Victorian Distillery and Silos Owners Consortium

Soil Vapour Risk Assessment

21 Northumberland and 26 Wellington Streets, Collingwood, VIC, 3066

August 2021

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Executive Summary

Edge Group Pty Ltd (Edge) was commissioned by Best Hooper Lawyers (Best Hooper) on behalf of Victorian Distillery and Silos Owners Consortium (VDSOC) (the Client) to conduct a Soil Vapour Risk Assessment at 21 Northumberland and 26 Wellington Streets, Collingwood (the Site).

Previous reports by Edge (Edge ref: ***20170561-R-02*** and ***20170561-R-03***) indicated that the Site (in its current layout) was suitable for the current mixed commercial/residential use.

In July 2019, the Council received a peer review (Ref: 19120411-001-L-Rev1) of the Edge reports that indicated further investigation and assessment would be required before the Site could be considered suitable for the current residential dwellings.

Edge understands that the Client is considering an amendment request to the Council to enable the land to be permitted for residential use (dwellings) under the Planning Scheme.

The primary purpose of the works was to provide further information and understanding of potential risks to human health and the environment posed by on-Site contamination.

The majority of the Site is sealed with concrete or asphalt with some small outdoor landscaped areas. Fill underlies the surface up to depths of 1.5 mbgl and comprised silty clay with gravels and some wood and plastic fragments, and natural silty clay beneath to the depth of the investigation.

A total of 15 soil samples were analysed from eight soil bores advanced across the Site. Soil vapour bores were installed in all eight soil bores. No human health soil assessment criteria exceedances were noted in the soil samples analysed in 2021.

A total of 22 soil vapour samples were collected from three soil vapour pins and eight soil vapour bores in October and December, 2020. Historical data (2018) from five soil vapour samples collected from three soil vapour pins and two soil vapour bores was also considered.

The soil vapour assessment indicated that generally the soil vapour was unimpacted, with some contaminants of potential concern (isopropyl alcohol, trichloroethene and bromodichloromethane) requiring further discussion by an expert risk assessor (EnRiskS). The expert risk assessor initially found that there may be an unacceptable soil vapour intrusion risk from IPA and as such, an indoor air assessment was undertaken.

A total of seven air samples (six indoor and one outdoor) were collected across the Site as part of the indoor air assessment. No ambient air guideline exceedances were noted in the air samples analysed. The updated expert risk assessor report indicated that there is no unacceptable risk to human health at the Site.

The Site in its current layout is considered suitable for commercial/industrial and high-density residential use. Should any changes to the Site layout occur then an updated assessment of risk would be required.

1. Introduction

1.1 General

Edge Group Pty Ltd (Edge) was commissioned by Best Hooper Lawyers (Best Hooper) on behalf of Victorian Distillery and Silos Owners Consortium (VDSOC) (the Client) to conduct a Soil Vapour Risk Assessment at 21 Northumberland and 26 Wellington Streets, Collingwood (the Site). The location of the Site is provided in ***Figure 1***.

The purpose of this report is to document the soil, soil vapour (SV) and indoor air (IA) assessment at the Site in order to assess the environmental condition and to determine the current suitability of the Site for residential land use.

1.2 Background

The Site comprises multiple lots (approximately 2,875 m^2 combined total area), which were redeveloped for partial commercial and partial residential land uses. A large portion of the ground floor is used for car parking, see ***Figure 2*** for the Site Layout.

Edge understands that the Site requires an amendment to the Planning Scheme to allow it to be permitted for residential use (dwellings).

A Preliminary Site Investigation (PSI), which should be read in conjunction with the Detailed Site Investigation (DSI), was conducted previously by Edge (Edge ref: ***20170561-R-02***) which identified:

- The Site has been used previously as a Distillery from the mid-1800s to 1992 where it has since (1997) been redeveloped for commercial and residential land use.
- Key items of current and historical information indicate the potential for contamination of soil, groundwater and/or soil vapour sourced from on-Site activities:
    - Use of the Site as a distillery from mid-1800s to 1992;
    - Identification of a 'Tank' (unknown to be underground or above ground) historically in the north west corner of the Site; and
    - Potential presence of imported fill.
- Key items of current and historical information indicate the potential for contamination of soil, groundwater and/or soil vapour sourced from off-Site activities;
    - Historical Brewers and Grain Merchants located to the west, east and south of the Site;
    - Historical Electrical Welders and Oxy-acetylene previously located west of the Site; and
    - Historical Textile Manufacturers located to the west of the Site.
- The PSI identified a high potential for impacted soil to be present on Site, however based on subsequent soil and soil vapour sampling, in the current Site setting there is considered to be a low risk to current Site users.

Subsequently, Edge conducted soil and soil vapour sampling (Edge ref: ***20170561-R-03***) which indicated that the soil and soil vapour at the Site did not pose an unacceptable risk to human health or the environment.

In July 2019, the Council received a peer review (Ref: 19120411-001-L-Rev1) of the Edge reports that indicated further investigation and assessment would be required before the Site could be considered suitable for the current residential dwellings.

1.3 Project Aims

Project aims include:

- Investigate the nature and extent of soil contamination at the Site.

- Investigate the nature and extent of soil vapour contamination (soil vapour monitoring events: SVME 2 and SVME 3) at the Site.
- Investigate the nature and extent of indoor air contamination at the Site.
- Refine the conceptual Site model (CSM) and assess the risk of contamination at the Site.
- Manage potential risks to future intrusive workers at the Site.

1.4 Scope of Work

To achieve the objectives detailed above, the following scope of work was implemented:

- Bore logging and soil sampling at eight soil bore locations.
- Installation of eight Soil Vapour Bores (SVBs) on Site.
- Two soil vapour monitoring events (SVMEs 2 and 3) at three soil vapour pins and eight SVBs.
- Laboratory analysis of selected soil and SV samples for identified and potential CoPCs associated with the historical use of the Site and neighbouring premises.
- One indoor air sampling event at six indoor and one outdoor locations.
- Laboratory analysis of IA samples for isopropyl alcohol (IPA), identified as a CoPC due to elevated concentrations in soil vapour.
- Preparation of this report detailing the findings of the works including a conceptual site model.

All soil investigation works at the Site were conducted in general accordance with the following environmental legislation and guidelines:

- Standards Australia, *Australian Standard 4439.2-1997 Wastes, sediments and contaminated soils. Part 2: Preparation of Leachates – Zero headspace procedure*, 1997 (AS4439.2-1997).
- Standards Australia, *Australian Standard 4482.1-2005 Guide to the investigation and Sampling of Sites with Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds*, 2005 (AS4482.1-2005).
- Standards Australia, *Australian Standard 4482.2-1999 Guide to the investigation and Sampling of Sites with Potentially Contaminated Soil. Part 2: Volatile Substances,* 1999 (AS4482.2-1999).
- Victorian Government, *Environment Protection Act,* 1970 (EP Act)
- EPA Victoria, *Publication 759.3: Environmental Auditor (Contaminated Land): Guidelines for Issue of Certificates and Statements of Environmental Audit*, December 2015.
- Victorian Government, *State Environment Protection Policy Prevention and Management of Contaminated Land*, 2002 (as gazetted in 2013) (Land SEPP).
- National Environment Protection Council (NEPC), National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No.1) – Amendment of the National Environment Protection (Assessment of Site Contamination) Measure (NEPM), 1999 (NEPM 2013).

The soil vapour investigation works at the Site were conducted in general accordance with the following environmental legislation and guidelines:

- Cox-Colvin & Associates Inc. Standard Operating Procedures (SOPs) for the installation and sampling of Vapor Pins™ (www.vaporpin.coxcolvin.com);
- CRC CARE, *Technical Report 13 – Field Assessment of Vapours*, August 2009;
- CRC CARE, *Technical Report 23 – Petroleum Hydrocarbon Vapour Intrusion Assessment – Australian Guidance*, July 2013 (relevant sections to general SV assessment techniques); and
- U.S. Environmental Protection Agency (USEPA), *Compendium Method TO-15 – Determination of Volatile Organic Compounds (VOCs) in Air Collected In Specially-Prepared Canisters and Analyzed by Gas Chromatography/ Mass Spectrometry (GC/MS)*, 1999 (USEPA TO-15 1999).

2. Methodology

2.1 Soil Sampling Methodology

2.1.1 Soil Sample Locations

The soil assessment involved the collection of representative soil samples from eight soil bore locations (SVB03 – SVB10) advanced across the surface of the Site on 29 and 30 September, 2020 (as shown in ***Figure 3***).

Soil bore locations were targeted at areas of potential impact and ground floor residences. Soil bores were terminated at approximately 1.5 metres below ground level (mbgl) to allow for the appropriate installation of soil vapour bores.

All soil bores were concrete cored through the concrete slab/bricks, then advanced through the fill material present into the underlying natural clay, using a hand auger. Given refusal of the hand auger, and shallow perched groundwater at some locations, soil bores were advanced to between 0.75 m and 1.5 mbgl.

The soil sample locations are summarised below:

- SVB03 – In the laneway adjoining Northumberland Street, close to the former UST.
- SVB04 – Inside the Unit 8 car park space
- SVB05 – Inside the Silo car park space PT11J
- SVB06 – Inside the Bike Shed, adjacent to Unit 13
- SVB07 – Inside car park space 51, adjacent to Unit 14
- SVB08 – In car park space 39, adjacent to commercial building 5A
- SVB09 – In car park space 15, adjacent to Unit 15
- SVB10 – In car park space 58, in southern covered car park

2.1.2 Soil Sampling Methodology

The following methodology was adopted during the soil sampling:

- All soil samples collected were subject to screening in the field for the presence of volatile organic compounds (VOCs) using initial visual and olfactory assessment (including visual screen for the presence of potential asbestos containing materials), and subsequent screen using a calibrated 10.6 ev lamp photo-ionisation detector (PID).
- Soil samples were collected directly from the hand auger using a clean pair of disposable nitrile gloves for each sample, with a primary sub-sample then placed into laboratory-provided and prepared sample containers with Teflon® sealed lids;
- A secondary sub-sample was placed into a Ziploc bag, labelled with the location and depth details, sealed and set aside, allowing sufficient airspace above the sample to collect a headspace VOC sample using the PID. The sample was left to equilibrate with the headspace for 5-10 minutes, after which the bag will be pierced using the tip of the PID (which was running constantly to provide a measure of potentially hazardous atmospheres during sampling) and a field measurement of VOC concentration was taken and recorded on the field sheets and bore logs. This sub-sample was returned to the completed borehole, following completion of the PID headspace test;
- All primary and duplicate soil samples were identified with a unique sample identifier, which was documented on: the sample label; bore log; and chain of custody form;
- A soil bore log (included as ***Appendix A***) was completed for each soil bore including: a description of materials encountered; olfactory and visual evidence of contamination; PID readings; moisture content and encountered water levels (where applicable); sample intervals; and sample identifiers.

- All primary (and Quality control/Quality Assurance (QA/QC)) soil samples were placed in an ice-cooled storage box (e.g. Esky®) immediately after collection and transported under chain of custody documentation to the analytical laboratory.
- All field sampling equipment was decontaminated prior to use at each soil bore location to limit the potential for cross-contamination. Decontamination of field equipment involved: wash with clean potable water; scrubbing in a detergent solution (Decon® 90) and potable water; and a final rinse in deionised water.

2.2 Soil Vapour Bore Installation Methodology

Edge installed eight SVBs (SVB03 – SVB10) at the Site to depths between 0.75 and 1.5 mbgl.

The SVB locations were installed with a 150 mm long perforated stainless-steel SV implant tip with Swagelok® fittings, connected to a clean ¼ inch Teflon® tubing which extended above ground level. Each SVB location was installed as follows:

- 0.05 m graded filter sand below the implant tip to act as a moisture sump and prevent 'flooding' of sample train during subsequent sampling;
- 0.3 m graded filter sand from base of implant tip to 0.05 m above to act as SV filter pack;
- 0.05 m dry powdered cement installed above sand to act as moisture barrier and seal above implant tip;
- hydrated bentonite chips installed to a minimum thickness of 0.2 m (SVB07), but an average thickness of 0.6 m to provide a solid seal around the Teflon® tubing and the bore walls;
- A minimum of 0.2 m quick set concrete plug to ground surface with standard 50 mm groundwater well Gatic cover (with rubber/silicone o-ring seal) installed; and
- The Teflon® tubing was sealed using a stopper and approximately 0.5 m of tubing coiled inside the Gatic cover for subsequent sampling.

A bore log was completed for each SVB location including a description of materials encountered, olfactory and visual evidence of contamination, PID readings (a PID with an 10.6. eV lamp was used during installation of the SVBs), moisture conditions and water levels, sample intervals and numbers, and bore construction details. Borelogs for each of the SVBs are provided in ***Appendix A***.

2.3 Soil Vapour Sampling Methodology

The SV sample was collected using 1.2 L vacuum canisters (either Summa® or Silonite® type) fitted with SV flow restrictors set for a flow rate of 80mL/minute.

Prior to completing SV sampling at the SVP/SVB locations, Edge field staff conducted leak testing using helium as a tracer gas.

The general sampling methodology used for the SV sampling was as follows:

- Prior to sampling, the flush mount stainless steel cover and dust cap fitted to the SVP/SVB during install was removed;
- The SVP/SVB was covered with a plastic bucket (shroud) with holes to allow the tubing and monitoring equipment access;
- The SVP/SVB was then connected to a length of dedicated certified clean Teflon® tubing, fed through a hole in the shroud and connected to a 'female' quick connect fitting;
- The shroud was then saturated with 97% pure helium gas, and monitored until the concentration in the shroud reached the limit of the helium detector (999,999 ppm);
- The helium detector was connected to a 'male' quick connect fitting, which was then attached to the 'female' quick connect fitting on the sample tubing and used as a leak test (>10% of the shroud concentration would be interpreted as a leak test fail).

- The PID was then be attached to the sample tubing for the VOC pre-screen for approximately three minutes;
- The initial pressure of the lab supplied vacuum canister was confirmed using a lab supplied vacuum check gauge to confirm that it was still under the lab induced vacuum conditions (typically > -30" Hg);
- Once pressure checks were completed the lab supplied SV flow restrictors and manifold were connected to the canister and the canister pressure monitored for decrease (as an indicator that there was a leak in the sampling train);
- The canister was then connected to the sample tubing and sampling commenced. The flow restrictor and manifold pressure gauges (downhole and canister) were carefully monitored and the vacuum allowed to reduce to approximately -5" Hg during sampling (if the down-hole pressure dropped below -8" Hg, then consideration was given to stopping the sampling process);
- The helium concentration in the shroud was monitored throughout sampling to ensure that it remained saturated;
- Once the canister pressure gauge reached approximately -5" Hg the ball valve was closed and the canister detached from the sampling train;
- Once sampling was completed, a GA5000 landfill gas analyser was connected to the sampling tube, the ball valve opened and the SVP/SVB screened for general gases (CH_4, CO_2 and O_2) in SV, with the atmospheric pressure and relative pressure recorded. Screening continued until readings stabilised and/or a maximum of 180 seconds elapsed; and
- Once the GA5000 screening was completed the sampling train, shroud and all associated fittings was removed from the SVP/SVB, the dust cap replaced and the flush mount stainless steel cover/gatic cover replaced, sealing the SVP/SVB.
- All SV samples were identified with a unique sample identifier, which was documented on: the sample label and chain of custody form.

Field observations (leak test results, PID readings, GA5000 readings, canister number, flow restrictor and manifold number, etc.) were recorded for the SVP/SVB on an SV sampling sheet (see ***Appendix B***).

Note – In accordance with the manufacturers' SOP and available published literature, there is no requirement for the purging of SVP locations prior to sampling due to the very small internal volume of the SVPs themselves, and the fact that sub-slab soil vapour is typically in equilibrium with this internal volume and the minimal disturbance of the SV during installation.

2.4 Indoor Air Sampling Methodology

2.4.1 Indoor Air Sample Locations

The IA samples were collected from the following locations, shown in ***Figure 3***:

- OAS[1] – Outside Unit 5BDF (The Germinating Warehouse)
- IAS01 – Inside car park space 59 on Byron Street
- IAS02 – Inside the ground floor of Unit 15
- IAS03 – Inside the ground floor of Unit 14
- IAS04 – Inside the second floor of Unit 13
- IAS05 – Inside the first floor of Unit 12[2]

[1] Outdoor sample
[2] Unit 13C was inaccessible at the time of sampling. As such, the sample was taken from Unit 12 instead. The spread of indoor air samples is considered sufficient to assess indoor air at the Site.

- IAS06 – Inside Silo car park, between car park space PT11K and the storage cages

2.4.1 Indoor Air Sampling Methodology

Prior to the indoor air sampling event, Edge wrote letters to the residents requesting the removal of any products containing isopropyl alcohol (a.k.a. isopropanol or IPA) from the apartments 48 hours prior to the sampling event and avoiding the use of any products which may contain IPA until after the completion of sampling. Where IPA-containing products were removed from the apartment, ventilation of the apartment was requested by opening windows for as much time as possible up to a maximum of 8 hours. Any chemicals that were present or that have been removed from the apartment were noted (see ***Appendix F***).

The IA samples were collected using 6-litre Summa® vacuum canisters fitted with flow controllers set for a flow rate of approximately 4 mL/min (for a period of 24 hours).

The general sampling methodology used for the IA sampling was as follows:

- The canister was placed within the breathing zone (approximately 1 to 1.5 m above the floor), and away from windows, doors, heater/air conditioning vents and obvious ambient sources of VOCs;
- The initial pressure of the lab-supplied vacuum canister was confirmed using a lab-supplied flow controller to confirm that it was still under the lab-induced vacuum conditions (typically > -30" Hg);
- Once the pressure check was completed, the lab-supplied flow controller was connected to the canister and the canister pressure monitored for decrease (as an indicator of a leak in the sampling train);
- The canister valve was then opened and sampling commenced; and
- After a minimum of 24 hours have elapsed, the canister valve was closed and sampling ceased before the vacuum pressure reached zero.
- All IA samples were identified with a unique sample identifier, which was documented on: the sample label and chain of custody form.

Field observations (canister number, flow controller number, etc.) were recorded on an IA sampling sheet (see ***Appendix E***).

2.5 Sample Analysis

All soil, SV and IA primary and QA/QC samples were submitted to a National Association of Testing Authorities (NATA) accredited laboratory for analysis for the presence of the identified CoPC.

2.5.1 Soil Sample Analysis

Table 1 below details the analytical schedule completed for the samples.

Table 1 – Soil Sample Analysis

Location-Depth (mbgl)	Strata	No. Samples	Analytes
SVB03-0.2, SVB03-1.0 SVB04-0.5, SVB04-1.5 SVB05-0.5, SVB05-1.5 SVB06-0.2, SVB06-1.5 SVB07-0.2, SVB07-0.5 SVB08-0.5, SVB08-1.5 SVB09-0.2, SVB09-0.5	Fill & Natural Soil	15	BTEXN, TRH, PAH, MAH and VOCs

SVB10-0.2			
Sample Type	**Frequency**	**No. Samples**	**Analytes**
Field Duplicate (intra-laboratory)	1/20 samples	1	BTEXN, TRH, PAH, MAH and VOCs
Field Split Duplicate (inter-laboratory)		1	
Rinsate Blank	1/day	2	
Trip Blank	1/batch	2	BTEXN & TRH C_6-C_9

Notes
VOCs = Includes a broad screen for general VOCs.
BTEXN = Benzene Toluene Ethylbenzene Xylenes and Naphthalene
TRH = Total Recoverable Hydrocarbons
PAH = Polycyclic Aromatic Hydrocarbons
MAH = Monocyclic Aromatic Hydrocarbons

2.5.2 Soil Vapour Sample Analysis

Table 2 details the analytical schedule completed for SVMEs 2 and 3.

Table 2 – Soil Vapour Sample Analysis (SVMEs 2 and 3)

Location	Depths (mbgl)	No. Samples	Analytes
SVP01; SVP02; SVP03; SVB01, SVB02, SVB03*, SVB04, SVB05, SVB06, SVB07, SVB08, SVB09 and SVB10.	Sub-Slab to 1.5	13*	USEPA TO-15 VOC TPH, BTEXN, CH_4 CO_2 0_2
Sub total		***13***	
Field Duplicate	1/20 samples	1	USEPA TO-15 VOC TPH, BTEXN, CH_4 CO_2 0_2
Interlaboratory Duplicate	1/20 samples	1	USEPA TO-15 VOC TPH, BTEXN, CH_4 CO_2 0_2
Sub total		***2***	
TOTAL		**15**	

Notes
USEPA TO-15 VOC = Includes a broad screen for general VOCs.
No trip blanks are required for active SV samples collected using vacuum canisters. Instead, vacuum is measured at completion of sampling and upon receipt to assess potential for leakage.
Dedicated vacuum cans and sampling equipment were used at all SV locations.
* SVB03 was not sampled during SVME 2 and 3 due to water present in the sample tube.

2.5.3 Indoor Air Sample Analysis

Table 3 details the analytical schedule completed for the indoor air sampling event.

