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**Limited**  
**Phase 2 Environmental Site Assessment**  
509 Southcote Road  
Ancaster, Ontario  
L9G 3K9

Prepared for:

Mr. Nick Carnicelli  
**Carriage Gate Inc.**  
2069 Lakeshore Road  
Burlington, On  
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File: 22352

October 2022

## EXECUTIVE SUMMARY

Landtek Limited (Landtek) is pleased to submit the findings of this Limited Phase 2 Environmental Site Assessment (ESA) report for the property located at 509 Southcote Road in Ancaster, Ontario (“the Site”). The work was initiated following authorization to proceed from Mr. Nick Carnicelli of Carriage Gate Inc. (the Client) in August of 2022.

The Limited Phase 2 ESA was completed in general accordance with CSA Standard Z769-00 as well as current guidelines described in Ontario Regulation 153/04 as amended. The current soil and groundwater quality standards and regulations came into effect in 2011 (Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, April 15, 2011). The Phase 2 ESA covers physical sampling of soils and chemical analyses where potential risks of environmental liability are evident from previous findings or past use of the property. Groundwater was not assessed as part of this investigation.

This assessment was completed with the understanding that a Record of Site Condition (RSC) is **not** required and therefore the requirements of Ontario Regulation 153/04 (as amended) (O. Reg. 153/04) were not performed.

## SITE DESCRIPTION

The Site is rectangular in shape and comprises an area of approximately 1.12 hectares (2.77 acres) and is situated approximately 80 m northeast of the intersection of Southcote Road and Garner Road East in Ancaster, Ontario.

It is currently a residential property, with one (1) residential dwelling, one (1) garage/old barn, and one (1) shed present. Based on information sources reviewed, the Site land-use was historically undeveloped and/or agricultural in nature. The current residential dwelling, garage (converted barn), and shed were constructed in the early 1950s (first developed use). The Study Area was developed from the 1950s to present into a predominantly residential development, with commercial properties adjacent to Garner Road.

## SUMMARY OF WORK PLAN

In August of 2022, Landtek was retained by the Client, to prepare a Phase One ESA report for the Site, titled “Phase 1 Environmental Site Assessment, 590 Southcote Road, Ancaster, Ontario, L9G 3K9, dated October 2022” (Phase One ESA). The Phase One ESA was conducted to assess the environmental liability, if any, associated with the Site.

Based on the Phase 1 ESA findings, the following issues of potential environmental concern were anticipated for the Site:

- The historic presence of a gas station on the southern adjacent property; and,
- The historic and current presence of an auto repair/collision centre on the southern adjacent property

Based on the results of the Phase One ESA, a Limited Phase Two ESA was recommended to investigate the areas of potential environmental concern identified. The investigation included sampling of soil on the Phase Two Property.

Based on the potential environmental concerns identified in the Phase One ESA, a program of soil sampling and chemical analysis for inorganic and organic parameters, including petroleum



hydrocarbon fraction 1 to fraction 4 (PHC F1 – F4), volatile organic compounds (VOCs), and metals and inorganic parameters (M&I) [collectively referred to as contaminants of concern (COCs)], was proposed.

Soil samples (TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, and TP10) were collected and submitted for PHCs, VOCs, and metals & inorganics at ten (10) excavated test pit locations across the southern portion of the Site, from a depth of approximately 3.4 to 4.3 m below ground surface (m bgs) and were established based on the subsurface conditions and COCs identified in the Phase 1 ESA.

Select soil samples were obtained and submitted for laboratory analysis from the soils for the COCs identified based on field observations.

Laboratory analysis was carried out by Paracel Laboratories Ltd (Paracel). The laboratory is accredited by the Canadian Association for Laboratory Accreditation (CALA). The parameters for which samples were analysed were selected based on a Sampling and Analysis Plan (SAAP) and field conditions encountered.

Soil samples were analysed for selected contaminants CPCs that included:

- Petroleum hydrocarbon fractions F1 – F4;
- Volatile organic compounds and,
- metals and inorganics (including calcium and magnesium); hydrides (including arsenic, antimony, selenium); and Other Related Parameters (ORPs) (including boron (hot water soluble), chloride, cyanide, electrical conductivity (EC), sodium absorption ratio (SAR), hexavalent chromium, nitrate/nitrogen, mercury, methyl mercury, and pH).

The Site Condition Standards (SCS) adopted for this assessment were the Ontario Regulation 153/04 (O. Reg. 153/04) *Table 3 SCS Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition and Residential/Parkland/Institutional (RPI) property use (O. Reg. 153/04 Table 3 SCS)* and were selected as the applicable standards for the Phase Two Property.

All field work was carried out in accordance with standard quality assurance / quality control procedures as discussed in the report and the quality control samples analysed at the laboratory included duplicates.

## CONCLUSIONS

Based on the available background information and testing completed during the course of this investigation, the findings and recommendations of the Limited Phase 2 ESA are summarized as follows:

- Surficial soil samples tested for metals & inorganics, petroleum hydrocarbons, and volatile organic compounds, were found to be below the applicable O. Reg. 153/04 Table 3 SCS for R/P/I land use.

## RECOMMENDATIONS

Based on the results of this Limited Phase 2 ESA, no issues of potential environmental concern are anticipated at the Site.



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Figure 1: Sampling Location Plan

### APPENDICES

Appendix A: Laboratory Certificates of Analysis



## 1.0 INTRODUCTION

Landtek Limited (Landtek) is pleased to submit the findings of this Limited Phase 2 Environmental Site Assessment (ESA) report for the property located at 509 Southcote Road in Ancaster, Ontario ("the Site"), as shown on **Figure 1**. The work was initiated following authorization to proceed from Mr. Nick Carnicelli of Carriage Gate Inc. (the Client) in August of 2022.

The Limited Phase 2 ESA was completed in general accordance with CSA Standard Z769-00 and the current guidelines described in Ontario Regulation 153/04 as amended. The current soil and groundwater quality standards and regulations came into effect in 2011 (Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, April 15, 2011). The Limited Phase 2 ESA covers physical sampling of soils and chemical analyses where potential risks of environmental liability are evident from previous findings or past use of the property. Groundwater was not assessed as part of this investigation.

The Limited Phase 2 ESA was completed with the understanding that a Record of Site Condition (RSC) is **not** required and therefore the requirements of Ontario Regulation 153/04 (as amended) were not performed.

### 1.1 Site Description

The Site is rectangular in shape and comprises an area of approximately 1.12 hectares (2.77 acres) and is situated approximately 80 m northeast of the intersection of Southcote Road and Garner Road East in Ancaster, Ontario.

It is currently a residential property, with one (1) residential dwelling, one (1) garage (converted barn), and one (1) shed present. The Site is currently zoned residential. The Site is bound by Southcote Road to the west (followed by residential and undeveloped properties), undeveloped, residential, and commercial properties followed by Garner Road East to the south, and residential properties to the north and east.

**Figure 1** shows the general location of the Site.

### 1.2 Applicable Site Condition Standards (SCS)

Under the O. Reg. 153/04, Part XV.1 of the Environmental Protection Act, the selection of SCS, against which laboratory results are compared, is based on a number of criteria. The SCS are published in the Ontario Ministry of the Environment Conservation and Parks (MOECP) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act dated April 15, 2011.

