regional Municipality of Durham  
 Project No. 2000603.8000

| Parameters                                     | Soil Standards | UPWIND    |           |           |           |           | DYEC      |           |           | DOWNWIND  |           |           |             |                           |           |
|------------------------------------------------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|---------------------------|-----------|
|                                                |                | 22-Aug-13 | 25-Aug-15 | 17-Aug-16 | 23-Aug-17 | 19-Aug-20 | 25-Aug-15 | 17-Aug-16 | 23-Aug-17 | 22-Aug-13 | 25-Aug-15 | 17-Aug-16 | 23-Aug-17   | 10/18/2017<br>(Re-sample) | 19-Aug-20 |
| <i>Polycyclic Aromatic Hydrocarbons (PAHs)</i> |                |           |           |           |           |           |           |           |           |           |           |           |             |                           |           |
| Fluorene                                       | 0.12           | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05       | -                         | <0.05     |
| Anthracene                                     | 0.16           | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | 0.12        | -                         | <0.05     |
| Benzo(a)pyrene                                 | 0.3            | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | 0.11      | 0.05      | <0.05     | <b>0.61</b> | 0.28                      | 0.24      |
| Benzo(a)fluorene                               | -              | <0.05     | <0.05     | <0.05     | <0.05     | 0.0257    | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05       | -                         | 0.402     |
| Benzo(b)fluorene                               | -              | <0.05     | <0.05     | <0.05     | <0.05     | 0.0159    | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05       | -                         | 0.371     |

- Notes:** 1. Soil Standard as per Table 1 of the Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act (MOECC, April 15, 2011.)  
 2. '-' denotes Soil Standard criteria not established.  
 3. **BOLD** and shaded indicate an exceedance of the Soil Standards  
 4. Units are in µg/g unless otherwise noted.

**Table 4: Soil Analytical Results - Dioxins & Furans**

Durham York Energy Center  
 The Regional Municipality of Durham  
 Project No. 2000603.8000

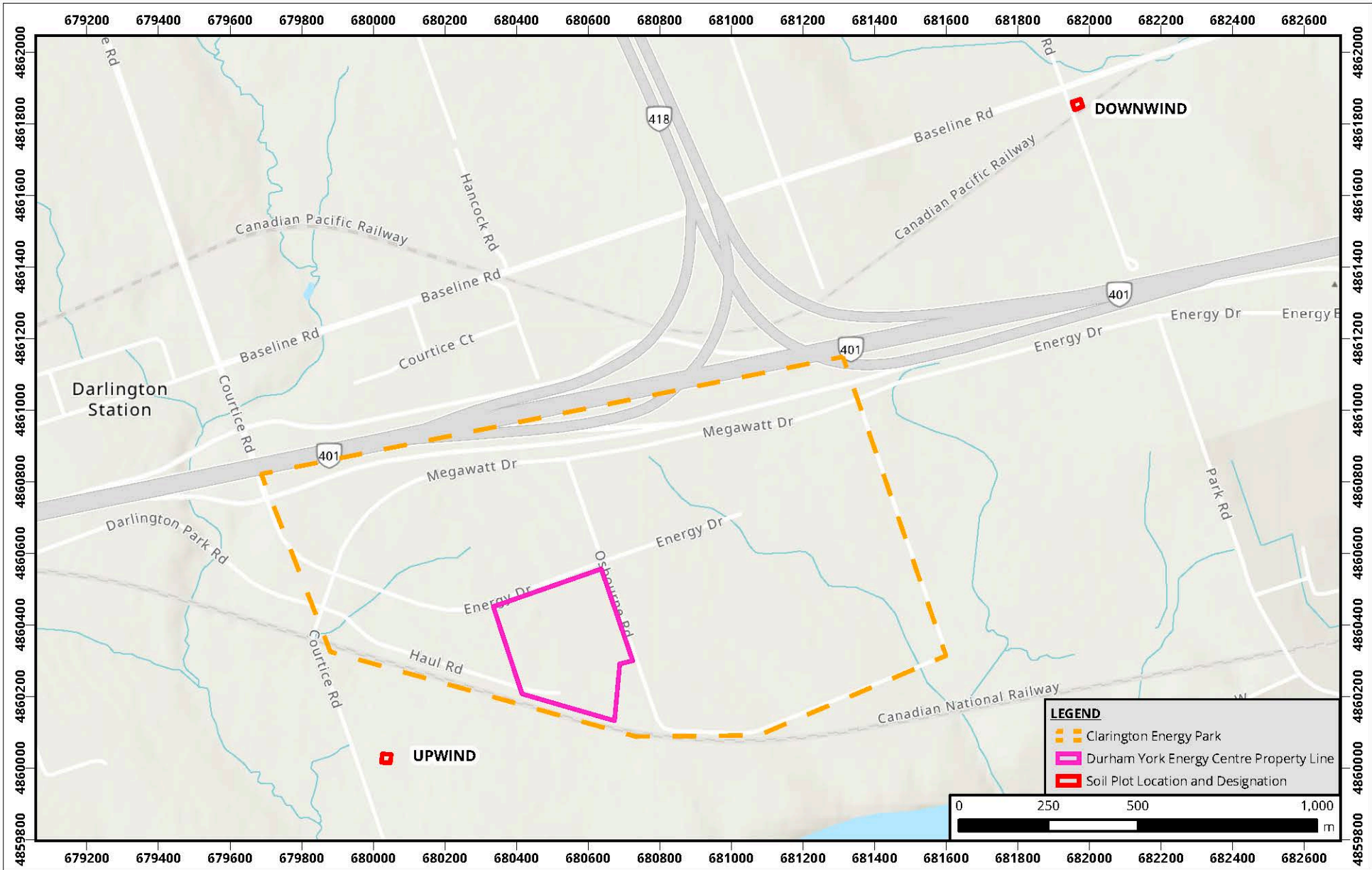
| Parameters                         | Units     | Soil Standards | UPWIND    |           |           |           |           | DYEC      |           |           | DOWNWIND  |           |           |           |           |
|------------------------------------|-----------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                    |           |                | 22-Aug-13 | 25-Aug-15 | 17-Aug-16 | 23-Aug-17 | 19-Aug-20 | 25-Aug-15 | 17-Aug-16 | 23-Aug-17 | 22-Aug-13 | 25-Aug-15 | 17-Aug-16 | 23-Aug-17 | 19-Aug-20 |
| <i>Dioxins &amp; Furans</i>        |           |                |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 2,3,7,8-Tetra CDD                  | ng/kg     | -              | <0.5      | 0.2       | <0.1      | <0.1      | <0.034    | <0.2      | <0.1      | <0.8      | <0.4      | <0.1      | <0.1      | <0.3      | 0.137     |
| 1,2,3,7,8-Penta CDD                | ng/kg     | -              | <0.6      | 0.5       | <0.1      | <0.2      | 0.086     | 0.3       | <0.1      | <0.6      | <0.6      | <0.2      | <0.1      | 0.4       | 0.238     |
| 1,2,3,4,7,8-Hexa CDD               | ng/kg     | -              | <0.6      | 0.6       | <0.1      | 0.3       | <0.22     | 0.4       | 1.8       | <1        | <0.5      | 0.2       | <0.1      | <0.4      | 0.34      |
| 1,2,3,6,7,8-Hexa CDD               | ng/kg     | -              | <0.6      | 0.5       | <0.1      | 0.3       | 0.27      | <0.3      | 2         | <1        | <0.5      | 0.6       | <0.1      | 0.6       | 0.82      |
| 1,2,3,7,8,9-Hexa CDD               | ng/kg     | -              | <0.5      | 0.6       | <0.1      | 0.2       | 0.23      | 0.9       | 2.2       | <1        | 0.5       | 0.5       | <0.1      | 1         | 1.01      |
| 1,2,3,4,6,7,8-Hepta CDD            | ng/kg     | -              | 8.2       | 7.9       | 4.8       | 6.2       | 16        | 12        | 36.3      | 12        | 17        | 11        | 8.1       | 12.6      | 19.4      |
| Octa CDD                           | ng/kg     | -              | 57        | 60        | 31.5      | 43.2      | 116       | 95        | 303       | 82        | 118       | 86        | 74.7      | 103       | 112       |
| 2,3,7,8-Tetra CDF                  | ng/kg     | -              | <0.4      | 0.3       | <0.1      | <0.1      | 0.091     | <0.2      | <0.1      | <0.3      | <0.3      | 0.2       | <0.1      | <0.3      | 0.349     |
| 1,2,3,7,8-Penta CDF                | ng/kg     | -              | <0.4      | 0.4       | <0.1      | <0.2      | 0.100     | <0.2      | <0.1      | <1        | <0.8      | 0.2       | <0.1      | <0.4      | 0.285     |
| 2,3,4,7,8-Penta CDF                | ng/kg     | -              | <0.4      | 0.5       | <0.1      | 0.2       | 0.358     | 0.2       | <0.1      | <1        | <0.6      | 0.3       | <0.1      | <0.4      | 0.597     |
| 1,2,3,4,7,8-Hexa CDF               | ng/kg     | -              | <0.6      | 0.6       | 1.7       | 0.4       | 0.350     | 0.5       | <0.1      | <0.9      | <0.4      | 0.6       | 1.6       | 0.8       | 0.41      |
| 1,2,3,6,7,8-Hexa CDF               | ng/kg     | -              | <0.6      | 0.3       | <0.1      | 0.2       | 0.170     | 0.3       | <0.1      | <0.8      | <0.4      | 0.4       | <0.1      | 0.4       | 0.57      |
| 2,3,4,6,7,8-Hexa CDF               | ng/kg     | -              | <0.6      | 0.4       | 2.3       | <0.2      | <0.12     | 0.4       | <0.1      | <0.9      | 0.7       | 0.3       | 1.4       | 0.5       | <0.12     |
| 1,2,3,7,8,9-Hexa CDF               | ng/kg     | -              | <0.8      | 0.4       | <0.1      | <0.2      | 0.230     | <0.3      | <0.1      | <1        | <0.5      | <0.2      | <0.1      | <0.4      | 0.23      |
| 1,2,3,4,6,7,8-Hepta CDF            | ng/kg     | -              | 2.1       | 2.2       | 1.2       | 1.7       | 3.04      | 2.7       | 7.8       | 1.3       | 4.9       | 2.6       | 7.9       | 3.2       | 5.32      |
| 1,2,3,4,7,8,9-Hepta CDF            | ng/kg     | -              | <1        | <0.3      | <0.1      | <0.4      | 0.29      | 0.3       | <0.1      | <0.9      | <0.6      | <0.2      | <0.1      | 0.4       | 0.41      |
| Octa CDF                           | ng/kg     | -              | 3         | 6         | 6.7       | 4.6       | 11.4      | 9         | 32        | 7.5       | 9         | 8         | 9         | 6.1       | 14.9      |
| Total Tetrachlorodibenzodioxins    | ng/kg     | -              | 1.3       | 0.7       | <0.1      | 0.5       | 0.529     | 0.3       | <0.1      | <0.8      | 1.4       | 0.4       | <0.1      | 1.5       | 0.822     |
| Total Pentachlorodibenzodioxins    | ng/kg     | -              | <0.6      | 2.5       | <0.1      | 1         | 0.959     | 2.3       | 8.1       | <0.6      | 2.3       | 1.8       | <0.1      | 2.6       | 2.75      |
| Total Hexachlorodibenzodioxins     | ng/kg     | -              | 3.6       | 3.7       | <0.2      | 2.3       | 5.54      | 3.3       | 22.5      | <1        | 4.3       | 3.2       | <0.2      | 4.7       | 9.96      |
| Total Heptachlorodibenzodioxins    | ng/kg     | -              | 17.7      | 10.2      | 13.4      | 14.5      | 58.8      | 15        | 57.9      | 20        | 31.1      | 12.7      | 28.6      | 25.7      | 40.5      |
| Total PCDDs                        | ng/kg     | -              | 80        | 76.8      | 44.9      | 61.5      | 182       | 116       | 392       | 103       | 158       | 104       | 103       | 138       | 166       |
| Total Tetrachlorodibenzofurans     | ng/kg     | -              | 3.1       | 2         | <0.1      | 2.6       | 1.18      | 3.8       | 10.1      | 7.4       | 4.7       | 2.1       | 1.2       | 2.7       | 4.20      |
| Total Pentachlorodibenzofurans     | ng/kg     | -              | 1.3       | 2.3       | 4.3       | 1.1       | 4.59      | 3.3       | 6.2       | <1        | 3.3       | 2.5       | <0.1      | 3.7       | 7.04      |
| Total Hexachlorodibenzofurans      | ng/kg     | -              | 2.4       | 1.8       | 103       | 2.5       | 1.96      | 1.2       | 173       | 3.3       | 6.5       | 1.3       | 2.9       | 5.3       | 8.17      |
| Total Heptachlorodibenzofurans     | ng/kg     | -              | 5         | 3.3       | 56.9      | 4.1       | 8.67      | 4.9       | 36.4      | 4.1       | 12.3      | 4.8       | 15.1      | 8.1       | 14.0      |
| Total PCDFs                        | ng/kg     | -              | 14        | 15.5      | 171       | 14.9      | 27.8      | 21.7      | 258       | 14.8      | 36        | 19.1      | 28.3      | 25.9      | 48.3      |
| 2,3,7,8-Tetra CDD (TEF 1.0)        | TEQ       | -              | 0.25      | 0.195     | 0.05      | 0.05      | 0.017     | 0.1       | 0.05      | 0.4       | 0.2       | 0.05      | 0.05      | 0.15      | 0.137     |
| 1,2,3,7,8-Penta CDD (TEF 1.0)      | TEQ       | -              | 0.3       | 0.47      | 0.05      | 0.1       | 0.086     | 0.262     | 0.05      | 0.3       | 0.3       | 0.1       | 0.05      | 0.422     | 0.238     |
| 1,2,3,4,7,8-Hexa CDD (TEF 0.1)     | TEQ       | -              | 0.03      | 0.0628    | 0.005     | 0.0261    | 0.011     | 0.0372    | 0.184     | 0.065     | 0.025     | 0.0203    | 0.005     | 0.02      | 0.0341    |
| 1,2,3,6,7,8-Hexa CDD (TEF 0.1)     | TEQ       | -              | 0.03      | 0.0525    | 0.005     | 0.0285    | 0.027     | 0.015     | 0.201     | 0.065     | 0.025     | 0.0605    | 0.005     | 0.0635    | 0.0816    |
| 1,2,3,7,8,9-Hexa CDD (TEF 0.1)     | TEQ       | -              | 0.025     | 0.0646    | 0.005     | 0.0217    | 0.023     | 0.0871    | 0.22      | 0.07      | 0.0544    | 0.0535    | 0.005     | 0.105     | 0.101     |
| 1,2,3,4,6,7,8-Hepta CDD (TEF 0.01) | TEQ       | -              | 0.0819    | 0.0788    | 0.0475    | 0.0616    | 0.16      | 0.12      | 0.363     | 0.121     | 0.17      | 0.109     | 0.0807    | 0.126     | 0.194     |
| Octa CDD (TEF 0.0003)              | TEQ       | -              | 0.0172    | 0.0179    | 0.00944   | 0.0129    | 0.0348    | 0.0285    | 0.091     | 0.0246    | 0.0355    | 0.0259    | 0.0224    | 0.031     | 0.0336    |
| 2,3,7,8-Tetra CDF (TEF 0.1)        | TEQ       | -              | 0.02      | 0.0265    | 0.005     | 0.005     | 0.0091    | 0.01      | 0.005     | 0.015     | 0.015     | 0.0224    | 0.005     | 0.015     | 0.0349    |
| 1,2,3,7,8-Penta CDF (TEF 0.03)     | TEQ       | -              | 0.006     | 0.012     | 0.0015    | 0.003     | 0.003     | 0.003     | 0.0015    | 0.0165    | 0.012     | 0.006     | 0.0015    | 0.006     | 0.00855   |
| 2,3,4,7,8-Penta CDF (TEF 0.3)      | TEQ       | -              | 0.06      | 0.15      | 0.015     | 0.0638    | 0.1074    | 0.06      | 0.015     | 0.15      | 0.09      | 0.09      | 0.015     | 0.06      | 0.1791    |
| 1,2,3,4,7,8-Hexa CDF (TEF 0.1)     | TEQ       | -              | 0.03      | 0.0623    | 0.171     | 0.0367    | 0.035     | 0.0499    | 0.005     | 0.045     | 0.02      | 0.0576    | 0.159     | 0.075     | 0.0409    |
| 1,2,3,6,7,8-Hexa CDF (TEF 0.1)     | TEQ       | -              | 0.03      | 0.0302    | 0.005     | 0.0203    | 0.017     | 0.03      | 0.005     | 0.04      | 0.02      | 0.0369    | 0.005     | 0.0422    | 0.0565    |
| 2,3,4,6,7,8-Hexa CDF (TEF 0.1)     | TEQ       | -              | 0.03      | 0.0372    | 0.233     | 0.01      | 0.023     | 0.0427    | 0.005     | 0.045     | 0.072     | 0.0286    | 0.136     | 0.0495    | 0.023     |
| 1,2,3,7,8,9-Hexa CDF (TEF 0.1)     | TEQ       | -              | 0.04      | 0.0377    | 0.005     | 0.01      | 0.006     | 0.015     | 0.005     | 0.065     | 0.025     | 0.01      | 0.005     | 0.02      | 0.006     |
| 1,2,3,4,6,7,8-Hepta CDF (TEF 0.01) | TEQ       | -              | 0.021     | 0.0219    | 0.012     | 0.0173    | 0.0304    | 0.027     | 0.0782    | 0.0125    | 0.049     | 0.0261    | 0.0785    | 0.0321    | 0.0532    |
| 1,2,3,4,7,8,9-Hepta CDF (TEF 0.01) | TEQ       | -              | 0.005     | 0.0015    | 0.0005    | 0.002     | 0.00287   | 0.00266   | 0.0005    | 0.0045    | 0.003     | 0.001     | 0.0005    | 0.00417   | 0.00407   |
| Octa CDF (TEF 0.0003)              | TEQ       | -              | 0.00081   | 0.0018    | 0.00202   | 0.00138   | 0.00342   | 0.00256   | 0.00961   | 0.00225   | 0.00284   | 0.00252   | 0.00271   | 0.00184   | 0.00447   |
| Total PCDDs and PCDFs (TEQ)        | TEQ ng/kg | 7              | 0.977     | 1.32      | 0.622     | 0.47      | 0.596     | 0.9       | 1.29      | 1.44      | 1.12      | 0.7       | 0.626     | 1.22      | 1.23      |

Notes: 1. Soil Standard as per Table 1 of the Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act (MOECC, April 15, 2011.)

2. '-' denotes Soil Standard criteria not established.