Table 3 – Indoor Air Sample Analysis

Location		No. Samples	Analytes
OAS and IAS01-06		7	Isopropyl alcohol
Sub total		***7***	
Interlaboratory Duplicate	1/20 samples	1	Isopropyl alcohol
Sub total		***1***	
TOTAL		**8**	

Notes
No trip blanks are required for passive IA samples collected using vacuum canisters. Instead, vacuum is measured at completion of sampling and upon receipt to assess potential for leakage.
Dedicated vacuum cans and sampling equipment were used at all sampling locations.

3. Field Observations

3.1 Soil and Soil Vapour Assessments

The soil (29 and 30 September, 2020), soil vapour (SVME 1: 6 and 7 October, 2020 and SVME 2: 14 and 15 December, 2020) assessments were completed at the Site in accordance with the methodology discussed in ***Section 2.***

A suitably qualified and experienced Edge Environmental Scientist was present on-Site at all times during the works to manage health, safety and environmental issues; conduct hand auger soil sampling; record the lithological profile; and make field observations of visual and olfactory evidence of contamination.

The majority of the surface of the Site was covered by concrete/bitumen hardstand. The general stratigraphy encountered during the soil investigation works at the Site can be summarised as:

- **0.0 – 0.1 m**: Concrete/Bitumen;
- **0.1 – 1.5 m:** Fill – Silty clay, low plasticity, with gravels and/or sand, mottled brown and/or orange, increasing in plasticity with depth, some brick, concrete and glass fragments;
- **+0.6 m:** Natural – Silty Clay/Clay, brown, medium plasticity, soft, trace and silt.

Representative soil samples were collected from the fill and natural soil domains as encountered. Detailed soil bore logs associated with the soil investigation works undertaken are included in ***Appendix A***.

No evidence of contaminant impacts were identified (staining, odour or elevated PID readings). PID readings recorded on the bore logs ranged from 0.0 to 0.4 ppm.

Additionally, no suspected asbestos or ACM were encountered during the soil assessment works at the Site.

Buried animal bones were observed beneath the surface at SVB05 (within the laneway, prior to advancing the final SVB05 location). The Site representative indicated to Edge on 29 September, 2020 that the Site historically contained stables for draught horses associated with the Carlton United Brewery.

A total of 29 primary soil samples were collected, of which 15 were analysed from the eight boreholes (SVB03 – SVB10). The locations of the soil boreholes are presented in ***Figure 3***.

3.2 Indoor Air Assessment

The indoor air assessment was completed at the Site from 26 to 27 May 2021 in accordance with the methodology discussed in ***Section 2.***

A Building Survey Form was completed for each apartment sampled with the assistance of a resident to confirm construction details, number of storeys, internal fit-out and any potential contaminant sources (e.g. stored chemicals). The Building Survey Forms can be found in ***Appendix F***.

4. Adopted Assessment Criteria

4.1 Soil Assessment Criteria

The Land SEPP provides a framework for the protection of land and associated beneficial uses in Victoria. The Land SEPP defines land use categories and associated beneficial uses of land to be protected. Beneficial uses of land are considered to be precluded when relevant soil quality objectives set out in the Land SEPP have been exceeded.

The land use at the Site includes one or more of the following beneficial uses of land:

- Commercial; and
- High density residential.

The beneficial uses of land requiring protection depending on the proposed land use are presented in ***Table 4***.

Table 4 – Land SEPP Protected Beneficial Uses

Beneficial Uses	Land Use						
	Parks & Reserves	Agricultural	Sensitive Use		Recreational / Open space	Commercial	Industrial
			High Density	Other			
Maintenance of Ecosystems: Natural Ecosystems	✓						
Maintenance of Ecosystems: Modified Ecosystems	✓	✓		✓	✓		
Maintenance of Ecosystems: Highly Modified Ecosystems		✓	✓	✓	✓	✓	✓
Human Health	✓	✓	✓	✓	✓	✓	✓
Buildings and Structures	✓	✓	✓	✓	✓	✓	✓
Aesthetics	✓	✓	✓	✓	✓	✓	
Production of Food, Flora & Fibre	✓	✓		✓			

Notes
Table reproduced from Land SEPP.
✓ - Indicates beneficial uses to be protected applicable to the Site.
Shading denotes the most relevant land use category for the Site. Other beneficial uses have been considered in the context of determining whether land at the Site would be suitable for any beneficial use.

The assessment criteria relevant to this soil investigation for the protection of beneficial uses of land are summarised in ***Table 5.***

Chemical concentrations above the respective applicable investigation/screening levels would not automatically trigger remedial action, but should be considered to be indicative of the potential need for further assessment and/or investigation and evaluation of potential risks. Concentrations of potential contaminants above the investigation levels are not intended to be clean-up levels. A decision as to whether clean-up is required would be based on site-specific assessment triggered by exceedances of the adopted investigation / screening levels.

Table 5 – Adopted Soil Assessment Criteria

Protected Beneficial Use	Adopted Soil Assessment Criteria
Human Health	• NEPM 2013 - Health Screening Levels (HSLs) have been adopted to assess potential risk to human health from the migration of hydrocarbon vapours from a vapour source within soil. HSLs applicable to volatile petroleum hydrocarbons have been adopted. The adopted HSLs are: o HSL-B for vapour intrusion for high density residential assume residential occupation of the ground floor. o HSL-D applicable to commercial / industrial developments. • NEPM 2013 – Management Limits have been adopted to assess the potential for fire and explosive hazards and the effects on buried infrastructure of petroleum hydrocarbons. • United States Environmental Protection Agency, *Region 3, 6 and 9 – Regional Screening Levels for Resident* and *Industrial Soil (THQ=1.0)*, 2020 (USEPA RSLs) have been adopted for detected analytes, with no applicable Australian assessment criteria.

4.2 Soil Vapour Assessment Criteria

Edge has adopted the soil vapour assessment criteria detailed in ***Table 6***.

Table 6 – Adopted Soil Vapour Assessment Criteria

CoPC	Adopted Assessment Criteria (mg/m^3)	
CHCs	**NEPM 2013 Interim HIL-A/B**	**NEPM 2013 Interim HIL-D**
PCE	2	8
TCE	0.02	0.08
cis-1,2-DCE	0.08	0.3
VC	0.03	0.1
1,1,1-trichloroethane (1,1,1-TCA)	60	230
Petroleum Hydrocarbons	**NEPM 2013**	
	HSL A and B – Clay (0-<1m)	**HSL-D – Clay (0-<1m)**
Benzene	1	5
Toluene	1,600	6,500
Ethylbenzene	420	1,800
Xylenes	280	1,200
Naphthalene	1	4
F1 (TRH C_6-C_{10} – BTEX)	230	1,000
F2 (TRH C_{10}-C_{10} – naphthalene)	180	800

Notes
Other soil vapour assessment criteria are displayed in ***Appendix I, Table I1.***

In the absence of either interim HIL or HSL criteria for a selection of other VOC analytes reported in the SV results for the SVMEs, Edge has also applied the United States Environmental Protection Agency Regional Screening Levels (USEPA RSL) (THQ=1.0) criteria for indoor air at residential sites, corrected using the generic NEPM 2013 SV to indoor air attenuation factor of 0.1, as per NEPM 2013 (Schedule B1, Page 51, Table 1A (2), Note 2). Assessment criteria for carcinogenic compounds have been increased by a factor of 10 to account for the differing acceptable incremental cancer risk between Australian ($1x10^{-5}$) and the United States ($1x10^{-6}$).

Additionally, following Edge's soil vapour assessment works (Edge ref: ***20170561-R-03***) in October 2018, Edge commissioned a Site-specific risk assessment by an expert risk assessor (EnRiskS), who developed Site specific soil vapour assessment criteria, which have been applied to the soil vapour data.

4.3 Indoor Air Assessment Criteria

As noted in ***Section 1.4***, indoor air analysis targeted the only CoPC in soil vapour (i.e. IPA). Edge has adopted the indoor air assessment criteria detailed in ***Table 7***.

Table 7 – Adopted Indoor Air Assessment Criteria

	Adopted Assessment Criteria ($\mu g/m^3$)	
CoPC	**Residential**	**Commercial**
2-propanol (IPA)	210	880

Note:
USEPA (November 2020) Regional Screening Levels (RSL) for air.

5. Results

5.1 Soil Assessment Analytical Results

The 2020, soil analytical results did not indicate the presence of any contaminants above the applicable human health soil assessment criteria. The results are provided in ***Appendix G, Table G1***. Copies of NATA accredited laboratory reports are provided in ***Appendix H***.

5.2 Soil Vapour Assessment Analytical Results

The 2020 soil vapour analytical results identified exceedances of one or more adopted soil vapour assessment criteria at three (SVP01 - SVP03) of the 12 (25%) soil vapour locations. ***Table 8*** provides a summary of the identified exceedances of the adopted soil vapour assessment criteria, detailed results are provided in ***Appendix I, Table I1.*** Copies of NATA accredited laboratory reports are provided in ***Appendix J*** and soil vapour assessment criteria exceedances are noted in ***Figure 4.***

Table 8 – Summary of Exceedances of Soil Vapour Assessment Criteria (All Years)

Location	Date	Analyte	Conc. (µg/m³)	Criteria Exceeded
SVP01	7/10/20	Isopropyl alcohol	20,000	USEPA RSLs – Residential and Industrial & EnRiskS Criteria
	15/12/20		48,000	
SVP02	7/10/20	Isopropyl alcohol	26,000	USEPA RSLs – Residential and Industrial & EnRiskS Criteria
	15/12/20		40,000	
	7/10/20	Trichloroethene	25	NEPM 2013 Interim HILs
SVP03	7/10/20	Isopropyl alcohol	6,300	USEPA RSLs – Residential & EnRiskS Criteria
	15/12/20		24,000	USEPA RSLs – Residential and Industrial & EnRiskS Criteria
	31/10/18	Bromodichloromethane	30	USEPA RSLs – Residential

Note:
Chloroform and 1,2,4-trimethylbenzene originally exceeded adopted criteria in Edge's DSI (Edge ref: ***20170561-R-02***), however were not above the criteria used by enRiskS during the DSI and hence are not included in this table.

5.3 Indoor Air Assessment Analytical Results

All indoor air analytical results were below the adopted indoor air assessment criteria. Detailed results are provided in ***Appendix K.*** Copies of NATA accredited laboratory reports are provided in ***Appendix L.***

6. Analytical Data Validation

6.1 Duplicate Samples

6.1.1 Soil Duplicates

A total of 15 primary soil samples were submitted for laboratory analysis as part of the 2020 soil assessment (SVME 2 and SVME 3).

One Field Duplicate (intra-laboratory) and one Field Split Duplicate (inter-laboratory) sample were collected in addition to the primary samples.

Table 9 details the duplicate samples collected and submitted for laboratory analysis as part of the soil investigation works completed at the Site for the Soil and Soil Vapour Assessment.

Table 9 – Soil Duplicate Samples

Sample ID	Type	Primary Sample ID	Laboratory	Analytes
FD01	Field Duplicate (intra-laboratory)	SVB03-1.0	ALS	BTEXN, TRH, PAH, MAH and VOCs
FS01	Field Split Duplicate (inter-laboratory)		Envirolab	

6.1.2 Soil Vapour Duplicates

Eleven SV samples were submitted for laboratory analysis for SVME 1 and SVME 2 in October and December 2020.

One Field Duplicate (intra-laboratory) and one Field Split Duplicate (inter-laboratory) sample were collected in addition to the primary samples for each SVME.

Table 10 details the duplicate sample collected and submitted for laboratory analysis as part of the SV investigation works.

Table 10 – Soil Vapour Duplicate Samples

Sample ID	Type	Primary Sample ID	Laboratory	Analytes
SVME 1				
FD01	Field Duplicate (intra-laboratory)	SVB01	Eurofins	USEPA TO-15 VOC TPH
FS01	Field Split Duplicate (inter-laboratory)	SVB09	SGS	
SVME 2				
FD01	Field Duplicate (intra-laboratory)	SVP03	Eurofins	USEPA TO-15 VOC TPH
FS01	Field Split Duplicate (inter-laboratory)	SVP02	ALS	

6.1.3 Indoor Air Duplicates

Seven IA samples were submitted for laboratory analysis in May 2021.

One Field Split Duplicate (inter-laboratory) sample was collected in addition to the primary samples.

Table 11 details the duplicate sample collected and submitted for laboratory analysis as part of the IA investigation works.

Table 11 – Indoor Air Duplicate Sample

Sample ID	Type	Primary Sample ID	Laboratory	Analytes
FS01	Field Split Duplicate (inter-laboratory)	IAS04	ALS	Isopropyl alcohol

6.2 Relative Percentage Difference

A relative percentage difference (RPD) was calculated for each intra-laboratory duplicate and inter-laboratory duplicate pair to obtain a quantitative measure of the accuracy of the results obtained. A RPD range of 30% to 50% is generally considered acceptable, as outlined in AS4482.1-2005 and NEPM 2013. The soil and soil vapour RPD data is provided in ***Appendix G, Table G2*** and ***Appendix I, Table I2***, respectively.

Validation and interpretation of the QA/QC data was undertaken by calculating the RPD for each duplicate pair. The RPD values were calculated using the formula:

$$RPD\% = \frac{(X_1 - X_2)}{M} \times 100$$

Where:
X_1 = primary sample result
X_2 = duplicate sample result
M = mean result of parent and duplicate

6.2.1 Soil RPD Results

None of the soil RPDs exceeded the acceptability range indicating that the field sampling and analytical precision were acceptable.

6.2.2 Soil Vapour Relative Percent Difference

RPDs noted for TRH (C_6-C_{10}), xylenes, isopropyl alcohol (IPA), 1,2,4-trimethylbenzene, 2,2,4-Trimethylpentane and carbon dioxide exceeded the acceptability range, however the reported concentrations (except for isopropyl alcohol) were below the applicable assessment criteria and small variations between samples at low concentrations is not unexpected.

The RPD for the SVP02/FS01 duplicate pair was 63% (40,000 µg/m^3 / 77,000 µg/m^3). As a conservative approach, Edge and the Expert Risk Assessor have considered the FS01 result to represent the maximum IPA concentration at SVP02.

6.2.3 Indoor Air RPD Result

The RPD between the primary and duplicate indoor air samples was calculated as 29%, which did not exceed the acceptability range indicating that the field sampling and analytical precision were acceptable.

6.3 Laboratory Limit of Reporting (LOR)

6.3.1 Soil LORs

All of the LORs for analytes in soil with an applicable assessment level were sufficiently low to allow comparison against those assessment levels. Therefore, the sensitivity of the laboratory method for soil is considered sufficient.

6.3.2 Soil Vapour LORs

A number of soil vapour laboratory LORs were reported at higher concentrations than adopted assessment criteria. Laboratory LOR exceedances of adopted assessment criteria may result in a non-detect being dismissed as insignificant, however that analyte could be present at concentrations that exceed relevant assessment criteria and pose a risk to human health. ***Table 12*** details those LOR that exceeded and applicable assessment criterion.

Table 12 – SV Laboratory Limit of Reporting Issues

Chem Group	Analyte	Assessment Criteria (µg/m³)	Laboratory LOR (µg/m³)	Sample Locations Affected
Chlorinated Hydrocarbons	1,1,2,2-tetrachloroethane	4.8[1]	8	SVP01, SVP02, SVP03, SVB01, SVB04 – SVB10
	Bromodichloromethane	7.6[1] / 28,000[3]	8	SVP01, SVP02, SVP03, SVB01, SVB04 – SVB06, SVB08 – SVB10
	Hexachlorobutadiene	13[1]	50	SVP01, SVP02, SVP03, SVB01, SVB04 – SVB10
Halogenated Benzenes	1,2,4-trichlorobenzene	21[1]	37	SVP01, SVP02, SVP03, SVB01, SVB04 – SVB10
Halogenated Hydrocarbons	1,2-dibromoethane	0.47[1] / 2[2]	8	SVP01, SVP02, SVP03, SVB01, SVB02, SVB04 – SVB10

Notes:
1 – USEPA RSL – Residential
2 – USEPA RSL – Industrial
3 – enRiskS Criteria – Residential

As shown in the laboratory LORs are, in some instances, slightly higher than the adopted soil vapour assessment criteria. Given that only five of the 94 analytes in the soil vapour analytical suite exhibited this issue, the isolated, slightly raised LORs are not considered to significantly affect the confidence in the sensitivity of the analytical methods.

6.3.3 Indoor Air LOR

The LOR for IPA in indoor air was sufficiently low to allow comparison against the applicable assessment level. Therefore, the sensitivity of the laboratory method for indoor air is considered sufficient.

6.4 Laboratory QA/QC

Table 13 – Laboratory QA/QC Samples

Lab	Lab Report	Holding Time	Quality Control Frequency	Surrogate Spike Recovery %	Lab Control Spike Recovery %	Matrix Spike Recovery %	Method Blank
SVBI							
ALS	EM2017150	✓	x[1]	✓	x[2]	✓	✓
Envirolab	22776	✓	✓	✓	✓	✓	✓
SVME 1							
Eurofins	748889	✓	✓	NA	✓	NA	✓
SGS	ME316787	✓	✓	NA	✓	NA	✓
SVME 2							
Eurofins	764336	✓	✓	NA	✓	NA	✓
ALS	EN2008513	✓	✓	NA	✓	NA	✓

Lab	Lab Report	Holding Time	Quality Control Frequency	Surrogate Spike Recovery %	Lab Control Spike Recovery %	Matrix Spike Recovery %	Method Blank
IA Sampling Event							
Eurofins	799802	✓	✓	NA	✓	NA	✓
ALS	EN2104608	✓	✓	NA	✓	NA	✓

Notes

✓Acceptable X Not acceptable, requires further discussion when interpreting results

N/A No Surrogate Spike (SS), Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported for vapour samples

[1] Quality Control Frequency is discussed below.

[2] LCS recoveries are discussed below

The soil quality control sample frequency of the primary laboratory for TRH semi-volatile fractions laboratory duplicate was 0%, less than the Expected Rate of 10%. Given Edge provided a separate sample FS01 to a secondary laboratory to assess the precision of the primary laboratory, the lack of a primary laboratory duplicate for THR semi-volatile fractions does not affect our confidence in the assessment of the precision of the primary laboratory.

The laboratory control spike recovery (59.3%) for 2-Butanone (MEK) in soil was less than the data quality objective (61.2-128%), in one of the soil samples. The reported analyte recovery was only slightly (1.9 %) less than the lower end of the target range and none of the primary samples reported any concentrations of MEK above the laboratory limit of reporting (LOR). As the lowest applicable MEK assessment criterion (310 mg/kg) is over ten times greater than the LOR (20 mg/kg), Edge is not concerned by the slightly lower recovery reported for MEK in soil.

6.5 Soil Trip Blank Sample

Two trip blank samples were collected and submitted for analysis during the execution of the soil assessment works.

Analytical results of soil trip blank samples are provided in ***Appendix G, Table G3***.

Laboratory analytical results indicated analyte concentrations were below the respective laboratory reporting limits in the trip blank sample, indicating cross-contamination during soil sample collection, storage and transport is unlikely to have occurred.

6.6 Soil Rinsate Blank Samples

Two rinsate blank samples were collected from the soil sampling equipment and submitted for analysis during the execution of the soil assessment.

Analytical results for the rinsate blank sample are provided in ***Appendix G, Table G4***.

Laboratory analytical results indicated analyte concentrations were below the respective laboratory reporting limits in the rinsate blank sample, indicating cross-contamination during sample collection is unlikely to have occurred.

6.7 SV Leak Testing Assessment

Leak tests are conducted on SVBs and SVPs to demonstrate that the bore or pin has been installed appropriately, that the SVB/SVP retains its integrity, that ambient air is not infiltrating and diluting SV in the bore, that all sample connections are tight and that the sample is representative of 'real' SV sample at the sampling location.

6.7.1 SV Leak Testing

Table 14 details the leak test assessment level applicable to each SV sample location i.e. 10% of the field measured maximum helium concentration result in the shroud. A pass or fail is determined if the laboratory helium concentration is below or above the 10% value.

The indicative helium concentration measured in the shroud, the calculated assessment level, and laboratory helium concentration at all sample locations are summarised in ***Table 14***. The results confirm that all sample locations tested passed the leak test as concentrations were below the adopted assessment value for each location (i.e. <10% of the shroud helium concentration).

Table 14 – SV Leak Test

Location	Date	Helium Conc. In SVB/SVP (ppm)	Helium Conc. in Shroud (ppm)	10% Fail Value (helium ppm)	Laboratory Helium Conc. (ppm)	Pass or Fail
SVP01	7/10/20	990	999,999	99,999	<1,200	Pass
	15/12/20	NC			<1,100	Pass
SVP02	7/10/20	1,080			3,500	Pass
	15/12/20	NC			2,100	Pass
SVP03	7/10/20	710			6,800	Pass
	15/12/20	NC			7,600	Pass
SVB01	6/10/20	2,900			<1,200	Pass
	15/12/20	NC			<1,200	Pass
SVB04	7/10/20	2,610			<1,100	Pass
	15/12/20	NC			<1,100	Pass
SVB05	7/10/20	2,850			<1,200	Pass
	14/12/20	NC			<1,200	Pass
SVB06	6/10/20	1,920			<1,100	Pass
	15/12/20	NC			<1,200	Pass
SVB07	6/10/20	2,040			19,000	Pass
	15/12/20	NC			<1,200	Pass
SVB08	6/10/20	290			<1,100	Pass
	14/12/20	NC			<1,100	Pass
SVB09	6/10/20	2,760			<1,100	Pass
	14/12/20	NC			<1,200	Pass
SVB10	6/10/20	13,500			<1,100	Pass
	14/12/20	NC			<1,200	Pass

Notes:
NC Not Collected
Units converted using https://www.eurofinsus.com/environment-testing/laboratories/eurofins-air-toxics-llc/unit-conversion-calculator/

6.8 Data Validation Summary

The results of the soil, soil vapour and indoor air QA/QC program were considered to provide an acceptable degree of confidence in the analytical program completed. Overall, the analytical data set was considered to be valid and acceptable for the purposes of the Soil, Soil Vapour and Indoor Air Assessment.