Landtek considered the following criteria for the selection of the applicable SCS for the Site:

- Land Use: The current land is zoned residential and the intended land-use for the property is reported to be residential. Therefore, residential was considered the intended land-use;
- Potable or non-potable groundwater: No water supply wells are located within the Study Area; therefore, the non-potable groundwater standards are applicable for the Site;
- Proximity to surface water body: The Site is not located within 30 metres (m) of a waterbody;
- Proximity to areas of natural significance or environmentally sensitive areas: The Site is not considered to be within the proximity of an environmentally sensitive area based on the information reviewed as part of the Phase 1 ESA completed for the Site;



- Depth to bedrock: A property is considered a shallow soil property if one-third or more of the Phase Two Property consists of soil depths of 2 metres below ground surface (mbgs) or less. Based on the subsurface conditions observed as part of the Phase Two ESA work conducted to date, the depth to bedrock is considered to be greater than 2 m and therefore, shallow soil was not observed on the Site at the locations investigated on the Phase 2 Property;
- pH of soil: If the surface soil (soil <1.5 m in depth) has a pH value of less than 5 or greater than 9, or if the subsurface soil (soil >1.5 m in depth) has a pH value of less than 5 or greater than 11 then the site is considered to be an environmentally sensitive area and applicable full-depth generic or stratified site condition standards shall not be used, eliminating the use of the SCSs provided in Table 2 through 9. Therefore, if the pH of any soil on Site is outside the allowable range, the site must be evaluated using the Table 1 Site Condition Standards (Full Depth Background Site Condition Standards). For the purposes of this assessment the pH was found to be within the allowable limits and therefore, the Site is not considered to be an environmentally sensitive area; and,
- Soil texture: Based on the results of grain size analysis completed on the Site and the subsurface conditions encountered, the soil texture is considered to be fine textured as defined in O. Reg153/04.

Based on the above information the Ontario Regulation (O. Reg.) 153/04 *Table 3 SCS Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition and Residential/Parkland/Institutional (RPI) property use for fine textured soils (O. Reg. 153/04 Table 3 SCS)* were selected as the applicable standards for the Phase Two Property.

## **2.0 BACKGROUND INFORMATION**

### **2.1 Physical Setting**

A review of the Ontario Base Mapping (OBM) map (Reference Map: Ontario Base Mapping (OBM) Data, Scale 1:22,000, Ontario Ministry of Natural Resources, 2010) provided by Ecolog ERIS for the Site and a 2 km radial search from the property boundaries indicates the local topography of the land slopes gently to the north / northeast towards Lake Ontario, located approximately 9.4 km northeast of the Site.

Based on the Phase 1 ESA completed for the Site, there are no Areas of Natural and Scientific Interest (ANSIs) within 250 m of the Site.

### **2.2 Previous Investigations**

In August of 2022, Landtek was retained by the Client, to prepare a Phase 1 ESA report for the Site, titled "Phase 1 Environmental Site Assessment, 509 Southcote Road, Ancaster, Ontario, L9G 3K9, dated October 2022" (Phase 1 ESA). The Phase One ESA was conducted to assess the environmental liability, if any, associated with the Site.

Based on the Phase 1 ESA findings, the following issues of potential environmental concern were anticipated at the Site:

- The historic presence of a gas station on the southern adjacent property
- The historic and current presence of an auto repair/collision centre on the south adjacent property

Based on the results of the Phase 1 ESA, a site assessment was recommended to investigate the areas of potential environmental concern identified.

### 3.0 SCOPE OF THE INVESTIGATION

The objectives of the Limited Phase 2 ESA were: (1) review available background environmental information regarding the Site; (2) undertake sampling of subsurface soils by means of test pit excavation; (3) carry out chemical testing of soil to assist in the assessment of existing conditions; and (4) evaluate and report on the findings to present the existing environmental conditions of the Site. Groundwater was not assessed as part of this investigation.

The following scope of work was undertaken by Landtek:

- Obtaining public utility locates and utilizing a private underground utility locate contractor to locate on-Site utilities that would not be traced by the public utility locators (such as private lighting, private sewer and water lines, etc.);
- Advancing ten (10) test pits to a maximum depth of approximately 4.3 m below ground surface (m bgs) (14 ft) or refusal at locations identified on **Figure 1**;
- The purpose of the test pit sampling was for the collection of soil samples for chemical analyses in the areas investigated. All final test pit locations were based on accessibility by the excavation equipment and subsurface infrastructure considerations; the depths were established based on the subsurface conditions;
- Collecting soil samples for laboratory analysis of Petroleum Hydrocarbon Fraction 1 to Fraction 4 (PHC F1-F4), volatile organic compounds (VOCs), and metals and inorganic parameters (M&I) from the test pits;
- Submitting up to two (2) soil samples for pH as required by O. Reg. 153/04;
- Interpretation of the laboratory results by comparison with the applicable O. Reg. 153/04, Site Condition Standards (SCS); and,
- Preparation of this report.

All environmental sampling and chemical analysis were conducted pursuant to Ministry of the Environment, Conservation and Parks (MOE) standards.



## 4.0 METHODOLOGY

The field work for this Limited Phase 2 ESA was carried out in September of 2022.

The field work was implemented in accordance with the Sampling and Analysis Plan (SAAP). The SAAP was prepared based on the COCs identified on the Site and the corresponding CPCs, and other potentially contaminating issues. Landtek proposed test pit samples on the Site to obtain subsurface soil samples.

The analytical program presents information on the sampling locations, media sampled, sample depths and analytical parameters for which samples were analysed.

The rationale for the sampling and analysis is presented in **Section 3.0**.

Landtek field staff, were briefed prior to commencement of the field work by the Project Manager. Field staff were responsible for supervising field activities, logging the soils, soil sampling, and sorting and dispatch of samples under chain of custody documentation to the contract laboratory.

### 4.1 Sampling

As indicated in **Section 3.0**, Landtek used test pits to conduct characterisation of the soil at the Site. The details of sampling are discussed in the sections below.

#### 4.1.2 Test Pit Sampling

Ten (10) locations (TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, and TP10) were excavated on the Site in September of 2022, by the forces of Cardi Construction Limited under supervision of Landtek.

Sample locations are shown on **Figure 1**.

The samples were taken from a depth of 3.4 to 4.3 m below ground surface (bgs) (11 to 14 ft bgs) and were established based on the subsurface conditions and COCs identified in the Phase 1 ESA.

The soil was logged by qualified Landtek personnel using the Unified Soil Classification System (USCS) Standard Practices for Description and Identification of Soils, Visual Manual Procedure (ASTM D2488-09a), noting stratigraphy, subsurface conditions, and any physical evidence of soil quality impacts.

### 4.2 Soil Sampling

Each soil sample was manually collected via grab samples from the backhoe bucket from subsurface soil. Soil sampling locations were selected based on observations and field-screening (e.g., vapour readings, unique soil characteristics or visible staining).

All soil samples, including those to be analysed for organic and metal parameters, were collected in laboratory-supplied containers.

Samples were stored on ice until delivery to Paracel Laboratories following standard chain-of-custody protocols. The soil samples selected for analysis were analyzed for selected COCs. The



parameters included the measurement of pH which is required for the selection of the appropriate Site Condition Standards.