FIGURES





## SITE LOCATION MAP 2020 SOIL TESTING PROGRAM

Map Projection: NAD 1983 UTM Zone 17N  
The Regional Municipality of Durham - Durham York Energy Centre

- Notes:
1. Basemap from First Base Mapping Solutions (2018)
  2. Site details from WSP (2015)



Drawn by: JWV Figure: 1

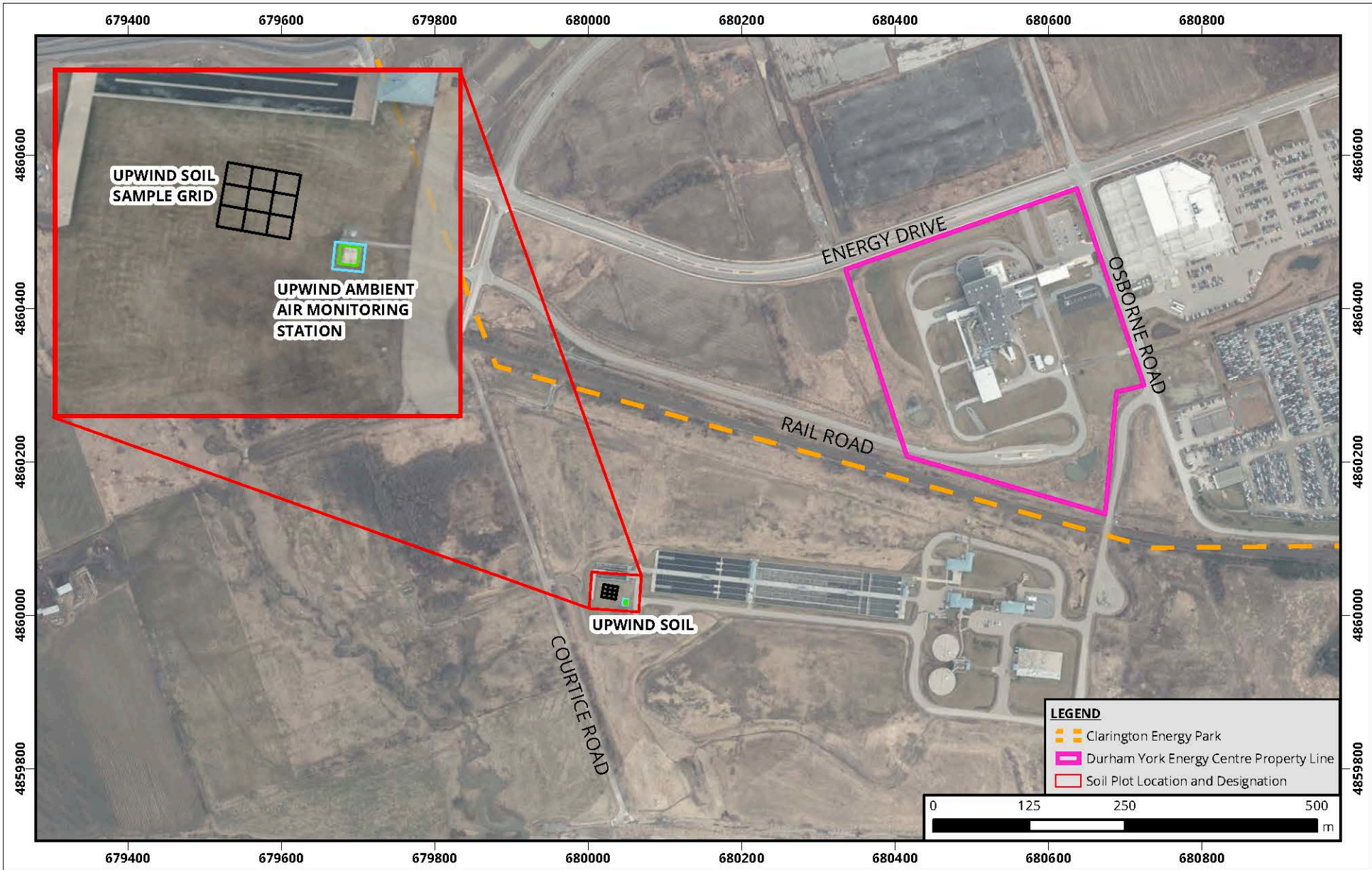
Approx. Scale: 1:15,000

Date Revised: Oct 5, 2020

Project #: 2000603







## UPWIND SAMPLE LOCATION MAP 2020 SOIL TESTING PROGRAM

Map Projection: NAD 1983 UTM Zone 17N  
The Regional Municipality of Durham - Durham York Energy Centre

- Notes:
1. Basemap from First Base Mapping Solutions (2018)
  2. Site details from WSP (2015)



Drawn by: JWV Figure: 2

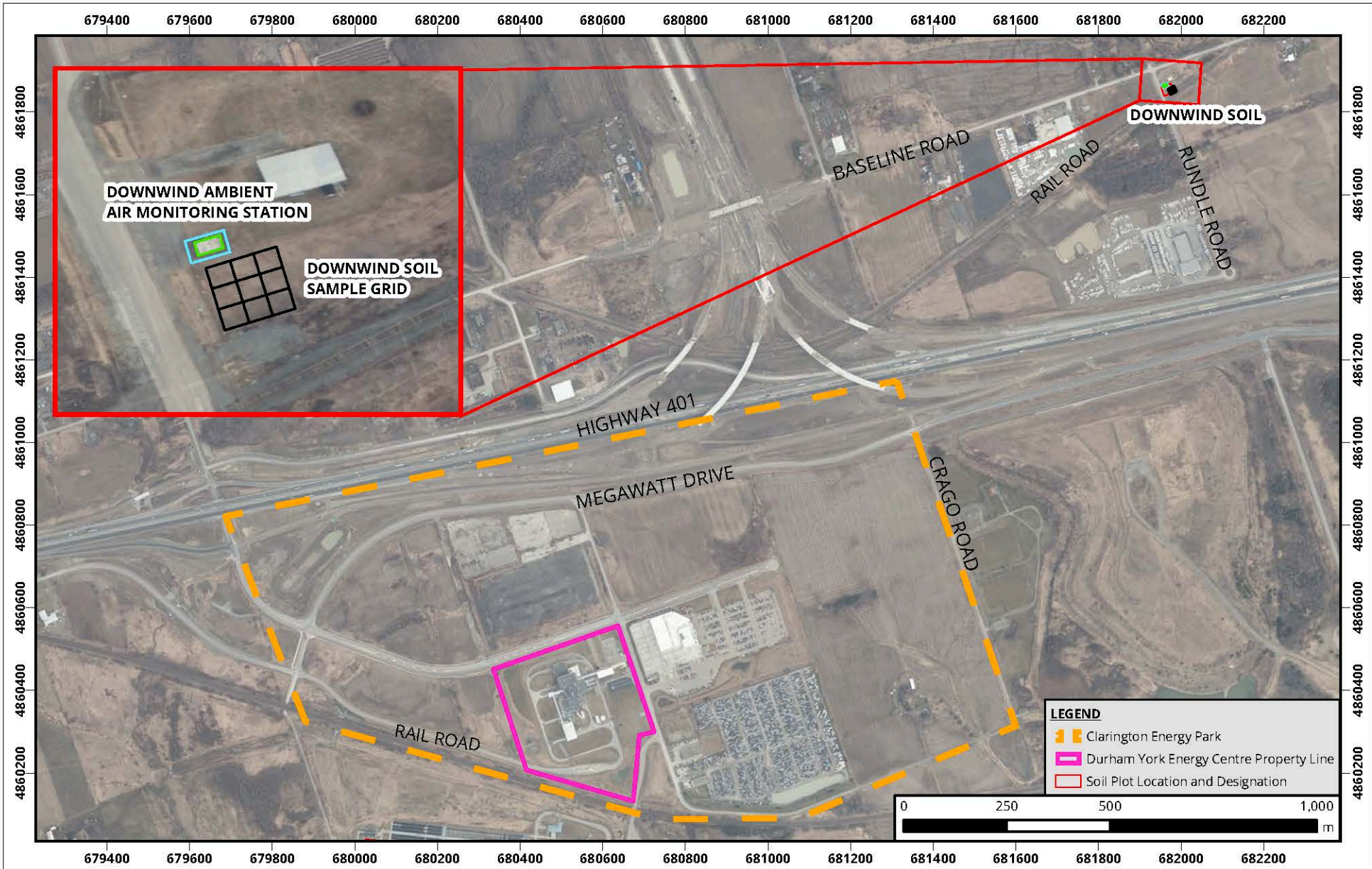
Approx. Scale: 1:7,000

Date Revised: Oct 5, 2020

Project #: 2000603







## DOWNWIND SAMPLE LOCATION MAP 2020 SOIL TESTING PROGRAM

Map Projection: NAD 1983 UTM Zone 17N  
The Regional Municipality of Durham - Durham York Energy Centre

- Notes:
1. Basemap from First Base Mapping Solutions (2018)
  2. Site details from WSP (2015)



Drawn by: JWV Figure: 3

Approx. Scale: 1:13,000

Date Revised: Oct 5, 2020

Project #: 2000603



## APPENDIX A

A large decorative graphic on the page. It features a blue triangular shape in the top-left corner, a white curved line separating it from a large light-grey circular area, and the word 'CORRESPONDANCE' centered within the grey area.

CORRESPONDANCE



## Carlos Pena

---

**From:** Dunn, Philip (MECP) <Philip.Dunn@ontario.ca>  
**Sent:** Monday, August 31, 2020 6:37 PM  
**To:** Andrew Evans  
**Cc:** Gioseph Anello; Lyndsay Waller; Dugas, Celeste (MECP); Butchart, Jeff (MECP); Martin, Paul (MECP); O'Leary, Emilee (MECP)  
**Subject:** Durham York Energy Centre - Fenceline Soil Sampling and Revised Soil Testing Plan

Hi Andrew,

As I explained last week we've reviewed the revised soil sampling plan and agree that the soil sampling at the former fenceline ambient station is no longer required. As indicated in Section 2.4 of the previous Soil Testing Plan and Section 3.2 of the attached revised plan the ambient air monitoring program and soil testing are linked. With the removal of the fenceline ambient air monitoring station in 2018 soil sampling at the former fenceline station is no longer required.

In Section 4.3 of the Ambient Air Quality Monitoring Plan the purpose of the fenceline ambient air monitoring station (located inside the property line of the DYEC) was to monitor low level fugitive emissions (particulate and metals) for a minimum of one year after construction is complete. The location of the station was not considered representative of background conditions or within the area of interpreted maximum emissions deposition.

Any questions please give me a call,

Take care, Phil

Phil Dunn  
Senior Environmental Officer  
Ministry of Environment, Conservation and Parks  
York Durham District  
(905)424-2808 cel.  
Email: [philip.dunn@ontario.ca](mailto:philip.dunn@ontario.ca)

*We want to hear from you. How was my service? You can provide feedback at 1-888-745-8888.*

---

**From:** Melodee Smart <[Melodee.Smart@Durham.ca](mailto:Melodee.Smart@Durham.ca)>  
**Sent:** July 17, 2020 5:09 PM  
**To:** Dugas, Celeste (MECP) <[Celeste.Dugas@ontario.ca](mailto:Celeste.Dugas@ontario.ca)>  
**Cc:** Gioseph Anello <[Gioseph.Anello@Durham.ca](mailto:Gioseph.Anello@Durham.ca)>; 'Laura McDowell' <[Laura.McDowell@york.ca](mailto:Laura.McDowell@york.ca)>; Trevisan, Lisa (MECP) <[Lisa.Trevisan@ontario.ca](mailto:Lisa.Trevisan@ontario.ca)>; Malcolmson, Heather (MECP) <[Heather.Malcolmson@ontario.ca](mailto:Heather.Malcolmson@ontario.ca)>; O'Neill, Kathleen (MECP) <[Kathleen.Oneill@ontario.ca](mailto:Kathleen.Oneill@ontario.ca)>; Dunn, Philip (MECP) <[Philip.Dunn@ontario.ca](mailto:Philip.Dunn@ontario.ca)>; Butchart, Jeff (MECP) <[jeff.butchart@ontario.ca](mailto:jeff.butchart@ontario.ca)>; Martin, Paul (MECP) <[Paul.D.Martin@ontario.ca](mailto:Paul.D.Martin@ontario.ca)>; O'Leary, Emilee (MECP) <[Emilee.OLeary@ontario.ca](mailto:Emilee.OLeary@ontario.ca)>; Battarino, Gavin (MECP) <[Gavin.Battarino@ontario.ca](mailto:Gavin.Battarino@ontario.ca)>; Matthew Neild ([mneild@covanta.com](mailto:mneild@covanta.com)) <[mneild@covanta.com](mailto:mneild@covanta.com)>; 'Amanda Huxter ([AHuxter@covanta.com](mailto:AHuxter@covanta.com))' <[AHuxter@covanta.com](mailto:AHuxter@covanta.com)>; [Ron.Gordon@york.ca](mailto:Ron.Gordon@york.ca); 'Seth Dittman ([Seth.Dittman@york.ca](mailto:Seth.Dittman@york.ca))' <[Seth.Dittman@york.ca](mailto:Seth.Dittman@york.ca)>; Farid, Muneeb <[Muneeb.Farid@york.ca](mailto:Muneeb.Farid@york.ca)>; Angela Porteous <[Angela.Porteous@durham.ca](mailto:Angela.Porteous@durham.ca)>; Andrew Evans <[Andrew.Evans@durham.ca](mailto:Andrew.Evans@durham.ca)>; Lyndsay Waller <[Lyndsay.Waller@Durham.ca](mailto:Lyndsay.Waller@Durham.ca)>; Danielle Luciano <[Danielle.Luciano@Durham.ca](mailto:Danielle.Luciano@Durham.ca)>  
**Subject:** Durham York Energy Centre: Revised Soil Testing Plan

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Good afternoon Ms. Dugas –

On behalf of Gioseph Anello, M.Eng., P.Eng., PMP, Director, Waste Management Services, The Regional Municipality of Durham, and on behalf of Laura McDowell, P.Eng., Director, Environmental Promotion and Protection, The Regional Municipality of York, please find attached, to your attention, correspondence and related attachments regarding 'Durham York Energy Centre, Revised Soil Testing Plan'.

Thank you,

**Melodee Smart | Administrative Assistant**

The Regional Municipality of Durham | Works Department – Commissioner's Office

605 Rossland Road East, Level 5, Whitby, Ontario L1N 6A3

905-668-7711 or 1-800-372-1102 extension 3560 | 905.668.2051

[Melodee.Smart@durham.ca](mailto:Melodee.Smart@durham.ca) | [durham.ca](http://durham.ca)

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**From:** [Dunn, Philip \(MECP\)](#)  
**To:** [Andrew Evans](#)  
**Cc:** [Giuseppe Anello](#); [Lyndsay Waller](#); [Dugas, Celeste \(MECP\)](#); [Butchart, Jeff \(MECP\)](#); [Martin, Paul \(MECP\)](#); [O'Leary, Emilee \(MECP\)](#)  
**Subject:** Durham York Energy Centre - Fenceline Soil Sampling and Revised Soil Testing Plan  
**Date:** Monday, August 31, 2020 6:37:17 PM

---

Hi Andrew,

As I explained last week we've reviewed the revised soil sampling plan and agree that the soil sampling at the former fenceline ambient station is no longer required. As indicated in Section 2.4 of the previous Soil Testing Plan and Section 3.2 of the attached revised plan the ambient air monitoring program and soil testing are linked. With the removal of the fenceline ambient air monitoring station in 2018 soil sampling at the former fenceline station is no longer required.

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Any questions please give me a call,

Take care, Phil

Phil Dunn  
Senior Environmental Officer  
Ministry of Environment, Conservation and Parks  
York Durham District  
(905)424-2808 cel.  
Email: [philip.dunn@ontario.ca](mailto:philip.dunn@ontario.ca)

*We want to hear from you. How was my service? You can provide feedback at 1-888-745-8888.*

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**From:** Melodee Smart <[Melodee.Smart@Durham.ca](mailto:Melodee.Smart@Durham.ca)>  
**Sent:** July 17, 2020 5:09 PM  
**To:** Dugas, Celeste (MECP) <[Celeste.Dugas@ontario.ca](mailto:Celeste.Dugas@ontario.ca)>  
**Cc:** Giuseppe Anello <[Giuseppe.Anello@Durham.ca](mailto:Giuseppe.Anello@Durham.ca)>; 'Laura McDowell' <[Laura.McDowell@york.ca](mailto:Laura.McDowell@york.ca)>; Trevisan, Lisa (MECP) <[Lisa.Trevisan@ontario.ca](mailto:Lisa.Trevisan@ontario.ca)>; Malcolmson, Heather (MECP) <[Heather.Malcolmson@ontario.ca](mailto:Heather.Malcolmson@ontario.ca)>; O'Neill, Kathleen (MECP) <[Kathleen.Oneill@ontario.ca](mailto:Kathleen.Oneill@ontario.ca)>; Dunn, Philip (MECP) <[Philip.Dunn@ontario.ca](mailto:Philip.Dunn@ontario.ca)>; Butchart, Jeff (MECP) <[jeff.butchart@ontario.ca](mailto:jeff.butchart@ontario.ca)>; Martin, Paul (MECP) <[Paul.D.Martin@ontario.ca](mailto:Paul.D.Martin@ontario.ca)>; O'Leary, Emilee (MECP) <[Emilee.OLeary@ontario.ca](mailto:Emilee.OLeary@ontario.ca)>; Battarino, Gavin (MECP) <[Gavin.Battarino@ontario.ca](mailto:Gavin.Battarino@ontario.ca)>; Matthew Neild ([mneild@covanta.com](mailto:mneild@covanta.com)) <[mneild@covanta.com](mailto:mneild@covanta.com)>; 'Amanda Huxter ([AHuxter@covanta.com](mailto:AHuxter@covanta.com))' <[AHuxter@covanta.com](mailto:AHuxter@covanta.com)>; [Ron.Gordon@york.ca](mailto:Ron.Gordon@york.ca); 'Seth Dittman ([Seth.Dittman@york.ca](mailto:Seth.Dittman@york.ca))' <[Seth.Dittman@york.ca](mailto:Seth.Dittman@york.ca)>; Farid, Muneeb <[Muneeb.Farid@york.ca](mailto:Muneeb.Farid@york.ca)>; Angela Porteous <[Angela.Porteous@durham.ca](mailto:Angela.Porteous@durham.ca)>; Andrew Evans <[Andrew.Evans@durham.ca](mailto:Andrew.Evans@durham.ca)>; Lyndsay Waller <[Lyndsay.Waller@Durham.ca](mailto:Lyndsay.Waller@Durham.ca)>; Danielle Luciano <[Danielle.Luciano@Durham.ca](mailto:Danielle.Luciano@Durham.ca)>  
**Subject:** Durham York Energy Centre: Revised Soil Testing Plan

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Good afternoon Ms. Dugas –

On behalf of Gioseph Anello, M.Eng., P.Eng., PMP, Director, Waste Management Services, The Regional Municipality of Durham, and on behalf of Laura McDowell, P.Eng., Director, Environmental Promotion and Protection, The Regional Municipality of York, please find attached, to your attention, correspondence and related attachments regarding 'Durham York Energy Centre, Revised Soil Testing Plan'.

Thank you,

**Melodee Smart | Administrative Assistant**

The Regional Municipality of Durham | Works Department – Commissioner's Office

605 Rossland Road East, Level 5, Whitby, Ontario L1N 6A3

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## APPENDIX B

A large decorative graphic on the page. It features a blue triangular shape in the top-left corner, a white curved line separating it from a large light-grey circular area, and a thin white border around the grey area.

## PHOTOGRAPHIC LOG





**PHOTOGRAPH 1:** VIEW OF THE UPWIND SOIL SAMPLING SITE, FACING SOUTHWEST.



**PHOTOGRAPH 2:** VIEW OF THE DOWNWIND SOIL SAMPLING SITE, FACING SOUTHEAST.

NOTES:

**PHOTOGRAPHIC LOG**

2020 SOIL TESTING REPORT

REGIONAL MUNICIPALITY OF DURHAM  
DURHAM YORK ENERGY CENTRE

FIGURE NUMBER

**B-1**

APPROX. SCALE

**NTS**

PROJECT NUMBER

**2000603**

DATE REVISED

**09/16/2020**



## APPENDIX C

A large decorative graphic on the page. It features a blue triangular shape in the top-left corner, a white curved line separating it from a light gray curved shape, and a larger light gray curved shape that fills the bottom and right portions of the page.

# LABORATORY CERTIFICATES OF ANALYSIS

Client: RWDI Air Inc  
600 Southgate Drive  
Guelph, ON  
N1G 4P6  
Attention: Mr. Timothy Boc  
Invoice to: RWDI Air Inc.  
PO#:

Report Number: 1937015  
Date Submitted: 2020-08-19  
Date Reported: 2020-09-16  
Project: 2000603-8000  
COC #: 210561  
Temperature (C): 7  
Custody Seal:

Page 1 of 7


---

**Dear Timothy Boc:**

**Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).**

Report Comments:

Revision 1: This is an amendment and supersedes all other copies of this report issued on 2020-08-22. Boron results were added to this report as per client request on 2020-09-16.

 Hongyuan Deng  
2020.09.16  
11:03:33 -04'00'

Hongyuan Deng, Inorganics Technician

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at <http://www.cala.ca/scopes/2602.pdf>

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.



Client: RWDI Air Inc  
 600 Southgate Drive  
 Guelph, ON  
 N1G 4P6  
 Attention: Mr. Timothy Boc  
 PO#:  
 Invoice to: RWDI Air Inc.

Report Number: 1937015  
 Date Submitted: 2020-08-19  
 Date Reported: 2020-09-16  
 Project: 2000603-8000  
 COC #: 210561

***Exceedence Summary***

| Sample I.D. | Analyte | Result | Units | Criteria |
|-------------|---------|--------|-------|----------|
|             |         |        |       |          |

Results relate only to the parameters tested on the samples submitted.  
 Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: RWDI Air Inc  
 600 Southgate Drive  
 Guelph, ON  
 N1G 4P6  
 Attention: Mr. Timothy Boc  
 PO#:  
 Invoice to: RWDI Air Inc.