7. Discussion

7.1 Soils

The laboratory soil analytical results indicated that concentrations of CoPC were below the adopted assessment criteria in the soil samples collected and analysed in 2020. The soil assessment completed by Edge previously (Edge ref: ***20170561-R-03***), indicated that soil in other parts of the Site contained elevated concentrations of lead and PAHs, although these concentrations did not pose an unacceptable risk to current Site users, under the current Site layout.

7.2 Soil Vapour

In order to address the soil vapour detections outlined in ***Section 5.2,*** Edge appointed a specialist risk assessor (EnRiskS) to undertake a Tier 2 Risk Assessment; the risk assessment is provided in ***Appendix M***.

As noted in ***Section 5.2***, trichloroethene and bromodichloromethane were detected in one of the three SVMEs above the applicable generic assessment criteria. The expert Risk Assessor applied appropriate assessment criteria for the Site for these two analytes and found that neither exceeded the applicable assessment criteria and as such, did not warrant further discussion.

The reported concentrations of IPA in soil vapour at the Site warranted further detailed risk assessment which involved *the quantification of potential exposure and risks to human health associated with the presence of key chemicals in soil vapour by comparing the estimated intake (or exposure concentration) with the threshold values adopted that represent a tolerable intake (or concentration), with consideration for background intakes.*

The calculated ratio is termed a Hazard Index (HI), which is the sum of all ratios (termed hazard Quotients [HQ]) over all relevant pathways of exposure.

Where a calculated HI is less than 1, it represents no cause for concern for human health. The calculated HI was 0.99 (based on primary sample results), indicating that the risks to on-Site residents and workers (including intrusive maintenance workers) are acceptable. The duplicate sample (FS01) for SVP02 reported a higher concentration of IPA than its parent sample (indicating an unacceptable HI, greater than 1), as such, indoor air sampling was completed to ascertain the risk to the residents (see ***Section 7.3*** below).

The updated Tier 2 Risk Assessment (***Appendix M***), demonstrated that there was no unacceptable risk to human health at the Site.

7.3 Indoor Air

As stated in ***Section 5.3***, all indoor air analytical results were below the adopted indoor air assessment criteria. As such, there is no unacceptable risk to human health and no further discussion is required.

8. Conclusions

Based on the findings of the Soil and Soil Vapour Risk Assessment completed at the Site in October and December 2020, and an indoor air assessment in May 2021, as detailed in this report, Edge makes the following conclusions:

Edge conducted the following scope of works:

- Soil bore logging and soil sampling at eight soil bore locations (SVB03 – SVB10).
- Installation of eight Soil Vapour Bores (SVBs) on Site.
- Laboratory analysis of selected soil and SV samples for identified and potential CoPCs associated with the historical use of the Site and neighbouring premises.
- Indoor air (IA) sampling.
- Laboratory analysis of IA samples for IPA, which was found in soil vapour in high concentrations.

Information obtained from assessment works completed at the Site to date indicates the following:

- It is considered likely, given the site history, that the impacts noted in previous soil assessments in the fill soils at the Site may be attributed to the use of imported contaminated fill soils or historic Site use.
- Human health assessment criteria for soil vapour were exceeded for isopropyl alcohol (SVP01, SVP02 and SVP03), tricholorethene (SVP02) and Bromodichloromethane (SVP03). The exceedances of chloroform and 1,2,4-trimethylbenezene reported during the 2018 vapour sampling round were not considered to present a risk based on enRiskS' initial risk assessment completed as part of the DSI.
- Due to the exceedances of the soil vapour human health assessment criteria, Edge re-appointed a enRiskS to provide a Risk Assessment.
- Of the three analytes detected above assessment criteria in soil vapour (isopropanol, trichloroethene and bromodichloromethane), only isopropanol exceeded the enRiskS Site specific assessment criteria.
- Preliminary modelling of isopropanol soil vapour intrusion was undertaken by enRiskS which indicated a potentially unacceptable Hazard Index (> 1), so indoor air sampling was recommended.
- No exceedances of indoor assessment criteria for isopropanol was reported in any of the samples.
- Based on the soil, soil vapour and indoor air data, enRiskS found that there were no unacceptable risks to human health from soil vapour at the Site in its current layout (or by extension, the less sensitive land use of commercial/industrial).
- The Site in its current layout is considered suitable for commercial/industrial and high density residential use. Should any changes to the Site layout occur then an updated assessment of risk would be required.

Based upon the above conclusions, further assessment is not required at the Site.

9. Limitations

The findings of this Report are based on the proposals (Edge ref: ***20200047-P-01*** and ***20200047-P-03***). Edge performed the services in a manner consistent with the expected level of care and expertise exercised by those in the environmental profession.

This report has been prepared for: Victorian Distillery and Silos Owners Consortium; for the purpose of assessing the current status of the Site.

No other warranty, expressed or implied, is made as to the professional advice included in this report. This report is prepared in accordance with the scope of work and for the purpose outlined.

Although normal standards of professional practice have been applied, the methodology adopted and sources of information used by Edge are outlined in this report. Edge has made no independent verification of this information beyond the agreed scope of works and assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to Edge was false.

This report was prepared during June 2021 and is based on the conditions encountered and information reviewed at the time of preparation.

All conclusions and recommendations made in the report are the professional opinions of the Edge personnel involved with the project and, while normal checking of the accuracy of data has been conducted, Edge assumes no responsibility or liability for errors in data obtained from regulatory agencies or any other external sources, nor from occurrences outside the scope of this project.

10. References

Australian Standard 4482.1-2005 *Guide to the investigation and Sampling of Sites with Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds* (AS4482.1-2005).

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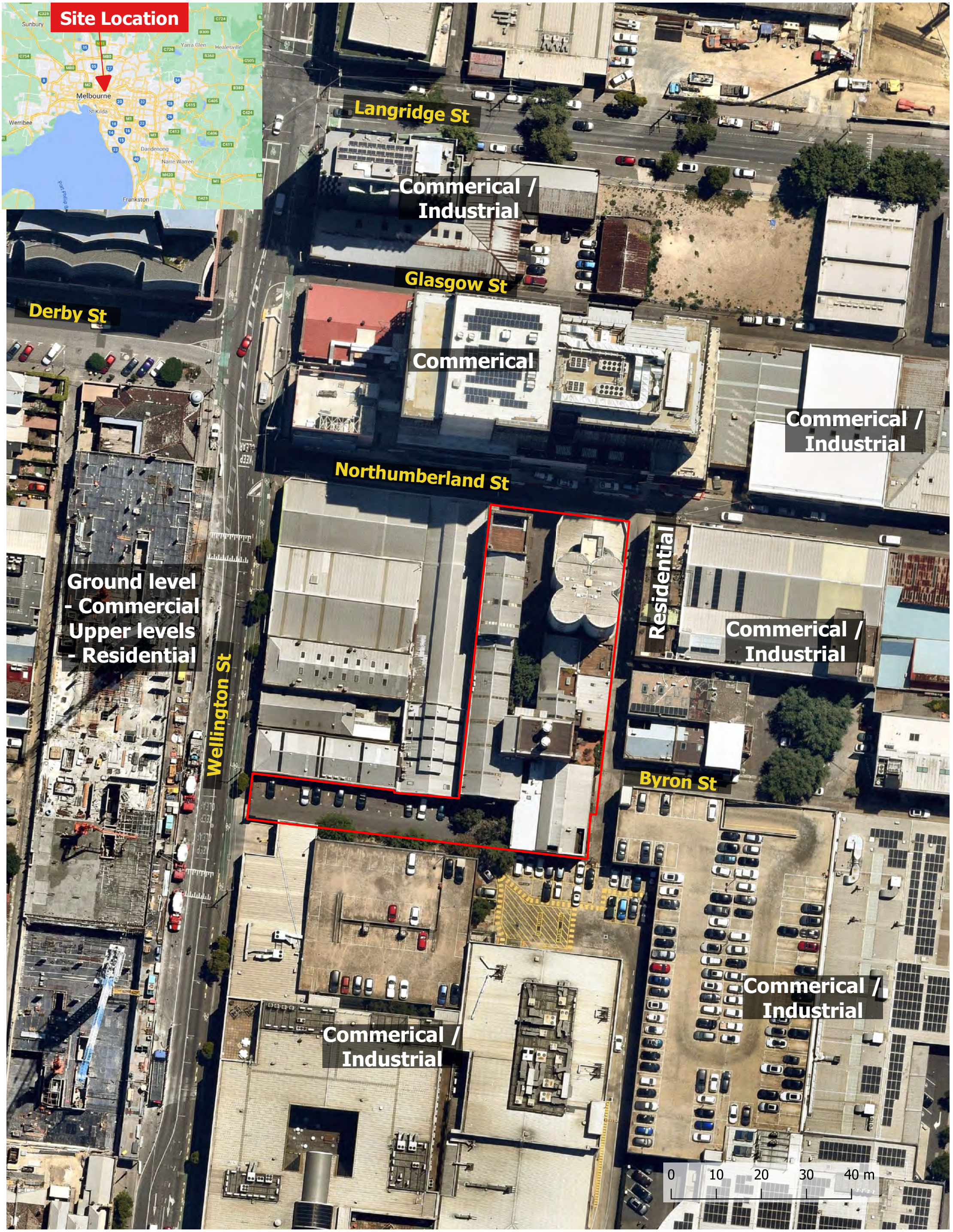
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United States Environment Protection Agency, Region 3, 6 and 9 – Regional Screening Levels (Industrial and Residential Sites), 2020 (USEPA RSLs).

Figures

Figure 1
Site Location and Surrounding Land Uses



Legend:

Site Boundary

GDA2020
MGA Zone 55

Edge Group Pty Ltd.
423 City Road
South Melbourne,
Victoria 3205
Phone: (03) 8625 9696
info@edgegroup.net.au

Site Location & Surrounding Land Uses
Victorian Distillery and Silos Owners Consortium
21 Northumberland & 26 Wellington Streets, Collingwood, Vic

A3	Drawn: ND	Date: 24/02/2021	Figure 1
	Rev.: 0	Project No.: 20200047	

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Figure 2
Site Layout



Legend:

- Site Boundary

Ground Floor Use

- 1 - Residential
- 2 - Commercial
- 3 - Foyer
- 4 - Parking
- 5 - Storage & Facilities

GDA2020
MGA Zone 55

Edge Group Pty Ltd.
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Victoria 3205
Phone: (03) 8625 9696
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Site Layout
Victorian Distillery and Silos Owners Consortium
21 Northumberland & 26 Wellington Streets, Collingwood, Vic

A3	Drawn: ND	Date: 24/02/2021	Figure 2
	Rev.: 0	Project No.: 20200047	

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Figure 3
Sample Locations



Legend:

- Site Boundary
- Indoor Air Sampling Locations
- Soil Vapour Bore
- Soil Vapour Pin

GDA2020
MGA Zone 55

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Sample Locations
Victorian Distillery and Silos Owners Consortium
21 Northumberland & 26 Wellington Streets, Collingwood, Vic

A3	Drawn: ND	Date: 08/06/2021	Figure 3
	Rev.: 0	Project No.: 20200047	

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Figure 4
Soil Vapour Assessment Criteria Exceedances



Analyte	SVP02	Concentration (µg/m³)
2-Propanol	7/10/20	26,000
	15/12/20	40,000
Trichloroethene	7/10/20	25

Analyte	SVP03	Concentration (µg/m³)
2-Propanol	7/10/20	6,300
	15/12/20	24,000
Bromodichloromethane	31/10/18	30

Analyte	SVP01	Concentration (µg/m³)
2-Propanol	7/10/20	20,000
	15/12/20	48,000

Criteria Key
USEPA RSLs Industrial Air
USEPA RSLs Residential Air
NEPM 213 Interim HILS – Residential A/B

Legend:
- Site Boundary
- Soil Vapour Bore
- Soil Vapour Pin

Ground Floor Use
- 1 - Residential
- 2 - Commercial
- 3 - Foyer
- 4 - Parking
- 5 - Storage & Facilities

Notes: Exceedance table shading reflects criteria in ***Appendix A*** tables

GDA2020 MGA Zone 55

Edge Group Pty Ltd.
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Soil Vapour Exceedances
Victorian Distillery and Silos Owners Consortium
21 Northumberland & 26 Wellington Streets, Collingwood, Vic

A3 | Drawn: ND | Date: 24/02/2021 | Rev.: 0 | Project No.: 20200047

Figure 4

R:\20200047\2017056\\20170561.qgs

Appendices

Appendix A
Soil Bore Logs

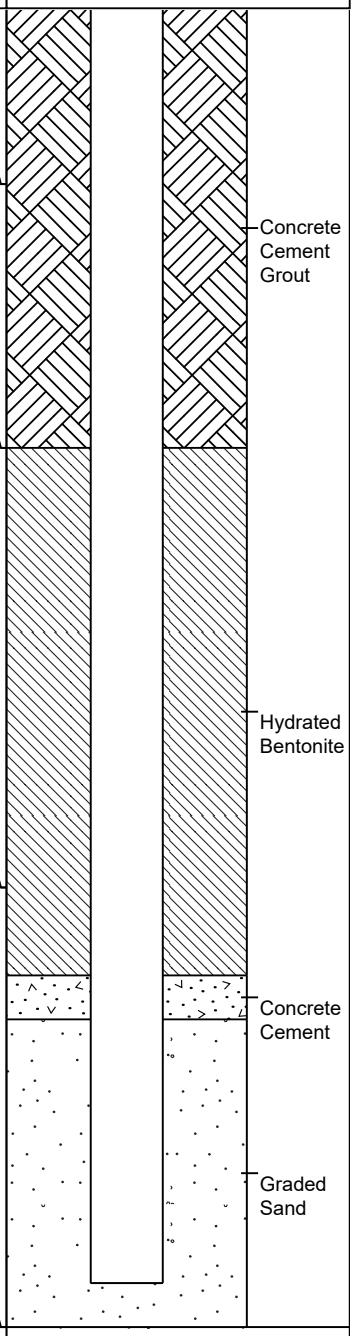
SOIL VAPOUR BORE SVB03

PROJECT NUMBER 20200047	**DRILLING COMPANY** Star Drilling	**COVER TYPE** Flushed Gatic
PROJECT NAME Vapour Risk Assessment	**DRILLER**	**COORD SYS**
CLIENT VDSOC	**DRILL RIG**	**SURFACE ELEVATION**
ADDRESS Collingwood, Victoria	**DRILLING METHOD** CC & HA	**WELL TOC**
DRILLING DATE 29/09/2020	**TOTAL DEPTH** 1.5 mbgl	**LOGGED BY** NV
LICENCE NO.	**BORE DIAMETER** 90 mm	**CHECKED BY**

COMPLETION	**CASING**	**SCREEN**

COMMENTS CC = Concrete Corer, HA = Hand Auger

Depth (m)	Drilling Method	Material Description	Samples	PID	Is Analysed?
0.1	CC	Concrete			
	HA	FILL: Greenish brown gravelly silty clay. Low plasticity, loose, dry, no odour. Minor fine to medium sub-angular gravel present.	SVB03-0.2	0.2	Y
0.4		CH - Silty CLAY: High plasticity, dark brown clay with light brown silt, soft, dry, no odour.	SVB03-0.5	0.1	N
0.7		CL - Silty CLAY: Medium plasticity, brown with black mottling, stiff, dry, no odour.	SVB03-1.0 FD01 FS01	0.5	Y
1		As above, moist.			
1.2		CL - Silty CLAY: Medium plasticity, light brown with orange, grey and black mottling, stiff, dry, no odour.	SVB03-1.5	0.3	N
1.5		End of Hole at 1.5 mbgl. Target depth reached.			



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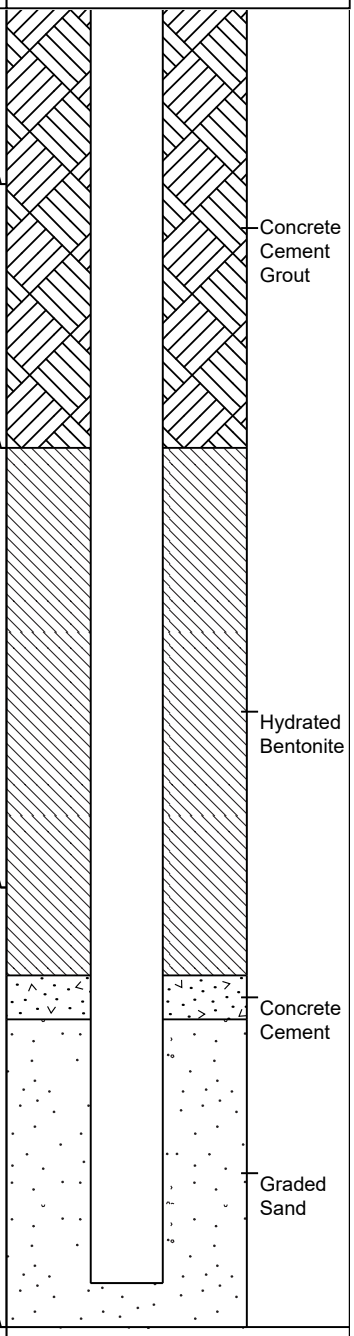
SOIL VAPOUR BORE SVB04

PROJECT NUMBER 20200047	**DRILLING COMPANY** Star Drilling	**COVER TYPE** Flushed Gatic
PROJECT NAME Vapour Risk Assessment	**DRILLER**	**COORD SYS**
CLIENT VDSOC	**DRILL RIG**	**SURFACE ELEVATION**
ADDRESS Collingwood, Victoria	**DRILLING METHOD** CC & HA	**WELL TOC**
DRILLING DATE 29/09/2020	**TOTAL DEPTH** 1.5 mbgl	**LOGGED BY** NV
LICENCE NO.	**BORE DIAMETER** 90 mm	**CHECKED BY**

COMPLETION	**CASING**	**SCREEN**

COMMENTS CC = Concrete Corer, HA = Hand Auger

Depth (m)	Drilling Method	Material Description	Samples	PID	Is Analysed?
0.1	CC	Concrete			
0.2	HA	FILL: Dark brown gravelly silt with light brown mottling. Well graded, sub-angular gravels with brick fragments and trace sands. Wet from CC.	SVB04-0.2	0.1	N
0.5		FILL: Brown gravelly silty clay, low plasticity, soft, dry, no odour. Minor small to medium sub-angular gravels with trace brick fragments present.	SVB04-0.5	0.3	Y
1		CH - Silty CLAY: High plasticity, brown, firm, dry, no odour.	SVB04-1.0	0.3	N
1.5		CH - Silty CLAY: High plasticity, light brown with olive mottling, stiff, dry, no odour.	SVB04-1.5	0.2	Y
		End of Hole at 1.5 mbgl. Target depth reached.			



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SOIL VAPOUR BORE SVB05

PROJECT NUMBER 20200047	**DRILLING COMPANY** Star Drilling	**COVER TYPE** Flushed Gatic
PROJECT NAME Vapour Risk Assessment	**DRILLER**	**COORD SYS**
CLIENT VDSOC	**DRILL RIG**	**SURFACE ELEVATION**
ADDRESS Collingwood, Victoria	**DRILLING METHOD** CC & HA	**WELL TOC**
DRILLING DATE 29/09/2020	**TOTAL DEPTH** 1.5 mbgl	**LOGGED BY** NV
LICENCE NO.	**BORE DIAMETER** 90 mm	**CHECKED BY**

COMPLETION	**CASING**	**SCREEN**

COMMENTS CC = Concrete Corer, HA = Hand Auger

Depth (m)	Drilling Method	Graphic Log	Material Description	Samples	PID	Is Analysed?	Well Installation
0.1	CC		Concrete				
0.2	HA		FILL: Brown gravelly sandy silt with light brown mottling, no odour. Minor small to medium sub-angular gravel with fine grained sand and brick fragments present. Moist from CC.	SVB05-0.2	0.1	N	Concrete Cement Grout
0.3							
0.4			FILL: Brown gravelly silty clay with light brown mottling, low plasticity, loose, dry, no odour. Minor sub-angular gravels and brick fragments present.				
0.5				SVB05-0.5	0.3	Y	
0.6			CL - Silty CLAY: Medium plasticity, light brown, stiff, dry, no odour.				
0.7							
0.8							Hydrated Bentonite
0.9							
1				SVB05-1.0	0.4	N	
1.1							Concrete Cement
1.2			CH - CLAY: High plasticity, light brown with black and grey mottling, soft, slightly moist, no odour.				
1.3							Graded Sand
1.4							
1.5				SVB05-1.5	0.4	Y	
			End of Hole at 1.5 mbgl. Target depth reached.				