#### **4.3 Analytical Testing**

Laboratory analysis was carried out by Paracel Laboratories. The parameters for which samples were analysed were selected based on the SAAP and field conditions encountered. The laboratory is accredited by the Canadian Association for Laboratory Accreditation (CALA). The methods used for analysis were consistent with those stipulated in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. The Analytical Program and laboratory certificates are provided in **Appendix A**.

#### **4.4 Quality Assurance and Quality Control (QA/QC) Measures**

All field work was performed following Landtek's Standard Operating Procedures (SOPs), which were developed in accordance with O. Reg. 153/04, as amended and included the following:

- Appropriate measures to avoid cross contamination and carry out decontamination where necessary, collection of all samples in laboratory provided containers, and placement of containers in coolers containing ice;
- The SAAP, and field conditions, as documented on the test pit logs and results of field screening, were reviewed to confirm that the appropriate samples were selected for laboratory analysis and that samples were scheduled for analysis of the required chemical parameters;
- The samples listed on the chain-of-custody form were cross-checked with the samples being shipped to the contract laboratory. A further check was carried out to ensure that the relevant analytical parameters had been requested for analysis;
- All coolers contained ice packs along with the sample containers to maintain the minimum temperature required on arrival at the contract laboratory

## 5.0 REVIEW AND EVALUATION

### 5.1 Geology

Geological and Hydrogeological information sources were reviewed to determine the nature of the subsurface strata on Site.

The Ontario Geology Survey has a web application, OGS Earth, which provides geoscience data, collected by the Mines and Minerals division, which can be viewed using user-friendly geographic information programs such as Google Earth. The Surficial Geology and Bedrock Geology applications were reviewed to determine the geologic characteristics mapped at the Site. A review of this data as well as MECP water well records indicate that the predominant Quaternary geology at the Site likely consists of variable layers of glaciolacustrine sand, gravelly sand and gravel, and near shore and beach deposits of the Pleistocene epoch, underlain by brown or tan sandstone, shale, dolostone, and siltstone of the Guelph Formation.

### 5.2 Soil Quality

The results of the laboratory analysis of the soil samples analysed have been compared with the O. Reg. 153/04 Table 3 SCS Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition and Residential/Parkland/Institutional (RPI) property use for fine textured soils (O. Reg. 153/04 Table 3 SCS) and are presented in **Table 2**. Laboratory certificates are presented in **Appendix A**.

The schedule of chemical testing and the summary of test results for soils are shown in **Table 2**. Samples were selected based on location and depth of potential areas of concern as well as olfactory or vapour reading indicators, where possible.

**Table 2: Schedule of Chemical Analyses and Summary of Test Results for Soils**

Sample	Depth (mbgs)	Analyses	Exceedances		
			Parameter	Sample Results	Table 3 SCS**
TP1	3.4 to 4.0	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances
TP2	3.7 to 4.3	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances
TP3	3.4 to 4.0	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances
TP4	3.4 to 4.0	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances
TP5	3.0 to 3.7	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances
TP6	2.7 to 3.4	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances

Sample	Depth (mbgs)	Analyses	Exceedances		
			Parameter	Sample Results	Table 3 SCS**
TP7	2.9 to 3.5	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances
TP8	2.9 to 3.5	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances
TP9	2.7 to 3.4	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances
TP10	3.0 to 3.7	PHC F1 – F4, VOCs, and M&I	No Exceedances	No Exceedances	No Exceedances

\*\* Sample results compared with *Soil, Ground Water, and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 2011. Table 3 Residential/Parkland/Institutional land use standards*

M&I – Metals and Inorganics

PHC F1 - F4 – Petroleum Hydrocarbons Fraction 1 to Fraction 4 (PHC F1-F4)

VOC – Volatile Organic Compounds

### 5.3 QA/QC Results

The analytical laboratory has its internal QA/QC programs to verify the acceptance of the data generated. The results of the laboratory QA/QC program are presented in the Laboratory Certificate of Analysis provided in **Appendix A**.

The overall QA/QC results are considered to be acceptable and support the reliability of the results of the field samples analysed.

## 6.0 RESULTS AND CONCLUSIONS

### 6.1 Soil Quality

The soil samples collected for analysis as described in the relevant sections of this report indicate that the surficial soil material was below the applicable O. Reg. 153/04 Table 3 SCS, as discussed in **Section 5.3**.

Based on the results of this Limited Phase 2 ESA, no issues of potential environmental concern are anticipated at the Site.

### 6.2 Signatures

We trust this report is satisfactory for your purposes. If you have any questions regarding our submission, please do not hesitate to contact this office.

Yours truly,

**LANDTEK LIMITED**



Lauren Blair



Paul Blunt, P.Eng., QP<sub>ESA</sub>

## **7.0 LIMITATIONS**

This report was prepared for the exclusive use of the Client. It is intended to provide an assessment of the soil and groundwater conditions with respect to potential contamination prevailing at the time of the assessment. Any use of this document by any party other than the Client is at the sole risk of such user. Any reliance upon this report by any party other than the Client requires the prior written approval of Landtek Limited.

Landtek does not provide any warranty, expressed or implied, that this assessment has identified all potential contaminants at the Site or that the Site is free from any and all contamination from past or current practices other than noted, nor that all issues of environmental compliance have been addressed. The assessment of environmental conditions and potential hazards at the Site has been made using the historical information that supported the preparation of the Phase Two Environmental Site Assessment, on which the scope of this investigation was based, as well as the results of chemical analysis of soil and groundwater samples collected at the tested locations at the time of this investigation. The report must be considered in its entirety and no assurance is made regarding changes in conditions subsequent to the time of investigation.

The Site conditions have been inferred based on conditions observed at a limited number of sampling locations in accessible areas; however, it should be noted that conditions between and beyond sampling locations may vary. In addition, the assessment is dependent upon the accuracy of the analytical data generated through sample analysis and is limited to determining the presence of contaminants for which analysis have been conducted. Findings derived from this Limited Phase 2 Environmental Site Assessment are limited and Landtek Limited cannot state that areas of the Site, or neighbouring properties, or portion thereof, are unaffected by the contaminants of concern. The Client still bears risk that such contaminants may be present on, or may migrate to or off the property after the time of this investigation. Landtek Limited is not responsible for any follow-up action and /or costs.

In evaluating the Property, Landtek Limited has relied in good faith on information provided by individuals and companies noted in this report. We assume that the information provided is factual and accurate and Landtek Limited has not independently confirmed any such information.

## 8.0 REFERENCES

- Ontario Regulation 153/04, as amended by O. Reg. 511/09;
- Provincial Topographic Map – Ontario Base Mapping Data, Ontario Ministry of Natural Resources, 2010;
- Area of Natural and Scientific Interest Map, Ontario Ministry of Natural Resources, March 2017;
- The Surficial Geology of Southern Ontario Map, Ontario Geological Survey, 2010;
- Physiography of Southern Ontario Map, Ontario Geological Survey, 2007;
- *Bedrock Geology of Ontario, Southern Sheet*, Ontario Geological Survey, Map 2544, Scale 1: 1,000,000, 1991; and,
- *Quaternary Geology of Southern Ontario, Southern Sheet*, Map 2556, Scale 1:1,000,000, Ministry of Northern Development and Mines, Queen's Printer for Ontario, 1991.