Report Number: 1937015  
 Date Submitted: 2020-08-19  
 Date Reported: 2020-09-16  
 Project: 2000603-8000  
 COC #: 210561

**Guideline = O.Reg 153-T1-All Other Soils**

**Metals**

Lab I.D.  
 Sample Matrix  
 Sample Type  
 Sample Date  
 Sampling Time  
 Sample I.D.

|                    |                    |                    |
|--------------------|--------------------|--------------------|
| 1511716<br>Soil153 | 1511717<br>Soil153 | 1511718<br>Soil153 |
| 2020-08-18         | 2020-08-18         | 2020-08-18         |
| Upwind             | Downwind           | Soil-DUP           |

| Analyte                   | Batch No | MRL  | Units | Guideline | 1511716<br>Soil153 | 1511717<br>Soil153 | 1511718<br>Soil153 |
|---------------------------|----------|------|-------|-----------|--------------------|--------------------|--------------------|
| Antimony                  | 388203   | 1    | ug/g  | STD 1.3   | <1                 | <1                 | <1                 |
| Arsenic                   | 388203   | 1    | ug/g  | STD 18    | 3                  | 3                  | 3                  |
| Barium                    | 388203   | 1    | ug/g  | STD 220   | 97                 | 83                 | 103                |
| Beryllium                 | 388203   | 1    | ug/g  | STD 2.5   | <1                 | <1                 | <1                 |
| Boron (Hot Water Soluble) | 388236   | 0.5  | ug/g  |           | <0.5               | 0.6                | <0.5               |
| Boron (total)             | 388203   | 5    | ug/g  | STD 36    | 5                  | 7                  | 6                  |
| Cadmium                   | 388203   | 0.4  | ug/g  | STD 1.2   | <0.4               | <0.4               | <0.4               |
| Chromium Total            | 388203   | 1    | ug/g  | STD 70    | 23                 | 18                 | 26                 |
| Chromium VI               | 388241   | 0.20 | ug/g  | STD 0.66  | 0.22               |                    |                    |
|                           | 388332   | 0.20 | ug/g  | STD 0.66  |                    | 0.33               | <0.20              |
| Cobalt                    | 388203   | 1    | ug/g  | STD 21    | 7                  | 5                  | 8                  |
| Copper                    | 388203   | 1    | ug/g  | STD 92    | 15                 | 12                 | 16                 |
| Lead                      | 388203   | 1    | ug/g  | STD 120   | 11                 | 16                 | 12                 |
| Mercury                   | 388203   | 0.1  | ug/g  | STD 0.27  | <0.1               | <0.1               | <0.1               |
| Molybdenum                | 388203   | 1    | ug/g  | STD 2     | <1                 | <1                 | <1                 |
| Nickel                    | 388203   | 1    | ug/g  | STD 82    | 16                 | 11                 | 17                 |
| Selenium                  | 388203   | 1    | ug/g  | STD 1.5   | <1                 | <1                 | <1                 |
| Silver                    | 388203   | 0.2  | ug/g  | STD 0.5   | <0.2               | <0.2               | <0.2               |
| Thallium                  | 388203   | 1    | ug/g  | STD 1     | <1                 | <1                 | <1                 |
| Tin                       | 388203   | 5    | ug/g  |           | <5                 | <5                 | <5                 |
| Vanadium                  | 388203   | 2    | ug/g  | STD 86    | 29                 | 29                 | 31                 |
| Zinc                      | 388203   | 2    | ug/g  | STD 290   | 79                 | 63                 | 72                 |

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Client: RWDI Air Inc  
 600 Southgate Drive  
 Guelph, ON  
 N1G 4P6  
 Attention: Mr. Timothy Boc  
 PO#:  
 Invoice to: RWDI Air Inc.

Report Number: 1937015  
 Date Submitted: 2020-08-19  
 Date Reported: 2020-09-16  
 Project: 2000603-8000  
 COC #: 210561

**Guideline = O.Reg 153-T1-All Other Soils**

**PAH**

Lab I.D.  
 Sample Matrix  
 Sample Type  
 Sample Date  
 Sampling Time  
 Sample I.D.

|                    |                    |                    |
|--------------------|--------------------|--------------------|
| 1511716<br>Soil153 | 1511717<br>Soil153 | 1511718<br>Soil153 |
| 2020-08-18         | 2020-08-18         | 2020-08-18         |
| Upwind             | Downwind           | Soil-DUP           |

| Analyte | Batch No | MRL | Units | Guideline |
|---------|----------|-----|-------|-----------|
|---------|----------|-----|-------|-----------|

|                       |        |      |      |          |       |       |       |
|-----------------------|--------|------|------|----------|-------|-------|-------|
| 1+2-methylnaphthalene | 208523 | 0.05 | ug/g |          | <0.05 | <0.05 | <0.05 |
| Anthracene            | 388247 | 0.05 | ug/g | STD 0.16 | <0.05 | <0.05 | <0.05 |
| Benz[a]anthracene     | 388247 | 0.05 | ug/g | STD 0.36 | <0.05 | 0.23  | <0.05 |
| Benzo[a]pyrene        | 388247 | 0.05 | ug/g | STD 0.3  | <0.05 | 0.24  | <0.05 |
| Benzo[b]fluoranthene  | 388247 | 0.05 | ug/g | STD 0.47 | <0.05 | 0.21  | <0.05 |
| Fluorene              | 388247 | 0.05 | ug/g | STD 0.12 | <0.05 | <0.05 | <0.05 |

**Subcontract**

Lab I.D.  
 Sample Matrix  
 Sample Type  
 Sample Date  
 Sampling Time  
 Sample I.D.

|                    |                    |                    |
|--------------------|--------------------|--------------------|
| 1511716<br>Soil153 | 1511717<br>Soil153 | 1511718<br>Soil153 |
| 2020-08-18         | 2020-08-18         | 2020-08-18         |
| Upwind             | Downwind           | Soil-DUP           |

| Analyte | Batch No | MRL | Units | Guideline |
|---------|----------|-----|-------|-----------|
|---------|----------|-----|-------|-----------|

|                |        |         |      |  |         |         |         |
|----------------|--------|---------|------|--|---------|---------|---------|
| Methyl Mercury | 389171 | 0.00005 | ug/g |  | 0.00020 | 0.00022 | 0.00017 |
|----------------|--------|---------|------|--|---------|---------|---------|

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Report Number: 1937015  
 Date Submitted: 2020-08-19  
 Date Reported: 2020-09-16  
 Project: 2000603-8000  
 COC #: 210561

**Guideline = O.Reg 153-T1-All Other Soils**

**Subcontract-Inorg**

|               |            |            |            |
|---------------|------------|------------|------------|
| Lab I.D.      | 1511716    | 1511717    | 1511718    |
| Sample Matrix | Soil153    | Soil153    | Soil153    |
| Sample Type   |            |            |            |
| Sample Date   | 2020-08-18 | 2020-08-18 | 2020-08-18 |
| Sampling Time |            |            |            |
| Sample I.D.   | Upwind     | Downwind   | Soil-DUP   |

**Analyte                      Batch No                      MRL                      Units                      Guideline**

|         |        |    |      |  |     |     |     |
|---------|--------|----|------|--|-----|-----|-----|
| Total P | 388360 | 10 | ug/g |  | 760 | 700 | 870 |
|---------|--------|----|------|--|-----|-----|-----|

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 Date Reported: 2020-09-16  
 Project: 2000603-8000  
 COC #: 210561

**Quality Assurance Summary**

| Batch No | Analyte                   | Blank      | QC % Rec | QC Limits | Spike % Rec | Spike Limits | Dup % RPD | Duplicate Limits |
|----------|---------------------------|------------|----------|-----------|-------------|--------------|-----------|------------------|
| 208523   | 1+2-methylnaphthalene     |            |          |           |             |              |           |                  |
| 388203   | Silver                    | <0.2 ug/g  | 114      | 70-130    | 119         | 70-130       | 0         | 0-20             |
| 388203   | Arsenic                   | <1 ug/g    | 100      | 70-130    | 108         | 70-130       | 5         | 0-20             |
| 388203   | Boron (total)             | <5 ug/g    | 104      | 70-130    | 112         | 70-130       | 0         | 0-20             |
| 388203   | Barium                    | <1 ug/g    | 112      | 70-130    | 145         | 70-130       | 2         | 0-20             |
| 388203   | Beryllium                 | <1 ug/g    | 104      | 70-130    | 116         | 70-130       | 0         | 0-20             |
| 388203   | Cadmium                   | <0.4 ug/g  | 116      | 70-130    | 117         | 70-130       | 0         | 0-20             |
| 388203   | Cobalt                    | <1 ug/g    | 109      | 70-130    | 109         | 70-130       | 2         | 0-20             |
| 388203   | Chromium Total            | <1 ug/g    | 112      | 70-130    | 155         | 70-130       | 3         | 0-20             |
| 388203   | Copper                    | <1 ug/g    | 119      | 70-130    | 116         | 70-130       | 2         | 0-20             |
| 388203   | Mercury                   | <0.1 ug/g  | 100      | 70-130    | 96          | 70-130       | 0         | 0-20             |
| 388203   | Molybdenum                | <1 ug/g    | 105      | 70-130    | 108         | 70-130       | 0         | 0-20             |
| 388203   | Nickel                    | <1 ug/g    | 113      | 70-130    | 122         | 70-130       | 3         | 0-20             |
| 388203   | Lead                      | <1 ug/g    | 121      | 70-130    | 116         | 70-130       | 1         | 0-20             |
| 388203   | Antimony                  | <1 ug/g    | 76       | 70-130    | 109         | 70-130       | 0         | 0-20             |
| 388203   | Selenium                  | <1 ug/g    | 112      | 70-130    | 102         | 70-130       | 0         | 0-20             |
| 388203   | Tin                       | <5 ug/g    | 87       | 70-130    | 1           | 70-130       | 0         | 0-20             |
| 388203   | Thallium                  | <1 ug/g    | 121      | 70-130    | 118         | 70-130       | 0         | 0-20             |
| 388203   | Vanadium                  | <2 ug/g    | 106      | 70-130    | 132         | 70-130       | 3         | 0-20             |
| 388203   | Zinc                      | <2 ug/g    | 122      | 70-130    | 118         | 70-130       | 3         | 0-20             |
| 388236   | Boron (Hot Water Soluble) | <0.5 ug/g  | 91       | 70-130    | 92          | 75-125       | 0         | 0-30             |
| 388241   | Chromium VI               | <0.20 ug/g | 119      | 80-120    | 113         | 70-130       | 0         | 0-35             |
| 388247   | Anthracene                | <0.05 ug/g | 87       | 50-140    | 68          | 50-140       | 0         | 0-40             |
| 388247   | Benz[a]anthracene         | <0.05 ug/g | 75       | 50-140    | 66          | 50-140       | 0         | 0-40             |
| 388247   | Benzo[a]pyrene            | <0.05 ug/g | 87       | 50-140    | 61          | 50-140       | 0         | 0-40             |
| 388247   | Benzo[b]fluoranthene      | <0.05 ug/g | 84       | 50-140    | 40          | 50-140       | 0         | 0-40             |
| 388247   | Fluorene                  | <0.05 ug/g | 77       | 50-140    | 61          | 50-140       | 0         | 0-40             |
| 388332   | Chromium VI               | <0.20 ug/g | 110      | 80-120    | 95          | 70-130       | 0         | 0-35             |
| 388360   | Total P                   | <1.0 ug/g  | 89       | 80-120    | 89          |              | 23        |                  |
| 389171   | Methyl Mercury            | <0.00005   |          |           |             |              |           |                  |

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 Attention: Mr. Timothy Boc  
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Report Number: 1937015  
 Date Submitted: 2020-08-19  
 Date Reported: 2020-09-16  
 Project: 2000603-8000  
 COC #: 210561

**Test Summary**

| Batch No | Analyte                   | Instrument | Preparation Date | Analysis Date | Analyst | Method              |
|----------|---------------------------|------------|------------------|---------------|---------|---------------------|
| 208523   | 1+2-methylnaphthalene     | GC-MS      | 2020-08-26       | 2020-08-26    | C_M     | P 8270              |
| 388203   | Silver                    | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Arsenic                   | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Boron (total)             | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Barium                    | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Beryllium                 | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Cadmium                   | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Cobalt                    | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Chromium Total            | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Copper                    | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Mercury                   | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Molybdenum                | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Nickel                    | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Lead                      | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Antimony                  | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Selenium                  | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Tin                       | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Thallium                  | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Vanadium                  | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388203   | Zinc                      | ICAPQ-MS   | 2020-08-22       | 2020-08-22    | H_D     | EPA 200.8           |
| 388236   | Boron (Hot Water Soluble) | iCAP OES   | 2020-08-24       | 2020-08-24    | Z_S     | MOECC E3470         |
| 388241   | Chromium VI               | FAA        | 2020-08-24       | 2020-08-24    | Z_S     | M US EPA 3060A      |
| 388247   | Anthracene                | GC-MS      | 2020-08-24       | 2020-08-26    | C_M     | P 8270              |
| 388247   | Benz[a]anthracene         | GC-MS      | 2020-08-24       | 2020-08-26    | C_M     | P 8270              |
| 388247   | Benzo[a]pyrene            | GC-MS      | 2020-08-24       | 2020-08-26    | C_M     | P 8270              |
| 388247   | Benzo[b]fluoranthene      | GC-MS      | 2020-08-24       | 2020-08-26    | C_M     | P 8270              |
| 388247   | Fluorene                  | GC-MS      | 2020-08-24       | 2020-08-26    | C_M     | P 8270              |
| 388332   | Chromium VI               | FAA        | 2020-08-25       | 2020-08-25    | Z_S     | M US EPA 3060A      |
| 388360   | Total P                   |            | 2020-08-24       | 2020-08-25    | AET     | SUBCONTRACT P-INORG |
| 389171   | Methyl Mercury            |            | 2020-09-01       | 2020-09-01    | R_K     | SUBCONTRACT-A       |

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1435 Norjohn Court, Unit 1, Burlington ON, L7L 0E6  
Phone: 905-331-3111, FAX: 905-331-4567

## Certificate of Analysis

|                               |                    |                           |                               |
|-------------------------------|--------------------|---------------------------|-------------------------------|
| <b>ALS Project Contact:</b>   | Breanne Dusureault | <b>Client Name:</b>       | Eurofins                      |
| <b>ALS Project ID:</b>        | 25540              | <b>Client Address:</b>    | 1111 Flint Rd Unit 36         |
| <b>ALS WO#:</b>               | L2491669           |                           | North York, ON M3J 3C7        |
| <b>Date of Report</b>         | 29-Sep-20          |                           | Canada                        |
| <b>Date of Sample Receipt</b> | 20-Aug-20          | <b>Client Contact:</b>    | Rebecca Koshy/Kelly Lancaster |
|                               |                    | <b>Client Project ID:</b> | 1937015                       |

**COMMENTS:** Benzo[a]fluorene and benzo[b]fluorene by CARB method 429 (LR option)- Isotope dilution

Sample and duplicate are outside method RPD control limits. Inspection of the sample show it to be non-homogenous, containing sticks and other material.

Certified by: \_\_\_\_\_

*Steve Kennedy*  
Steve Kennedy  
Technical Supervisor

Results in this certificate relate only to the samples as submitted to the laboratory.

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ALS Life Sciences

Sample Analysis Summary Report

| Sample Name                 | Method Blank                                                 | 1511716      | Duplicate    | 1511717      | 1511718      | Laboratory Control Sample |
|-----------------------------|--------------------------------------------------------------|--------------|--------------|--------------|--------------|---------------------------|
| ALS Sample ID               | WG3407255-1                                                  | L2491669-1   | WG3407255-4  | L2491669-2   | L2491669-3   | WG3407255-2               |
| Sample Size                 | 20.20                                                        | 16.27        | 16.33        | 16.40        | 16.24        | 1                         |
| Sample units                | g                                                            | g            | g            | g            | g            | QC                        |
| Moisture Content            | n/a                                                          | 19.1%        | 19.1%        | 18.1%        | 18.9%        | n/a                       |
| Matrix                      | QC                                                           | Soil         | QC           | Soil         | Soil         | QC                        |
| Sampling Date               | n/a                                                          | 19-Aug-20    | n/a          | 19-Aug-20    | 19-Aug-20    | n/a                       |
| Extraction Date             | 23-Sep-20                                                    | 23-Sep-20    | 23-Sep-20    | 23-Sep-20    | 23-Sep-20    | 23-Sep-20                 |
| <b>Target Analytes</b>      | <b>ng/g</b>                                                  | <b>ng/g</b>  | <b>ng/g</b>  | <b>ng/g</b>  | <b>ng/g</b>  | <b>% Rec</b>              |
| Benzo(a)fluorene            | <0.099 U                                                     | 25.7 M       | 13.0 M       | 402 M        | 8.35 M       |                           |
| Benzo(b)fluorene            | <0.099 U                                                     | 15.9         | 5.91         | 371          | 4.20         |                           |
| Benzo(a)Anthracene          |                                                              |              |              |              |              | 102.3                     |
| <b>Extraction Standards</b> | <b>% Rec</b>                                                 | <b>% Rec</b> | <b>% Rec</b> | <b>% Rec</b> | <b>% Rec</b> | <b>% Rec</b>              |
| Fluoranthene D10            | 73.4                                                         | 75.7         | 67.9         | 73.0         | 71.3         | 64.1                      |
| U                           | Indicates that this compound was not detected above the LOD. |              |              |              |              |                           |
| M                           | Indicates that a peak has been manually integrated.          |              |              |              |              |                           |



# ALS Life Sciences

## Laboratory Method Blank Analysis Report

|                    |                     |                 |           |
|--------------------|---------------------|-----------------|-----------|
| <b>Sample Name</b> | <b>Method Blank</b> | Sampling Date   | n/a       |
| ALS Sample ID      | WG3407255-1         | Extraction Date | 23-Sep-20 |
| Analysis Method    | PAH by CARB 429     |                 |           |
| Analysis Type      | blank               |                 |           |
| Sample Matrix      | QC                  |                 |           |
| Sample Size        | 20.20 g             |                 |           |
| Percent Moisture   | n/a                 |                 |           |
| Split Ratio        | 1                   | Workgroup       | WG3407255 |

Approved:  
T. Patterson  
--e-signature--  
29-Sep-2020

| Run Information | Run 1            |
|-----------------|------------------|
| Filename        | 200928A08.D      |
| Run Date        | 9/28/2020 17:24  |
| Final Volume    | 1 mL             |
| Dilution Factor | 1                |
| Analysis Units  | ng/g             |
| Instrument      | MSD-5            |
| Column          | HP5MS USO179454H |

| Target Analytes  | ng<br>spiked | Ret. Time | Concentration<br>ng/g | Flags |
|------------------|--------------|-----------|-----------------------|-------|
| Benzo(a)fluorene |              | NotFnd    | <0.099                | U     |
| Benzo(b)fluorene |              | NotFnd    | <0.099                | U     |

| Extraction Standards | % Rec | Limits |
|----------------------|-------|--------|
| Fluoranthene D10     | 73.4  | 50-150 |

U Indicates that this compound was not detected above the MDL.

# ALS Life Sciences

## Sample Analysis Report

|                                 |                 |                 |
|---------------------------------|-----------------|-----------------|
| <b>Sample Name</b> 1511716      | Sampling Date   | 19-Aug-20 00:00 |
| ALS Sample ID L2491669-1        | Extraction Date | 23-Sep-20       |
| Analysis Method PAH by CARB 429 |                 |                 |
| Analysis Type sample            |                 |                 |
| Sample Matrix Soil              |                 |                 |
| Sample Size 16.27 g             |                 |                 |
| Percent Moisture 19.1%          |                 |                 |
| Split Ratio 1                   | Workgroup       | WG3407255       |

|                                                                    |
|--------------------------------------------------------------------|
| Approved:<br><i>T. Patterson</i><br>--e-signature--<br>29-Sep-2020 |
|--------------------------------------------------------------------|

|                        |                  |
|------------------------|------------------|
| <b>Run Information</b> | <b>Run 1</b>     |
| Filename               | 200928A10.D      |
| Run Date               | 9/28/2020 18:35  |
| Final Volume           | 1 mL             |
| Dilution Factor        | 1                |
| Analysis Units         | ng/g             |
| Instrument             | MSD-5            |
| Column                 | HP5MS USO179454H |

| Target Analytes             | ng<br>spiked | Ret. Concentration<br>Time | ng/g         | Flags         |
|-----------------------------|--------------|----------------------------|--------------|---------------|
| Benzo(a)fluorene            |              | 13.27                      | 25.7         | M             |
| Benzo(b)fluorene            |              | 13.48                      | 15.9         |               |
| <b>Extraction Standards</b> |              |                            | <b>% Rec</b> | <b>Limits</b> |
| Fluoranthene D10            | 100          | 11.41                      | 75.7         | 50-150        |

M Indicates that a peak has been manually integrated.

# ALS Life Sciences

## Sample Analysis Report

|                    |                  |                 |           |
|--------------------|------------------|-----------------|-----------|
| <b>Sample Name</b> | <b>Duplicate</b> | Sampling Date   | n/a       |
| ALS Sample ID      | WG3407255-4      | Extraction Date | 23-Sep-20 |
| Analysis Method    | PAH by CARB 429  |                 |           |
| Analysis Type      | sample           |                 |           |
| Sample Matrix      | QC               |                 |           |
| Sample Size        | 16.33 g          |                 |           |
| Percent Moisture   | 19.1%            |                 |           |
| Split Ratio        | 1                | Workgroup       | WG3407255 |

Approved:  
T. Patterson  
--e-signature--  
29-Sep-2020

|                        |                  |
|------------------------|------------------|
| <b>Run Information</b> | <b>Run 1</b>     |
| Filename               | 200928A11.D      |
| Run Date               | 9/28/2020 19:11  |
| Final Volume           | 1 mL             |
| Dilution Factor        | 1                |
| Analysis Units         | ng/g             |
| Instrument             | MSD-5            |
| Column                 | HP5MS USO179454H |

| Target Analytes  | ng<br>spiked | Ret. Concentration<br>Time | ng/g | Flags |
|------------------|--------------|----------------------------|------|-------|
| Benzo(a)fluorene |              | 13.27                      | 13.0 | M     |
| Benzo(b)fluorene |              | 13.49                      | 5.91 |       |

| Extraction Standards | 100 | 11.41 | % Rec | Limits |
|----------------------|-----|-------|-------|--------|
| Fluoranthene D10     |     |       | 67.9  | 50-150 |

M Indicates that a peak has been manually integrated.