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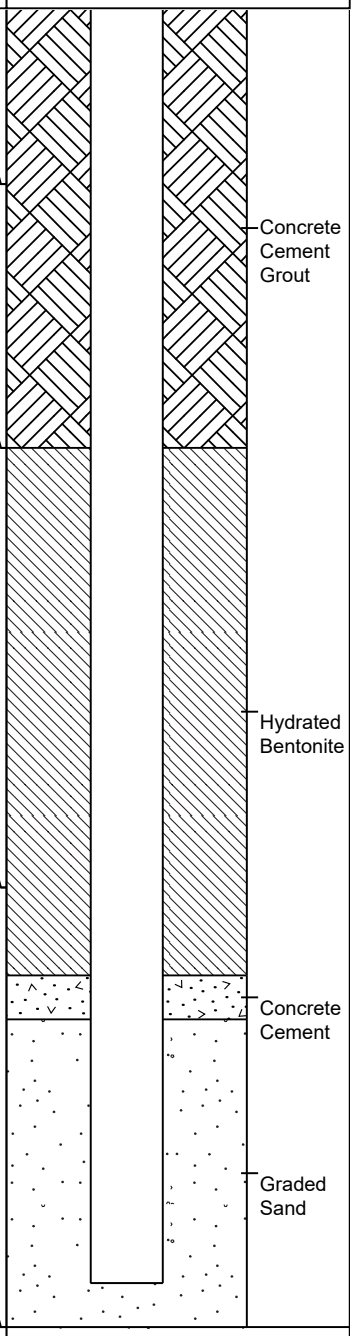
SOIL VAPOUR BORE SVB06

PROJECT NUMBER 20200047	**DRILLING COMPANY** Star Drilling	**COVER TYPE** Flushed Gatic
PROJECT NAME Vapour Risk Assessment	**DRILLER**	**COORD SYS**
CLIENT VDSOC	**DRILL RIG**	**SURFACE ELEVATION**
ADDRESS Collingwood, Victoria	**DRILLING METHOD** CC & HA	**WELL TOC**
DRILLING DATE 29/09/2020	**TOTAL DEPTH** 1.5 mbgl	**LOGGED BY** NV
LICENCE NO.	**BORE DIAMETER** 90 mm	**CHECKED BY**

COMPLETION	**CASING**	**SCREEN**

COMMENTS CC = Concrete Corer, HA = Hand Auger

Depth (m)	Drilling Method	Material Description	Samples	PID	Is Analysed?
0.1	CC	Concrete			
0.2	HA	FILL: Dark brown gravelly silty clay with orange mottling, soft, dry, no odour. Minor fine to medium sub-angular gravels, trace fine grained sand and brick fragments present.	SVB06-0.2	0.1	Y
0.4		CL - Silty CLAY: Medium plasticity, brown with orange mottling, soft, dry, no odour.	SVB06-0.5	0.1	N
0.8		CH - Silty CLAY: High plasticity, dark grey, soft, dry, no odour.	SVB06-1.0	0.3	N
1.2		CL - Silty CLAY: Medium plasticity, light brown with orange, grey and black mottling, stiff, dry, no odour.			
1.3		CH - Silty CLAY: High plasticity, light grey with minor dark grey and brown mottling, firm, dry, no odour.	SVB06-1.5 FD02 FS02	0.4	Y
1.5		End of Hole at 1.5 mbgl. Target depth reached.			



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SOIL VAPOUR BORE SVB07

PROJECT NUMBER 20200047	**DRILLING COMPANY** Star Drilling	**COVER TYPE** Flushed Gatic
PROJECT NAME Vapour Risk Assessment	**DRILLER**	**COORD SYS**
CLIENT VDSOC	**DRILL RIG**	**SURFACE ELEVATION**
ADDRESS Collingwood, Victoria	**DRILLING METHOD** CC & HA	**WELL TOC**
DRILLING DATE 29/09/2020	**TOTAL DEPTH** 0.75 mbgl	**LOGGED BY** NV
LICENCE NO.	**BORE DIAMETER** 90 mm	**CHECKED BY**

COMPLETION	**CASING**	**SCREEN**

COMMENTS CC = Concrete Corer, HA = Hand Auger

Depth (m)	Drilling Method	Graphic Log	Material Description	Samples	PID	Is Analysed?	Well Installation
0.1	CC		Concrete				Concrete Cement Grout
0.2	HA		FILL: Low plasticity. Dark brown, soft gravelly, silty, clay with light brown mottling. Minor fine to medium sub-angular gravel. Slightly moist, no odour. Brick fragments present.	SVB07-0.2	0.1	Y	
0.3							Hydrated Bentonite
0.4							
0.5				SVB07-0.5	0.2	Y	
0.6							Concrete Cement
0.7							Graded Sand
0.8			End of Hole at 0.75 mbgl. Refusal in fill on boulder.				
0.9							
1							
1.1							
1.2							
1.3							
1.4							
1.5							

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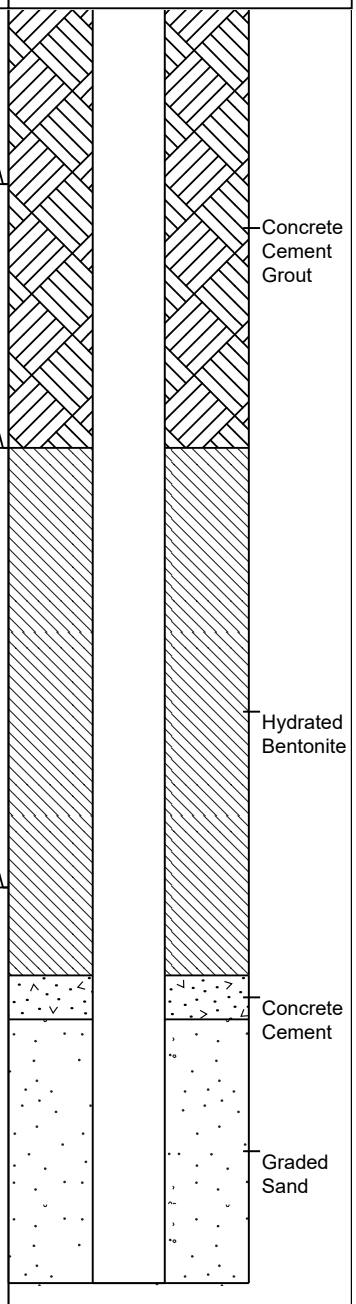
SOIL VAPOUR BORE SVB08

PROJECT NUMBER 20200047	**DRILLING COMPANY** Star Drilling	**COVER TYPE** Flushed Gatic
PROJECT NAME Vapour Risk Assessment	**DRILLER**	**COORD SYS**
CLIENT VDSOC	**DRILL RIG**	**SURFACE ELEVATION**
ADDRESS Collingwood, Victoria	**DRILLING METHOD** CC & HA	**WELL TOC**
DRILLING DATE 29/09/2020	**TOTAL DEPTH** 1.5 mbgl	**LOGGED BY** NV
LICENCE NO.	**BORE DIAMETER** 90 mm	**CHECKED BY**

COMPLETION	**CASING**	**SCREEN**

COMMENTS CC = Concrete Corer, HA = Hand Auger

Depth (m)	Drilling Method	Material Description	Samples	PID	Is Analysed?
0	CC	Asphalt			
0.1		FILL: Silty gravel; fine to large sub-angular gravel with brown silt and trace fine grained sand. Dry, no odour. Minor brick and concrete fragments.			
0.2	HA		SVB08-0.2	0.0	N
0.3		FILL: Dark brown gravelly, clayey, silt with minor low plasticity, soft clay and fine to medium sub-angular gravel. Dry, no odour. Inclusions of brick, concrete and glass fragments.			
0.4					
0.5			SVB08-0.5	0.2	Y
0.6					
0.7		OL - Clayey SILT: Low plasticity. Soft, light brown with pale brown mottling. Dry. No odour.			
0.8					
0.9					
1			SVB08-1.0	0.2	N
1.1					
1.2		CL - Silty CLAY: Low plasticity. Orange brown, stiff clay with light brown mottling. Dry, no odour.			
1.3					
1.4					
1.5			SVB08-1.5	0.2	Y
		End of Hole at 1.5 mbgl. Target depth reached.			



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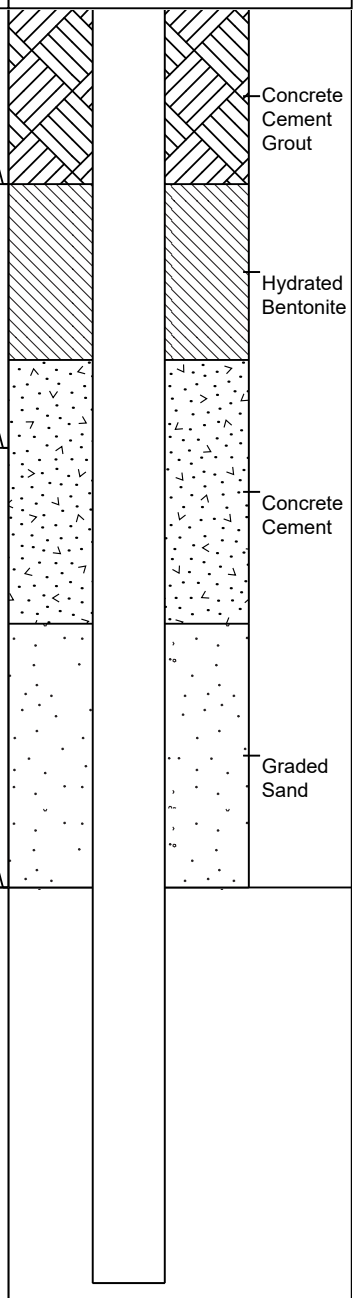
SOIL VAPOUR BORE SVB09

PROJECT NUMBER 20200047	**DRILLING COMPANY** Star Drilling	**COVER TYPE** Flushed Gatic
PROJECT NAME Vapour Risk Assessment	**DRILLER**	**COORD SYS**
CLIENT VDSOC	**DRILL RIG**	**SURFACE ELEVATION**
ADDRESS Collingwood, Victoria	**DRILLING METHOD** CC & HA	**WELL TOC**
DRILLING DATE 29/09/2020	**TOTAL DEPTH** 1.0 mbgl	**LOGGED BY** NV
LICENCE NO.	**BORE DIAMETER** 90 mm	**CHECKED BY**

COMPLETION	**CASING**	**SCREEN**

COMMENTS CC = Concrete Corer, HA = Hand Auger

Depth (m)	Drilling Method	Material Description	Samples	PID	Is Analysed?
0.1	CC	Concrete			
0.2	HA	FILL: Pale brown, gravelly, clayey silt with dark brown, low plasticity, soft clay and fine to medium sub-angular gravel. Minor brick fragments.	SVB09-0.2	0.1	Y
0.4		FILL: Brown green, low plasticity gravelly, silty clay with light grey mottling. Fine sub-angular gravel. Brick fragments.	SVB09-0.5	0.4	Y
0.7		OL - Silty CLAY - Medium plasticity. Dark brown clay with green/grey mottling. Moist to wet, no odour. Groundwater encountered at 0.95 mbgl.			
1		End of Hole at 1.0 mbgl in natural.	SVB09-1.0	0.3	N



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SOIL VAPOUR BORE SVB10

PROJECT NUMBER 20200047	**DRILLING COMPANY** Star Drilling	**COVER TYPE** Flushed Gatic
PROJECT NAME Vapour Risk Assessment	**DRILLER**	**COORD SYS**
CLIENT VDSOC	**DRILL RIG**	**SURFACE ELEVATION**
ADDRESS Collingwood, Victoria	**DRILLING METHOD** CC & HA	**WELL TOC**
DRILLING DATE 29/09/2020	**TOTAL DEPTH** 1.5 mbgl	**LOGGED BY** NV
LICENCE NO.	**BORE DIAMETER** 90 mm	**CHECKED BY**

COMPLETION	**CASING**	**SCREEN**

COMMENTS CC = Concrete Corer, HA = Hand Auger

Depth (m)	Drilling Method	Graphic Log	Material Description	Samples	PID	Is Analysed?	Well Installation
0.1	CC		Concrete				
0.2	HA		FILL: Dark brown / grey gravelly silty clay. Soft, low plasticity. Minor fine sub-angular gravels with brick and concrete fragments. No odour.	SVB10-0.2	0.0	Y	Concrete Cement Grout
0.3							
0.4			FILL: Brown, medium plasticity gravelly, silty, clay with brown / orange mottling. Firm. Trace, fine sub-angular gravel. Brick fragments. Dry. No odour.				
0.5				SVB10-0.5	0.1	N	
0.6							
0.7							
0.8							Hydrated Bentonite
0.9			FILL: Gravelly, clayey silt. Dark brown silt with minor low plasticity, soft clay and trace fine to medium sub-angular gravel. Brick and glass fragments. No odour.				
1				SVB10-1.0	0.1	N	
1.1							Concrete Cement
1.2							
1.3			FILL: Silty clay. Dark grey, high plasticity, soft clay with glass fragments. No odour.				Graded Sand
1.4							
1.5			End of Hole at 1.0 mbgl in natural.	SVB10-1.5	0.3	N	

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Appendix B
Soil Vapour Monitoring Event Log Sheets

Project Name	Vic Distillery VRA	Canister Flow Control Rate:	40 ml/min
Project number	20200047	Notes:	
Field Staff	SO, NV		SVB10 +1 inside parking garage LPG gas bottle present
Date	6-10-2020		
Site Location	Collingwood		
Weather Conditions	overcast		
Temperature/Humidity/Pressure	Day Start: 10.9°C 57% 1025.1 hPa	Day End: 9.7°C 43% 1023.0 hPa	

① Bore ID	② Can S/N.	③ Flow Control Serial No.	④ Helium in Shroud (SVBs) ppm	⑥ Helium in SVB	PRE-SAMPLE Purge/Leak Test: ⑤ PID Purge Peak/ Stable (ppm)		⑤ PID Duration (secs)	⑦ Leak Test (Pass/ Fail)	SAMPLING: ⑧ Initial Canister Vacuum	⑧ Start Time	⑧ Finish Time	⑧ Duration (mins)	⑨ Final Canister Vacuum	POST-SAMPLE General Gases Screen: ⑩ CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	Air Press. (mb)
SVB10	[illegible]	34	9999990	13500	19.9	8.5	180	Pass	-30	09:08	09:38	30	-5	0.2	8.6	0.3	91.0	0	0	-0.12
SVB01	IL0044	156	9999990	2900	14.6	7.6	180	Pass	-30	10:49	11:48	59	-5	0.2	6.9	5.6	87.4	0	0	-0.02
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]0132	156	" "	" "	" "	" "	" "	" "	" "	-30	10:49	11:48	59	-5	0.2	6.9	5.6	87.4	0	0	-0.02
SVB07	IL0006	53	9999990	2040	13.6	6.6	180	Pass	-30	11:22	11:48	26	-5	0.0	0.0	20.4	79.5	0	0	0.02
SVB09	IL0165	115	9999990	2760	13.7	6.3	180	Pass	-30	12:56	13:59	63	-5	0.0	0.1	15.7	84.2	0	0	-0.09
FB01	IL0109	115	" "	2760	"	"	"	Pass	-30	12:56	13:59	63	-5	0.0	0.1	15.7	84.2	0	0	-0.09
SVB03	IL0096	70	9999990	290	5.6	4.5	180	Pass	-30	15:23	16:09	46	-5	0.0	2.6	17.2	80.1	0	0	-0.05
SVB06	IL0128	75	9999990	1920	10.0	8.4	180	Pass	-30	16:13	16:43	30	-5	0.1	2.4	5.8	91.7	87	1	0.02
	[illegible]	[illegible]																		

Document Title	Document Number	Approved By	Version Date	Page
Active Soil Vapour Sampling Log	IMSF22		5 October 2020	1 of

UNCONTROLLED WHEN PRINTED

Project Name	Vic Distillery VRA	Canister Flow Control Rate:	40 ml/min
Project number	20200047	Notes:	SVB05 downhole pressure rose to ~-10 and dropped to ~-6 by end of sampling
Field Staff	NV		
Date	7-10-2020		
Site Location	Collingwood		
Weather Conditions	overcast		
Temperature/Humidity/Pressure	Day Start: 9.6°C 1019hPa 89%	Day End:	12.6°C 1017.3hPa 82%

Bore ID	Can S/N.	Flow Control Serial No.	Helium in Shroud (SVBs)	Helium in SVB	PRE-SAMPLE Purge/Leak Test				SAMPLING					POST-SAMPLE General Gases Screen						
					PID Purge Peak/ Stable (ppm)		PID Duration (secs)	Leak Test (Pass/ Fail)	Initial Canister Vacuum	Start Time	Finish Time	Duration (mins)	Final Canister Vacuum	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	Air Press. (mb)
SVB05	1L0070	128	9999990	2850	2.0	0.3	180	Pass	-30	08:19	09:14	55	-10	10.4	0.1	7.3	82.3	45	0	0.14
SVB04	1L0232	10	9999990	2610	6.5	4.8	180	Pass	-30	09:10	09:40	30	-5	0.0	0.0	17.9	82.0	0	0	0.05
SVB03	1L0197	147	9999990	710	6.3	5.1	180	Pass	-30	10:19	10:49	30	-5	0.0	1.0	19.8	79.2	0	0	0.06
SVB02	1L0091	110	9999990	1040	1.8	1.6	140	Pass	-30	10:55	11:26	31	-5	0.0	1.0	19.8	79.2	0	0	0.08
SVB01	1L0229	18	9999990	990	1.7	0.9	180	Pass	-30	12:03	12:29	26	-5	0.0	1.4	19.5	79.1	0	0	0.09

Project Name	Vic Distillery SUME 2	Canister Flow Control Rate:	80ml/min
Project number	20200047	Notes/Comments	
Field Staff	NV SH		
Date	15.12.20		
Site Location	Collingwood		
Weather Conditions	Sunny		
Temperature/Humidity	Day Start: 25°C 46.0% Day End: 20.7°C 77%		

should this be for helium instead?, when using helium rather than IPA

Bore ID	Initial PID Water Check (Max) (30 seconds)	Ambient Air / Helium Concentration	PRE-SAMPLE Purge/Leak Test				Cannister & Gauge Details		SAMPLING						POST-SAMPLE General Gases Screen							
			PID Purge Peak/ Stable (ppm)	PID Duration (secs)	Leak Test (Pass/ Fail)		Cannister Serial Number	Flow Controller Serial ID	Initial Canister Vacuum	Initial Downhole Vacuum	Start Time	Finish Time	Duration (mins)	Final Canister Vacuum	Final Downhole Vacuum	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	relative press	Air Pressure (mb)
SVB 01	0.0	140	1.6	180			1L0052	83	-30	0	08:28	08:41	13	-5	0	0.1	7.6	5.9	86.4	1	0	0.02	1,011
SVB 07	0.0	10	0.8	0.7	180		1L0022	37	-30	0	09:09	09:21	12	-5	0	0.0	0.1	20.2	79.5	0	0	0.00	1,011
SVB 04	0.0	40	7.2	2.5	180		1L0210	178	-30	1	09:55	10:12	17	-5	0	0.0	1.5	18.9	79.6	0	0	0.17	1,011
SVB 06	0.0	40	0.4	0.1	180		140061	004	-30	[illegible]2	10:10	10:26	16	-5	3	0.0	4.3	2.1	43.6	2	0	0.09	1,012
SVB 02	3.4	10	2.5	1.5	180		1L0097	184	-30	0	11:06	11:31	25	-5	0	0.0	0.8	19.5	79.6	0	0	-0.05	1,011
FD01	3.9	10	2.5	1.5	180		1L0057	184	-30	0	11:06	11:31	25	-5	0	0.0	0.8	19.6	79.6	0	0	-0.05	1,011
SVB 05	0.0	20	0.5	0.5	180		1L0130	149	-30	[illegible]1	13:11	13:27	16	-5	1	0.0	0.2	17.5	82.3	1	0	0.03	1,010
SVB 03	2.5	20	0.3	0.2	180		1L0174	107	-30	0	13:35	13:59	24	-5	0	0.0	1.0	19.9	79.1	0	0	-0.02	1,012
FD01	2.5	20	0.3	0.2	180		1L0055	107	-30	0	13:35	13:59	24	-5	0	0.0	1.0	19.9	79.1	0	0	-0.02	1,012
											:	:										

Put key in Ex.

Project Name	Vic Distillery SVME2	Canister Flow Control Rate:	80ml/min
Project number	2020C0472	Notes/Comments	
Field Staff	NV + SH	SVB03 + SVB02 water intrusion	
Date	14-12-2020	Not sampled/analysed.	
Site Location	Collingwood		
Weather Conditions	~~Hot~~ Sunny 34°C		
Temperature/Humidity	Day Start: 24.~~3~~°C 40%	Day End: 32.5C 25%	

Add helium columns

Dup + Split on SVP02 SVP03

Shorten column.