### Websites

<http://maps.google.ca/maps>

<http://map.hamilton.ca/iMapper.aspx>

<https://library.mcmaster.ca/maps/airphotos/>

<https://www.ontario.ca/page/make-natural-heritage-area-map>

[http://www.gisoeapp.lrc.gov.on.ca/matm/Index.html?site=Make\\_A\\_Topographic\\_Map&viewer=MATM&locale=en-US](http://www.gisoeapp.lrc.gov.on.ca/matm/Index.html?site=Make_A_Topographic_Map&viewer=MATM&locale=en-US)

[http://www.gisapplication.lrc.gov.on.ca/services/COSINE/Remote/095a080b\\_e87a\\_43a8\\_8579\\_dba14759aa7d.html?print=true](http://www.gisapplication.lrc.gov.on.ca/services/COSINE/Remote/095a080b_e87a_43a8_8579_dba14759aa7d.html?print=true)

### **LIMITATIONS OF THE REPORT**

This report was prepared for the sole use of the Client and their legal counsel, and is intended to provide an evaluation of the current environmental conditions at the Site. Any use that a third party makes of this report, or decisions made based on it, are the responsibility of the third party. Landtek Limited accepts no responsibility for damages of any type suffered by the third party as a result of actions or decisions made based on this report.

The conclusions and recommendations given in this report are based on information determined at the borehole locations. Subsurface conditions, ground water conditions and contaminant concentrations between and beyond the boreholes may be different from those encountered at the borehole locations, and conditions may become apparent during construction that could not be detected or anticipated at the time of the subsurface investigation. It is recommended practice that Landtek be retained during construction to confirm that the subsurface conditions throughout the site are consistent with the conditions encountered in the boreholes.

The conclusions and recommendations given in this report are based on information obtained from various sources noted, subsurface investigation, and a visual examination of the site. It is based on the conditions of the Site property at the time of the field investigation supplemented by a review of historical information to assess environmental conditions at the site reported. Landtek assumes that information provided by others is factual and accurate, and accepts no responsibility for any deficiency, misstatement, or inaccuracy in this report from information provided by others.

This assessment should not be considered a comprehensive audit that outlines all environmental liabilities or eliminates all risks of encountering environmental problems in some portions of the site. There is no warranty expressed or implied by this report concerning the status of the study site.

The report has been prepared in accordance with generally accepted environmental study and/or engineering practices. No other warranties, either expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report.

The objective of this report was to assess the environmental conditions at the site, with respect to existing environmental regulations within the applicable jurisdiction. Compliance of past owners with applicable local, provincial and federal government laws and regulations was not included in our contract for services.

The site history performed herein relies on information supplied by others, such as local, provincial and federal agencies as other consultants. No attempt has been made to independently verify the accuracy of such information, unless specifically noted in our report.

Should the site conditions change or additional background data become available after this report has been issued, Landtek Limited should be made aware of the information and be given an opportunity to reassess the findings if it relates to environmental concerns.





## **Qualifications**

Investigative assessment work was conducted by Ms. Lauren Blair, who has over a year of related environmental experience including completion of numerous Phase One and Two ESA's and Site remediation activities on a variety of agricultural, residential, industrial, commercial and industrial properties.

Mr. Paul J Blunt, P.Eng. is a Senior Environmental Engineer with Landtek and has conducted and supervised Phase One ESAs for more than 20 years. Mr. Blunt obtained a B.Sc. in Chemical Engineering from University of Windsor in 1987 and is a licensed Professional Engineer in the Province of Ontario. Mr. Blunt has conducted and supervised Phase One Environmental Site Assessments over 1500 environmental site assessments on a variety of agricultural, residential, industrial, commercial and industrial properties. Mr. Blunt also has extensive experience in conducting Phase Two Environmental Site Assessments and is therefore familiar with how to assess potential concerns identified during the Phase One ESA. Mr. Blunt has conducted and supervised environmental projects throughout Canada, the United States and Australia.

**FIGURES**



APPENDIX A

LABORATORY CERTIFICATES OF ANALYSES  
Including Laboratory QA/QC Data

**Soil Results**

## Certificate of Analysis

**Landtek Limited**

205 Nebo Road, Unit 3  
Hamilton, ON L8W 2E1  
Attn: Lauren Blair

Client PO:  
Project: 22352  
Custody: 68297

Report Date: 29-Sep-2022  
Order Date: 20-Sep-2022

Revised Report

**Order #: 2239179**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Parcel ID	Client ID
2239179-01	TP1
2239179-02	TP2
2239179-03	TP3
2239179-04	TP4
2239179-05	TP5
2239179-06	TP6
2239179-07	TP7
2239179-08	TP8
2239179-09	TP9
2239179-10	TP10

Approved By:



Alex Enfield, MSc

Lab Manager

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Analysis Summary Table**

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Boron, available	MOE (HWE), EPA 200.8 - ICP-MS	23-Sep-22	24-Sep-22
Chromium, hexavalent - soil	MOE E3056 - Extraction, colourimetric	22-Sep-22	23-Sep-22
Conductivity	MOE E3138 - probe @25 °C, water ext	26-Sep-22	26-Sep-22
Cyanide, free	MOE E3015 - Auto Colour, water extraction	21-Sep-22	21-Sep-22
Mercury by CVAA	EPA 7471B - CVAA, digestion	26-Sep-22	26-Sep-22
PHC F1	CWS Tier 1 - P&T GC-FID	23-Sep-22	26-Sep-22
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	23-Sep-22	26-Sep-22
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	24-Sep-22	24-Sep-22
REG 153: pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	22-Sep-22	23-Sep-22
REG 153: VOCs by P&T GC-MS	EPA 8260 - P&T GC-MS	23-Sep-22	26-Sep-22
SAR	Calculated	24-Sep-22	24-Sep-22
Solids, %	Gravimetric, calculation	23-Sep-22	26-Sep-22

Certificate of Analysis

Report Date: 29-Sep-2022

Client: **Landtek Limited**

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

## Summary of Criteria Exceedances

(If this page is blank then there are no exceedances)

Only those criteria that a sample exceeds will be highlighted in red

### Regulatory Comparison:

Paracel Laboratories has provided regulatory guidelines on this report for informational purposes only and makes no representations or warranties that the data is accurate or reflects the current regulatory values. The user is advised to consult with the appropriate official regulations to evaluate compliance. Sample results that are highlighted have exceeded the selected regulatory limit. Calculated uncertainty estimations have not been applied for determining regulatory exceedances.