# ALS Life Sciences

## Sample Analysis Report

|                    |                 |                 |                 |
|--------------------|-----------------|-----------------|-----------------|
| <b>Sample Name</b> | 1511717         | Sampling Date   | 19-Aug-20 00:00 |
| ALS Sample ID      | L2491669-2      | Extraction Date | 23-Sep-20       |
| Analysis Method    | PAH by CARB 429 |                 |                 |
| Analysis Type      | sample          |                 |                 |
| Sample Matrix      | Soil            |                 |                 |
| Sample Size        | 16.40 g         |                 |                 |
| Percent Moisture   | 18.1%           |                 |                 |
| Split Ratio        | 1               | Workgroup       | WG3407255       |

Approved:  
T. Patterson  
--e-signature--  
29-Sep-2020

|                        |                  |
|------------------------|------------------|
| <b>Run Information</b> | <b>Run 1</b>     |
| Filename               | 200928A09.D      |
| Run Date               | 9/28/2020 18:00  |
| Final Volume           | 1 mL             |
| Dilution Factor        | 10               |
| Analysis Units         | ng/g             |
| Instrument             | MSD-5            |
| Column                 | HP5MS USO179454H |

| Target Analytes             | ng<br>spiked | Ret. Concentration<br>Time | ng/g         | Flags         |
|-----------------------------|--------------|----------------------------|--------------|---------------|
| Benzo(a)fluorene            |              | 13.27                      | 402          | M             |
| Benzo(b)fluorene            |              | 13.48                      | 371          |               |
| <b>Extraction Standards</b> |              |                            | <b>% Rec</b> | <b>Limits</b> |
| Fluoranthene D10            | 100          | 11.41                      | 73.0         | 50-150        |

M Indicates that a peak has been manually integrated.

# ALS Life Sciences

## Sample Analysis Report

|                    |                 |                 |                 |
|--------------------|-----------------|-----------------|-----------------|
| <b>Sample Name</b> | 1511718         | Sampling Date   | 19-Aug-20 00:00 |
| ALS Sample ID      | L2491669-3      | Extraction Date | 23-Sep-20       |
| Analysis Method    | PAH by CARB 429 |                 |                 |
| Analysis Type      | sample          |                 |                 |
| Sample Matrix      | Soil            |                 |                 |
| Sample Size        | 16.24 g         |                 |                 |
| Percent Moisture   | 18.9%           |                 |                 |
| Split Ratio        | 1               | Workgroup       | WG3407255       |

Approved:  
T. Patterson  
--e-signature--  
29-Sep-2020

|                        |                  |
|------------------------|------------------|
| <b>Run Information</b> | <b>Run 1</b>     |
| Filename               | 200928A12.D      |
| Run Date               | 9/28/2020 19:47  |
| Final Volume           | 1 mL             |
| Dilution Factor        | 1                |
| Analysis Units         | ng/g             |
| Instrument             | MSD-5            |
| Column                 | HP5MS USO179454H |

| Target Analytes             | ng<br>spiked | Ret. Concentration<br>Time | ng/g         | Flags         |
|-----------------------------|--------------|----------------------------|--------------|---------------|
| Benzo(a)fluorene            |              | 13.27                      | 8.35         | M             |
| Benzo(b)fluorene            |              | 13.49                      | 4.20         |               |
| <b>Extraction Standards</b> |              |                            | <b>% Rec</b> | <b>Limits</b> |
| Fluoranthene D10            | 100          | 11.41                      | 71.3         | 50-150        |

M Indicates that a peak has been manually integrated.

# ALS Life Sciences

## Laboratory Control Sample Analysis Report

|                    |                           |                 |           |                                  |
|--------------------|---------------------------|-----------------|-----------|----------------------------------|
| <b>Sample Name</b> | Laboratory Control Sample | Sampling Date   | n/a       |                                  |
| ALS Sample ID      | WG3407255-2               | Extraction Date | 23-Sep-20 |                                  |
| Analysis Method    | PAH by CARB 429           |                 |           |                                  |
| Analysis Type      | LCS                       |                 |           |                                  |
| Sample Matrix      | QC                        |                 |           |                                  |
| Sample Size        | 1            QC           |                 |           | Approved:<br><i>T. Patterson</i> |
| Percent Moisture   | n/a                       |                 |           | --e-signature--                  |
| Split Ratio        | 1                         | Workgroup       | WG3407255 | 29-Sep-2020                      |

|                        |                  |
|------------------------|------------------|
| <b>Run Information</b> | <b>Run 1</b>     |
| Filename               | 200928A06.D      |
| Run Date               | 9/28/2020 16:13  |
| Final Volume           | 1            mL  |
| Dilution Factor        | 1                |
| Analysis Units         | % Rec            |
| Instrument             | MSD-5            |
| Column                 | HP5MS USO179454H |

| Target Analytes             | ng<br>spiked | Ret.<br>Time | % Rec        | Flags | Limits        |
|-----------------------------|--------------|--------------|--------------|-------|---------------|
| Benzo(a)Anthracene          | 100          | 16.00        | 102.3        |       | 50-150        |
| <b>Extraction Standards</b> |              |              | <b>% Rec</b> |       | <b>Limits</b> |
| Fluoranthene D10            | 100          | 11.41        | 64.1         |       | 50-150        |



Eurofins Environment Testing Canada Inc  
(Ottawa)  
ATTN: Rebecca Koshy/Kelly Lancaster  
8 - 146 Colonnade Road  
Ottawa ON K2E 7Y1

Date Received: 20 - AUG - 20  
Report Date: 29-SEP-20 13:16 (MT)  
Version: FINAL REV. 2

Client Phone: 613 - 727 - 5692

## Certificate of Analysis

**Lab Work Order #: L2491669**

Project P.O. #: OTT-2008-10

Job Reference: 1937015

C of C Numbers:

Legal Site Desc:

**Comments:** ADDITIONAL 17-SEP-20 12:11



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ADDRESS: 190 Colonnade Road, Unit 7, Ottawa, ON K2E 7J5 Canada | Phone: +1 613 225 8279 | Fax: +1 613 225 2801  
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## ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample Details/Parameters                                             | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2491669-1 1511716<br>Sampled By: CLIENT on 19-AUG-20<br>Matrix: SOIL |        |            |        |       |           |           |          |
| <b>Physical Tests</b>                                                 |        |            |        |       |           |           |          |
| % Moisture                                                            | 19.1   |            | 0.10   | %     | 26-AUG-20 | 27-AUG-20 | R5202809 |
| <b>Dioxins and Furans</b>                                             |        |            |        |       |           |           |          |
| 2,3,7,8-TCDD                                                          | <0.034 | [U]        | 0.034  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8-PeCDD                                                       | 0.086  | M,J,R      | 0.042  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,7,8-HxCDD                                                     | <0.22  | [U]        | 0.22   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,6,7,8-HxCDD                                                     | 0.27   | M,J,R      | 0.20   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8,9-HxCDD                                                     | 0.23   | M,J,R      | 0.21   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,6,7,8-HpCDD                                                   | 16.0   |            | 0.33   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| OCDD                                                                  | 116    |            | 1.1    | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-TCDD                                                            | 0.529  |            | 0.034  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total TCDD # Homologues                                               | 3      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-PeCDD                                                           | 0.959  |            | 0.042  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total PeCDD # Homologues                                              | 3      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HxCDD                                                           | 5.54   |            | 0.22   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HxCDD # Homologues                                              | 2      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HpCDD                                                           | 58.8   |            | 0.33   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HpCDD # Homologues                                              | 2      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 2,3,7,8-TCDF                                                          | 0.091  | M,J,R      | 0.062  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8-PeCDF                                                       | 0.100  | J,R        | 0.060  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 2,3,4,7,8-PeCDF                                                       | 0.358  | M,J        | 0.053  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,7,8-HxCDF                                                     | 0.350  | M,J,R      | 0.083  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,6,7,8-HxCDF                                                     | 0.170  | [J]        | 0.078  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8,9-HxCDF                                                     | <0.12  | [U]        | 0.12   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 2,3,4,6,7,8-HxCDF                                                     | 0.230  | J,R        | 0.087  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,6,7,8-HpCDF                                                   | 3.04   | [J]        | 0.080  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,7,8,9-HpCDF                                                   | 0.29   | M,J        | 0.13   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| OCDF                                                                  | 11.4   | M          | 0.40   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-TCDF                                                            | 1.18   |            | 0.062  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total TCDF # Homologues                                               | 5      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-PeCDF                                                           | 4.59   |            | 0.060  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total PeCDF # Homologues                                              | 8      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HxCDF                                                           | 1.96   |            | 0.12   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HxCDF # Homologues                                              | 3      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HpCDF                                                           | 8.67   |            | 0.13   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HpCDF # Homologues                                              | 5      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,7,8-TCDD                                         | 74.0   |            | 25-164 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,7,8-PeCDD                                      | 64.0   |            | 25-181 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,7,8-HxCDD                                    | 64.0   |            | 32-141 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,6,7,8-HxCDD                                    | 86.0   |            | 28-130 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD                                  | 51.0   |            | 23-140 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-OCDD                                                 | 21.0   |            | 17-157 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |

\* Refer to Referenced Information for Qualifiers (if any) and Methodology.



## ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample Details/Parameters                                             | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2491669-1 1511716<br>Sampled By: CLIENT on 19-AUG-20<br>Matrix: SOIL |        |            |        |       |           |           |          |
| <b>Dioxins and Furans</b>                                             |        |            |        |       |           |           |          |
| Surrogate: 13C12-2,3,7,8-TCDF                                         | 71.0   |            | 24-169 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,7,8-PeCDF                                      | 63.0   |            | 24-185 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,4,7,8-PeCDF                                      | 62.0   |            | 21-178 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,7,8-HxCDF                                    | 68.0   |            | 26-152 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,6,7,8-HxCDF                                    | 98.0   |            | 26-123 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,4,6,7,8-HxCDF                                    | 80.0   |            | 29-147 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,7,8,9-HxCDF                                    | 72.0   |            | 28-136 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF                                  | 64.0   |            | 28-143 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF                                  | 54.0   |            | 26-138 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)                               | 75.0   |            | 35-197 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| <b>Toxic Equivalency</b>                                              |        |            |        |       |           |           |          |
| Lower Bound PCDD/F TEQ (WHO 2005)                                     | 0.356  |            |        | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Mid Point PCDD/F TEQ (WHO 2005)                                       | 0.596  |            |        | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Upper Bound PCDD/F TEQ (WHO 2005)                                     | 0.630  |            |        | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| L2491669-2 1511717<br>Sampled By: CLIENT on 19-AUG-20<br>Matrix: SOIL |        |            |        |       |           |           |          |
| <b>Physical Tests</b>                                                 |        |            |        |       |           |           |          |
| % Moisture                                                            | 18.1   |            | 0.10   | %     | 26-AUG-20 | 27-AUG-20 | R5202809 |
| <b>Dioxins and Furans</b>                                             |        |            |        |       |           |           |          |
| 2,3,7,8-TCDD                                                          | 0.137  | M,J        | 0.032  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8-PeCDD                                                       | 0.238  | M,J        | 0.026  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,7,8-HxCDD                                                     | 0.34   | M,J        | 0.16   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,6,7,8-HxCDD                                                     | 0.82   | M,J        | 0.14   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8,9-HxCDD                                                     | 1.01   | [J]        | 0.15   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,6,7,8-HpCDD                                                   | 19.4   |            | 0.38   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| OCDD                                                                  | 112    |            | 1.3    | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-TCDD                                                            | 0.822  |            | 0.032  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total TCDD # Homologues                                               | 3      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-PeCDD                                                           | 2.75   |            | 0.026  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total PeCDD # Homologues                                              | 7      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HxCDD                                                           | 9.96   |            | 0.16   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HxCDD # Homologues                                              | 6      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HpCDD                                                           | 40.5   |            | 0.38   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HpCDD # Homologues                                              | 2      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 2,3,7,8-TCDF                                                          | 0.349  | [J]        | 0.094  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8-PeCDF                                                       | 0.285  | [J]        | 0.042  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 2,3,4,7,8-PeCDF                                                       | 0.597  | [J]        | 0.036  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,7,8-HxCDF                                                     | 0.41   | [J]        | 0.12   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,6,7,8-HxCDF                                                     | 0.57   | [J]        | 0.11   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8,9-HxCDF                                                     | <0.12  | M,U        | 0.12   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 2,3,4,6,7,8-HxCDF                                                     | 0.23   | J,R        | 0.13   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |

\* Refer to Referenced Information for Qualifiers (if any) and Methodology.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample Details/Parameters                                             | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2491669-2 1511717<br>Sampled By: CLIENT on 19-AUG-20<br>Matrix: SOIL |        |            |        |       |           |           |          |
| <b>Dioxins and Furans</b>                                             |        |            |        |       |           |           |          |
| 1,2,3,4,6,7,8-HpCDF                                                   | 5.32   | M          | 0.14   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,7,8,9-HpCDF                                                   | 0.41   | [J]        | 0.23   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| OCDF                                                                  | 14.9   | M          | 0.59   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-TCDF                                                            | 4.20   |            | 0.094  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total TCDF # Homologues                                               | 14     |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-PeCDF                                                           | 7.04   |            | 0.042  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total PeCDF # Homologues                                              | 6      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HxCDF                                                           | 8.17   |            | 0.13   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HxCDF # Homologues                                              | 4      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HpCDF                                                           | 14.0   |            | 0.23   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HpCDF # Homologues                                              | 3      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,7,8-TCDD                                         | 85.0   |            | 25-164 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,7,8-PeCDD                                      | 67.0   |            | 25-181 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,7,8-HxCDD                                    | 58.0   |            | 32-141 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,6,7,8-HxCDD                                    | 78.0   |            | 28-130 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD                                  | 43.0   |            | 23-140 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-OCDD                                                 | 17.0   | M          | 17-157 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,7,8-TCDF                                         | 73.0   |            | 24-169 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,7,8-PeCDF                                      | 69.0   |            | 24-185 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,4,7,8-PeCDF                                      | 65.0   |            | 21-178 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,7,8-HxCDF                                    | 67.0   |            | 26-152 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,6,7,8-HxCDF                                    | 86.0   |            | 26-123 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,4,6,7,8-HxCDF                                    | 71.0   |            | 29-147 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,7,8,9-HxCDF                                    | 59.0   |            | 28-136 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF                                  | 58.0   |            | 28-143 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF                                  | 44.0   |            | 26-138 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)                               | 81.0   |            | 35-197 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| <b>Toxic Equivalency</b>                                              |        |            |        |       |           |           |          |
| Lower Bound PCDD/F TEQ (WHO 2005)                                     | 1.20   |            |        | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Mid Point PCDD/F TEQ (WHO 2005)                                       | 1.23   |            |        | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Upper Bound PCDD/F TEQ (WHO 2005)                                     | 1.24   |            |        | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| L2491669-3 1511718<br>Sampled By: CLIENT on 19-AUG-20<br>Matrix: SOIL |        |            |        |       |           |           |          |
| <b>Physical Tests</b>                                                 |        |            |        |       |           |           |          |
| % Moisture                                                            | 18.9   |            | 0.10   | %     | 26-AUG-20 | 27-AUG-20 | R5202809 |
| <b>Dioxins and Furans</b>                                             |        |            |        |       |           |           |          |
| 2,3,7,8-TCDD                                                          | <0.035 | [U]        | 0.035  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8-PeCDD                                                       | 0.071  | M,J        | 0.037  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,7,8-HxCDD                                                     | 0.17   | M,J,R      | 0.15   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,6,7,8-HxCDD                                                     | 0.28   | M,J,R      | 0.14   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8,9-HxCDD                                                     | <0.14  | M,U        | 0.14   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |

\* Refer to Referenced Information for Qualifiers (if any) and Methodology.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample Details/Parameters                                             | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2491669-3 1511718<br>Sampled By: CLIENT on 19-AUG-20<br>Matrix: SOIL |        |            |        |       |           |           |          |
| <b>Dioxins and Furans</b>                                             |        |            |        |       |           |           |          |
| 1,2,3,4,6,7,8-HpCDD                                                   | 7.50   | R          | 0.44   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| OCDD                                                                  | 55.7   |            | 1.1    | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-TCDD                                                            | 0.691  |            | 0.035  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total TCDD # Homologues                                               | 6      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-PeCDD                                                           | 0.776  |            | 0.037  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total PeCDD # Homologues                                              | 3      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HxCDD                                                           | 1.68   |            | 0.15   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HxCDD # Homologues                                              | 1      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HpCDD                                                           | 14.9   |            | 0.44   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HpCDD # Homologues                                              | 1      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 2,3,7,8-TCDF                                                          | 0.190  | J,R        | 0.058  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8-PeCDF                                                       | 0.104  | M,J        | 0.048  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 2,3,4,7,8-PeCDF                                                       | 0.294  | M,J        | 0.040  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,7,8-HxCDF                                                     | 0.261  | M,J        | 0.062  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,6,7,8-HxCDF                                                     | 0.180  | [J]        | 0.059  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,7,8,9-HxCDF                                                     | <0.096 | [U]        | 0.096  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 2,3,4,6,7,8-HxCDF                                                     | 0.241  | M,J        | 0.065  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,6,7,8-HpCDF                                                   | 2.24   | [J]        | 0.085  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| 1,2,3,4,7,8,9-HpCDF                                                   | <0.15  | M,U        | 0.15   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| OCDF                                                                  | 7.36   | M          | 0.47   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-TCDF                                                            | 2.55   |            | 0.058  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total TCDF # Homologues                                               | 10     |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-PeCDF                                                           | 4.13   |            | 0.048  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total PeCDF # Homologues                                              | 9      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HxCDF                                                           | 3.87   |            | 0.096  | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HxCDF # Homologues                                              | 8      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total-HpCDF                                                           | 2.24   |            | 0.15   | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Total HpCDF # Homologues                                              | 1      |            |        |       | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,7,8-TCDD                                         | 90.0   |            | 25-164 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,7,8-PeCDD                                      | 73.0   |            | 25-181 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,7,8-HxCDD                                    | 70.0   |            | 32-141 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,6,7,8-HxCDD                                    | 96.0   |            | 28-130 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD                                  | 51.0   |            | 23-140 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-OCDD                                                 | 19.0   |            | 17-157 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,7,8-TCDF                                         | 84.0   |            | 24-169 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,7,8-PeCDF                                      | 74.0   |            | 24-185 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,4,7,8-PeCDF                                      | 72.0   |            | 21-178 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,7,8-HxCDF                                    | 79.0   |            | 26-152 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,6,7,8-HxCDF                                    | 102.0  |            | 26-123 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-2,3,4,6,7,8-HxCDF                                    | 87.0   |            | 29-147 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,7,8,9-HxCDF                                    | 78.0   |            | 28-136 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |

\* Refer to Referenced Information for Qualifiers (if any) and Methodology.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample Details/Parameters                                             | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2491669-3 1511718<br>Sampled By: CLIENT on 19-AUG-20<br>Matrix: SOIL |        |            |        |       |           |           |          |
| <b>Dioxins and Furans</b>                                             |        |            |        |       |           |           |          |
| Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF                                  | 67.0   |            | 28-143 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF                                  | 53.0   |            | 26-138 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)                               | 89.0   |            | 35-197 | %     | 26-AUG-20 | 02-SEP-20 | R5204698 |
| <b>Toxic Equivalency</b>                                              |        |            |        |       |           |           |          |
| Lower Bound PCDD/F TEQ (WHO 2005)                                     | 0.272  |            |        | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Mid Point PCDD/F TEQ (WHO 2005)                                       | 0.441  |            |        | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
| Upper Bound PCDD/F TEQ (WHO 2005)                                     | 0.471  |            |        | pg/g  | 26-AUG-20 | 02-SEP-20 | R5204698 |
|                                                                       |        |            |        |       |           |           |          |

\* Refer to Referenced Information for Qualifiers (if any) and Methodology.