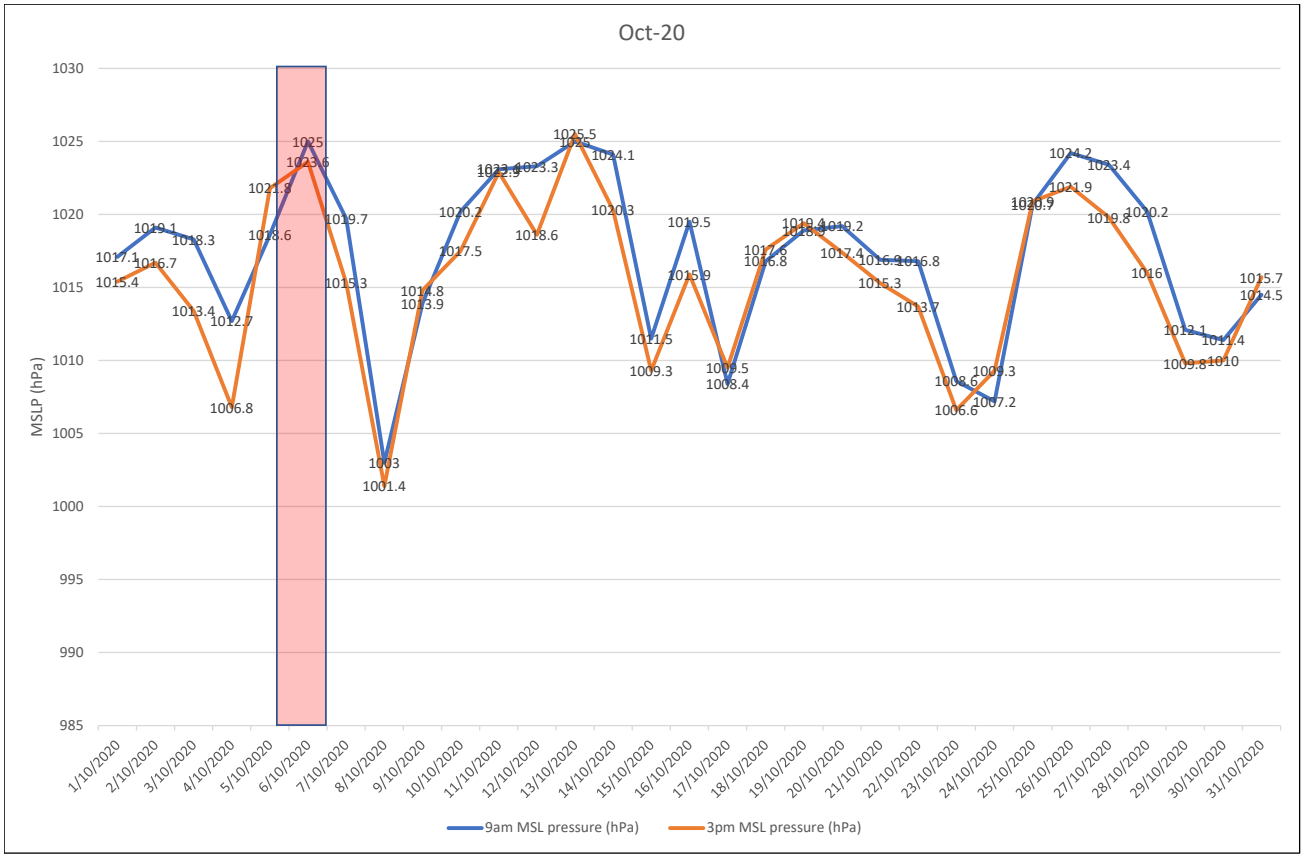
	PRE-SAMPLE Purge/Leak Test				Cannister & Gauge Details		SAMPLING							POST-SAMPLE General Gases Screen							
Bore ID	Initial PID Water Check (Max) (30 seconds)	Ambient PID / Helium Concentration	PID Purge Peak/ Stable (ppm)		PID Duration (secs)	Leak Test (Pass/ Fail)	Cannister Serial Number	Flow Controller Serial ID	Initial Canister Vacuum	Initial Downhole Vacuum	Start Time	Finish Time	Duration (mins)	Final Canister Vacuum	Final Downhole Vacuum	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	Air Pressure (mb)
SVB 08	7.2	130	71.2	~~218~~	~~255~~ 180		IL0223	23	-30	0	09:53	10:11	18	-5	0	0.0	3.5	16.6	79.9	0	0	0.8, 1014
SVB 10	0.0	40	32.6	12.5	180		IL0221	73	-30	0	11:14	11:29	15	-5	~~1~~	0.1	9.7	0.2	90.6	0	0	0.10, 1013
SVB 09	0.0	50	25.7	10.5	180		IL0023	FC172	-30	0	12:04	12:18	14	-5	0	0.0	0.9	11.5	87.6	0	0	0.07, 1012
SVB 03	1.9	30	52.3	–	~~180~~		IL0056	~~180~~	-30	~~1~~5	13:33	–	–	–	–	–	–	–	–	–	–	–
SVB 05	0.0	20	12.8	1.0	60		IL0091	~~1.25~~	-29	6	14:26	15:05	~~31~~	~~-10~~	3	0.4	0.0	7.9	81.6	6	0	0.10, 1012
											:	:										
											:	:										
											:	:										
											:	:										
											:	:										

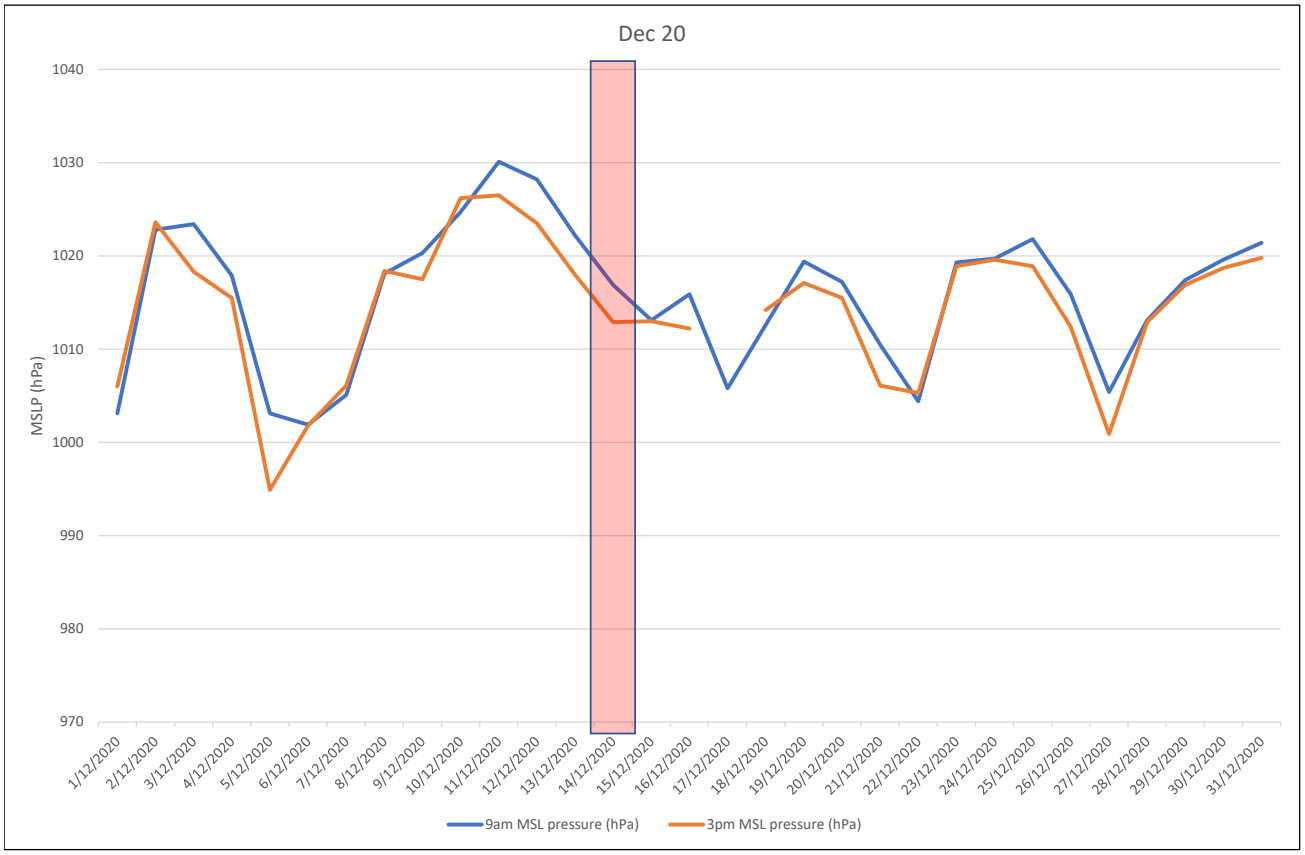
SVB03 → IL0056 not sampled due to water in the line.

* SVB03 Vac alarm for PID pre-sample

* SVB05 Vac alarm for PID pre sample after stabilising

Appendix C
SVME Mean Sea Level Pressure Data


Oct-20
MSLP (hPa)
9am MSL pressure (hPa)
3pm MSL pressure (hPa)


Dec 20
MSLP (hPa)
9am MSL pressure (hPa)
3pm MSL pressure (hPa)

Appendix D
Calibration Certificates

Equipment Calibration Form
MiniRAE 3000 PID

Enqip #: 12659

Company: Edge Group Pty Ltd

Consultant: Scott Davis

PO #: 20200047

Certificate #: 18308

INSTRUMENT IDENTIFICATION

Model Number: PGM 7320

Serial Number: 592-908941

INSPECTION RECORD

Flow Rate: PASS

Buzzer: PASS

Date & Time: PASS

CALIBRATION DETAILS

Parameters	Standard	Result
Air	0.0 ppm	0.0 ppm
Isobutylene	100.0 ppm	100.0 ppm

Alarm Limits: **High** 100 **Low** 50

Calibration Successful: YES

Calibrated By: Doyle Schapendonk **Test Date:** 5/10/2020

116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | W www.enqip.com.au

Equipment Calibration Form
Gascheck 3000

Enqip #: 12659
Company: Edge Group Pty Ltd
Consultant: Scott Davis
PO #: 20200047
Certificate #: 18309

UNIT IDENTIFICATION

Model Number: Gascheck 3000
Serial Number: 10-01794
Unit Type: Gas Detector

INSPECTION RECORD/CONDITION REPORT

Batteries Checked:	PASS	**Physical Damage:**	PASS
Audio And Visual Alarms:	PASS	**Probes Blockage:**	PASS
Backlight Functioning:	PASS		

CALIBRATION DETAILS

Sensor	Span Gas	Value	Reading
Thermistor	Air	0 ppm	0 ppm
	Helium	5040 ppm	5,040 ppm

Calibration Successful: YES

Calibrated By: Doyle Schapendonk **Test Date:** 5/10/2020

116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | W www.enqip.com.au

Equipment Calibration Form
GA5000

Enqip #: 12659
Company: Edge Group Pty Ltd
Consultant: Scott Davis
PO #: 20200047
Certificate #: 18310

INSTRUMENT IDENTIFICATION

Model Number: GA5KA0F-100
Serial Number: G506198
Instrument Type: GTI - GA5000

INSPECTION RECORD

Date & Time: PASS
Flow Rate: 629 mL/min

CALIBRATION DETAILS

Sensor	Standard	Reading	Traceability Lot #
CH_4	N_2 UHP	0 %	1294035
	2.5 %	2.5 %	1221397
	60 %	60.0 %	1327131
CO_2	5 %	5.0 %	1281802
	40 %	40.0 %	1327131
O_2	N_2 UHP	0 %	1294035
	20.9 %	20.9 %	N/A
CO	N_2 UHP	0 ppm	1294035
	100 ppm	100 ppm	1221397
H_2S	N_2 UHP	0 ppm	1294035
	25 ppm	25 ppm	1323006

Calibration Successful: YES

Calibrated By: Doyle Schapendonk **Test Date:** 5/10/2020

enqip
116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | W www.enqip.com.au

Equipment Calibration Form
MiniRAE 3000 PID

Enqip #: 13071

Company: Edge Group Pty Ltd

Consultant: Scott Davis

PO #: 20200047

Certificate #: 19161

INSTRUMENT IDENTIFICATION

Model Number: PGM 7320

Serial Number: 592-909694

INSPECTION RECORD

Flow Rate: PASS

Buzzer: PASS

Date & Time: PASS

CALIBRATION DETAILS

Parameters	Standard	Result
Air	0.0 ppm	0.0 ppm
Isobutylene	100.0 ppm	100.0 ppm

Alarm Limits: **High** 100 **Low** 50

Calibration Successful: YES

Calibrated By: Doyle Schapendonk **Test Date:** 14/12/2020

enqip
116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | W www.enqip.com.au

Equipment Calibration Form
Gascheck 3000

Enqip #: 13071
Company: Edge Group Pty Ltd
Consultant: Scott Davis
PO #: 20200047
Certificate #: 19162

UNIT IDENTIFICATION

Model Number: Gascheck 3000
Serial Number: 15-01752
Unit Type: Gas Detector

INSPECTION RECORD/CONDITION REPORT

Batteries Checked:	PASS	**Physical Damage:**	PASS
Audio And Visual Alarms:	PASS	**Probes Blockage:**	PASS
Backlight Functioning:	PASS		

CALIBRATION DETAILS

Sensor	Span Gas	Value	Reading
Thermistor	Air	0 ppm	0 ppm
	Helium	5040 ppm	5,040 ppm

Calibration Successful: YES

Calibrated By: Doyle Schapendonk **Test Date:** 14/12/2020

116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | W www.enqip.com.au

Equipment Calibration Form
GA5000

Enqip #: 13071
Company: Edge Group Pty Ltd
Consultant: Scott Davis
PO #: 20200047
Certificate #: 19163

INSTRUMENT IDENTIFICATION

Model Number: GA5KA0F-100
Serial Number: GA500129
Instrument Type: GTI - GA5000

INSPECTION RECORD

Date & Time: PASS
Flow Rate: 651 mL/min

CALIBRATION DETAILS

Sensor	Standard	Reading	Traceability Lot #
CH_4	N_2 UHP	0 %	1333040
	2.5 %	2.5 %	1221397
	60 %	60.0 %	1327131
CO_2	5 %	5.0 %	1318188
	40 %	40.0 %	1327131
O_2	N_2 UHP	0 %	1333040
	20.9 %	20.9 %	N/A
CO	N_2 UHP	0 ppm	1333040
	100 ppm	100 ppm	1221397
H_2S	N_2 UHP	0 ppm	1333040
	25 ppm	25 ppm	1323006

Calibration Successful: YES

Calibrated By: Doyle Schapendonk **Test Date:** 14/12/2020

enqip
116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | W www.enqip.com.au

Appendix E
Indoor Air Sampling Sheet

Project Name	Vic Distillery – Indoor Air Sampling	Notes/Comments	
Project number	2020047	Baro. press:	1017 hPa @ 08:28
Field Staff	Mikki & Scott	Wind speed/dire:	12 kph NW @ 08:28
Date	26/5/21	Rainfall, past 24hrs	5 mm
Site Location	21 Northumberland St, Collingwood		
Weather Conditions	Cool, windy		
Temperature/Humidity	Day Start: 13.4°C / 60%	Day End: 13.7°C / 56%	

Location ID	Location Description	Canister Serial No.	Flow Control Serial No.	PRE-SAMPLE			SAMPLING			POST-SAMPLE	
				Canister Vacuum ~~(mm Hg)~~ in Hg	Flow Control Vacuum ~~(mm Hg)~~ in Hg	OK to use? (Y/N)	Start Time 26/05/2021	Finish Time 27/05/2021	Duration (mins)	Canister Vacuum ~~(mm Hg)~~ in Hg	Comments
OAS	Outside 5 BDF The Germinating Warehouse	6L0069	1019 ~~mm~~	-30	-30	Y	08:42	11:45	1623	-11	
IAS01	Garage (Parking 59)	6L0011	215	-30	-30	Y	09:03	11:17	1574	0	
IAS02	Unit 15 (Ground floor)	6L0040	88	-30	-30	Y	09:33	11:34	1561	-6	
IAS03	Unit 14 (Ground floor)	6L0032	150	-30	-30	Y	10:06	11:38	1532	-5	
IAS04	} Unit 13 (Second	6L0029	155	-30	-30	Y	10:20	11:40	1520 HC 27/5	-9	
FS01	} floor)	6L0021	307 ~~170~~	-30	-30	Y	10:20	11:40	1520	-14.5	+ALS
IAS05	Unit 12 (first floor)	6L0009	135	-30	-30	Y	10:50	11:24	1474	-12	
IAS06	Garage (corner of Northumberland & Byron Streets)	6L0042	207	-30	-30	Y	11:05	11:29	1464	0	
							:	:			
							:	:			

Appendix F
Building Survey Forms

Example Indoor Air Building Survey & Sampling Form

Preparer's name: Mikki Nada Date: 26/05/2021

Preparer's affiliation: Edge Group Phone #: 0420415019

Site Name: Vic Distillery Job #: 20200047

Part I - Occupants

Building Address: Unit 12

Property Contact: Thomas Arkell Owner / Renter / other: _____

Contact's Phone: home ( )_____ work ( )_____

mobile ( ) 0435189732

of Building occupants: Children under age 5 _____ Children age 6-15 _____

Adults 2

Part II – Building Characteristics

Building type: residential / multi-family residential / office / retail / commercial / industrial

Describe building: Converted warehouse Year constructed: 1862

converted to residential in 1995

Sensitive population: day care / nursing home / hospital / school / other (specify): Residents

Number of floors below grade: 0 (full basement / crawl space / slab on grade)

Number of floors at or above grade: 3

Building dimensions (sketch if complex): _____m (width) _____m (length)

~~Depth of basement below grade surface: _____ m Basement size: _____ m²~~

~~Basement floor construction: concrete / dirt / floating / stone / other (specify): _____~~

Foundation walls: poured concrete / concrete blocks / stone / other (specify) bluestone

~~Basement sump present? Yes / No~~

~~Sump pump? Yes / No Water in sump? Yes / No~~

Type of heating system (circle all that apply):

electric radiator wood (including slow combustion) gas heating (flued and unflued)

reverse cycle air conditioning (including ducted) evaporative cooling system

oil heater electric column heater

other (specify): _____

Type of ventilation system (circle all that apply):

second floor

central air conditioning (including ducted) mechanical fans bathroom ventilation

fans individual air conditioning units kitchen range hood fan outside air intake

first floor windows & doors

other (specify): _____

Type of fuel utilised (circle all that apply):

stove

Natural gas / electric / fuel oil / wood / solar / other (specify):_____

~~Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*~~

Septic system? *Yes / Yes (but not used) / No*

Other underground services that connect to building (specify):___Gas_____

Type of ground cover outside of building: grass / concrete / asphalt / paving / other (specify) _____

Sub-slab vapour/moisture barrier in place? *Yes / No*

Type of barrier: ___unknown_____

Part III - Outside Contaminant Sources

Known contaminated site in vicinity (specify, including distance): _____-

___None_____

Other stationary sources nearby (service stations, emission stacks, etc.):

___None_____

Heavy vehicular traffic nearby (or other mobile sources):
Wellington Street
Northumberland St -> ongoing construction

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Description/Location(s)	Removed (Yes / No / NA)
Petrol storage cans		
Petrol-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products	✓ first and second floors	
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume ✓	second floor	
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery ✓	first floor	
New carpeting / flooring ✓	upstairs (second floor)	NA
Hobbies - glues, paints, etc.		

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes* / (*No*) How often? _____

Last time someone smoked in the building? _____ hours / *days* *ago*

Does the building have an attached garage directly connected to living space?

Yes / (*No*)

If so, is a car usually parked in the garage? *Yes* / *No*

Are petrol-powered equipment or cans of petrol/fuels stored in the garage? *Yes* / *No*

Do the occupants of the building have their clothes dry cleaned? *Yes* / (*No*)

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? *Yes* / (*No*)

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes* / *No*

Have any pesticides/herbicides been applied around the building or in the yard?