Sample	Analyte	MDL / Units	Result	-	-
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Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

<b>Client ID:</b>	TP1	TP2	TP3	TP4	-	-
<b>Sample Date:</b>	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	-	-
<b>Sample ID:</b>	2239179-01	2239179-02	2239179-03	2239179-04	-	-
<b>Matrix:</b>	Soil	Soil	Soil	Soil	-	-
<b>MDL/Units</b>						

**Physical Characteristics**

% Solids	0.1 % by Wt.	88.5	85.9	84.5	84.4	-	-
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**General Inorganics**

SAR	0.01 N/A	0.74	0.18	0.13	0.11	-	-
Conductivity	5 uS/cm	224	200	107	122	-	-
Cyanide, free	0.03 ug/g	<0.03	<0.03	<0.03	<0.03	-	-
pH	0.05 pH Units	7.88	7.89	7.82	7.75	-	-

**Metals**

Antimony	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Arsenic	1 ug/g	4.1	3.8	3.5	3.8	-	-
Barium	1 ug/g	20.7	14.3	31.3	31.7	-	-
Beryllium	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Boron, available	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Boron	5 ug/g	<5.0	<5.0	<5.0	<5.0	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Chromium (VI)	0.2 ug/g	<0.2	<0.2	<0.2	<0.2	-	-
Chromium	5 ug/g	11.2	10.5	12.7	12.3	-	-
Cobalt	1 ug/g	7.2	6.6	7.7	7.6	-	-
Copper	5 ug/g	31.9	35.3	35.2	35.1	-	-
Lead	1 ug/g	7.4	7.1	8.2	9.3	-	-
Mercury	0.1 ug/g	<0.1	<0.1	<0.1	<0.1	-	-
Molybdenum	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Nickel	5 ug/g	13.9	12.9	15.5	14.9	-	-
Selenium	1 ug/g	1.2	<1.0	<1.0	<1.0	-	-
Silver	0.3 ug/g	<0.3	<0.3	<0.3	<0.3	-	-
Thallium	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-



Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

Client ID:	TP1	TP2	TP3	TP4	-	-
Sample Date:	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	-	-
Sample ID:	2239179-01	2239179-02	2239179-03	2239179-04	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

**Metals**

	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Uranium	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Vanadium	10 ug/g	17.7	16.7	19.9	18.5	-	-
Zinc	20 ug/g	43.7	39.6	45.9	46.1	-	-

**Volatiles**

	0.5 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Acetone	0.5 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Benzene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Bromodichloromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Bromoform	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Bromomethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Carbon Tetrachloride	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Chlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Chloroform	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Dibromochloromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Dichlorodifluoromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,2-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,3-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,4-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1-Dichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,2-Dichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1-Dichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,2-Dichloropropane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

Client ID:	TP1	TP2	TP3	TP4	-	-
Sample Date:	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	-	-
Sample ID:	2239179-01	2239179-02	2239179-03	2239179-04	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

**Volatiles**

1,3-Dichloropropene, total	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Ethylbenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Hexane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Methyl Ethyl Ketone (2-Butanone)	0.5 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Methyl Isobutyl Ketone	0.5 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Methyl tert-butyl ether	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Methylene Chloride	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Styrene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Tetrachloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Toluene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,1-Trichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,2-Trichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Trichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Trichlorofluoromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Vinyl chloride	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
m,p-Xylenes	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
o-Xylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Xylenes, total	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
4-Bromofluorobenzene	Surrogate	90.8%	98.1%	96.8%	94.2%	-	-
Dibromofluoromethane	Surrogate	108%	88.3%	92.2%	106%	-	-
Toluene-d8	Surrogate	91.0%	97.0%	94.5%	94.7%	-	-

**Hydrocarbons**

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

<b>Client ID:</b>	TP1	TP2	TP3	TP4		
<b>Sample Date:</b>	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	-	-
<b>Sample ID:</b>	2239179-01	2239179-02	2239179-03	2239179-04		
<b>Matrix:</b>	Soil	Soil	Soil	Soil		
<b>MDL/Units</b>						

**Hydrocarbons**

F1 PHCs (C6-C10)	7 ug/g	<7	<7	<7	<7	-	-
F2 PHCs (C10-C16)	4 ug/g	<4	<4	<4	<4	-	-
F3 PHCs (C16-C34)	8 ug/g	<8	<8	<8	<8	-	-
F4 PHCs (C34-C50)	6 ug/g	<6	<6	<6	<6	-	-

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

<b>Client ID:</b>	TP5	TP6	TP7	TP8	-	-
<b>Sample Date:</b>	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	-	-
<b>Sample ID:</b>	2239179-05	2239179-06	2239179-07	2239179-08	-	-
<b>Matrix:</b>	Soil	Soil	Soil	Soil	-	-
<b>MDL/Units</b>						

**Physical Characteristics**

% Solids	0.1 % by Wt.	73.4	75.2	74.7	74.8	-	-
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**General Inorganics**

SAR	0.01 N/A	1.03	2.19	2.09	1.28	-	-
Conductivity	5 uS/cm	80	271	182	125	-	-
Cyanide, free	0.03 ug/g	<0.03	<0.03	<0.03	<0.03	-	-
pH	0.05 pH Units	7.24	6.98	6.78	6.50	-	-

**Metals**

Antimony	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Arsenic	1 ug/g	5.0	5.4	4.7	5.7	-	-
Barium	1 ug/g	35.5	40.4	35.0	46.7	-	-
Beryllium	0.5 ug/g	<0.5	0.6	0.5	0.6	-	-
Boron, available	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Boron	5 ug/g	<5.0	<5.0	<5.0	<5.0	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Chromium	5 ug/g	15.1	16.3	14.9	16.5	-	-
Chromium (VI)	0.2 ug/g	<0.2	<0.2	<0.2	<0.2	-	-
Cobalt	1 ug/g	8.4	9.8	8.0	10.2	-	-
Copper	5 ug/g	41.1	44.5	41.1	49.7	-	-
Lead	1 ug/g	9.3	9.8	9.2	10.8	-	-
Mercury	0.1 ug/g	<0.1	<0.1	<0.1	<0.1	-	-
Molybdenum	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Nickel	5 ug/g	18.9	22.0	18.0	22.4	-	-
Selenium	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Silver	0.3 ug/g	<0.3	<0.3	<0.3	<0.3	-	-
Thallium	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

Client ID:	TP5	TP6	TP7	TP8	-	-
Sample Date:	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	-	-
Sample ID:	2239179-05	2239179-06	2239179-07	2239179-08	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

**Metals**

	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Uranium	1 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Vanadium	10 ug/g	24.3	26.8	24.4	28.3	-	-
Zinc	20 ug/g	56.8	62.9	56.8	66.2	-	-

**Volatiles**

	0.5 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Acetone	0.5 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Benzene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Bromodichloromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Bromoform	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Bromomethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Carbon Tetrachloride	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Chlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Chloroform	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Dibromochloromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Dichlorodifluoromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,2-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,3-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,4-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1-Dichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,2-Dichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1-Dichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,2-Dichloropropane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

Client ID:	TP5	TP6	TP7	TP8	-	-
Sample Date:	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	-	-
Sample ID:	2239179-05	2239179-06	2239179-07	2239179-08	-	-
Matrix:	Soil	Soil	Soil	Soil	-	-
MDL/Units						

**Volatiles**

1,3-Dichloropropene, total	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Ethylbenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Hexane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Methyl Ethyl Ketone (2-Butanone)	0.5 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Methyl Isobutyl Ketone	0.5 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Methyl tert-butyl ether	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Methylene Chloride	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Styrene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Tetrachloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Toluene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,1-Trichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,2-Trichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Trichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Trichlorofluoromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Vinyl chloride	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
m,p-Xylenes	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
o-Xylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Xylenes, total	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Dibromofluoromethane	Surrogate	100%	100%	92.2%	95.1%	-	-
Toluene-d8	Surrogate	91.0%	93.4%	98.1%	94.0%	-	-
4-Bromofluorobenzene	Surrogate	94.4%	93.3%	93.9%	94.2%	-	-

**Hydrocarbons**

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

<b>Client ID:</b>	TP5	TP6	TP7	TP8		
<b>Sample Date:</b>	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	20-Sep-22 00:00	-	-
<b>Sample ID:</b>	2239179-05	2239179-06	2239179-07	2239179-08		
<b>Matrix:</b>	Soil	Soil	Soil	Soil		
<b>MDL/Units</b>						