## Reference Information

## QC Samples with Qualifiers &amp; Comments:

| QC Type Description | Parameter                                                                                                                 | Qualifier | Applies to Sample Number(s) |
|---------------------|---------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------|
| Method Blank        | Total-HxCDF                                                                                                               | A         | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Duplicate           | 1,2,3,4,6,7,8-HpCDD                                                                                                       | G         | L2491669-1, -2, -3          |
| <b>Comments:</b>    | Sample and DUP do not match do not match for all target, sample contains foreign objects ( rocks, roots, leaves).         |           |                             |
| Duplicate           | OCDD                                                                                                                      | G         | L2491669-1, -2, -3          |
| <b>Comments:</b>    | Sample and DUP do not match do not match for all target, sample contains foreign objects ( rocks, roots, leaves).         |           |                             |
| Duplicate           | Total-HpCDD                                                                                                               | G         | L2491669-1, -2, -3          |
| <b>Comments:</b>    | Sample and DUP do not match do not match for all target, sample contains foreign objects ( rocks, roots, leaves).         |           |                             |
| Duplicate           | Total-HxCDD                                                                                                               | G         | L2491669-1, -2, -3          |
| <b>Comments:</b>    | Sample and DUP do not match do not match for all target, sample contains foreign objects ( rocks, roots, leaves).         |           |                             |
| Duplicate           | Total-HxCDF                                                                                                               | G         | L2491669-1, -2, -3          |
| <b>Comments:</b>    | Sample and DUP do not match do not match for all target, sample contains foreign objects ( rocks, roots, leaves).         |           |                             |
| Duplicate           | Total-TCDF                                                                                                                | G         | L2491669-1, -2, -3          |
| <b>Comments:</b>    | Sample and DUP do not match do not match for all target, sample contains foreign objects ( rocks, roots, leaves).         |           |                             |
| Method Blank        | 1,2,3,6,7,8-HxCDF                                                                                                         | M,J       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 2,3,4,6,7,8-HxCDF                                                                                                         | M,J       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,4,6,7,8-HpCDD                                                                                                       | M,J,R     | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,4,6,7,8-HpCDF                                                                                                       | M,J,R     | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,4,7,8,9-HpCDF                                                                                                       | M,J,R     | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,4,7,8-HxCDF                                                                                                         | M,J,R     | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,7,8,9-HxCDF                                                                                                         | M,J,R     | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,7,8-PeCDF                                                                                                           | M,J,R     | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | OCDD                                                                                                                      | M,J,R     | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,4,7,8-HxCDD                                                                                                         | M,U       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,7,8,9-HxCDD                                                                                                         | M,U       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | OCDF                                                                                                                      | [J]       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,6,7,8-HxCDD                                                                                                         | [U]       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 1,2,3,7,8-PeCDD                                                                                                           | [U]       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 2,3,4,7,8-PeCDF                                                                                                           | [U]       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 2,3,7,8-TCDD                                                                                                              | [U]       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | 2,3,7,8-TCDF                                                                                                              | [U]       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | Total-HpCDD                                                                                                               | [U]       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | Total-HpCDF                                                                                                               | [U]       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | Total-HxCDD                                                                                                               | [U]       | L2491669-1, -2, -3          |
| <b>Comments:</b>    | There were low levels of select targets detected in the method blank that were within the reference method control limits |           |                             |
| Method Blank        | Total-PeCDD                                                                                                               | [U]       | L2491669-1, -2, -3          |

# Reference Information

Parameter Qualifier Applies to Sample Number(s)  
 There were low levels of select targets detected in the method blank that were within the reference method control limits

**Comments:**

Method Blank Total-PeCDF [U] L2491669-1, -2, -3

**Comments:** There were low levels of select targets detected in the method blank that were within the reference method control limits

Method Blank Total-TCDD [U] L2491669-1, -2, -3

**Comments:** There were low levels of select targets detected in the method blank that were within the reference method control limits

Method Blank Total-TCDF [U] L2491669-1, -2, -3

**Comments:** There were low levels of select targets detected in the method blank that were within the reference method control limits

**Sample Parameter Qualifier key listed:**

| Qualifier | Description                                                                                                                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A         | Method Blank exceeds ALS DQO. Refer to narrative comments for further information.                                                                                                                              |
| G         | QC result did not meet ALS DQO. Refer to narrative comments for further information.                                                                                                                            |
| J,R       | The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.                                      |
| M         | A peak has been manually integrated.                                                                                                                                                                            |
| M,J       | A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.                                                                                                 |
| M,J,R     | A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum. |
| M,U       | A peak has been manually integrated, and the analyte was not detected above the EDL.                                                                                                                            |
| R         | The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.                                                                                                                 |
| [J]       | The analyte was detected below the calibrated range but above the EDL.                                                                                                                                          |
| [U]       | The analyte was not detected above the EDL.                                                                                                                                                                     |

**Test Method References:**

| ALS Test Code                                                                                                                                                                                                                                                                                                                                                                                                                                       | Matrix | Test Description            | Method Reference**              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------|---------------------------------|
| DX-1613B-HRMS-BU                                                                                                                                                                                                                                                                                                                                                                                                                                    | Soil   | Dioxins and Furans HR 1613B | USEPA 1613B                     |
| Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS                                                                                                                                                                                                                                                                                                 |        |                             |                                 |
| MOISTURE-BU                                                                                                                                                                                                                                                                                                                                                                                                                                         | Soil   | % Moisture                  | CCME PHC in Soil - Tier 1 (mod) |
| This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105°C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis. |        |                             |                                 |

\*\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

| Laboratory Definition Code | Laboratory Location                             |
|----------------------------|-------------------------------------------------|
| BU                         | ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA |

**Chain of Custody Numbers:****GLOSSARY OF REPORT TERMS**

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid weight of sample

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



### Quality Control Report

Workorder: L2491669

Report Date: 29-SEP-20

Page 1 of 4

Client: Eurofins Environment Testing Canada Inc (Ottawa)  
8 - 146 Colonnade Road  
Ottawa ON K2E 7Y1

Contact: Rebecca Koshy/Kelly Lancaster

| Test                    | Matrix     | Reference         | Result | Qualifier | Units | RPD   | Limit | Analyzed  |
|-------------------------|------------|-------------------|--------|-----------|-------|-------|-------|-----------|
| <b>DX-1613B-HRMS-BU</b> |            | <b>Soil</b>       |        |           |       |       |       |           |
| <b>Batch R5204698</b>   |            |                   |        |           |       |       |       |           |
| <b>WG3389586-4</b>      | <b>DUP</b> | <b>L2491669-1</b> |        |           |       |       |       |           |
| 2,3,7,8-TCDD            |            | <0.034            | <0.044 | RPD-NA    | pg/g  | N/A   | 50    | 02-SEP-20 |
| 1,2,3,7,8-PeCDD         |            | 0.086             | <0.061 | RPD-NA    | pg/g  | N/A   | 50    | 02-SEP-20 |
| 1,2,3,4,7,8-HxCDD       |            | <0.22             | <0.24  | RPD-NA    | pg/g  | N/A   | 50    | 02-SEP-20 |
| 1,2,3,6,7,8-HxCDD       |            | 0.27              | 0.29   |           | pg/g  | 7.1   | 50    | 02-SEP-20 |
| 1,2,3,7,8,9-HxCDD       |            | 0.23              | <0.23  | RPD-NA    | pg/g  | N/A   | 50    | 02-SEP-20 |
| 1,2,3,4,6,7,8-HpCDD     |            | 16.0              | 9.16   | G         | pg/g  | 54    | 50    | 02-SEP-20 |
| OCDD                    |            | 116               | 65.5   | G         | pg/g  | 56    | 50    | 02-SEP-20 |
| 2,3,7,8-TCDF            |            | 0.091             | <0.096 | RPD-NA    | pg/g  | N/A   | 50    | 02-SEP-20 |
| 1,2,3,7,8-PeCDF         |            | 0.100             | 0.215  | J         | pg/g  | 0.115 | 0.12  | 02-SEP-20 |
| 2,3,4,7,8-PeCDF         |            | 0.358             | 0.289  |           | pg/g  | 21    | 50    | 02-SEP-20 |
| 1,2,3,4,7,8-HxCDF       |            | 0.350             | 0.28   |           | pg/g  | 22    | 50    | 02-SEP-20 |
| 1,2,3,6,7,8-HxCDF       |            | 0.170             | <0.17  | RPD-NA    | pg/g  | N/A   | 50    | 02-SEP-20 |
| 2,3,4,6,7,8-HxCDF       |            | 0.230             | 0.32   |           | pg/g  | 31    | 50    | 02-SEP-20 |
| 1,2,3,7,8,9-HxCDF       |            | <0.12             | <0.22  | RPD-NA    | pg/g  | N/A   | 50    | 02-SEP-20 |
| 1,2,3,4,6,7,8-HpCDF     |            | 3.04              | 2.66   |           | pg/g  | 13    | 50    | 02-SEP-20 |
| 1,2,3,4,7,8,9-HpCDF     |            | 0.29              | 0.19   |           | pg/g  | 41    | 50    | 02-SEP-20 |
| OCDF                    |            | 11.4              | 7.57   |           | pg/g  | 40    | 50    | 02-SEP-20 |
| Total-TCDD              |            | 0.529             | 0.438  |           | pg/g  | 19    | 50    | 02-SEP-20 |
| Total-PeCDD             |            | 0.959             | 0.803  |           | pg/g  | 18    | 50    | 02-SEP-20 |
| Total-HxCDD             |            | 5.54              | 0.57   | G         | pg/g  | 163   | 50    | 02-SEP-20 |
| Total-HpCDD             |            | 58.8              | 23.2   | G         | pg/g  | 87    | 50    | 02-SEP-20 |
| Total-TCDF              |            | 1.18              | 2.43   | G         | pg/g  | 69    | 50    | 02-SEP-20 |
| Total-PeCDF             |            | 4.59              | 3.53   |           | pg/g  | 26    | 50    | 02-SEP-20 |
| Total-HxCDF             |            | 1.96              | 3.35   | G         | pg/g  | 52    | 50    | 02-SEP-20 |
| Total-HpCDF             |            | 8.67              | 5.93   |           | pg/g  | 38    | 50    | 02-SEP-20 |

COMMENTS: Sample and DUP do not match do not match for all target, sample contains foreign objects ( rocks, roots, leaves).

**WG3389586-2 LCS**

|                     |      |   |        |           |
|---------------------|------|---|--------|-----------|
| 2,3,7,8-TCDD        | 94.0 | % | 67-158 | 31-AUG-20 |
| 1,2,3,7,8-PeCDD     | 99.0 | % | 70-142 | 31-AUG-20 |
| 1,2,3,4,7,8-HxCDD   | 91.0 | % | 70-164 | 31-AUG-20 |
| 1,2,3,6,7,8-HxCDD   | 90.0 | % | 76-134 | 31-AUG-20 |
| 1,2,3,7,8,9-HxCDD   | 99.0 | % | 64-162 | 31-AUG-20 |
| 1,2,3,4,6,7,8-HpCDD | 93.0 | % | 70-140 | 31-AUG-20 |



### Quality Control Report

Workorder: L2491669

Report Date: 29-SEP-20

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Client: Eurofins Environment Testing Canada Inc (Ottawa)  
8 - 146 Colonnade Road  
Ottawa ON K2E 7Y1

Contact: Rebecca Koshy/Kelly Lancaster

| Test                    | Matrix          | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------|-----------------|-------------|--------|-----------|-------|-----|--------|-----------|
| <b>DX-1613B-HRMS-BU</b> |                 | <b>Soil</b> |        |           |       |     |        |           |
| <b>Batch</b>            | <b>R5204698</b> |             |        |           |       |     |        |           |
| <b>WG3389586-2</b>      | <b>LCS</b>      |             |        |           |       |     |        |           |
| OCDD                    |                 |             | 94.0   |           | %     |     | 78-144 | 31-AUG-20 |
| 2,3,7,8-TCDF            |                 |             | 101.0  |           | %     |     | 75-158 | 31-AUG-20 |
| 1,2,3,7,8-PeCDF         |                 |             | 107.0  |           | %     |     | 80-134 | 31-AUG-20 |
| 2,3,4,7,8-PeCDF         |                 |             | 99.0   |           | %     |     | 68-160 | 31-AUG-20 |
| 1,2,3,4,7,8-HxCDF       |                 |             | 101.0  |           | %     |     | 72-134 | 31-AUG-20 |
| 1,2,3,6,7,8-HxCDF       |                 |             | 103.0  |           | %     |     | 84-130 | 31-AUG-20 |
| 2,3,4,6,7,8-HxCDF       |                 |             | 103.0  |           | %     |     | 70-156 | 31-AUG-20 |
| 1,2,3,7,8,9-HxCDF       |                 |             | 112.0  |           | %     |     | 78-130 | 31-AUG-20 |
| 1,2,3,4,6,7,8-HpCDF     |                 |             | 105.0  |           | %     |     | 82-122 | 31-AUG-20 |
| 1,2,3,4,7,8,9-HpCDF     |                 |             | 105.0  |           | %     |     | 78-138 | 31-AUG-20 |
| OCDF                    |                 |             | 113.0  |           | %     |     | 63-170 | 31-AUG-20 |
| <b>WG3389586-1</b>      | <b>MB</b>       |             |        |           |       |     |        |           |
| 2,3,7,8-TCDD            |                 |             | <0.019 | [U]       | pg/g  |     | 0.019  | 31-AUG-20 |
| 1,2,3,7,8-PeCDD         |                 |             | <0.017 | [U]       | pg/g  |     | 0.017  | 31-AUG-20 |
| 1,2,3,4,7,8-HxCDD       |                 |             | <0.029 | M,U       | pg/g  |     | 0.029  | 31-AUG-20 |
| 1,2,3,6,7,8-HxCDD       |                 |             | <0.026 | [U]       | pg/g  |     | 0.026  | 31-AUG-20 |
| 1,2,3,7,8,9-HxCDD       |                 |             | <0.027 | M,U       | pg/g  |     | 0.027  | 31-AUG-20 |
| 1,2,3,4,6,7,8-HpCDD     |                 |             | 0.053  | M,J,R     | pg/g  |     | 0.029  | 31-AUG-20 |
| OCDD                    |                 |             | 0.180  | M,J,R     | pg/g  |     | 0.03   | 31-AUG-20 |
| 2,3,7,8-TCDF            |                 |             | <0.018 | [U]       | pg/g  |     | 0.018  | 31-AUG-20 |
| 1,2,3,7,8-PeCDF         |                 |             | 0.018  | M,J,R     | pg/g  |     | 0.014  | 31-AUG-20 |
| 2,3,4,7,8-PeCDF         |                 |             | <0.013 | [U]       | pg/g  |     | 0.013  | 31-AUG-20 |
| 1,2,3,4,7,8-HxCDF       |                 |             | 0.016  | M,J,R     | pg/g  |     | 0.012  | 31-AUG-20 |
| 1,2,3,6,7,8-HxCDF       |                 |             | 0.017  | M,J       | pg/g  |     | 0.012  | 31-AUG-20 |
| 2,3,4,6,7,8-HxCDF       |                 |             | 0.025  | M,J       | pg/g  |     | 0.012  | 31-AUG-20 |
| 1,2,3,7,8,9-HxCDF       |                 |             | 0.030  | M,J,R     | pg/g  |     | 0.016  | 31-AUG-20 |
| 1,2,3,4,6,7,8-HpCDF     |                 |             | 0.034  | M,J,R     | pg/g  |     | 0.014  | 31-AUG-20 |
| 1,2,3,4,7,8,9-HpCDF     |                 |             | 0.029  | M,J,R     | pg/g  |     | 0.019  | 31-AUG-20 |
| OCDF                    |                 |             | 0.201  | [J]       | pg/g  |     | 0.028  | 31-AUG-20 |
| Total-TCDD              |                 |             | <0.019 | [U]       | pg/g  |     | 0.019  | 31-AUG-20 |
| Total-PeCDD             |                 |             | <0.017 | [U]       | pg/g  |     | 0.017  | 31-AUG-20 |
| Total-HxCDD             |                 |             | <0.029 | [U]       | pg/g  |     | 0.029  | 31-AUG-20 |
| Total-HpCDD             |                 |             | <0.029 | [U]       | pg/g  |     | 0.029  | 31-AUG-20 |
| Total-TCDF              |                 |             | <0.018 | [U]       | pg/g  |     | 0.018  | 31-AUG-20 |





### Quality Control Report

Workorder: L2491669

Report Date: 29-SEP-20

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Client: Eurofins Environment Testing Canada Inc (Ottawa)  
8 - 146 Colonnade Road  
Ottawa ON K2E 7Y1

Contact: Rebecca Koshy/Kelly Lancaster

| Test                                    | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-----------------------------------------|--------|-------------|--------|-----------|-------|-----|--------|-----------|
| <b>DX-1613B-HRMS-BU</b>                 |        | <b>Soil</b> |        |           |       |     |        |           |
| <b>Batch R5204698</b>                   |        |             |        |           |       |     |        |           |
| <b>WG3389586-1 MB</b>                   |        |             |        |           |       |     |        |           |
| Total-PeCDF                             |        |             | <0.014 | [U]       | pg/g  |     | 0.014  | 31-AUG-20 |
| Total-HxCDF                             |        |             | 0.043  | A         | pg/g  |     | 0.016  | 31-AUG-20 |
| Total-HpCDF                             |        |             | <0.019 | [U]       | pg/g  |     | 0.019  | 31-AUG-20 |
| Surrogate: 13C12-2,3,7,8-TCDD           |        |             | 86.0   |           | %     |     | 25-164 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,7,8-PeCDD        |        |             | 80.0   |           | %     |     | 25-181 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,4,7,8-HxCDD      |        |             | 82.0   |           | %     |     | 32-141 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,6,7,8-HxCDD      |        |             | 92.0   |           | %     |     | 28-130 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD    |        |             | 76.0   |           | %     |     | 23-140 | 31-AUG-20 |
| Surrogate: 13C12-OCDD                   |        |             | 57.0   |           | %     |     | 17-157 | 31-AUG-20 |
| Surrogate: 13C12-2,3,7,8-TCDF           |        |             | 86.0   |           | %     |     | 24-169 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,7,8-PeCDF        |        |             | 80.0   |           | %     |     | 24-185 | 31-AUG-20 |
| Surrogate: 13C12-2,3,4,7,8-PeCDF        |        |             | 77.0   |           | %     |     | 21-178 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,4,7,8-HxCDF      |        |             | 77.0   |           | %     |     | 26-152 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,6,7,8-HxCDF      |        |             | 89.0   |           | %     |     | 26-123 | 31-AUG-20 |
| Surrogate: 13C12-2,3,4,6,7,8-HxCDF      |        |             | 85.0   |           | %     |     | 29-147 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,7,8,9-HxCDF      |        |             | 80.0   |           | %     |     | 28-136 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF    |        |             | 81.0   |           | %     |     | 28-143 | 31-AUG-20 |
| Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF    |        |             | 77.0   |           | %     |     | 26-138 | 31-AUG-20 |
| Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) |        |             | 87.0   |           | %     |     | 35-197 | 31-AUG-20 |

COMMENTS: There were low levels of select targets detected in the method blank that were within the reference method control limits

| <b>MOISTURE-BU</b>     |  | <b>Soil</b>       |       |  |   |     |        |           |
|------------------------|--|-------------------|-------|--|---|-----|--------|-----------|
| <b>Batch R5202809</b>  |  |                   |       |  |   |     |        |           |
| <b>WG3389588-3 DUP</b> |  | <b>L2491669-1</b> |       |  |   |     |        |           |
| % Moisture             |  | 19.1              | 18.7  |  | % | 2.2 | 20     | 27-AUG-20 |
| <b>WG3389588-2 LCS</b> |  |                   |       |  |   |     |        |           |
| % Moisture             |  |                   | 95.2  |  | % |     | 90-110 | 27-AUG-20 |
| <b>WG3389588-1 MB</b>  |  |                   |       |  |   |     |        |           |
| % Moisture             |  |                   | <0.10 |  | % |     | 0.3    | 27-AUG-20 |

# Quality Control Report

Workorder: L2491669

Report Date: 29-SEP-20

Client: Eurofins Environment Testing Canada Inc (Ottawa)  
8 - 146 Colonnade Road  
Ottawa ON K2E 7Y1

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Contact: Rebecca Koshy/Kelly Lancaster

## Legend:

Limit ALS Control Limit (Data Quality Objectives)

DUP Duplicate  
RPD Relative Percent Difference  
N/A Not Available  
LCS Laboratory Control Sample  
SRM Standard Reference Material  
MS Matrix Spike  
MSD Matrix Spike Duplicate  
ADE Average Desorption Efficiency  
MB Method Blank  
IRM Internal Reference Material  
CRM Certified Reference Material  
CCV Continuing Calibration Verification  
CVS Calibration Verification Standard  
LCSD Laboratory Control Sample Duplicate

## Sample Parameter Qualifier Definitions:

---

### Qualifier Description

---

|        |                                                                                                                                                                                                                 |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A      | Method Blank exceeds ALS DQO. Refer to narrative comments for further information.                                                                                                                              |
| G      | QC result did not meet ALS DQO. Refer to narrative comments for further information.                                                                                                                            |
| J      | Duplicate results and limits are expressed in terms of absolute difference.                                                                                                                                     |
| J,R    | The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.                                      |
| M      | A peak has been manually integrated.                                                                                                                                                                            |
| M,J    | A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.                                                                                                 |
| M,J,R  | A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum. |
| M,U    | A peak has been manually integrated, and the analyte was not detected above the EDL.                                                                                                                            |
| RPD-NA | Relative Percent Difference Not Available due to result(s) being less than detection limit.                                                                                                                     |
| [J]    | The analyte was detected below the calibrated range but above the EDL.                                                                                                                                          |
| [U]    | The analyte was not detected above the EDL.                                                                                                                                                                     |

---

## Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

---

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6  
Phone: 905-331-3111, FAX: 905-331-4567

## Certificate of Analysis


|                                                |                                                      |
|------------------------------------------------|------------------------------------------------------|
| <b>ALS Project Contact:</b> Breanne Dusureault | <b>Client Name:</b> Eurofins Ottawa                  |
| <b>ALS Project ID:</b> 25540                   | <b>Client Address:</b> 8 - 146 Colonnade Road        |
| <b>ALS WO#:</b> L2491669                       | Ottawa, ON K2E 7Y1                                   |
| <b>Date of Report:</b> 18-Sep-20               | Canada                                               |
| <b>Date of Sample Receipt:</b> 20-Aug-20       | <b>Client Contact:</b> Rebecca Koshy/Kelly Lancaster |
|                                                | <b>Client Project ID:</b> 1937015                    |

**COMMENTS:** PCDD/F by EPA 1613B via Isotope Dilution

Sample and DUP do not match do not match for all target, sample contains foreign objects ( rocks, roots, leaves).