Yes / (No)

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes* / (*No*) If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes* / (*No*)

If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: _____ Phone number: ( ) _____

Company: _____

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Were "Instructions for Occupants" followed? *Yes* / *No*

If not, describe modifications: _____

Sample locations (floor, room):

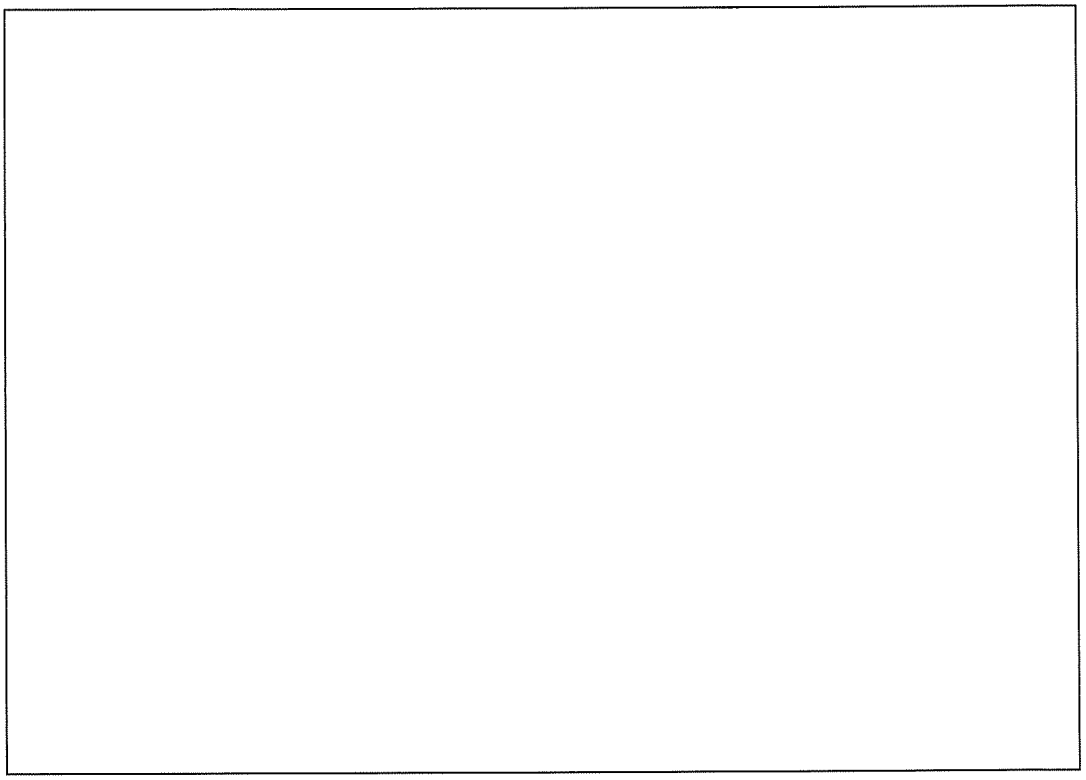
Sampling Data

Sample #	Location	Analytical Method	Sample Volume	Sample Time	Sample Date	Sampler Type	Relative Humidity (%)	Ambient Temp (°C)

Type of field instrument used (include summary of results):

_____

Sketch of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? (Yes) / No

Describe the general weather conditions: Rainy

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Example Indoor Air Building Survey & Sampling Form

Preparer's name: Mikki Nada Date: 26/05/2021

Preparer's affiliation: Edge Group Phone #: 0420415019

Site Name: Vic Distillery Job #: 20200047

Part I - Occupants

Building Address: Unit 13

Property Contact: Penny Johnson (Owner) / Renter / other: _____

Contact's Phone: home ( )_____ work ( )_____

mobile ( ) 0431335699

of Building occupants: Children under age 5 _____ Children age 6-15 _____

Adults 1 + 1 (visitor)

Part II – Building Characteristics

Building type: (residential) / multi-family residential / office / retail / commercial / industrial

Describe building: Converted warehouse Year constructed: 1862
converted to residential in 1998

Sensitive population: day care / nursing home / hospital / school / (other) (specify):
Residents

Number of floors below grade: 0 (full basement / crawl space / (slab on grade))

Number of floors at or above grade: 3 + roof

Building dimensions (sketch if complex): _____m (width) _____m (length)

~~Depth of basement below grade surface: _____ m Basement size: _____ m^2~~

~~Basement floor construction: concrete / dirt / floating / stone / other (specify): _____~~

Foundation walls: poured concrete / concrete blocks / stone / (other) (specify) bluestone

~~Basement sump present? *Yes / No*~~

~~Sump pump? *Yes / No* Water in sump? *Yes / No*~~

Type of heating system (circle all that apply):

electric radiator wood (including slow combustion) gas heating (flued and unflued)

reverse cycle air conditioning (including ducted) evaporative cooling system

oil heater electric column heater

other (specify): Electric heating fixture

Type of ventilation system (circle all that apply):

central air conditioning (including ducted) mechanical fans bathroom ventilation (first floor)

fans individual air conditioning units kitchen range hood fan (second floor) outside air intake (windows & doors, roof garden)

other (specify): _____

Type of fuel utilised (circle all that apply):

Natural gas (stove) / electric / fuel oil / wood / solar / other (specify): _____

~~Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*~~

Septic system? *Yes / Yes (but not used) / No*

Other underground services that connect to building (specify): Gas

Type of ground cover outside of building: grass / concrete / asphalt / paving / other (specify) brick tiles

Sub-slab vapour/moisture barrier in place? *Yes / No*

Type of barrier: unknown

Part III - Outside Contaminant Sources

Known contaminated site in vicinity (specify, including distance): None

Other stationary sources nearby (service stations, emission stacks, etc.): None

Heavy vehicular traffic nearby (or other mobile sources):

Wellington Street

Northumberland Street (ongoing construction)

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Description/Location(s)	Removed (Yes / No / NA)
Petrol storage cans		
Petrol-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

Part V – Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No (- House guest) How often? _____

Last time someone smoked in the building? This morning hours / days ago

possibly in the roof garden

Does the building have an attached garage directly connected to living space?

Yes / (No)

If so, is a car usually parked in the garage? Yes / No

Are petrol-powered equipment or cans of petrol/fuels stored in the garage? Yes / No

Do the occupants of the building have their clothes dry cleaned? Yes / (No)

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? *Yes* / (No)

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard?

Yes / (No)

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes* / (No) If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes* / (No)

If yes, when _____ and where? _____

Painting using oils

Part VI – Sampling Information

Sample Technician: _____ Phone number: ( ) _____

Company: _____

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Sample locations (floor, room):

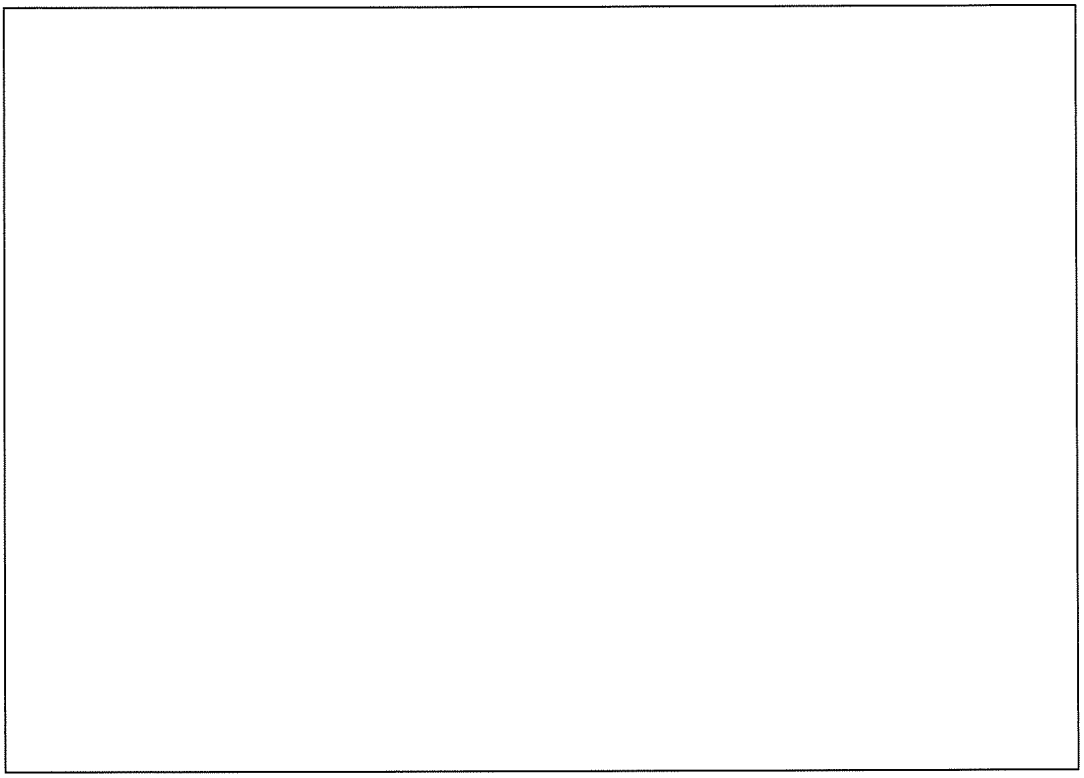
Sampling Data

Sample #	Location	Analytical Method	Sample Volume	Sample Time	Sample Date	Sampler Type	Relative Humidity (%)	Ambient Temp (°C)

Type of field instrument used (include summary of results):

_____

Sketch of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? *Yes / No*

Describe the general weather conditions: Rainy

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Example Indoor Air Building Survey & Sampling Form

Preparer's name: Mikki Nada Date: 26/05/2021

Preparer's affiliation: Edge Group Phone #: 0420415019

Site Name: Vic Distillery Job #: 20200047

Part I - Occupants

Building Address: Unit 14

Property Contact: Mary Kelleher Owner / Renter / other: _____

Contact's Phone: home ( )_____ work ( )_____

mobile ( ) ~~0417322774~~ 0414733854

of Building occupants: Children under age 5 _____ Children age 6-15 _____

Adults 1

Part II – Building Characteristics

Building type: residential / multi-family residential / office / retail / commercial / industrial

Describe building: Converted warehouse Year constructed: 1862 converted to residential in 1998

Sensitive population: day care / nursing home / hospital / school / other (specify): Residents

Number of floors below grade: 0 (full basement / crawl space / slab on grade)

Number of floors at or above grade: 4

Building dimensions (sketch if complex): _____m (width) _____m (length)

~~Depth of basement below grade surface: _____ m Basement size: _____ m^2~~

~~Basement floor construction: concrete / dirt / floating / stone / other (specify): _____~~

Foundation walls: poured concrete / concrete blocks / stone / other (specify) bluestone

~~Basement sump present? Yes / No~~

~~Sump pump? Yes / No Water in sump? Yes / No~~

Type of heating system (circle all that apply):

electric radiator wood (including slow combustion) gas heating (flued and unflued)

reverse cycle air conditioning (including ducted) evaporative cooling system

oil heater electric column heater

other (specify): hydronic

Type of ventilation system (circle all that apply):

central air conditioning (including ducted) mechanical fans bathroom ventilation fans individual air conditioning units kitchen range hood fan outside air intake

other (specify): upstairs ground floor windows & doors

Type of fuel utilised (circle all that apply):

stove

Natural gas / electric / fuel oil / wood / solar / other (specify):_____

~~Are the basement walls or floor sealed with waterproof paint or epoxy coatings? Yes / No~~

Septic system? *Yes / Yes (but not used) / No*

Other underground services that connect to building (specify): Gas

Type of ground cover outside of building: grass / concrete / asphalt / paving / other (specify) brick tiles

Sub-slab vapour/moisture barrier in place? *Yes / No*

Type of barrier: Recent renovation (~6 years)

unknown

Part III - Outside Contaminant Sources

Known contaminated site in vicinity (specify, including distance): None

Other stationary sources nearby (service stations, emission stacks, etc.): None

Heavy vehicular traffic nearby (or other mobile sources):

Wellington Street

Northumberland Street → ongoing construction

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Description/Location(s)	Removed (Yes / No / NA)
Petrol storage cans		
Petrol-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

All have been removed.

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes* / (*No*) How often? _____

Last time someone smoked in the building? _____ hours / *days* *ago*

Does the building have an attached garage directly connected to living space?

(*Yes*) / *No*

If so, is a car usually parked in the garage? (*Yes*) / *No*

Car not being used

Are petrol-powered equipment or cans of petrol/fuels stored in the garage? *Yes* / (*No*)

Do the occupants of the building have their clothes dry cleaned? *Yes* / (*No*)

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? *Yes* / (*No*)

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard?

Yes / (No)

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes* / (*No*) If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes* / (*No*)

If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: _____ Phone number: ( ) _____

Company: _____

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Sample locations (floor, room):

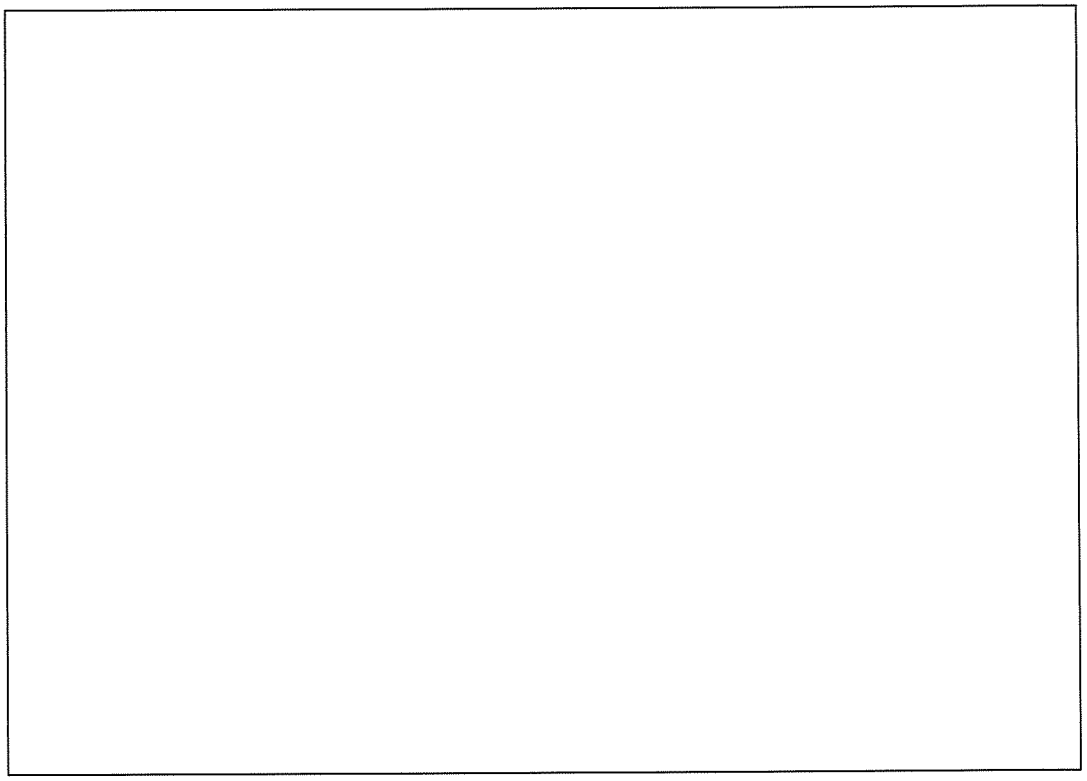
Sampling Data

Sample #	Location	Analytical Method	Sample Volume	Sample Time	Sample Date	Sampler Type	Relative Humidity (%)	Ambient Temp (°C)

Type of field instrument used (include summary of results):

_____

Sketch of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? (Yes) / No

Describe the general weather conditions: Rainy

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Example Indoor Air Building Survey & Sampling Form

Preparer's name: Mikki Nada Date: 26/05/2021

Preparer's affiliation: Edge Group Phone #: 0420 415 019

Site Name: Vic Distillery Job #: 20200047

Part I - Occupants

Building Address: Unit 15

Property Contact: Trish Loughran Owner / Renter / other: Visitor

Contact's Phone: home ( )_____ work ( )_____

mobile ( ) 0438263335

of Building occupants: Children under age 5 _____ Children age 6-15 _____

Adults 1

Part II – Building Characteristics

Building type: residential / multi-family residential / office / retail / commercial / industrial

Describe building: Converted warehouse Year constructed: 1862

converted to resi in 1998

Sensitive population: day care / nursing home / hospital / school / other (specify): residents

Number of floors below grade: 0 (full basement / crawl space / slab on grade)

Number of floors at or above grade: 3

Building dimensions (sketch if complex): _____m (width) _____m (length)

~~Depth of basement below grade surface: _____ m Basement size: _____ m²~~

~~Basement floor construction: concrete / dirt / floating / stone / other (specify): _____~~

Foundation walls: poured concrete / concrete blocks / stone / other (specify) bluestone

~~Basement sump present? *Yes / No*~~

~~Sump pump? *Yes / No* Water in sump? *Yes / No*~~

Type of heating system (circle all that apply):

electric radiator wood (including slow combustion) gas heating (flued and unflued)

reverse cycle air conditioning (including ducted) evaporative cooling system

oil heater electric column heater

other (specify): _____

Kitchen is on the first floor

Type of ventilation system (circle all that apply):

central air conditioning (including ducted) mechanical fans

fans individual air conditioning units kitchen range hood fan

other (specify): Split system

exhaust fan

bathroom ventilation

outside air intake

doors and windows

Type of fuel utilised (circle all that apply):

Natural gas / electric / fuel oil / wood / solar / other (specify):_____

~~Are the basement walls or floor sealed with waterproof paint or epoxy coatings? Yes / No~~

Septic system? *Yes / Yes (but not used) /* No

Other underground services that connect to building (specify): Gas

Type of ground cover outside of building: grass / concrete / asphalt / paving / other (specify) brick tiles

Sub-slab vapour/moisture barrier in place? *Yes* / *No*

Type of barrier: unknown

Part III - Outside Contaminant Sources

Known contaminated site in vicinity (specify, including distance): _____-
None

Other stationary sources nearby (service stations, emission stacks, etc.):
None

Heavy vehicular traffic nearby (or other mobile sources):

Wellington ~~Road~~ Street

Northumberland St → construction going on

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

All currently stored in the garage / workshop

Potential Sources	Description/Location(s)	Removed (Yes / No / NA)
Petrol storage cans		
Petrol-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		No
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

Mineral turpentine, WD-40 (aerosol)

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes* / (No) How often? _____

Last time someone smoked in the building? _____ hours / *days* *ago*

Does the building have an attached garage directly connected to living space?

(Yes) / *No*

If so, is a car usually parked in the garage? (Yes) / *No*

Are petrol-powered equipment or cans of petrol/fuels stored in the garage? *Yes* / (No)

Do the occupants of the building have their clothes dry cleaned? *Yes* / (No)

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? *Yes* / (No)

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard?

Yes / (No)

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes* / (No) If yes, when? _____

Has painting or staining been done in the building in the last 6 months? (Yes) / *No*

If yes, when _____ and where? _____

Acrylic artist paints - non-toxic

Part VI – Sampling Information

Sample Technician: _____ Phone number: ( ) _____

Company: _____

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Sample locations (floor, room):

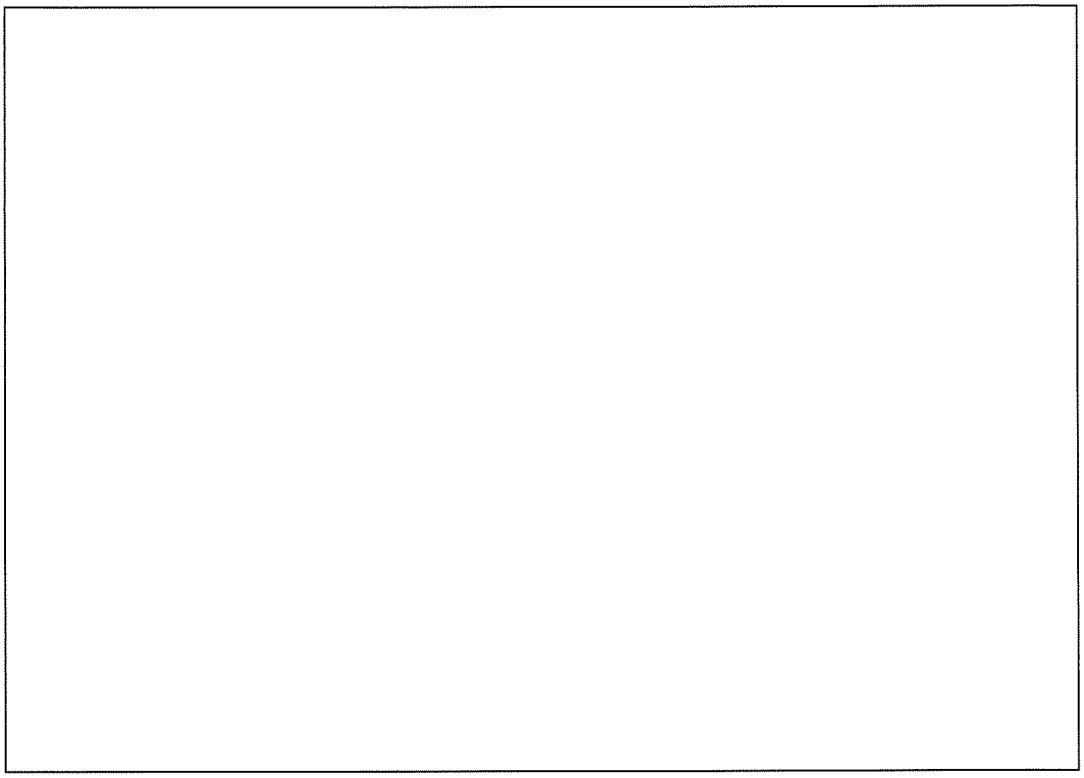
Sampling Data

Sample #	Location	Analytical Method	Sample Volume	Sample Time	Sample Date	Sampler Type	Relative Humidity (%)	Ambient Temp (°C)

Type of field instrument used (include summary of results):

_____

Sketch of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? (Yes) / *No*

Describe the general weather conditions: Rainy

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Appendix G
Soil Analytical Results Tables

Appendix G
Table G1 - Soil Analytical Results

Edge Project No.: 20200047
Soil Vapour Risk Assessment
21 Northumberland and 26 Wellington Streets
Collingwood