**Hydrocarbons**

F1 PHCs (C6-C10)	7 ug/g	<7	<7	<7	<7	-	-
F2 PHCs (C10-C16)	4 ug/g	<4	<4	<4	<4	-	-
F3 PHCs (C16-C34)	8 ug/g	<8	<8	<8	<8	-	-
F4 PHCs (C34-C50)	6 ug/g	<6	<6	<6	<6	-	-

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

<b>Client ID:</b>	TP9	TP10			
<b>Sample Date:</b>	20-Sep-22 00:00	20-Sep-22 00:00			-
<b>Sample ID:</b>	2239179-09	2239179-10			-
<b>Matrix:</b>	Soil	Soil			
<b>MDL/Units</b>					

**Physical Characteristics**

% Solids	0.1 % by Wt.	80.6	73.4	-	-	-	-
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**General Inorganics**

SAR	0.01 N/A	0.51	0.11	-	-	-	-
Conductivity	5 uS/cm	130	97	-	-	-	-
Cyanide, free	0.03 ug/g	<0.03	<0.03	-	-	-	-
pH	0.05 pH Units	7.14	7.18	-	-	-	-

**Metals**

Antimony	1 ug/g	<1.0	<1.0	-	-	-	-
Arsenic	1 ug/g	4.8	4.9	-	-	-	-
Barium	1 ug/g	30.5	30.9	-	-	-	-
Beryllium	0.5 ug/g	<0.5	<0.5	-	-	-	-
Boron	5 ug/g	<5.0	<5.0	-	-	-	-
Boron, available	0.5 ug/g	<0.5	<0.5	-	-	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	-	-	-	-
Chromium (VI)	0.2 ug/g	<0.2	<0.2	-	-	-	-
Chromium	5 ug/g	14.0	13.7	-	-	-	-
Cobalt	1 ug/g	7.8	8.3	-	-	-	-
Copper	5 ug/g	42.3	44.1	-	-	-	-
Lead	1 ug/g	9.8	10.1	-	-	-	-
Mercury	0.1 ug/g	<0.1	<0.1	-	-	-	-
Molybdenum	1 ug/g	<1.0	<1.0	-	-	-	-
Nickel	5 ug/g	16.7	17.8	-	-	-	-
Selenium	1 ug/g	<1.0	<1.0	-	-	-	-
Silver	0.3 ug/g	<0.3	<0.3	-	-	-	-
Thallium	1 ug/g	<1.0	<1.0	-	-	-	-



Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

<b>Client ID:</b>	TP9	TP10			
<b>Sample Date:</b>	20-Sep-22 00:00	20-Sep-22 00:00			-
<b>Sample ID:</b>	2239179-09	2239179-10			-
<b>Matrix:</b>	Soil	Soil			
<b>MDL/Units</b>					

**Metals**

Uranium	1 ug/g	<1.0	<1.0	-	-	-	-
Vanadium	10 ug/g	23.9	23.8	-	-	-	-
Zinc	20 ug/g	56.7	58.2	-	-	-	-

**Volatiles**

Acetone	0.5 ug/g	<0.50	<0.50	-	-	-	-
Benzene	0.02 ug/g	<0.02	<0.02	-	-	-	-
Bromodichloromethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
Bromoform	0.05 ug/g	<0.05	<0.05	-	-	-	-
Bromomethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
Carbon Tetrachloride	0.05 ug/g	<0.05	<0.05	-	-	-	-
Chlorobenzene	0.05 ug/g	<0.05	<0.05	-	-	-	-
Chloroform	0.05 ug/g	<0.05	<0.05	-	-	-	-
Dibromochloromethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
Dichlorodifluoromethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,2-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,3-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,4-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,1-Dichloroethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,2-Dichloroethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,1-Dichloroethylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,2-Dichloropropane	0.05 ug/g	<0.05	<0.05	-	-	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	<0.05	<0.05	-	-	-	-

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

<b>Client ID:</b>	TP9	TP10				
<b>Sample Date:</b>	20-Sep-22 00:00	20-Sep-22 00:00				
<b>Sample ID:</b>	2239179-09	2239179-10				
<b>Matrix:</b>	Soil	Soil				
<b>MDL/Units</b>						

**Volatiles**

1,3-Dichloropropene, total	0.05 ug/g	<0.05	<0.05	-	-	-	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	<0.05	<0.05	-	-	-	-
Ethylbenzene	0.05 ug/g	<0.05	<0.05	-	-	-	-
Hexane	0.05 ug/g	<0.05	<0.05	-	-	-	-
Methyl Ethyl Ketone (2-Butanone)	0.5 ug/g	<0.50	<0.50	-	-	-	-
Methyl Isobutyl Ketone	0.5 ug/g	<0.50	<0.50	-	-	-	-
Methyl tert-butyl ether	0.05 ug/g	<0.05	<0.05	-	-	-	-
Methylene Chloride	0.05 ug/g	<0.05	<0.05	-	-	-	-
Styrene	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
Tetrachloroethylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
Toluene	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,1,1-Trichloroethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
1,1,2-Trichloroethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
Trichloroethylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
Trichlorofluoromethane	0.05 ug/g	<0.05	<0.05	-	-	-	-
Vinyl chloride	0.02 ug/g	<0.02	<0.02	-	-	-	-
m,p-Xylenes	0.05 ug/g	<0.05	<0.05	-	-	-	-
o-Xylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
Xylenes, total	0.05 ug/g	<0.05	<0.05	-	-	-	-
Toluene-d8	Surrogate	96.4%	95.1%	-	-	-	-
4-Bromofluorobenzene	Surrogate	93.0%	94.2%	-	-	-	-
Dibromofluoromethane	Surrogate	95.0%	90.9%	-	-	-	-

**Hydrocarbons**

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

<b>Client ID:</b>	TP9	TP10				
<b>Sample Date:</b>	20-Sep-22 00:00	20-Sep-22 00:00				
<b>Sample ID:</b>	2239179-09	2239179-10				
<b>Matrix:</b>	Soil	Soil				
<b>MDL/Units</b>						

**Hydrocarbons**

F1 PHCs (C6-C10)	7 ug/g	<7	<7	-	-	-	-
F2 PHCs (C10-C16)	4 ug/g	<4	<4	-	-	-	-
F3 PHCs (C16-C34)	8 ug/g	<8	<8	-	-	-	-
F4 PHCs (C34-C50)	6 ug/g	<6	<6	-	-	-	-