As per pages 28-29 of the MOECP document "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" as ammended July 2011, the WHO 2005 TEFs are to be employed while applying half the concentration of the EDLs for non-detected congeners. Therefore the regulations are relative to the "Mid Point PCDD/F TEQ (WHO 2005)" as presented in this report.

Certified by:

  
Ron McLeod, Ph.D.  
Technical Director

Results in this certificate relate only to the samples as submitted to the laboratory.

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# ALS Life Sciences

## Sample Analysis Summary Report

| Sample Name                           | 1511716      | Duplicate    | 1511717      | 1511718      |
|---------------------------------------|--------------|--------------|--------------|--------------|
| ALS Sample ID                         | L2491669-1   | WG3389586-4  | L2491669-2   | L2491669-3   |
| Sample Size                           | 16.36        | 16.55        | 16.5         | 16.58        |
| Sample size units                     | g            | g            | g            | g            |
| Percent Moisture                      | 19.14%       | 18.73%       | 18.14%       | 18.90%       |
| Sample Matrix                         | SOIL         | QC           | SOIL         | SOIL         |
| Sampling Date                         | 19-Aug-20    | n/a          | 19-Aug-20    | 19-Aug-20    |
| Extraction Date                       | 26-Aug-20    | 26-Aug-20    | 26-Aug-20    | 26-Aug-20    |
| <b>Target Analytes</b>                | <b>pg/g</b>  | <b>pg/g</b>  | <b>pg/g</b>  | <b>pg/g</b>  |
| 2,3,7,8-TCDD                          | <0.034       | <0.044       | 0.137        | <0.035       |
| 1,2,3,7,8-PeCDD                       | <0.086       | <0.061       | 0.238        | 0.0712       |
| 1,2,3,4,7,8-HxCDD                     | <0.22        | <0.24        | 0.341        | <0.17        |
| 1,2,3,6,7,8-HxCDD                     | <0.27        | <0.29        | 0.816        | <0.28        |
| 1,2,3,7,8,9-HxCDD                     | <0.23        | <0.23        | 1.01         | <0.14        |
| 1,2,3,4,6,7,8-HpCDD                   | 16.0         | 9.16         | 19.4         | <7.5         |
| OCDD                                  | 116          | 65.5         | 112          | 55.7         |
| 2,3,7,8-TCDF                          | <0.091       | <0.096       | 0.349        | <0.19        |
| 1,2,3,7,8-PeCDF                       | <0.10        | 0.215        | 0.285        | 0.104        |
| 2,3,4,7,8-PeCDF                       | 0.358        | 0.289        | 0.597        | 0.294        |
| 1,2,3,4,7,8-HxCDF                     | <0.35        | <0.28        | 0.409        | 0.261        |
| 1,2,3,6,7,8-HxCDF                     | 0.170        | <0.17        | 0.565        | 0.180        |
| 2,3,4,6,7,8-HxCDF                     | <0.23        | 0.315        | <0.23        | 0.241        |
| 1,2,3,7,8,9-HxCDF                     | <0.12        | <0.22        | <0.12        | <0.096       |
| 1,2,3,4,6,7,8-HpCDF                   | 3.04         | 2.66         | 5.32         | 2.24         |
| 1,2,3,4,7,8,9-HpCDF                   | 0.287        | <0.19        | 0.407        | <0.15        |
| OCDF                                  | 11.4         | 7.57         | 14.9         | 7.36         |
| <b>Extraction Standards</b>           | <b>% Rec</b> | <b>% Rec</b> | <b>% Rec</b> | <b>% Rec</b> |
| 13C12-2,3,7,8-TCDD                    | 74           | 87           | 85           | 90           |
| 13C12-1,2,3,7,8-PeCDD                 | 64           | 81           | 67           | 73           |
| 13C12-1,2,3,4,7,8-HxCDD               | 64           | 78           | 58           | 70           |
| 13C12-1,2,3,6,7,8-HxCDD               | 86           | 100          | 78           | 96           |
| 13C12-1,2,3,4,6,7,8-HpCDD             | 51           | 69           | 43           | 51           |
| 13C12-OCDD                            | 21           | 35           | 17           | 19           |
| 13C12-2,3,7,8-TCDF                    | 71           | 82           | 73           | 84           |
| 13C12-1,2,3,7,8-PeCDF                 | 63           | 78           | 69           | 74           |
| 13C12-2,3,4,7,8-PeCDF                 | 62           | 77           | 65           | 72           |
| 13C12-1,2,3,4,7,8-HxCDF               | 68           | 80           | 67           | 79           |
| 13C12-1,2,3,6,7,8-HxCDF               | 98           | 108          | 86           | 102          |
| 13C12-2,3,4,6,7,8-HxCDF               | 80           | 95           | 71           | 87           |
| 13C12-1,2,3,7,8,9-HxCDF               | 72           | 90           | 59           | 78           |
| 13C12-1,2,3,4,6,7,8-HpCDF             | 64           | 81           | 58           | 67           |
| 13C12-1,2,3,4,7,8,9-HpCDF             | 54           | 72           | 44           | 53           |
| <b>Cleanup Standard</b>               |              |              |              |              |
| 37C14-2,3,7,8-TCDD (Cleanup)          | 75           | 93           | 81           | 89           |
| <b>Homologue Group Totals</b>         | <b>pg/g</b>  | <b>pg/g</b>  | <b>pg/g</b>  | <b>pg/g</b>  |
| Total-TCDD                            | 0.529        | 0.438        | 0.822        | 0.691        |
| Total-PeCDD                           | 0.959        | 0.803        | 2.75         | 0.776        |
| Total-HxCDD                           | 5.54         | 0.573        | 9.96         | 1.68         |
| Total-HpCDD                           | 58.8         | 23.2         | 40.5         | 14.9         |
| Total Cl4 to Cl8 Dibenzo(p)dioxins    | 182          | 90.5         | 166          | 73.7         |
| Total-TCDF                            | 1.18         | 2.43         | 4.20         | 2.55         |
| Total-PeCDF                           | 4.59         | 3.53         | 7.04         | 4.13         |
| Total-HxCDF                           | 1.96         | 3.35         | 8.17         | 3.87         |
| Total-HpCDF                           | 8.67         | 5.93         | 14.0         | 2.24         |
| Total Cl4 to Cl8 Dibenzofurans        | 27.8         | 22.8         | 48.3         | 20.2         |
| <b>Toxic Equivalency - (WHO 2005)</b> |              |              |              |              |
| Lower Bound PCDD/F TEQ (WHO 2005)     | 0.356        | 0.265        | 1.20         | 0.272        |
| Mid Point PCDD/F TEQ (WHO 2005)       | 0.596        | 0.424        | 1.23         | 0.441        |
| Upper Bound PCDD/F TEQ (WHO 2005)     | 0.630        | 0.524        | 1.24         | 0.471        |

# ALS Life Sciences

## Quality Control Summary Report

| Sample Name                              | Method Blank | Laboratory Control Sample |
|------------------------------------------|--------------|---------------------------|
| ALS Sample ID                            | WG3389586-1  | WG3389586-2               |
| Sample Size                              | 17.00        | 1                         |
| Sample size units                        | g            | g                         |
| Percent Moisture                         | n/a          | n/a                       |
| Sample Matrix                            | QC           | QC                        |
| Sampling Date                            | n/a          | n/a                       |
| Extraction Date                          | 26-Aug-20    | 26-Aug-20                 |
| <b>Target Analytes</b>                   | <b>pg/g</b>  | <b>% Rec</b>              |
| 2,3,7,8-TCDD                             | <0.046       | 89                        |
| 1,2,3,7,8-PeCDD                          | <0.033       | 94                        |
| 1,2,3,4,7,8-HxCDD                        | <0.078       | 90                        |
| 1,2,3,6,7,8-HxCDD                        | <0.070       | 89                        |
| 1,2,3,7,8,9-HxCDD                        | <0.071       | 93                        |
| 1,2,3,4,6,7,8-HpCDD                      | <0.086       | 97                        |
| OCDD                                     | <0.34        | 91                        |
| 2,3,7,8-TCDF                             | <0.044       | 98                        |
| 1,2,3,7,8-PeCDF                          | <0.038       | 111                       |
| 2,3,4,7,8-PeCDF                          | <0.031       | 99                        |
| 1,2,3,4,7,8-HxCDF                        | <0.029       | 104                       |
| 1,2,3,6,7,8-HxCDF                        | <0.026       | 111                       |
| 2,3,4,6,7,8-HxCDF                        | <0.051       | 104                       |
| 1,2,3,7,8,9-HxCDF                        | <0.046       | 111                       |
| 1,2,3,4,6,7,8-HpCDF                      | <0.10        | 110                       |
| 1,2,3,4,7,8,9-HpCDF                      | <0.065       | 109                       |
| OCDF                                     | <0.37        | 124                       |
| <b>Extraction Standards</b>              | <b>% Rec</b> | <b>% Rec</b>              |
| 13C12-2,3,7,8-TCDD                       | 82           | 83                        |
| 13C12-1,2,3,7,8-PeCDD                    | 74           | 74                        |
| 13C12-1,2,3,4,7,8-HxCDD                  | 66           | 71                        |
| 13C12-1,2,3,6,7,8-HxCDD                  | 101          | 102                       |
| 13C12-1,2,3,4,6,7,8-HpCDD                | 67           | 59                        |
| 13C12-OCDD                               | 39           | 25                        |
| 13C12-2,3,7,8-TCDF                       | 78           | 81                        |
| 13C12-1,2,3,7,8-PeCDF                    | 75           | 71                        |
| 13C12-2,3,4,7,8-PeCDF                    | 73           | 69                        |
| 13C12-1,2,3,4,7,8-HxCDF                  | 69           | 77                        |
| 13C12-1,2,3,6,7,8-HxCDF                  | 99           | 103                       |
| 13C12-2,3,4,6,7,8-HxCDF                  | 83           | 86                        |
| 13C12-1,2,3,7,8,9-HxCDF                  | 71           | 72                        |
| 13C12-1,2,3,4,6,7,8-HpCDF                | 75           | 73                        |
| 13C12-1,2,3,4,7,8,9-HpCDF                | 69           | 60                        |
| <b>Cleanup Standard</b>                  |              |                           |
| 37Cl4-2,3,7,8-TCDD (Cleanup)             | 80           | 77                        |
| <b>Homologue Group Totals</b>            | <b>pg/g</b>  |                           |
| Total-TCDD                               | <0.046       |                           |
| Total-PeCDD                              | <0.033       |                           |
| Total-HxCDD                              | <0.078       |                           |
| Total-HpCDD                              | <0.086       |                           |
| Total-TCDF                               | <0.044       |                           |
| Total-PeCDF                              | <0.038       |                           |
| Total-HxCDF                              | <0.046       |                           |
| Total-HpCDF                              | <0.065       |                           |
| <b>Toxic Equivalency - (WHO 2005)</b>    |              |                           |
| <b>Lower Bound PCDD/F TEQ (WHO 2005)</b> | 0.00         |                           |
| <b>Mid Point PCDD/F TEQ (WHO 2005)</b>   | 0.0700       |                           |
| <b>Upper Bound PCDD/F TEQ (WHO 2005)</b> | 0.134        |                           |

# ALS Life Sciences

## Sample Analysis Report

**Sample Name** 1511716  
 ALS Sample ID L2491669-1  
 Analysis Method EPA 1613B  
 Analysis Type Sample  
 Sample Matrix SOIL

Sampling Date 19-Aug-20  
 Extraction Date 26-Aug-20  
 Sample Size 16.36 g  
 Percent Moisture 19.1%  
 Split Ratio 1

Approved:  
*N Ashtari*  
 --e-signature--  
 03-Sep-2020

**Run Information** **Run 1**  
 Filename 7-200901A05  
 Run Date 02-Sep-20 05:26  
 Final Volume 20 uL  
 Dilution Factor 1  
 Analysis Units pg/g  
 Instrument - Column HRMS-7 DB5MSUS0287836H

| Target Analytes               | TEF<br>(WHO 2005) | Ret.<br>Time | Conc.<br>pg/g | EDL<br>pg/g | Flags | EMPC<br>pg/g | LQL  | Mid Point TEQ<br>pg/g |
|-------------------------------|-------------------|--------------|---------------|-------------|-------|--------------|------|-----------------------|
| 2,3,7,8-TCDD                  | 1                 | NotFnd       | <0.034        | 0.034       |       | U            | 0.61 | 0.017                 |
| 1,2,3,7,8-PeCDD               | 1                 | 32.20        | <0.086        | 0.042       | M,J,R | 0.086        | 3.1  | 0.086                 |
| 1,2,3,4,7,8-HxCDD             | 0.1               | NotFnd       | <0.22         | 0.22        |       | U            | 3.1  | 0.011                 |
| 1,2,3,6,7,8-HxCDD             | 0.1               | 34.32        | <0.27         | 0.20        | M,J,R | 0.27         | 3.1  | 0.027                 |
| 1,2,3,7,8,9-HxCDD             | 0.1               | 34.45        | <0.23         | 0.21        | M,J,R | 0.23         | 3.1  | 0.023                 |
| 1,2,3,4,6,7,8-HpCDD           | 0.01              | 35.92        | 16.0          | 0.33        |       |              | 3.1  | 0.16                  |
| OCDD                          | 0.0003            | 37.40        | 116           | 1.1         |       |              | 6.1  | 0.0348                |
| 2,3,7,8-TCDF                  | 0.1               | 26.98        | <0.091        | 0.062       | M,J,R | 0.091        | 0.61 | 0.0091                |
| 1,2,3,7,8-PeCDF               | 0.03              | 31.24        | <0.10         | 0.060       | J,R   | 0.10         | 3.1  | 0.003                 |
| 2,3,4,7,8-PeCDF               | 0.3               | 31.98        | 0.358         | 0.053       | M,J   |              | 3.1  | 0.1074                |
| 1,2,3,4,7,8-HxCDF             | 0.1               | 33.78        | <0.35         | 0.083       | M,J,R | 0.35         | 3.1  | 0.035                 |
| 1,2,3,6,7,8-HxCDF             | 0.1               | 33.85        | 0.170         | 0.078       | J     |              | 3.1  | 0.017                 |
| 2,3,4,6,7,8-HxCDF             | 0.1               | 34.17        | <0.23         | 0.087       | J,R   | 0.23         | 3.1  | 0.023                 |
| 1,2,3,7,8,9-HxCDF             | 0.1               | 34.60        | <0.12         | 0.12        | U     | 0.096        | 3.1  | 0.006                 |
| 1,2,3,4,6,7,8-HpCDF           | 0.01              | 35.38        | 3.04          | 0.080       | J     |              | 3.1  | 0.0304                |
| 1,2,3,4,7,8,9-HpCDF           | 0.01              | 36.16        | 0.287         | 0.13        | M,J   |              | 3.1  | 0.00287               |
| OCDF                          | 0.0003            | 37.49        | 11.4          | 0.40        | M     |              | 6.1  | 0.00342               |
| <b>Extraction Standards</b>   | <b>pg</b>         | <b>% Rec</b> | <b>Limits</b> |             |       |              |      |                       |
| 13C12-2,3,7,8-TCDD            | 2000              | 27.89        | 74            | 25-164      |       |              |      |                       |
| 13C12-1,2,3,7,8-PeCDD         | 2000              | 32.19        | 64            | 25-181      |       |              |      |                       |
| 13C12-1,2,3,4,7,8-HxCDD       | 2000              | 34.26        | 64            | 32-141      |       |              |      |                       |
| 13C12-1,2,3,6,7,8-HxCDD       | 2000              | 34.32        | 86            | 28-130      |       |              |      |                       |
| 13C12-1,2,3,4,6,7,8-HpCDD     | 2000              | 35.92        | 51            | 23-140      |       |              |      |                       |
| 13C12-OCDD                    | 4000              | 37.40        | 21            | 17-157      |       |              |      |                       |
| 13C12-2,3,7,8-TCDF            | 2000              | 26.98        | 71            | 24-169      |       |              |      |                       |
| 13C12-1,2,3,7,8-PeCDF         | 2000              | 31.23        | 63            | 24-185      |       |              |      |                       |
| 13C12-2,3,4,7,8-PeCDF         | 2000              | 31.97        | 62            | 21-178      |       |              |      |                       |
| 13C12-1,2,3,4,7,8-HxCDF       | 2000              | 33.77        | 68            | 26-152      |       |              |      |                       |
| 13C12-1,2,3,6,7,8-HxCDF       | 2000              | 33.84        | 98            | 26-123      |       |              |      |                       |
| 13C12-2,3,4,6,7,8-HxCDF       | 2000              | 34.17        | 80            | 28-136      |       |              |      |                       |
| 13C12-1,2,3,7,8,9-HxCDF       | 2000              | 34.58        | 72            | 29-147      |       |              |      |                       |
| 13C12-1,2,3,4,6,7,8-HpCDF     | 2000              | 35.37        | 64            | 28-143      |       |              |      |                       |
| 13C12-1,2,3,4,7,8,9-HpCDF     | 2000              | 36.16        | 54            | 26-138      |       |              |      |                       |
| <b>Cleanup Standard</b>       | <b>pg</b>         |              |               |             |       |              |      |                       |
| 37C14-2,3,7,8-TCDD (Cleanup)  | 40                | 27.92        | 75            | 35-197      |       |              |      |                       |
| <b>Homologue Group Totals</b> | <b># peaks</b>    | <b>Conc.</b> | <b>EDL</b>    |             |       |              |      |                       |
|                               |                   | <b>pg/g</b>  | <b>pg/g</b>   |             |       |              |      |                       |
| Total-TCDD                    | 3.00              | 0.529        | 0.034         |             |       |              | 0.61 |                       |
| Total-PeCDD                   | 3.00              | 0.959        | 0.042         |             |       |              | 3.1  |                       |
| Total-HxCDD                   | 2.00              | 5.54         | 0.22          |             |       |              | 3.1  |                       |
| Total-HpCDD                   | 2.00              | 58.8         | 0.33          |             |       |              | 3.1  |                       |
| Total-TCDF                    | 5.00              | 1.18         | 0.062         |             |       |              | 0.61 |                       |
| Total-PeCDF                   | 8.00              | 4.59         | 0.060         |             |       |              | 3.1  |                       |
| Total-HxCDF                   | 3.00              | 1.96         | 0.12          |             |       |              | 3.1  |                       |
| Total-HpCDF                   | 5.00              | 8.67         | 0.13          |             |       |              | 3.1  |                       |

| Toxic Equivalency - (WHO 2005)    | pg/g  |
|-----------------------------------|-------|
| Lower Bound PCDD/F TEQ (WHO 2005) | 0.356 |
| Mid Point PCDD/F TEQ (WHO 2005)   | 0.596 |
| Upper Bound PCDD/F TEQ (WHO 2005) | 0.630 |

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
 J Indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