									Sample Code	EM2017150001	EM2017150003	EM2017150006	EM2017150008	EM2017150010	EM2017150012	EM2017150013	EM2017150016
									Field ID	SVB03-0.2	SVB03-1.0	SVB04-0.5	SVB04-1.5	SVB05-0.5	SVB05-1.5	SVB06-0.2	SVB06-1.5
									Date	29/09/2020	29/09/2020	29/09/2020	29/09/2020	29/09/2020	29/09/2020	30/09/2020	30/09/2020
									Depth (mbgl)	0.2	1.0	0.5	1.5	0.5	1.5	0.2	1.5
			NEPM 2013						USEPA (Nov 2020)								
			HSLs[1]				Management Limits[2]		RSLs[3]								
Analyte	Unit	LOR	Res A/B		Comm/Ind D		Res/Parkland	Comm/Ind	Resident Soil THQ=1.0	Industrial Soil THQ=1.0								
			0-1m	1-2m	0-1m	1-2m												
BTEX																		
Benzene	mg/kg	0.2	0.7	1	4	6	*	*	1.2	5.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5	480	*	*	*	*	*	4,900	47,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5	*	*	*	*	*	*	5.8	25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5	*	*	*	*	*	*	650	2,800	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5	110	310	*	*	*	*	580	2,500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	*	*	*	*	*	*	*	*	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TRH																		
F1 (C_6-C_{10} minus BTEX)	mg/kg	10	50	90	310	480	*	*	*	*	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C_{10}-C_{16} minus Naphthalene)	mg/kg	50	280	*	*	*	*	*	*	*	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C_{16}-C_{34})	mg/kg	100	*	*	*	*	3,500	5,000	*	*	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C_{34}-C_{40})	mg/kg	100	*	*	*	*	10,000	10,000	*	*	<100	<100	<100	<100	<100	<100	<100	<100
C_6-C_{10} Fraction	mg/kg	10	*	*	*	*	800	800	*	*	<10	<10	<10	<10	<10	<10	<10	<10
>C_{10}-C_{16} Fraction	mg/kg	50	*	*	*	*	1,000	1,000	*	*	<50	<50	<50	<50	<50	<50	<50	<50
>C_{10}-C_{40} Fraction (Sum)	mg/kg	50	*	*	*	*	*	*	*	*	<50	<50	<50	<50	<50	<50	<50	<50
Chlorinated Hydrocarbons																		
1,1,1,2-tetrachloroethane	mg/kg	0.5	*	*	*	*	*	*	2	8.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	mg/kg	0.5	*	*	*	*	*	*	8,100	36,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	mg/kg	0.5	*	*	*	*	*	*	0.6	2.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	mg/kg	0.5	*	*	*	*	*	*	1.1	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloroethane	mg/kg	0.5	*	*	*	*	*	*	3.6	16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloroethene	mg/kg	0.5	*	*	*	*	*	*	230	1,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	mg/kg	0.5	*	*	*	*	*	*	0.0051	0.11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	mg/kg	0.5	*	*	*	*	*	*	0.0053	0.064	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	mg/kg	0.5	*	*	*	*	*	*	0.46	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	mg/kg	0.5	*	*	*	*	*	*	2.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	0.5	*	*	*	*	*	*	1,600	23,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	mg/kg	0.5	*	*	*	*	*	*	0.29	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	mg/kg	0.5	*	*	*	*	*	*	19	86	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	mg/kg	0.5	*	*	*	*	*	*	0.65	2.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	mg/kg	0.5	*	*	*	*	*	*	8.3	39	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	mg/kg	5	*	*	*	*	*	*	14,000	57,000	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	mg/kg	0.5	*	*	*	*	*	*	0.32	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	mg/kg	5	*	*	*	*	*	*	110	460	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,2-dichloroethene	mg/kg	0.5	*	*	*	*	*	*	160	2,300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-dichloropropene	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	mg/kg	0.5	*	*	*	*	*	*	24	99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	mg/kg	0.5	*	*	*	*	*	*	1.2	5.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	mg/kg	0.5	*	*	*	*	*	*	0.94	6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	mg/kg	0.5	*	*	*	*	*	*	24	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.5	*	*	*	*	*	*	70	300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	mg/kg	5	*	*	*	*	*	*	0.059	1.7	<5	<5	<5	<5	<5	<5	<5	<5

Notes
1 - NEPM 2013 - CLAY soil type Health Screening Levels for vapour intrusion: Residential A/B, Commercial/Industrial D.
2 - NEPM 2013 - Management Limits for Fine Soil: Residential / Parkland/Public Open Space, Commercial/Industrial.
3 - USEPA (Nov 2020) - Regional Screening Levels: Resident, Industrial Soils THQ= 1.0.
mbgl = metres below ground level
LOR = Limit of Reporting
<## Result is less than the laboratory LOR
* No Relevant Criteria

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Soil Vapour Risk Assessment
21 Northumberland and 26 Wellington Streets
Collingwood

									Sample Code	EM2017150001	EM2017150003	EM2017150006	EM2017150008	EM2017150010	EM2017150012	EM2017150013	EM2017150016
									Field ID	SVB03-0.2	SVB03-1.0	SVB04-0.5	SVB04-1.5	SVB05-0.5	SVB05-1.5	SVB06-0.2	SVB06-1.5
									Date	29/09/2020	29/09/2020	29/09/2020	29/09/2020	29/09/2020	29/09/2020	30/09/2020	30/09/2020
									Depth (mbgl)	0.2	1.0	0.5	1.5	0.5	1.5	0.2	1.5
			NEPM 2013						USEPA (Nov 2020)								
			HSLs[1]				Management Limits[2]		RSLs[3]								
Analyte	Unit	LOR	Res A/B		Comm/Ind D		Res/Parkland	Comm/Ind	Resident Soil THQ=1.0	Industrial Soil THQ=1.0								
			0-1m	1-2m	0-1m	1-2m												
Halogenated Benzenes																		
1,2,3-trichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	63	930	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	24	110	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	1,800	9,300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	2.6	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	mg/kg	0.5	*	*	*	*	*	*	1,600	23,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	mg/kg	0.5	*	*	*	*	*	*	1,600	23,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	mg/kg	0.5	*	*	*	*	*	*	290	1,800	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	mg/kg	0.5	*	*	*	*	*	*	280	1,300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Halogenated Hydrocarbons																		
1,2-dibromoethane	mg/kg	0.5	*	*	*	*	*	*	0.036	0.16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	mg/kg	5	*	*	*	*	*	*	6.8	30	<5	<5	<5	<5	<5	<5	<5	<5
Dichlorodifluoromethane	mg/kg	5	*	*	*	*	*	*	87	370	<5	<5	<5	<5	<5	<5	<5	<5
Iodomethane	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	mg/kg	5	*	*	*	*	*	*	23,000	350,000	<5	<5	<5	<5	<5	<5	<5	<5
Inorganics																		
Moisture Content	%	1	*	*	*	*	*	*	*	*	**20.2**	**23.5**	**11.7**	**26**	**14.1**	**24.3**	**16.4**	**24**
MAH																		
1,2,4-trimethylbenzene	mg/kg	0.5	*	*	*	*	*	*	300	1,800	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	mg/kg	0.5	*	*	*	*	*	*	270	1,500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	mg/kg	0.5	*	*	*	*	*	*	1,900	9,900	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	mg/kg	0.5	*	*	*	*	*	*	3,900	58,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	mg/kg	0.5	*	*	*	*	*	*	3,800	24,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p-isopropyltoluene	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	mg/kg	0.5	*	*	*	*	*	*	7,800	120,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	mg/kg	0.5	*	*	*	*	*	*	6,000	35,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	mg/kg	0.5	*	*	*	*	*	*	7,800	120,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAH																		
Naphthalene	mg/kg	1	5	*	*	*	*	*	2	8.6	<1	<1	<1	<1	<1	<1	<1	<1
Solvents																		
Methyl Ethyl Ketone	mg/kg	5	*	*	*	*	*	*	27,000	190,000	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (MBK)	mg/kg	5	*	*	*	*	*	*	200	1,300	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	mg/kg	5	*	*	*	*	*	*	33,000	140,000	<5	<5	<5	<5	<5	<5	<5	<5
Carbon disulfide	mg/kg	0.5	*	*	*	*	*	*	770	3,500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	mg/kg	5	*	*	*	*	*	*	910	3,800	<5	<5	<5	<5	<5	<5	<5	<5
TPH																		
C_6-C_9 Fraction	mg/kg	10	*	*	*	*	*	*	*	*	<10	<10	<10	<10	<10	<10	<10	<10
C_{10}-C_{14} Fraction	mg/kg	50	*	*	*	*	*	*	*	*	<50	<50	<50	<50	<50	<50	<50	<50
C_{15}-C_{28} Fraction	mg/kg	100	*	*	*	*	*	*	*	*	<100	<100	<100	<100	<100	<100	<100	<100
C_{29}-C_{36} Fraction	mg/kg	100	*	*	*	*	*	*	*	*	<100	<100	<100	<100	<100	<100	<100	<100
C_{10}-C_{36} Fraction (Sum)	mg/kg	50	*	*	*	*	*	*	*	*	<50	<50	<50	<50	<50	<50	<50	<50
VOCs																		
cis-1,4-Dichloro-2-butene	mg/kg	0.5	*	*	*	*	*	*	0.0074	0.032	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-Dichloro-2-butene	mg/kg	0.5	*	*	*	*	*	*	0.0074	0.032	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	mg/kg	0.5	*	*	*	*	*	*	7.7	36	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes
1 - NEPM 2013 - CLAY soil type Health Screening Levels for vapour intrusion: Residential A/B, Commercial/Industrial D.
2 - NEPM 2013 - Management Limits for Fine Soil: Residential / Parkland/Public Open Space, Commercial/Industrial.
3 - USEPA (Nov 2020) - Regional Screening Levels: Resident, Industrial Soils THQ= 1.0.
mbgl = metres below ground level
LOR = Limit of Reporting
<## Result is less than the laboratory LOR
* No Relevant Criteria

										Sample Code	EM2017150017	EM2017150018	EM2017150020	EM2017150022	EM2017150023	EM2017150024	EM2017150026
										Field ID	SVB07-0.2	SVB07-0.5	SVB08-0.5	SVB08-1.5	SVB09-0.2	SVB09-0.5	SVB10-0.2
										Date	30/09/2020	30/09/2020	30/09/2020	30/09/2020	30/09/2020	30/09/2020	30/09/2020
										Depth (mbgl)	0.2	0.5	0.5	1.5	0.2	0.5	0.2
			NEPM 2013								USEPA (Nov 2020)						
			HSLs[1]				Management Limits[2]				RSLs[3]						
Analyte	Unit	LOR	Res A/B		Comm/Ind D		Res/Parkland	Comm/Ind			Resident Soil THQ=1.0	Industrial Soil THQ=1.0						
			0-1m	1-2m	0-1m	1-2m												
BTEX																		
Benzene	mg/kg	0.2	0.7	1	4	6	*	*			1.2	5.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5	480	*	*	*	*	*			4,900	47,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5	*	*	*	*	*	*			5.8	25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5	*	*	*	*	*	*			*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5	*	*	*	*	*	*			650	2,800	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5	110	310	*	*	*	*			580	2,500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	*	*	*	*	*	*			*	*	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TRH																			
F1 (C_6-C_{10} minus BTEX)	mg/kg	10	50	90	310	480	*	*			*	*	<10	<10	<10	<10	<10	<10	<10
F2 (>C_{10}-C_{16} minus Naphthalene)	mg/kg	50	280	*	*	*	*	*			*	*	<50	<50	70	<50	<50	<50	<50
F3 (>C_{16}-C_{34})	mg/kg	100	*	*	*	*	3,500	5,000			*	*	150	420	3,470	120	<100	<100	160
F4 (>C_{34}-C_{40})	mg/kg	100	*	*	*	*	10,000	10,000			*	*	<100	<100	730	<100	<100	<100	<100
C_6-C_{10} Fraction	mg/kg	10	*	*	*	*	800	800			*	*	<10	<10	<10	<10	<10	<10	<10
>C_{10}-C_{16} Fraction	mg/kg	50	*	*	*	*	1,000	1,000			*	*	<50	<50	70	<50	<50	<50	<50
>C_{10}-C_{40} Fraction (Sum)	mg/kg	50	*	*	*	*	*	*			*	*	150	420	4,270	120	<50	<50	160
Chlorinated Hydrocarbons																			
1,1,1,2-tetrachloroethane	mg/kg	0.5	*	*	*	*	*	*			2	8.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	mg/kg	0.5	*	*	*	*	*	*			8,100	36,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	mg/kg	0.5	*	*	*	*	*	*			0.6	2.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	mg/kg	0.5	*	*	*	*	*	*			1.1	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloroethane	mg/kg	0.5	*	*	*	*	*	*			3.6	16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloroethene	mg/kg	0.5	*	*	*	*	*	*			230	1,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	mg/kg	0.5	*	*	*	*	*	*			*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	mg/kg	0.5	*	*	*	*	*	*			0.0051	0.11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	mg/kg	0.5	*	*	*	*	*	*			0.0053	0.064	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	mg/kg	0.5	*	*	*	*	*	*			0.46	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	mg/kg	0.5	*	*	*	*	*	*			2.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	0.5	*	*	*	*	*	*			1,600	23,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2-dichloropropane	mg/kg	0.5	*	*	*	*	*	*			*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	mg/kg	0.5	*	*	*	*	*	*			0.29	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	mg/kg	0.5	*	*	*	*	*	*			19	86	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	mg/kg	0.5	*	*	*	*	*	*			0.65	2.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorodibromomethane	mg/kg	0.5	*	*	*	*	*	*			8.3	39	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	mg/kg	5	*	*	*	*	*	*			14,000	57,000	<5	<5	<5	<5	<5	<5	<5
Chloroform	mg/kg	0.5	*	*	*	*	*	*			0.32	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	mg/kg	5	*	*	*	*	*	*			110	460	<5	<5	<5	<5	<5	<5	<5
cis-1,2-dichloroethene	mg/kg	0.5	*	*	*	*	*	*			160	2,300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-dichloropropene	mg/kg	0.5	*	*	*	*	*	*			*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	mg/kg	0.5	*	*	*	*	*	*			24	99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	mg/kg	0.5	*	*	*	*	*	*			1.2	5.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	mg/kg	0.5	*	*	*	*	*	*			0.94	6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	mg/kg	0.5	*	*	*	*	*	*			24	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.5	*	*	*	*	*	*			70	300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	mg/kg	0.5	*	*	*	*	*	*			*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	mg/kg	5	*	*	*	*	*	*			0.059	1.7	<5	<5	<5	<5	<5	<5	<5

Notes
1 - NEPM 2013 - CLAY soil type Health Screening Levels for vapour intrusion: Residential A/B, Commercial/Industrial D.
2 - NEPM 2013 - Management Limits for Fine Soil: Residential / Parkland/Public Open Space, Commercial/Industrial.
3 - USEPA (Nov 2020) - Regional Screening Levels: Resident, Industrial Soils THQ= 1.0.
mbgl = metres below ground level
LOR = Limit of Reporting
<## Result is less than the laboratory LOR
* No Relevant Criteria

Appendix G
Table G1 - Soil Analytical Results

Edge Project No.: 20200047
Soil Vapour Risk Assessment
21 Northumberland and 26 Wellington Streets
Collingwood

Analyte	Unit	LOR	NEPM 2013 HSLs[1] Res A/B 0-1m	NEPM 2013 HSLs[1] Res A/B 1-2m	NEPM 2013 HSLs[1] Comm/Ind D 0-1m	NEPM 2013 HSLs[1] Comm/Ind D 1-2m	NEPM 2013 Management Limits[2] Res/Parkland	NEPM 2013 Management Limits[2] Comm/Ind	USEPA (Nov 2020) RSLs[3] Resident Soil THQ=1.0	USEPA (Nov 2020) RSLs[3] Industrial Soil THQ=1.0	EM2017150017 SVB07-0.2 30/09/2020 0.2	EM2017150018 SVB07-0.5 30/09/2020 0.5	EM2017150020 SVB08-0.5 30/09/2020 0.5	EM2017150022 SVB08-1.5 30/09/2020 1.5	EM2017150023 SVB09-0.2 30/09/2020 0.2	EM2017150024 SVB09-0.5 30/09/2020 0.5	EM2017150026 SVB10-0.2 30/09/2020 0.2
Halogenated Benzenes																	
1,2,3-trichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	63	930	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	24	110	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	1,800	9,300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	mg/kg	0.5	*	*	*	*	*	*	2.6	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	mg/kg	0.5	*	*	*	*	*	*	1,600	23,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	mg/kg	0.5	*	*	*	*	*	*	1,600	23,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	mg/kg	0.5	*	*	*	*	*	*	290	1,800	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	mg/kg	0.5	*	*	*	*	*	*	280	1,300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Halogenated Hydrocarbons																	
1,2-dibromoethane	mg/kg	0.5	*	*	*	*	*	*	0.036	0.16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	mg/kg	5	*	*	*	*	*	*	6.8	30	<5	<5	<5	<5	<5	<5	<5
Dichlorodifluoromethane	mg/kg	5	*	*	*	*	*	*	87	370	<5	<5	<5	<5	<5	<5	<5
Iodomethane	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	mg/kg	5	*	*	*	*	*	*	23,000	350,000	<5	<5	<5	<5	<5	<5	<5
Inorganics																	
Moisture Content	%	1	*	*	*	*	*	*	*	*	**20.6**	**13.6**	**17.2**	**17.8**	**16.9**	**21.4**	**20.1**
MAH																	
1,2,4-trimethylbenzene	mg/kg	0.5	*	*	*	*	*	*	300	1,800	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	mg/kg	0.5	*	*	*	*	*	*	270	1,500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	mg/kg	0.5	*	*	*	*	*	*	1,900	9,900	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	mg/kg	0.5	*	*	*	*	*	*	3,900	58,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	mg/kg	0.5	*	*	*	*	*	*	3,800	24,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p-isopropyltoluene	mg/kg	0.5	*	*	*	*	*	*	*	*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-butylbenzene	mg/kg	0.5	*	*	*	*	*	*	7,800	120,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	mg/kg	0.5	*	*	*	*	*	*	6,000	35,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-butylbenzene	mg/kg	0.5	*	*	*	*	*	*	7,800	120,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAH																	
Naphthalene	mg/kg	1	5	*	*	*	*	*	2	8.6	<1	<1	<1	<1	<1	<1	<1
Solvents																	
Methyl Ethyl Ketone	mg/kg	5	*	*	*	*	*	*	27,000	190,000	<5	<5	<5	<5	<5	<5	<5
2-hexanone (MBK)	mg/kg	5	*	*	*	*	*	*	200	1,300	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	mg/kg	5	*	*	*	*	*	*	33,000	140,000	<5	<5	<5	<5	<5	<5	<5
Carbon disulfide	mg/kg	0.5	*	*	*	*	*	*	770	3,500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	mg/kg	5	*	*	*	*	*	*	910	3,800	<5	<5	<5	<5	<5	<5	<5
TPH																	
C_6-C_9 Fraction	mg/kg	10	*	*	*	*	*	*	*	*	<10	<10	<10	<10	<10	<10	<10
C_{10}-C_{14} Fraction	mg/kg	50	*	*	*	*	*	*	*	*	<50	<50	**70**	<50	<50	<50	<50
C_{15}-C_{28} Fraction	mg/kg	100	*	*	*	*	*	*	*	*	<100	**310**	**1,940**	<100	<100	<100	<100
C_{29}-C_{36} Fraction	mg/kg	100	*	*	*	*	*	*	*	*	<100	**180**	**2,080**	<100	<100	<100	<100
C_{10}-C_{36} Fraction (Sum)	mg/kg	50	*	*	*	*	*	*	*	*	<50	**490**	**4,090**	<50	<50	<50	<50
VOCs																	
cis-1,4-Dichloro-2-butene	mg/kg	0.5	*	*	*	*	*	*	0.0074	0.032	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-Dichloro-2-butene	mg/kg	0.5	*	*	*	*	*	*	0.0074	0.032	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	mg/kg	0.5	*	*	*	*	*	*	7.7	36	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes
1 - NEPM 2013 - CLAY soil type Health Screening Levels for vapour intrusion: Residential A/B, Commercial/Industrial D.
2 - NEPM 2013 - Management Limits for Fine Soil: Residential / Parkland/Public Open Space, Commercial/Industrial.
3 - USEPA (Nov 2020) - Regional Screening Levels: Resident, Industrial Soils THQ= 1.0.
mbgl = metres below ground level
LOR = Limit of Reporting
<## Result is less than the laboratory LOR
* No Relevant Criteria

Appendix G
Table G2 - Soil RPD Results

Edge Project No.: 20200047
Soil Vapour Risk Assessment
21 Northumberland and
26 Wellington Streets
Collingwood