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>General Inorganics</b>								
SAR	ND	0.01	N/A					
Conductivity	ND	5	uS/cm					
Cyanide, free	ND	0.03	ug/g					
<b>Hydrocarbons</b>								
F1 PHCs (C6-C10)	ND	7	ug/g					
F2 PHCs (C10-C16)	ND	4	ug/g					
F3 PHCs (C16-C34)	ND	8	ug/g					
F4 PHCs (C34-C50)	ND	6	ug/g					
<b>Metals</b>								
Antimony	ND	1.0	ug/g					
Arsenic	ND	1.0	ug/g					
Barium	ND	1.0	ug/g					
Beryllium	ND	0.5	ug/g					
Boron, available	ND	0.5	ug/g					
Boron	ND	5.0	ug/g					
Cadmium	ND	0.5	ug/g					
Chromium (VI)	ND	0.2	ug/g					
Chromium	ND	5.0	ug/g					
Cobalt	ND	1.0	ug/g					
Copper	ND	5.0	ug/g					
Lead	ND	1.0	ug/g					
Mercury	ND	0.1	ug/g					
Molybdenum	ND	1.0	ug/g					
Nickel	ND	5.0	ug/g					
Selenium	ND	1.0	ug/g					
Silver	ND	0.3	ug/g					
Thallium	ND	1.0	ug/g					
Uranium	ND	1.0	ug/g					
Vanadium	ND	10.0	ug/g					
Zinc	ND	20.0	ug/g					
<b>Volatiles</b>								
Acetone	ND	0.50	ug/g					

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzene	ND	0.02	ug/g					
Bromodichloromethane	ND	0.05	ug/g					
Bromoform	ND	0.05	ug/g					
Bromomethane	ND	0.05	ug/g					
Carbon Tetrachloride	ND	0.05	ug/g					
Chlorobenzene	ND	0.05	ug/g					
Chloroform	ND	0.05	ug/g					
Dibromochloromethane	ND	0.05	ug/g					
Dichlorodifluoromethane	ND	0.05	ug/g					
1,2-Dichlorobenzene	ND	0.05	ug/g					
1,3-Dichlorobenzene	ND	0.05	ug/g					
1,4-Dichlorobenzene	ND	0.05	ug/g					
1,1-Dichloroethane	ND	0.05	ug/g					
1,2-Dichloroethane	ND	0.05	ug/g					
1,1-Dichloroethylene	ND	0.05	ug/g					
cis-1,2-Dichloroethylene	ND	0.05	ug/g					
trans-1,2-Dichloroethylene	ND	0.05	ug/g					
1,2-Dichloropropane	ND	0.05	ug/g					
cis-1,3-Dichloropropylene	ND	0.05	ug/g					
trans-1,3-Dichloropropylene	ND	0.05	ug/g					
1,3-Dichloropropene, total	ND	0.05	ug/g					
Ethylbenzene	ND	0.05	ug/g					
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g					
Hexane	ND	0.05	ug/g					
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g					
Methyl Isobutyl Ketone	ND	0.50	ug/g					
Methyl tert-butyl ether	ND	0.05	ug/g					
Methylene Chloride	ND	0.05	ug/g					
Styrene	ND	0.05	ug/g					
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g					
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g					
Tetrachloroethylene	ND	0.05	ug/g					
Toluene	ND	0.05	ug/g					

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	ND	0.05	ug/g					
1,1,2-Trichloroethane	ND	0.05	ug/g					
Trichloroethylene	ND	0.05	ug/g					
Trichlorofluoromethane	ND	0.05	ug/g					
Vinyl chloride	ND	0.02	ug/g					
m,p-Xylenes	ND	0.05	ug/g					
o-Xylene	ND	0.05	ug/g					
Xylenes, total	ND	0.05	ug/g					
Surrogate: 4-Bromofluorobenzene	7.37		ug/g	91.8	50-140			
Surrogate: Dibromofluoromethane	10.9		ug/g	136	50-140			
Surrogate: Toluene-d8	7.08		ug/g	88.4	50-140			

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>General Inorganics</b>									
SAR	0.12	0.01	N/A	0.09			28.6	30	
Conductivity	95.2	5	uS/cm	95.8			0.6	5	
Cyanide, free	ND	0.03	ug/g	ND			NC	35	
pH	7.99	0.05	pH Units	7.88			1.4	10	
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	7	ug/g	ND			NC	40	
F2 PHCs (C10-C16)	ND	4	ug/g	ND			NC	30	
F3 PHCs (C16-C34)	ND	8	ug/g	ND			NC	30	
F4 PHCs (C34-C50)	ND	6	ug/g	ND			NC	30	
<b>Metals</b>									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	4.3	1.0	ug/g	4.1			3.9	30	
Barium	21.0	1.0	ug/g	20.7			1.4	30	
Beryllium	ND	0.5	ug/g	ND			NC	30	
Boron, available	ND	0.5	ug/g	ND			NC	35	
Boron	10.9	5.0	ug/g	ND			NC	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium (VI)	ND	0.2	ug/g	ND			NC	35	
Chromium	11.5	5.0	ug/g	11.2			2.3	30	
Cobalt	6.8	1.0	ug/g	7.2			6.1	30	
Copper	29.7	5.0	ug/g	31.9			6.9	30	
Lead	7.6	1.0	ug/g	7.4			2.8	30	
Mercury	ND	0.1	ug/g	ND			NC	30	
Molybdenum	2.1	1.0	ug/g	ND			NC	30	
Nickel	13.9	5.0	ug/g	13.9			0.5	30	
Selenium	1.4	1.0	ug/g	1.2			22.6	30	
Silver	ND	0.3	ug/g	ND			NC	30	
Thallium	1.9	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	17.9	10.0	ug/g	17.7			1.1	30	

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Zinc	42.7	20.0	ug/g	43.7			2.2	30	
<b>Physical Characteristics</b>									
% Solids	82.7	0.1	% by Wt.	80.5			2.7	25	
<b>Volatiles</b>									
Acetone	ND	0.50	ug/g	ND			NC	50	
Benzene	ND	0.02	ug/g	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g	ND			NC	50	
Bromoform	ND	0.05	ug/g	ND			NC	50	
Bromomethane	ND	0.05	ug/g	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g	ND			NC	50	
Chlorobenzene	ND	0.05	ug/g	ND			NC	50	
Chloroform	ND	0.05	ug/g	ND			NC	50	
Dibromochloromethane	ND	0.05	ug/g	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,4-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g	ND			NC	50	
Hexane	ND	0.05	ug/g	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g	ND			NC	50	



Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Methylene Chloride	ND	0.05	ug/g	ND			NC	50	
Styrene	ND	0.05	ug/g	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	6.26		ug/g		92.8	50-140			
Surrogate: Dibromofluoromethane	7.75		ug/g		115	50-140			
Surrogate: Toluene-d8	6.14		ug/g		91.1	50-140			

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>General Inorganics</b>									
Cyanide, free	0.896	0.03	ug/g	ND	89.6	70-130			
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	67	7	ug/g	ND	94.2	80-120			
F2 PHCs (C10-C16)	78	4	ug/g	ND	88.2	60-140			
F3 PHCs (C16-C34)	172	8	ug/g	ND	86.8	60-140			
F4 PHCs (C34-C50)	126	6	ug/g	ND	87.7	60-140			
<b>Metals</b>									
Antimony	111	1.0	ug/g	ND	88.6	70-130			
Arsenic	124	1.0	ug/g	4.1	95.8	70-130			
Barium	139	1.0	ug/g	20.7	94.7	70-130			
Beryllium	113	0.5	ug/g	ND	90.1	70-130			
Boron, available	4.41	0.5	ug/g	ND	88.1	70-122			
Boron	104	5.0	ug/g	ND	83.5	70-130			
Cadmium	121	0.5	ug/g	ND	96.5	70-130			
Chromium (VI)	4.6	0.2	ug/g	ND	83.5	70-130			
Chromium	127	5.0	ug/g	11.2	92.9	70-130			
Cobalt	122	1.0	ug/g	7.2	91.5	70-130			
Copper	145	5.0	ug/g	31.9	90.5	70-130			
Lead	114	1.0	ug/g	7.4	85.5	70-130			
Mercury	1.63	0.1	ug/g	ND	109	70-130			
Molybdenum	121	1.0	ug/g	ND	97.1	70-130			
Nickel	131	5.0	ug/g	13.9	94.0	70-130			
Selenium	122	1.0	ug/g	1.2	96.4	70-130			
Silver	107	0.3	ug/g	ND	85.7	70-130			
Thallium	110	1.0	ug/g	ND	88.3	70-130			
Uranium	120	1.0	ug/g	ND	96.4	70-130			
Vanadium	135	10.0	ug/g	17.7	93.5	70-130			
Zinc	157	20.0	ug/g	43.7	91.0	70-130			
<b>Volatiles</b>									
Acetone	7.65	0.50	ug/g	ND	76.5	50-140			