# ALS Life Sciences

## Sample Analysis Report

|                    |                  |                      |           |                                                          |
|--------------------|------------------|----------------------|-----------|----------------------------------------------------------|
| <b>Sample Name</b> | <b>Duplicate</b> | <b>Sampling Date</b> | n/a       |                                                          |
| ALS Sample ID      | WG3389586-4      | Extraction Date      | 26-Aug-20 | Approved:<br>N Ashtari<br>--e-signature--<br>03-Sep-2020 |
| Analysis Method    | EPA 1613B        | Sample Size          | 16.55 g   |                                                          |
| Analysis Type      | Sample           | Percent Moisture     | 18.7%     |                                                          |
| Sample Matrix      | QC               | Split Ratio          | 1         |                                                          |

|                        |                        |              |
|------------------------|------------------------|--------------|
| <b>Run Information</b> |                        | <b>Run 1</b> |
| Filename               | 7-200901A06            |              |
| Run Date               | 02-Sep-20 06:08        |              |
| Final Volume           | 20 uL                  |              |
| Dilution Factor        | 1                      |              |
| Analysis Units         | pg/g                   |              |
| Instrument - Column    | HRMS-7 DB5MSUS0287836H |              |

| Target Analytes               | TEF<br>(WHO 2005) | Ret.<br>Time | Conc.<br>pg/g | EDL<br>pg/g | Flags | EMPC<br>pg/g | LQL  | Mid Point TEQ<br>pg/g |  |
|-------------------------------|-------------------|--------------|---------------|-------------|-------|--------------|------|-----------------------|--|
| 2,3,7,8-TCDD                  | 1                 | NotFnd       | <0.044        | 0.044       |       | U            | 0.60 | 0.022                 |  |
| 1,2,3,7,8-PeCDD               | 1                 | 32.20        | <0.061        | 0.061       | M,U   | 0.060        | 3.0  | 0.0305                |  |
| 1,2,3,4,7,8-HxCDD             | 0.1               | 34.28        | <0.24         | 0.24        | M,U   | 0.14         | 3.0  | 0.012                 |  |
| 1,2,3,6,7,8-HxCDD             | 0.1               | 34.34        | <0.29         | 0.24        | M,J,R | 0.29         | 3.0  | 0.029                 |  |
| 1,2,3,7,8,9-HxCDD             | 0.1               | 34.45        | <0.23         | 0.23        | M,U   | 0.20         | 3.0  | 0.0115                |  |
| 1,2,3,4,6,7,8-HpCDD           | 0.01              | 35.93        | 9.16          | 0.24        |       |              | 3.0  | 0.0916                |  |
| OCDD                          | 0.0003            | 37.41        | 65.5          | 1.1         |       |              | 6.0  | 0.01965               |  |
| 2,3,7,8-TCDF                  | 0.1               | NotFnd       | <0.096        | 0.096       |       | U            | 0.60 | 0.0048                |  |
| 1,2,3,7,8-PeCDF               | 0.03              | 31.24        | 0.215         | 0.051       | M,J   |              | 3.0  | 0.00645               |  |
| 2,3,4,7,8-PeCDF               | 0.3               | 31.98        | 0.289         | 0.041       | M,J   |              | 3.0  | 0.0867                |  |
| 1,2,3,4,7,8-HxCDF             | 0.1               | 33.77        | <0.28         | 0.16        | M,J,R | 0.28         | 3.0  | 0.028                 |  |
| 1,2,3,6,7,8-HxCDF             | 0.1               | 33.85        | <0.17         | 0.17        | M,U   | 0.12         | 3.0  | 0.0085                |  |
| 2,3,4,6,7,8-HxCDF             | 0.1               | 34.18        | 0.315         | 0.17        | M,J   |              | 3.0  | 0.0315                |  |
| 1,2,3,7,8,9-HxCDF             | 0.1               | NotFnd       | <0.22         | 0.22        |       | U            | 3.0  | 0.011                 |  |
| 1,2,3,4,6,7,8-HpCDF           | 0.01              | 35.38        | 2.66          | 0.081       | M,J   |              | 3.0  | 0.0266                |  |
| 1,2,3,4,7,8,9-HpCDF           | 0.01              | 36.18        | <0.19         | 0.12        | J,R   | 0.19         | 3.0  | 0.0019                |  |
| OCDF                          | 0.0003            | 37.50        | 7.57          | 0.24        | M     |              | 6.0  | 0.00227               |  |
| <b>Extraction Standards</b>   | <b>pg</b>         | <b>% Rec</b> | <b>Limits</b> |             |       |              |      |                       |  |
| 13C12-2,3,7,8-TCDD            | 2000              | 27.89        | 87            | 25-164      |       |              |      |                       |  |
| 13C12-1,2,3,7,8-PeCDD         | 2000              | 32.19        | 81            | 25-181      |       |              |      |                       |  |
| 13C12-1,2,3,4,7,8-HxCDD       | 2000              | 34.27        | 78            | 32-141      |       |              |      |                       |  |
| 13C12-1,2,3,6,7,8-HxCDD       | 2000              | 34.32        | 100           | 28-130      |       |              |      |                       |  |
| 13C12-1,2,3,4,6,7,8-HpCDD     | 2000              | 35.92        | 69            | 23-140      |       |              |      |                       |  |
| 13C12-OCDD                    | 4000              | 37.40        | 35            | 17-157      |       |              |      |                       |  |
| 13C12-2,3,7,8-TCDF            | 2000              | 26.98        | 82            | 24-169      |       |              |      |                       |  |
| 13C12-1,2,3,7,8-PeCDF         | 2000              | 31.24        | 78            | 24-185      |       |              |      |                       |  |
| 13C12-2,3,4,7,8-PeCDF         | 2000              | 31.97        | 77            | 21-178      |       |              |      |                       |  |
| 13C12-1,2,3,4,7,8-HxCDF       | 2000              | 33.77        | 80            | 26-152      |       |              |      |                       |  |
| 13C12-1,2,3,6,7,8-HxCDF       | 2000              | 33.84        | 108           | 26-123      |       |              |      |                       |  |
| 13C12-2,3,4,6,7,8-HxCDF       | 2000              | 34.17        | 95            | 28-136      |       |              |      |                       |  |
| 13C12-1,2,3,7,8,9-HxCDF       | 2000              | 34.59        | 90            | 29-147      |       |              |      |                       |  |
| 13C12-1,2,3,4,6,7,8-HpCDF     | 2000              | 35.38        | 81            | 28-143      |       |              |      |                       |  |
| 13C12-1,2,3,4,7,8,9-HpCDF     | 2000              | 36.18        | 72            | 26-138      |       |              |      |                       |  |
| <b>Cleanup Standard</b>       | <b>pg</b>         |              |               |             |       |              |      |                       |  |
| 37Cl4-2,3,7,8-TCDD (Cleanup)  | 40                | 27.92        | 93            | 35-197      |       |              |      |                       |  |
| <b>Homologue Group Totals</b> | <b># peaks</b>    | <b>Conc.</b> | <b>EDL</b>    |             |       |              |      |                       |  |
| Total-TCDD                    | 2.00              | 0.438        | 0.044         | 0.60        |       |              |      |                       |  |
| Total-PeCDD                   | 2.00              | 0.803        | 0.061         | 3.0         |       |              |      |                       |  |
| Total-HxCDD                   | 1.00              | 0.573        | 0.24          | 3.0         |       |              |      |                       |  |
| Total-HpCDD                   | 2.00              | 23.2         | 0.24          | 3.0         |       |              |      |                       |  |
| Total-TCDF                    | 8.00              | 2.43         | 0.096         | 0.60        |       |              |      |                       |  |
| Total-PeCDF                   | 6.00              | 3.53         | 0.051         | 3.0         |       |              |      |                       |  |
| Total-HxCDF                   | 5.00              | 3.35         | 0.22          | 3.0         |       |              |      |                       |  |
| Total-HpCDF                   | 2.00              | 5.93         | 0.12          | 3.0         |       |              |      |                       |  |

|                                          |             |
|------------------------------------------|-------------|
| <b>Toxic Equivalency - (WHO 2005)</b>    | <b>pg/g</b> |
| <b>Lower Bound PCDD/F TEQ (WHO 2005)</b> | 0.265       |
| <b>Mid Point PCDD/F TEQ (WHO 2005)</b>   | 0.424       |
| <b>Upper Bound PCDD/F TEQ (WHO 2005)</b> | 0.524       |

|      |                                                                                                                          |
|------|--------------------------------------------------------------------------------------------------------------------------|
| EDL  | Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.          |
| TEF  | Indicates the Toxic Equivalency Factor                                                                                   |
| M    | Indicates that a peak has been manually integrated.                                                                      |
| U    | Indicates that this compound was not detected above the EDL.                                                             |
| J    | Indicates that a target analyte was detected below the calibrated range.                                                 |
| R    | Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.                          |
| LQL  | Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.       |
| EMPC | Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure |

# ALS Life Sciences

## Sample Analysis Report

**Sample Name** 1511717  
 ALS Sample ID L2491669-2  
 Analysis Method EPA 1613B  
 Analysis Type Sample  
 Sample Matrix SOIL

Sampling Date 19-Aug-20  
 Extraction Date 26-Aug-20  
 Sample Size 16.5 g  
 Percent Moisture 18.1%  
 Split Ratio 1

Approved:  
*N Ashtari*  
 --e-signature--  
 03-Sep-2020

**Run Information** **Run 1**  
 Filename 7-200901A07  
 Run Date 02-Sep-20 06:51  
 Final Volume 20 uL  
 Dilution Factor 1  
 Analysis Units pg/g  
 Instrument - Column HRMS-7 DB5MSUS0287836H

| Target Analytes               | TEF<br>(WHO 2005) | Ret.<br>Time   | Conc.<br>pg/g         | EDL<br>pg/g         | Flags | EMPC<br>pg/g | LQL  | Mid Point TEQ<br>pg/g |
|-------------------------------|-------------------|----------------|-----------------------|---------------------|-------|--------------|------|-----------------------|
| 2,3,7,8-TCDD                  | 1                 | 27.95          | 0.137                 | 0.032               | M,J   | 0.61         | 0.61 | 0.137                 |
| 1,2,3,7,8-PeCDD               | 1                 | 32.23          | 0.238                 | 0.026               | M,J   | 3.0          | 3.0  | 0.238                 |
| 1,2,3,4,7,8-HxCDD             | 0.1               | 34.39          | 0.341                 | 0.16                | M,J   | 3.0          | 3.0  | 0.0341                |
| 1,2,3,6,7,8-HxCDD             | 0.1               | 34.44          | 0.816                 | 0.14                | M,J   | 3.0          | 3.0  | 0.0816                |
| 1,2,3,7,8,9-HxCDD             | 0.1               | 34.56          | 1.01                  | 0.15                | J     | 3.0          | 3.0  | 0.101                 |
| 1,2,3,4,6,7,8-HpCDD           | 0.01              | 35.93          | 19.4                  | 0.38                |       | 3.0          | 3.0  | 0.194                 |
| OCDD                          | 0.0003            | 37.41          | 112                   | 1.3                 |       | 6.1          | 6.1  | 0.0336                |
| 2,3,7,8-TCDF                  | 0.1               | 27.02          | 0.349                 | 0.094               | J     | 0.61         | 0.61 | 0.0349                |
| 1,2,3,7,8-PeCDF               | 0.03              | 31.26          | 0.285                 | 0.042               | J     | 3.0          | 3.0  | 0.00855               |
| 2,3,4,7,8-PeCDF               | 0.3               | 32.00          | 0.597                 | 0.036               | J     | 3.0          | 3.0  | 0.1791                |
| 1,2,3,4,7,8-HxCDF             | 0.1               | 33.84          | 0.409                 | 0.12                | J     | 3.0          | 3.0  | 0.0409                |
| 1,2,3,6,7,8-HxCDF             | 0.1               | 33.91          | 0.565                 | 0.11                | J     | 3.0          | 3.0  | 0.0565                |
| 2,3,4,6,7,8-HxCDF             | 0.1               | 34.28          | <0.23                 | 0.13                | J,R   | 0.23         | 3.0  | 0.023                 |
| 1,2,3,7,8,9-HxCDF             | 0.1               | 34.66          | <0.12                 | 0.12                | M,U   | 0.078        | 3.0  | 0.006                 |
| 1,2,3,4,6,7,8-HpCDF           | 0.01              | 35.39          | 5.32                  | 0.14                | M     | 3.0          | 3.0  | 0.0532                |
| 1,2,3,4,7,8,9-HpCDF           | 0.01              | 36.18          | 0.407                 | 0.23                | J     | 3.0          | 3.0  | 0.00407               |
| OCDF                          | 0.0003            | 37.50          | 14.9                  | 0.59                | M     | 6.1          | 6.1  | 0.00447               |
| <b>Extraction Standards</b>   | <b>pg</b>         |                | <b>% Rec</b>          | <b>Limits</b>       |       |              |      |                       |
| 13C12-2,3,7,8-TCDD            | 2000              | 27.95          | 85                    | 25-164              |       |              |      |                       |
| 13C12-1,2,3,7,8-PeCDD         | 2000              | 32.22          | 67                    | 25-181              |       |              |      |                       |
| 13C12-1,2,3,4,7,8-HxCDD       | 2000              | 34.38          | 58                    | 32-141              |       |              |      |                       |
| 13C12-1,2,3,6,7,8-HxCDD       | 2000              | 34.43          | 78                    | 28-130              |       |              |      |                       |
| 13C12-1,2,3,4,6,7,8-HpCDD     | 2000              | 35.93          | 43                    | 23-140              |       |              |      |                       |
| 13C12-OCDD                    | 4000              | 37.41          | 17                    | 17-157              | M     |              |      |                       |
| 13C12-2,3,7,8-TCDF            | 2000              | 27.01          | 73                    | 24-169              |       |              |      |                       |
| 13C12-1,2,3,7,8-PeCDF         | 2000              | 31.25          | 69                    | 24-185              |       |              |      |                       |
| 13C12-2,3,4,7,8-PeCDF         | 2000              | 31.99          | 65                    | 21-178              |       |              |      |                       |
| 13C12-1,2,3,4,7,8-HxCDF       | 2000              | 33.83          | 67                    | 26-152              |       |              |      |                       |
| 13C12-1,2,3,6,7,8-HxCDF       | 2000              | 33.90          | 86                    | 26-123              |       |              |      |                       |
| 13C12-2,3,4,6,7,8-HxCDF       | 2000              | 34.28          | 71                    | 28-136              |       |              |      |                       |
| 13C12-1,2,3,7,8,9-HxCDF       | 2000              | 34.65          | 59                    | 29-147              |       |              |      |                       |
| 13C12-1,2,3,4,6,7,8-HpCDF     | 2000              | 35.38          | 58                    | 28-143              |       |              |      |                       |
| 13C12-1,2,3,4,7,8,9-HpCDF     | 2000              | 36.18          | 44                    | 26-138              |       |              |      |                       |
| <b>Cleanup Standard</b>       | <b>pg</b>         |                |                       |                     |       |              |      |                       |
| 37Cl4-2,3,7,8-TCDD (Cleanup)  | 40                | 27.96          | 81                    | 35-197              |       |              |      |                       |
| <b>Homologue Group Totals</b> |                   | <b># peaks</b> | <b>Conc.<br/>pg/g</b> | <b>EDL<br/>pg/g</b> |       |              |      |                       |
| Total-TCDD                    |                   | 3.00           | 0.822                 | 0.032               |       | 0.61         |      |                       |
| Total-PeCDD                   |                   | 7.00           | 2.75                  | 0.026               |       | 3.0          |      |                       |
| Total-HxCDD                   |                   | 6.00           | 9.96                  | 0.16                |       | 3.0          |      |                       |
| Total-HpCDD                   |                   | 2.00           | 40.5                  | 0.38                |       | 3.0          |      |                       |
| Total-TCDF                    |                   | 14.00          | 4.20                  | 0.094               |       | 0.61         |      |                       |
| Total-PeCDF                   |                   | 6.00           | 7.04                  | 0.042               |       | 3.0          |      |                       |
| Total-HxCDF                   |                   | 4.00           | 8.17                  | 0.13                |       | 3.0          |      |                       |
| Total-HpCDF                   |                   | 3.00           | 14.0                  | 0.23                |       | 3.0          |      |                       |

| Toxic Equivalency - (WHO 2005)    | pg/g |
|-----------------------------------|------|
| Lower Bound PCDD/F TEQ (WHO 2005) | 1.20 |
| Mid Point PCDD/F TEQ (WHO 2005)   | 1.23 |
| Upper Bound PCDD/F TEQ (WHO 2005) | 1.24 |

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
 J Indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure



# ALS Life Sciences

## Sample Analysis Report

**Sample Name** 1511718  
 ALS Sample ID L2491669-3  
 Analysis Method EPA 1613B  
 Analysis Type Sample  
 Sample Matrix SOIL

Sampling Date 19-Aug-20  
 Extraction Date 26-Aug-20  
 Sample Size 16.58 g  
 Percent Moisture 18.9%  
 Split Ratio 1

Approved:  
*N Ashtari*  
 --e-signature--  
 03-Sep-2020

**Run Information** **Run 1**  
 Filename 7-200901A08  
 Run Date 02-Sep-20 07:33  
 Final Volume 20 uL  
 Dilution Factor 1  
 Analysis Units pg/g  
 Instrument - Column HRMS-7 DB5MSUS0287836H

| Target Analytes               | TEF (WHO 2005) | Ret. Time         | Conc. pg/g      | EDL pg/g | Flags | EMPC pg/g  | LQL  | Mid Point TEQ pg/g |  |
|-------------------------------|----------------|-------------------|-----------------|----------|-------|------------|------|--------------------|--|
| 2,3,7,8-TCDD                  | 1              | NotFnd            | <0.035          | 0.035    |       | U          | 0.60 | 0.0175             |  |
| 1,2,3,7,8-PeCDD               | 1              | 32.20             | 0.0712          | 0.037    |       | M,J        | 3.0  | 0.0712             |  |
| 1,2,3,4,7,8-HxCDD             | 0.1            | 34.27             | <0.17           | 0.15     |       | M,J,R 0.17 | 3.0  | 0.017              |  |
| 1,2,3,6,7,8-HxCDD             | 0.1            | 34.33             | <0.28           | 0.14     |       | M,J,R 0.28 | 3.0  | 0.028              |  |
| 1,2,3,7,8,9-HxCDD             | 0.1            | 34.47             | <0.14           | 0.14     |       | M,U 0.079  | 3.0  | 0.007              |  |
| 1,2,3,4,6,7,8-HpCDD           | 0.01           | 35.93             | <7.5            | 0.44     |       | R 7.5      | 3.0  | 0.075              |  |
| OCDD                          | 0.0003         | 37.41             | 55.7            | 1.1      |       |            | 6.0  | 0.01671            |  |
| 2,3,7,8-TCDF                  | 0.1            | 26.98             | <0.19           | 0.058    |       | J,R 0.19   | 0.60 | 0.019              |  |
| 1,2,3,7,8-PeCDF               | 0.03           | 31.24             | 0.104           | 0.048    |       | M,J        | 3.0  | 0.00312            |  |
| 2,3,4,7,8-PeCDF               | 0.3            | 31.98             | 0.294           | 0.040    |       | M,J        | 3.0  | 0.0882             |  |
| 1,2,3,4,7,8-HxCDF             | 0.1            | 33.77             | 0.261           | 0.062    |       | M,J        | 3.0  | 0.0261             |  |
| 1,2,3,6,7,8-HxCDF             | 0.1            | 33.84             | 0.180           | 0.059    |       | J          | 3.0  | 0.018              |  |
| 2,3,4,6,7,8-HxCDF             | 0.1            | 34.17             | 0.241           | 0.065    |       | M,J        | 3.0  | 0.0241             |  |
| 1,2,3,7,8,9-HxCDF             | 0.1            | 34.62             | <0.096          | 0.096    |       | U          | 3.0  | 0.0048             |  |
| 1,2,3,4,6,7,8-HpCDF           | 0.01           | 35.38             | 2.24            | 0.085    |       | J          | 3.0  | 0.0224             |  |
| 1,2,3,4,7,8,9-HpCDF           | 0.01           | 36.19             | <0.15           | 0.15     |       | M,U 0.13   | 3.0  | 0.00075            |  |
| OCDF                          | 0.0003         | 37.50             | 7.36            | 0.47     |       | M          | 6.0  | 0.00221            |  |
| <b>Extraction Standards</b>   | <b>pg</b>      | <b>% Rec</b>      | <b>Limits</b>   |          |       |            |      |                    |  |
| 13C12-2,3,7,8-TCDD            | 2000           | 27.89             | 90              | 25-164   |       |            |      |                    |  |
| 13C12-1,2,3,7,8-PeCDD         | 2000           | 32.19             | 73              | 25-181   |       |            |      |                    |  |
| 13C12-1,2,3,4,7,8-HxCDD       | 2000           | 34.26             | 70              | 32-141   |       |            |      |                    |  |
| 13C12-1,2,3,6,7,8-HxCDD       | 2000           | 34.32             | 96              | 28-130   |       |            |      |                    |  |
| 13C12-1,2,3,4,6,7,8-HpCDD     | 2000           | 35.92             | 51              | 23-140   |       |            |      |                    |  |
| 13C12-OCDD                    | 4000           | 37.40             | 19              | 17-157   |       |            |      |                    |  |
| 13C12-2,3,7,8-TCDF            | 2000           | 26.98             | 84              | 24-169   |       |            |      |                    |  |
| 13C12-1,2,3,7,8-PeCDF         | 2000           | 31.23             | 74              | 24-185   |       |            |      |                    |  |
| 13C12-2,3,4,7,8-PeCDF         | 2000           | 31.97             | 72              | 21-178   |       |            |      |                    |  |
| 13C12-1,2,3,4,7,8-HxCDF       | 2000           | 33.77             | 79              | 26-152   |       |            |      |                    |  |
| 13C12-1,2,3,6,7,8-HxCDF       | 2000           | 33.84             | 102             | 26-123   |       |            |      |                    |  |
| 13C12-2,3,4,6,7,8-HxCDF       | 2000           | 34.17             | 87              | 28-136   |       |            |      |                    |  |
| 13C12-1,2,3,7,8,9-HxCDF       | 2000           | 34.59             | 78              | 29-147   |       |            |      |                    |  |
| 13C12-1,2,3,4,6,7,8-HpCDF     | 2000           | 35.37             | 67              | 28-143   |       |            |      |                    |  |
| 13C12-1,2,3,4,7,8,9-HpCDF     | 2000           | 36.16             | 53              | 26-138   |       |            |      |                    |  |
| <b>Cleanup Standard</b>       | <b>pg</b>      |                   |                 |          |       |            |      |                    |  |
| 37Cl4-2,3,7,8-TCDD (Cleanup)  | 40             | 27.92             | 89              | 35-197   |       |            |      |                    |  |
| <b>Homologue Group Totals</b> | <b># peaks</b> | <b>Conc. pg/g</b> | <b>EDL pg/g</b> |          |       |            |      |                    |  |
| Total-TCDD                    | 6.00           | 0.691             | 0.035           | 0.60     |       |            |      |                    |  |
| Total-PeCDD                   | 3.00           | 0.776             | 0.037           | 3.0      |       |            |      |                    |  |
| Total-HxCDD                   | 1.00           | 1.68              | 0.15            | 3.0      |       |            |      |                    |  |
| Total-HpCDD                   | 1.00           | 14.9              | 0.44            | 3.0      |       |            |      |                    |  |
| Total-TCDF                    | 10.00          | 2.55              | 0.058           | 0.60     |       |            |      |                    |  |
| Total-PeCDF                   | 9.00           | 4.13              | 0.048           | 3.0      |       |            |      |                    |  |
| Total-HxCDF                   | 8.00           | 3.87              | 0.096           | 3.0      |       |            |      |                    |  |
| Total-HpCDF                   | 1.00           | 2.24              | 0.15            | 3.0      |       |            |      |                    |  |

**Toxic Equivalency - (WHO 2005)** **pg/g**  
**Lower Bound PCDD/F TEQ (WHO 2005)** 0.272  
**Mid Point PCDD/F TEQ (WHO 2005)** 0.441 0.441  
**Upper Bound PCDD/F TEQ (WHO 2005)** 0.471

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.  
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency  
 M Indicates that a peak has been manually integrated.  
 U Indicates that this compound was not detected above the EDL.  
 J Indicates that a target analyte was detected below the calibrated range.  
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.  
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.  
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

# ALS Life Sciences

## Laboratory Method Blank Analysis Report

|                    |                     |                  |           |   |                                                          |
|--------------------|---------------------|------------------|-----------|---|----------------------------------------------------------|
| <b>Sample Name</b> | <b>Method Blank</b> | Sampling Date    | n/a       |   |                                                          |
| ALS Sample ID      | WG3389586-1         | Extraction Date  | 26-Aug-20 |   | Approved:<br>N Ashtari<br>--e-signature--<br>03-Sep-2020 |
| Analysis Method    | EPA 1613B           | Sample Size      | 17.00     | g |                                                          |
| Analysis Type      | Blank               | Percent Moisture | n/a       |   |                                                          |
| Sample Matrix      | QC                  | Split Ratio      | 1         |   |                                                          |

|                        |                        |              |  |
|------------------------|------------------------|--------------|--|
| <b>Run Information</b> |                        | <b>Run 1</b> |  |
| Filename               | 7-200901A04            |              |  |
| Run Date               | 02-Sep-20 04:44        |              |  |
| Final Volume           | 20 uL                  |              |  |
| Dilution Factor        | 1                      |              |  |
| Analysis Units         | pg/g                   |              |  |
| Instrument - Column    | HRMS-7 DB5MSUS0287836H |              |  |

| Target Analytes     | TEF<br>(WHO 2005) | Ret.<br>Time | Conc.<br>pg/g | EDL<br>pg/g | Flags | EMPC<br>pg/g | LQL  |
|---------------------|-------------------|--------------|---------------|-------------|-------|--------------|------|
| 2,3,7,8-TCDD        | 1                 | NotFnd       | <0.046        | 0.046       |       | U            | 0.59 |
| 1,2,3,7,8-PeCDD     | 1                 | NotFnd       | <0.033        | 0.033       |       | U            | 2.9  |
| 1,2,3,4,7,8-HxCDD   | 0.1               | 34.29        | <0.078        | 0.078       | M,U   | 0.054        | 2.9  |
| 1,2,3,6,7,8-HxCDD   | 0.1               | NotFnd       | <0.070        | 0.070       |       | U            | 2.9  |
| 1,2,3,7,8,9-HxCDD   | 0.1               | 34.46        | <0.071        | 0.071       | M,U   | 0.038        | 2.9  |
| 1,2,3,4,6,7,8-HpCDD | 0.01              | NotFnd       | <0.086        | 0.086       |       | U            | 2.9  |
| OCDD                | 0.0003            | 37.42        | <0.34         | 0.24        | M,J,R | 0.34         | 5.9  |
| 2,3,7,8-TCDF        | 0.1               | NotFnd       | <0.044        | 0.044       |       | U            | 0.59 |
| 1,2,3,7,8-PeCDF     | 0.03              | NotFnd       | <0.038        | 0.038       |       | U            | 2.9  |
| 2,3,4,7,8-PeCDF     | 0.3               | NotFnd       | <0.031        | 0.031       |       | U            | 2.9  |
| 1,2,3,4,7,8-HxCDF   | 0.1               | 33.80        | <0.029        | 0.029       | M,U   | 0.025        | 2.9  |
| 1,2,3,6,7,8-HxCDF   | 0.1               | NotFnd       | <0.026        | 0.026       |       | U            | 2.9  |
| 2,3,4,6,7,8-HxCDF   | 0.1               | 34.19        | <0.051        | 0.029       | J,R   | 0.051        | 2.9  |
| 1,2,3,7,8,9-HxCDF   | 0.1               | 34.62        | <0.046        | 0.046       | M,U   | 0.038        | 2.9  |
| 1,2,3,4,6,7,8-HpCDF | 0.01              | 35.41        | <0.10         | 0.043       | M,J,R | 0.10         | 2.9  |
| 1,2,3,4,7,8,9-HpCDF | 0.01              | 36.18        | <0.065        | 0.065       | M,U   | 0.052        | 2.9  |
| OCDF                | 0.0003            | 37.56        | <0.37         | 0.22        | M,J,R | 0.37         | 5.9  |

| Extraction Standards      | pg   | % Rec | Limits     |
|---------------------------|------|-------|------------|
| 13C12-2,3,7,8-TCDD        | 2000 | 27.90 | 82 25-164  |
| 13C12-1,2,3,7,8-PeCDD     | 2000 | 32.20 | 74 25-181  |
| 13C12-1,2,3,4,7,8-HxCDD   | 2000 | 34.28 | 66 32-141  |
| 13C12-1,2,3,6,7,8-HxCDD   | 2000 | 34.33 | 101 28-130 |
| 13C12-1,2,3,4,6,7,8-HpCDD | 2000 | 35.93 | 67 23-140  |
| 13C12-OCDD                | 4000 | 37.42 | 39 17-157  |
| 13C12-2,3,7,8-TCDF        | 2000 | 26.99 | 78 24-169  |
| 13C12-1,2,3,7,8-PeCDF     | 2000 | 31.24 | 75 24-185  |
| 13C12-2,3,4,7,8-PeCDF     | 2000 | 31.98 | 73 21-178  |
| 13C12-1,2,3,4,7,8-HxCDF   | 2000 | 33.78 | 69 26-152  |
| 13C12-1,2,3,6,7,8-HxCDF   | 2000 | 33.84 | 99 26-123  |
| 13C12-2,3,4,6,7,8-HxCDF   | 2000 | 34.18 | 83 28-136  |
| 13C12-1,2,3,7,8,9-HxCDF   | 2000 | 34.59 | 71 29-147  |
| 13C12-1,2,3,4,6,7,8-HpCDF | 2000 | 35.38 | 75 28-143  |
| 13C12-1,2,3,4,7,8,9-HpCDF | 2000 | 36.18 | 69 26-138  |

| Cleanup Standard             | pg | % Rec | Limits    |
|------------------------------|----|-------|-----------|
| 37Cl4-2,3,7,8-TCDD (Cleanup) | 40 | 27.93 | 80 35-197 |

| Homologue Group Totals | # peaks | Conc.<br>pg/g | EDL<br>pg/g |   |      |
|------------------------|---------|---------------|-------------|---|------|
| Total-TCDD             | 0.00    | <0.046        | 0.046       | U | 0.59 |
| Total-PeCDD            | 0.00    | <0.033        | 0.033       | U | 2.9  |
| Total-HxCDD            | 0.00    | <0.078        | 0.078       | U | 2.9  |
| Total-HpCDD            | 0.00    | <0.086        | 0.086       | U | 2.9  |
| Total-TCDF             | 0.00    | <0.044        | 0.044       | U | 0.59 |
| Total-PeCDF            | 0.00    | <0.038        | 0.038       | U | 2.9  |
| Total-HxCDF            | 0.00    | <0.046        | 0.046       | U | 2.9  |
| Total-HpCDF            | 0.00    | <0.065        | 0.065       | U | 2.9  |

|                                          |             |
|------------------------------------------|-------------|
| <b>Toxic Equivalency - (WHO 2005)</b>    | <b>pg/g</b> |
| <b>Lower Bound PCDD/F TEQ (WHO 2005)</b> | 0.00        |
| <b>Mid Point PCDD/F TEQ (WHO 2005)</b>   | 0.0700      |
| <b>Upper Bound PCDD/F TEQ (WHO 2005)</b> | 0.134       |

|      |                                                                                                                          |                                     |
|------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| EDL  | Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.          |                                     |
| TEF  | Indicates the Toxic Equivalency Factor                                                                                   | TEQ Indicates the Toxic Equivalency |
| M    | Indicates that a peak has been manually integrated.                                                                      |                                     |
| U    | Indicates that this compound was not detected above the EDL.                                                             |                                     |
| J    | Indicates that a target analyte was detected below the calibrated range.                                                 |                                     |
| R    | Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.                          |                                     |
| LQL  | Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.       |                                     |
| EMPC | Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure |                                     |

# ALS Life Sciences

## Laboratory Control Sample Analysis Report

|                    |                                  |                  |           |                                                                 |
|--------------------|----------------------------------|------------------|-----------|-----------------------------------------------------------------|
| <b>Sample Name</b> | <b>Laboratory Control Sample</b> | Sampling Date    | n/a       |                                                                 |
| ALS Sample ID      | WG3389586-2                      | Extraction Date  | 26-Aug-20 | Approved:<br><i>N.Ashdari</i><br>--e-signature--<br>03-Sep-2020 |
| Analysis Method    | EPA 1613B                        | Sample Size      | 1 g       |                                                                 |
| Analysis Type      | LCS                              | Percent Moisture | n/a       |                                                                 |
| Sample Matrix      | QC                               | Split Ratio      | 1         |                                                                 |

|                        |                        |
|------------------------|------------------------|
| <b>Run Information</b> | <b>Run 1</b>           |
| Filename               | 7-200901A02            |
| Run Date               | 02-Sep-20 03:19        |
| Final Volume           | 20 uL                  |
| Dilution Factor        | 1                      |
| Analysis Units         | %                      |
| Instrument - Column    | HRMS-7 DB5MSUS0287836H |

| Target Analytes              | pg        | Ret. Time | % Rec        | Limits        | Flags |
|------------------------------|-----------|-----------|--------------|---------------|-------|
| 2,3,7,8-TCDD                 | 200       | 27.93     | 89           | 67-158        |       |
| 1,2,3,7,8-PeCDD              | 1000      | 32.22     | 94           | 70-142        |       |
| 1,2,3,4,7,8-HxCDD            | 1000      | 34.28     | 90           | 70-164        |       |
| 1,2,3,6,7,8-HxCDD            | 1000      | 34.33     | 89           | 76-134        |       |
| 1,2,3,7,8,9-HxCDD            | 1000      | 34.46     | 93           | 64-162        |       |
| 1,2,3,4,6,7,8-HpCDD          | 1000      | 35.93     | 97           | 70-140        |       |
| OCDD                         | 2000      | 37.42     | 91           | 78-144        | M     |
| 2,3,7,8-TCDF                 | 200       | 27.01     | 98           | 75-158        |       |
| 1,2,3,7,8-PeCDF              | 1000      | 31.25     | 111          | 80-134        |       |
| 2,3,4,7,8-PeCDF              | 1000      | 31.99     | 99           | 68-160        |       |
| 1,2,3,4,7,8-HxCDF            | 1000      | 33.79     | 104          | 72-134        |       |
| 1,2,3,6,7,8-HxCDF            | 1000      | 33.86     | 111          | 84-130        |       |
| 2,3,4,6,7,8-HxCDF            | 1000      | 34.18     | 104          | 70-156        |       |
| 1,2,3,7,8,9-HxCDF            | 1000      | 34.60     | 111          | 78-130        |       |
| 1,2,3,4,6,7,8-HpCDF          | 1000      | 35.39     | 110          | 82-122        |       |
| 1,2,3,4,7,8,9-HpCDF          | 1000      | 36.19     | 109          | 78-138        |       |
| OCDF                         | 2000      | 37.50     | 124          | 63-170        |       |
| <b>Extraction Standards</b>  | <b>pg</b> |           | <b>% Rec</b> | <b>Limits</b> |       |
| 13C12-2,3,7,8-TCDD           | 2000      | 27.90     | 83           | 20-175        |       |
| 13C12-1,2,3,7,8-PeCDD        | 2000      | 32.19     | 74           | 21-227        |       |
| 13C12-1,2,3,4,7,8-HxCDD      | 2000      | 34.27     | 71           | 21-193        |       |
| 13C12-1,2,3,6,7,8-HxCDD      | 2000      | 34.32     | 102          | 25-163        |       |
| 13C12-1,2,3,4,6,7,8-HpCDD    | 2000      | 35.93     | 59           | 26-166        |       |
| 13C12-OCDD                   | 4000      | 37.41     | 25           | 13-138        |       |
| 13C12-2,3,7,8-TCDF           | 2000      | 26.99     | 81           | 22-152        |       |
| 13C12-1,2,3,7,8-PeCDF        | 2000      | 31.24     | 71           | 21-192        |       |
| 13C12-2,3,4,7,8-PeCDF        | 2000      | 31.98     | 69           | 13-328        |       |
| 13C12-1,2,3,4,7,8-HxCDF      | 2000      | 33.78     | 77           | 19-202        |       |
| 13C12-1,2,3,6,7,8-HxCDF      | 2000      | 33.84     | 103          | 21-159        |       |
| 13C12-2,3,4,6,7,8-HxCDF      | 2000      | 34.17     | 86           | 22-176        |       |
| 13C12-1,2,3,7,8,9-HxCDF      | 2000      | 34.59     | 72           | 17-205        |       |
| 13C12-1,2,3,4,6,7,8-HpCDF    | 2000      | 35.38     | 73           | 21-158        |       |
| 13C12-1,2,3,4,7,8,9-HpCDF    | 2000      | 36.18     | 60           | 20-186        |       |
| <b>Cleanup Standard</b>      | <b>pg</b> |           |              |               |       |
| 37Cl4-2,3,7,8-TCDD (Cleanup) | 40        | 27.93     | 77           | 31-191        |       |

M Indicates that a peak has been manually integrated.



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# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L2491669-COFC

COC Number: 17 -

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*[Handwritten signature]*

|                                                                                                                      |                                                                                              |                                                                                                                                                |                     |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------|--|--|--|
| <b>Report To</b><br>Contact and company name below will appear on the final report                                   |                                                                                              | <b>Report Format / Distribution</b>                                                                                                            |                     | <b>Select Service Level Below - Contact your AM to confirm all E&amp;P TATs (surcharges may apply)</b>                                             |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| Company:                                                                                                             | Eurofins Ottawa                                                                              | Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) |                     | <b>Regular [R]</b> <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply                      |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| Contact:                                                                                                             | Scott Clark                                                                                  | Quality Control (QC) Report with Report <input type="checkbox"/> YES <input type="checkbox"/> NO                                               |                     | <b>PRIORITY</b><br>(Business Day)                                                                                                                  | <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked | <b>EMERGENCY</b> | <input type="checkbox"/> 4 day [P4-20%]                                                                        | <input type="checkbox"/> 1 Business day [E - 100%] |                    |  |  |  |
| Phone:                                                                                                               | 613-727-5692                                                                                 | <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX                                                      |                     |                                                                                                                                                    | <input type="checkbox"/> 3 day [P3-25%]                                                               |                  | <input type="checkbox"/> Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] |                                                    |                    |  |  |  |
| Company address below will appear on the final report                                                                |                                                                                              | Select Distribution:                                                                                                                           |                     |                                                                                                                                                    | <input type="checkbox"/> 2 day [P2-50%]                                                               |                  |                                                                                                                |                                                    |                    |  |  |  |
| Street:                                                                                                              | 146 Colonnade Rd.                                                                            | Email 1 or Fax Ottawa.subcontract@eurofins.com                                                                                                 |                     | <b>Date and Time Required for all E&amp;P TATs:</b> dd-mmm-yy hh:mm                                                                                |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| City/Province:                                                                                                       | Ottawa/ON                                                                                    | Email 2                                                                                                                                        |                     | For tests that can not be performed according to the service level selected, you will be contacted.                                                |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| Postal Code:                                                                                                         | K2E 7Y1                                                                                      | Email 3                                                                                                                                        |                     | <b>Analysis Request</b>                                                                                                                            |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| <b>Invoice To</b>                                                                                                    | Same as Report To <input type="checkbox"/> YES <input type="checkbox"/> NO                   | <b>Invoice Distribution</b>                                                                                                                    |                     | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below                                                                         |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
|                                                                                                                      | Copy of Invoice with Report <input type="checkbox"/> YES <input type="checkbox"/> NO         | Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX              |                     |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| Company:                                                                                                             | Eurofins Ottawa                                                                              | Email 1 or Fax KarenMcGee@eurofins.com                                                                                                         |                     | <b>NUMBER OF CONTAINERS</b><br>15 DiOXINS + furans                                                                                                 | <b>SAMPLES ON HOLD</b><br>SUSPECTED HAZARDOUS (see Special Instructions)                              |                  |                                                                                                                |                                                    |                    |  |  |  |
| Contact:                                                                                                             | Karen McGee                                                                                  | Email 2                                                                                                                                        |                     |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| <b>Project Information</b>                                                                                           |                                                                                              | <b>Oil and Gas Required Fields (client use)</b>                                                                                                |                     |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| ALS Account # / Quote #:                                                                                             | Q66514 / 25540                                                                               | AFE/Cost Center:                                                                                                                               | PO#                 |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| Job #:                                                                                                               | 1937015                                                                                      | Major/Minor Code:                                                                                                                              | Routing Code:       |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| PO / AFE:                                                                                                            | OTT-2008-10                                                                                  | Requisitioner:                                                                                                                                 |                     |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| LSD:                                                                                                                 |                                                                                              | Location:                                                                                                                                      |                     |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| ALS Lab Work Order # (lab use only):                                                                                 | L2491669 CF.                                                                                 | ALS Contact:                                                                                                                                   | Melanie Moshi       |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    | Sampler:           |  |  |  |
| <b>ALS Sample # (lab use only)</b>                                                                                   | <b>Sample Identification and/or Coordinates (This description will appear on the report)</b> | <b>Date (dd-mmm-yy)</b>                                                                                                                        | <b>Time (hh:mm)</b> |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    | <b>Sample Type</b> |  |  |  |
|                                                                                                                      | 1511716                                                                                      | 19-8-20                                                                                                                                        |                     |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    | Soil               |  |  |  |
|                                                                                                                      | 1511717                                                                                      | ↓                                                                                                                                              |                     | ↓                                                                                                                                                  |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
|                                                                                                                      | 1511718                                                                                      |                                                                                                                                                |                     |                                                                                                                                                    |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| <b>Drinking Water (DW) Samples<sup>1</sup> (client use)</b>                                                          |                                                                                              | <b>Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)</b>                  |                     | <b>SAMPLE CONDITION AS RECEIVED (lab use only)</b>                                                                                                 |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| Are samples taken from a Regulated DW System?<br><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |                                                                                              | waterloo                                                                                                                                       |                     | Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>                                          |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| Are samples for human consumption/ use?<br><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO       |                                                                                              |                                                                                                                                                |                     | Ice Packs <input type="checkbox"/> Ice Cubes <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/> |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
|                                                                                                                      |                                                                                              |                                                                                                                                                |                     | Cooling Initiated <input type="checkbox"/>                                                                                                         |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
|                                                                                                                      |                                                                                              |                                                                                                                                                |                     | INITIAL COOLER TEMPERATURES °C: 24.4                                                                                                               |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
|                                                                                                                      |                                                                                              |                                                                                                                                                |                     | FINAL COOLER TEMPERATURES °C: 19.3                                                                                                                 |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| <b>SHIPMENT RELEASE (client use)</b>                                                                                 |                                                                                              | <b>INITIAL SHIPMENT RECEPTION (lab use only)</b>                                                                                               |                     | <b>FINAL SHIPMENT RECEPTION (lab use only)</b>                                                                                                     |                                                                                                       |                  |                                                                                                                |                                                    |                    |  |  |  |
| Released by:                                                                                                         | RM                                                                                           | Date:                                                                                                                                          | 20/8/20             | Time:                                                                                                                                              | Noon                                                                                                  | Received by:     | Carole FARASSUCCA                                                                                              |                                                    |                    |  |  |  |
|                                                                                                                      |                                                                                              | Date:                                                                                                                                          | 8/20/20             | Time:                                                                                                                                              | 13:10                                                                                                 | Date:            | Aug 21/20                                                                                                      |                                                    |                    |  |  |  |
|                                                                                                                      |                                                                                              | Date:                                                                                                                                          |                     | Time:                                                                                                                                              |                                                                                                       | Date:            |                                                                                                                |                                                    |                    |  |  |  |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.