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzene	4.82	0.02	ug/g	ND	121	60-130			
Bromodichloromethane	4.83	0.05	ug/g	ND	121	60-130			
Bromoform	5.13	0.05	ug/g	ND	128	60-130			
Bromomethane	5.20	0.05	ug/g	ND	130	50-140			
Carbon Tetrachloride	4.70	0.05	ug/g	ND	118	60-130			
Chlorobenzene	4.94	0.05	ug/g	ND	124	60-130			
Chloroform	4.91	0.05	ug/g	ND	123	60-130			
Dibromochloromethane	4.82	0.05	ug/g	ND	121	60-130			
Dichlorodifluoromethane	4.88	0.05	ug/g	ND	122	50-140			
1,2-Dichlorobenzene	5.03	0.05	ug/g	ND	126	60-130			
1,3-Dichlorobenzene	4.94	0.05	ug/g	ND	124	60-130			
1,4-Dichlorobenzene	4.89	0.05	ug/g	ND	122	60-130			
1,1-Dichloroethane	4.74	0.05	ug/g	ND	119	60-130			
1,2-Dichloroethane	4.73	0.05	ug/g	ND	118	60-130			
1,1-Dichloroethylene	4.80	0.05	ug/g	ND	120	60-130			
cis-1,2-Dichloroethylene	4.65	0.05	ug/g	ND	116	60-130			
trans-1,2-Dichloroethylene	4.55	0.05	ug/g	ND	114	60-130			
1,2-Dichloropropane	4.75	0.05	ug/g	ND	119	60-130			
cis-1,3-Dichloropropylene	4.72	0.05	ug/g	ND	118	60-130			
trans-1,3-Dichloropropylene	4.89	0.05	ug/g	ND	122	60-130			
Ethylbenzene	4.87	0.05	ug/g	ND	122	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	4.76	0.05	ug/g	ND	119	60-130			
Hexane	3.98	0.05	ug/g	ND	99.6	60-130			
Methyl Ethyl Ketone (2-Butanone)	7.87	0.50	ug/g	ND	78.7	50-140			
Methyl Isobutyl Ketone	10.7	0.50	ug/g	ND	107	50-140			
Methyl tert-butyl ether	12.5	0.05	ug/g	ND	125	50-140			
Methylene Chloride	5.05	0.05	ug/g	ND	126	60-130			
Styrene	4.72	0.05	ug/g	ND	118	60-130			
1,1,1,2-Tetrachloroethane	5.08	0.05	ug/g	ND	127	60-130			
1,1,2,2-Tetrachloroethane	3.78	0.05	ug/g	ND	94.6	60-130			
Tetrachloroethylene	4.60	0.05	ug/g	ND	115	60-130			

Certificate of Analysis

Report Date: 29-Sep-2022

Client: Landtek Limited

Order Date: 20-Sep-2022

Client PO:

Project Description: 22352

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Toluene	4.96	0.05	ug/g	ND	124	60-130			
1,1,1-Trichloroethane	4.66	0.05	ug/g	ND	116	60-130			
1,1,2-Trichloroethane	4.75	0.05	ug/g	ND	119	60-130			
Trichloroethylene	5.51	0.05	ug/g	ND	138	60-130			QS-02
Trichlorofluoromethane	4.52	0.05	ug/g	ND	113	50-140			
Vinyl chloride	4.61	0.02	ug/g	ND	115	50-140			
m,p-Xylenes	9.44	0.05	ug/g	ND	118	60-130			
o-Xylene	4.80	0.05	ug/g	ND	120	60-130			
Surrogate: 4-Bromofluorobenzene	7.77		ug/g		96.9	50-140			
Surrogate: Dibromofluoromethane	7.64		ug/g		95.4	50-140			
Surrogate: Toluene-d8	7.97		ug/g		99.6	50-140			

Certificate of Analysis

Client: Landtek Limited

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Report Date: 29-Sep-2022

Order Date: 20-Sep-2022

Project Description: 22352

**Qualifier Notes:**

**QC Qualifiers:**

QS-02 Spike level outside of control limits. Analysis batch accepted based on other QC included in the batch.

**Sample Data Revisions:**

None

**Work Order Revisions / Comments:**

REVISION 1 - This report includes revised VOC data for sample #06.

**Other Report Notes:**

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Soil results are reported on a dry weight basis unless otherwise noted.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

*CCME PHC additional information:*

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.
- When reported, data for F4G has been processed using a silica gel cleanup.

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



Client Name: Landtek Project Ref: 22352  
 Contact Name: Lauren Blair Quote #:  
 Address: 205 Nebo Rd, Hamilton PO #:  
 Telephone: E-mail: nicole@landtek.ca  
lauren@landtek.ca

Page 1 of 1  
**Turnaround Time**  
 1 day  3 day  
 2 day  Regular  
 Date Required: \_\_\_\_\_

REG 153/04  REG 406/19 Other Regulation  
 Table 1  Res/Park  Med/Fine  REG 558  PWQO  
 Table 2  Ind/Comm  Coarse  CCME  MISA  
 Table 3  Agri/Other  SU - Sani  SU - Storm  
 Table \_\_\_\_\_ Mun: \_\_\_\_\_  
 For RSC:  Yes  No  Other: \_\_\_\_\_

Matrix Type: S (Soil/Sed.) GW (Ground Water)  
 SW (Surface Water) SS (Storm/Sanitary Sewer)  
 P (Paint) A (Air) O (Other)

Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken		Required Analysis			
				Date	Time	PHCS	VOCs	MET	
1 TP1	S		3	Sept 20			X	X	X
2 TP2							X	X	X
3 TP3							X	X	X
4 TP4							X	X	X
5 TP5							X	X	X
6 TP6							X	X	X
7 TP7							X	X	X
8 TP8							X	X	X
9 TP9							X	X	X
10 TP10							X	X	X

Comments: \_\_\_\_\_ Method of Delivery: Walk In

Relinquished By (Sign): JBL Received By Driver/Depot: \_\_\_\_\_ Received at Lab: KmCalla Verified By: KmCalla  
 Relinquished By (Print): Lauren Blair Date/Time: \_\_\_\_\_ Date/Time: Sept 20/22 1437 Date/Time: Sept 20/22 1446  
 Date/Time: Sept. 20, 2022 Temperature: \_\_\_\_\_ °C Temperature: 16.0 °C pH Verified:  By: \_\_\_\_\_