			Intra-Laboratory Duplicate			Inter-Laboratory Duplicate		
	Lab Report No.		EM2017150	EM2017150	RPD	EM2017150	22776	RPD
	Field ID		SVB03-1.0	FD01		SVB03-1.0	FS01	
	Date		29/09/2020	30/09/2020		29/09/2020	29/09/2020	
	Matrix Type		soil	soil		soil	soil	
Analyte	Units	LOR						
TRH NEPM 2013 Fractions								
C_6-C_{10}	mg/kg	10	<10	<10	0	<10	<25	0
F1 (C_6-C_{10} minus BTEX)	mg/kg	10	<10	<10	0	<10	<25	0
C_{10}-C_{16}	mg/kg	50	<50	<50	0	<50	<50	0
F2 (C_{10}-C_{16} minus Naphthalene)	mg/kg	50	<50	<50	0	<50	<50	0
F3 (C_{16}-C_{34})	mg/kg	100	<100	<100	0	<100	<100	0
F4 (C_{34}-C_{40})	mg/kg	100	<100	<100	0	<100	<100	0
C_{10}-C_{40} (Sum of total)	mg/kg	50	<50	<50	0	<50	<50	0
BTEX								
Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Ethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Xylene (m & p)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1	0
Xylene (o)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Xylene Total	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1	0
Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<1	0
PAH								
Naphthalene	mg/kg	1	<1	<1	0	<1	<1	0
MAH								
1,2,4-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,3,5-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Isopropylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
n-butylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
n-propylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
p-isopropyltoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
sec-butylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Styrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
tert-butylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Chlorinated Hydrocarbons								
Tetrachloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Trichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,1-dichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
cis-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
trans-1,2-dichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Vinyl chloride	mg/kg	1	<5	<5	0	<5	<1	0
1,1,1,2-tetrachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,1,1-trichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,1,2,2-tetrachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,1,2-trichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,1-dichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,1-dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,2,3-trichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,2-dibromo-3-chloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,2-dichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,3-dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
2,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Bromodichloromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Bromoform	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Carbon tetrachloride	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Chlorodibromomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Chloroethane	mg/kg	1	<5	<5	0	<5	<1	0
Chloroform	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Chloromethane	mg/kg	1	<5	<5	0	<5	<1	0
cis-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Dibromomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
trans-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0

Notes
LOR = Limit of Reporting
<## Result is less than the LOR

			Intra-Laboratory Duplicate			Inter-Laboratory Duplicate		
	Lab Report No.		EM2017150	EM2017150	RPD	EM2017150	22776	RPD
	Field ID		SVB03-1.0	FD01		SVB03-1.0	FS01	
	Date		29/09/2020	30/09/2020		29/09/2020	29/09/2020	
	Matrix Type		soil	soil		soil	soil	
Analyte	Units	LOR						
VOCs								
cis-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-
trans-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-
Pentachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-
NA								
Moisture Content	%	0.1	**23.5**	**21.2**	10	**23.5**	**20**	16
Halogenated Benzenes								
1,2,3-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,2-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
1,4-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
2-chlorotoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
4-chlorotoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Bromobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Chlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Halogenated Hydrocarbons								
1,2-dibromoethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Bromomethane	mg/kg	1	<5	<5	0	<5	<1	0
Dichlorodifluoromethane	mg/kg	1	<5	<5	0	<5	<1	0
Iodomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-
Trichlorofluoromethane	mg/kg	1	<5	<5	0	<5	<1	0
Solvents								
Methyl Ethyl Ketone	mg/kg	5	<5	<5	0	<5	-	-
2-hexanone (MBK)	mg/kg	5	<5	<5	0	<5	-	-
4-Methyl-2-pentanone	mg/kg	5	<5	<5	0	<5	-	-
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-
Vinyl acetate	mg/kg	5	<5	<5	0	<5	-	-

Notes
LOR = Limit of Reporting
<## Result is less than the LOR

Appendix G
Table G3 - Soil Trip Blank Results

Edge Project No.: 20200047
Soil Vapour Risk Assessment
21 Northumberland and
26 Wellington Streets
Collingwood

		Sample Code	EM2017150034	EM2017150036
		Field ID	TB01	TB02
		Date	29/09/2020	30/09/2020
Analyte	Units	LOR		
BTEX				
Benzene	mg/kg	0.2	<0.2	<0.2
Toluene	mg/kg	0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	<0.2	<0.2
PAH				
Naphthalene	mg/kg	1	<1	<1
TRH/TPH				
C_6-C_{10}	mg/kg	10	<10	<10
F1 (C_6-C_{10} minus BTEX)	mg/kg	10	<10	<10
C_6-C_9	mg/kg	10	<10	<10

Notes
LOR = Limit of Reporting
<## Result is less than the LOR

Appendix G
Table G4 - Soil Rinsate Blank Results

Edge Project No.: 20200047
Soil Vapour Risk Assessment
21 Northumberland and
26 Wellington Streets
Collingwood

			Sample Code	EM2017150033	EM2017150035
			Field ID	RB01	RB02
			Date	29/09/2020	30/09/2020
Analyte	**Units**	**LOR**			
TRH NEPM 2013					
C_6-C_{10}	mg/L	0.02		<0.02	<0.02
F1 (C_6-C_{10} minus BTEX)	mg/L	0.02		<0.02	<0.02
C_{10}-C_{16}	mg/L	0.1		<0.1	<0.1
F2 (C_{10}-C_{16} minus Naphthalene)	mg/L	0.1		<0.1	<0.1
F3 (C_{16}-C_{34})	mg/L	0.1		<0.1	<0.1
F4 (C_{34}-C_{40})	mg/L	0.1		<0.1	<0.1
C_{10}-C_{40} (Sum of total)	µg/L	100		<100	<100
BTEX					
Benzene	µg/L	1		<1	<1
Toluene	µg/L	2		<2	<2
Ethylbenzene	µg/L	2		<2	<2
Xylene (m & p)	µg/L	2		<2	<2
Xylene (o)	µg/L	2		<2	<2
Xylene Total	µg/L	2		<2	<2
Total BTEX	mg/L	0.001		<0.001	<0.001
PAH					
Naphthalene	µg/L	5		<5	<5
MAH					
1,2,4-trimethylbenzene	µg/L	5		<5	<5
1,3,5-trimethylbenzene	µg/L	5		<5	<5
Isopropylbenzene	µg/L	5		<5	<5
n-butylbenzene	µg/L	5		<5	<5
n-propylbenzene	µg/L	5		<5	<5
p-isopropyltoluene	µg/L	5		<5	<5
sec-butylbenzene	µg/L	5		<5	<5
Styrene	µg/L	5		<5	<5
tert-butylbenzene	µg/L	5		<5	<5
VOCs					
cis-1,4-Dichloro-2-butene	µg/L	5		<5	<5
trans-1,4-Dichloro-2-butene	µg/L	5		<5	<5
Pentachloroethane	µg/L	5		<5	<5
Chlorinated Hydrocarbons					
Tetrachloroethene	µg/L	5		<5	<5
Trichloroethene	µg/L	5		<5	<5
1,1-dichloroethene	µg/L	5		<5	<5
cis-1,2-dichloroethene	µg/L	5		<5	<5
trans-1,2-dichloroethene	µg/L	5		<5	<5
Vinyl chloride	µg/L	50		<50	<50
1,1,1,2-tetrachloroethane	µg/L	5		<5	<5
1,1,1-trichloroethane	µg/L	5		<5	<5
1,1,2,2-tetrachloroethane	µg/L	5		<5	<5
1,1,2-trichloroethane	µg/L	5		<5	<5
1,1-dichloroethane	µg/L	5		<5	<5
1,1-dichloropropene	µg/L	5		<5	<5
1,2,3-trichloropropane	µg/L	5		<5	<5
1,2-dibromo-3-chloropropane	µg/L	5		<5	<5
1,2-dichloroethane	µg/L	5		<5	<5
1,2-dichloropropane	µg/L	5		<5	<5
1,3-dichloropropane	µg/L	5		<5	<5
2,2-dichloropropane	µg/L	5		<5	<5
Bromodichloromethane	µg/L	5		<5	<5
Bromoform	µg/L	5		<5	<5
Carbon tetrachloride	µg/L	5		<5	<5
Chlorodibromomethane	µg/L	5		<5	<5
Chloroethane	µg/L	50		<50	<50
Chloroform	µg/L	5		<5	<5
Chloromethane	µg/L	50		<50	<50
cis-1,3-dichloropropene	µg/L	5		<5	<5
Dibromomethane	µg/L	5		<5	<5
Hexachlorobutadiene	µg/L	5		<5	<5
trans-1,3-dichloropropene	µg/L	5		<5	<5
Halogenated Benzenes					
1,2,3-trichlorobenzene	µg/L	5		<5	<5
1,2,4-trichlorobenzene	µg/L	5		<5	<5
1,2-dichlorobenzene	µg/L	5		<5	<5
1,3-dichlorobenzene	µg/L	5		<5	<5
1,4-dichlorobenzene	µg/L	5		<5	<5
2-chlorotoluene	µg/L	5		<5	<5
4-chlorotoluene	µg/L	5		<5	<5
Bromobenzene	µg/L	5		<5	<5
Chlorobenzene	µg/L	5		<5	<5
Halogenated Hydrocarbons					
1,2-dibromoethane	µg/L	5		<5	<5
Bromomethane	µg/L	50		<50	<50
Dichlorodifluoromethane	µg/L	50		<50	<50
Iodomethane	µg/L	5		<5	<5
Trichlorofluoromethane	µg/L	50		<50	<50
Solvents					
Methyl Ethyl Ketone	µg/L	50		<50	<50
2-hexanone (MBK)	µg/L	50		<50	<50
4-Methyl-2-pentanone	µg/L	50		<50	<50
Carbon disulfide	µg/L	5		<5	<5
Vinyl acetate	µg/L	50		<50	<50

Notes
LOR = Limit of Reporting
<## Result is less than the LOR

Appendix H
Soil Laboratory Analytical Reports

ALS Melbourne: 4 Westall Rd, Springvale, VIC 3171 Phone (03) 8549 9600; Facsimile (03) 8549 9601. Email Samples.Melbourne@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd
2-4 Westall Road, Springvale, VIC 3171

CLIENT: EDGE GROUP	SAMPLER: Natasha Vella
ADDRESS / OFFICE: 423 CITY RD SOUTH MELBOURNE	MOBILE: 0402 924 941
PROJECT MANAGER (PM):	PHONE
PROJECT ID: 20200047	EMAIL REPORT TO: scottd@edgegroup.net.au
SITE: Collingwood P.O. NO.: 20200047	EMAIL INVOICE TO: accounts@edgegroup.net.au
RESULTS REQUIRED (**Date**): Standard QUOTE NO.: ME/147/20	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)

[redacted]

COMMENTS / SPECIAL HANDLING / STORAGE OR DIPOSAL:

BV 2/10

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		TRH/VOC (inc. BTEXN) - S-09	TRH(C6-C9)/BTEXN - S-18										HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
1	SVB03-0.2	S	29/9				X												
2	SVB03-0.5																		
3	SVB03-1.0						X												
4	SVB03-1.5																		
5	SVB04-0.2																		
6	SVB04-0.5						X												
7	SVB04-1.0																		
8	SVB04-1.5						X												
9	SVB05-0.2																		
10	SVB05-0.5						X												
11	SVB05-1.0																		
12	SVB05-1.5						X												

Environmental Division
Melbourne
Work Order Reference
EM2017150

Telephone : + 61-3-8549 9600

BV 2/10

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Scott Davis	Date: 01/10/20	Name: Marcia	Date:	Con' Note No:
Of: Edge Group	Time: 10:00	Of:	Time:	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

AUSTRALIAN LABORATORY SERVICES P/L

Received: 1/10, 10:20 Carrier:

C/note:

Temp: ice 3 °C Seal: Y/N

Ice / Icebricks / NA

ALS Melbourne: 4 Westall Rd, Springvale, VIC 3171 Phone (03) 8549 9600; Facsimile (03) 8549 9601. Email Samples.Melbourne@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

Australian Labc (ALS) Pty Ltd
2-4 Westall Road, Springvale, VIC 3171

CLIENT: EDGE GROUP
ADDRESS / OFFICE: 423 CITY RD SOUTH MELBOURNE
PROJECT MANAGER (PM):
PROJECT ID: 20200047
SITE: Collingwood
P.O. NO.: 20200047
RESULTS REQUIRED (**Date**): Standard
QUOTE NO.: ME/147/20

SAMPLER: Natasha Vella
MOBILE: 0402 924 941
PHONE
EMAIL REPORT TO: scottd@edgegroup.net.au
EMAIL INVOICE TO: accounts@edgegroup.net.au

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER/SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

BN 2/10

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		TRH/VOC (inc. BTEXN) - S-09	TRH(C6-C9)/BTEXN - S										HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
13	SVB06-0.2	S	30/9				X												
14	SVB06-0.5																		
15	SVB06-1.0																		
16	SVB06-1.5						X												
17	SVB07-0.2						X												
18	SVB07-0.5						X												
19	SVB08-0.2																		
20	SVB08-0.5						X												
21	SVB08-1.0																		
22	SVB08-1.5						X												
23	SVB09-0.2						X												
24	SVB09-0.5						X												

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Scott Davis	Date: 01/10/20	Name:	Date:	Con' Note No:
Of: Edge Group	Time: 10:00	Of:	Time:	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Melbourne: 4 Westall Rd, Springvale, VIC 3171 Phone (03) 8549 9600; Facsimile (03) 8549 9601. Email Samples.Melbourne@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

Australian Labc (ALS) Pty Ltd
2-4 Westall Road, Springvale, VIC 3171

CLIENT: EDGE GROUP
ADDRESS / OFFICE: 423 CITY RD SOUTH MELBOURNE
PROJECT MANAGER (PM):
PROJECT ID: 20200047
SITE: Collingwood P.O. NO.: 20200047
RESULTS REQUIRED (**Date**): Standard QUOTE NO.: ME/147/20

SAMPLER: Natasha Vella
MOBILE: 0402 924 941
PHONE
EMAIL REPORT TO: scottd@edgegroup.net.au
EMAIL INVOICE TO: accounts@edgegroup.net.au
ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

BP 21/10

SAMPLE INFORMATION (note: S = Soil, W=Water) CONTAINER INFORMATION

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	TRH/VOC (inc. BTEXN) - S-09	TRH(C6-C9)/BTEXN - S-18	HOLD
25	SVB09-1.0	S	30/9						
26	SVB10-0.2						X		
27	SVB10-0.5								
28	SVB10-1.0								
29	SVB10-1.5								
30	FD01						X		
→	FS01						X		
31	FD02								X
32	FS02	↓	↓						X
33	RB01	W	29-Jan	29/9			X		
34	TB01	S		↓				X	
35	RB02	W	30/9				X		
36	TB02	S	↓					X	

Notes: e.g. Highly contaminated samples
e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.

Please forward FS01 to Envirolab for analysis

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Scott Davis	Date: 01/10/20	Name:	Date:	Con' Note No:
Of: Edge Group	Time: 10:00	Of:	Time:	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

Gemma Smeaton

From: ALS Enviro Melbourne
Sent: Thursday, 1 October 2020 9:01 AM
To: COC Melbourne
Subject: EDGE COCS- 20200047 - Collingwood Soil Samples
Attachments: ALS Soil COC_01-10-20.xls

FYI

Shirley LeCornu
Client Services Coordinator – Springvale
Environmental

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Shirley.lecornu@alsglobal.com
2-4 Westall Rd
Springvale Vic 3171
Australia

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From: Scott Davis [mailto:ScottD@edgegroup.net.au]
Sent: Thursday, 1 October 2020 8:58 AM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>
Cc: Casey Gadzinski <caseyg@edgegroup.net.au>; Anthony Caruana <anthonyc@edgegroup.net.au>
Subject: [EXTERNAL] - 20200047 - Collingwood Soil Samples

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Hi,

Could you please arrange collection of two eskies of soil samples from our offices this morning? COC attached, but no hard copies in esky.

There were no signs of gross contamination in the soil samples.

Kind Regards,

Scott Davis
Senior Environmental Scientist
Edge Group Pty Ltd
423 City Road
South Melbourne, Victoria 3205
Phone (03) 8625 9696
Mobile 0439 588 664
scottd@edgegroup.net.au
www.edgegroup.net.au

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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2017150**	Page	: 1 of 18
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: SCOTT DAVIS	Contact	: Benjamin Comensoli
Address	: 423 City Rd South Melbourne	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 8625 9696	Telephone	: +61-3-8549 9600
Project	: 20200047	Date Samples Received	: 01-Oct-2020 10:20
Order number	: 20200047	Date Analysis Commenced	: 02-Oct-2020
C-O-C number	: ----	Issue Date	: 07-Oct-2020 20:36
Sampler	: NV		
Site	: Collingwood		
Quote number	: ME/147/20		
No. of samples received	: 36		
No. of samples analysed	: 20		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SVB03-0.2	SVB03-1.0	SVB04-0.5	SVB04-1.5	SVB05-0.5
			Client sampling date / time	29-Sep-2020 00:00	29-Sep-2020 00:00	29-Sep-2020 00:00	29-Sep-2020 00:00	29-Sep-2020 00:00
Compound	CAS Number	LOR	Unit	EM2017150-001	EM2017150-003	EM2017150-006	EM2017150-008	EM2017150-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**20.2**	**23.5**	**11.7**	**26.0**	**14.1**
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg	<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg	<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg	<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	<5	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SVB03-0.2	SVB03-1.0	SVB04-0.5	SVB04-1.5	SVB05-0.5
				Client sampling date / time	29-Sep-2020 00:00	29-Sep-2020 00:00	29-Sep-2020 00:00	29-Sep-2020 00:00	29-Sep-2020 00:00
Compound	CAS Number	LOR	Unit		EM2017150-001	EM2017150-003	EM2017150-006	EM2017150-008	EM2017150-010
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SVB03-0.2	SVB03-1.0	SVB04-0.5	SVB04-1.5	SVB05-0.5
				Client sampling date / time	29-Sep-2020 00:00	29-Sep-2020 00:00	29-Sep-2020 00:00	29-Sep-2020 00:00	29-Sep-2020 00:00
Compound	CAS Number	LOR	Unit		EM2017150-001	EM2017150-003	EM2017150-006	EM2017150-008	EM2017150-010
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**79.7**	**69.0**	**72.4**	**69.7**	**70.9**
Toluene-D8	2037-26-5	0.5	%		**94.2**	**84.1**	**71.9**	**84.5**	**86.4**
4-Bromofluorobenzene	460-00-4	0.5	%		**94.1**	**84.7**	**71.1**	**86.1**	**81.6**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**99.4**	**85.3**	**72.5**	**87.1**	**88.6**
Toluene-D8	2037-26-5	0.2	%		**91.6**	**82.1**	**70.1**	**82.6**	**84.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**100**	**88.3**	**74.5**	**89.2**	**83.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SVB05-1.5	SVB06-0.2	SVB06-1.5	SVB07-0.2	SVB07-0.5
			Client sampling date / time	29-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00
Compound	CAS Number	LOR	Unit	EM2017150-012	EM2017150-013	EM2017150-016	EM2017150-017	EM2017150-018
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**24.3**	**16.4**	**24.0**	**20.6**	**13.6**
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg	<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg	<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg	<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	<5	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SVB05-1.5	SVB06-0.2	SVB06-1.5	SVB07-0.2	SVB07-0.5
				Client sampling date / time	29-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00
Compound	CAS Number	LOR	Unit		EM2017150-012	EM2017150-013	EM2017150-016	EM2017150-017	EM2017150-018
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SVB05-1.5	SVB06-0.2	SVB06-1.5	SVB07-0.2	SVB07-0.5
				Client sampling date / time	29-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00
Compound	CAS Number	LOR	Unit		EM2017150-012	EM2017150-013	EM2017150-016	EM2017150-017	EM2017150-018
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	**310**
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	**180**
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	**490**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	**150**	**420**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	**150**	**420**
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**78.0**	**72.5**	**73.4**	**71.8**	**73.3**
Toluene-D8	2037-26-5	0.5	%		**92.6**	**87.4**	**87.8**	**83.6**	**88.0**
4-Bromofluorobenzene	460-00-4	0.5	%		**89.5**	**84.5**	**87.4**	**82.3**	**84.7**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**95.1**	**89.6**	**90.9**	**88.6**	**91.7**
Toluene-D8	2037-26-5	0.2	%		**90.1**	**85.4**	**85.3**	**81.4**	**86.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**99.4**	**89.7**	**92.4**	**84.5**	**88.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	SVB08-0.5	SVB08-1.5	SVB09-0.2	SVB09-0.5	SVB10-0.2
			Client sampling date / time	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00
Compound	CAS Number	LOR	Unit	EM2017150-020	EM2017150-022	EM2017150-023	EM2017150-024	EM2017150-026
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.2	17.8	16.9	21.4	20.1
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg	<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg	<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg	<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	<5	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SVB08-0.5	SVB08-1.5	SVB09-0.2	SVB09-0.5	SVB10-0.2
				Client sampling date / time	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00
Compound	CAS Number	LOR	Unit		EM2017150-020	EM2017150-022	EM2017150-023	EM2017150-024	EM2017150-026
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SVB08-0.5	SVB08-1.5	SVB09-0.2	SVB09-0.5	SVB10-0.2
				Client sampling date / time	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00	30-Sep-2020 00:00
Compound	CAS Number	LOR	Unit		EM2017150-020	EM2017150-022	EM2017150-023	EM2017150-024	EM2017150-026
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		**70**	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**1940**	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		**2080**	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**4090**	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**70**	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**3470**	**120**	<100	<100	**160**
>C34 - C40 Fraction	----	100	mg/kg		**730**	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**4270**	**120**	<50	<50	**160**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**70**	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**73.5**	**69.4**	**70.0**	**74.2**	**74.0**
Toluene-D8	2037-26-5	0.5	%		**87.7**	**84.9**	**81.9**	**87.7**	**86.4**
4-Bromofluorobenzene	460-00-4	0.5	%		**83.3**	**85.6**	**84.0**	**86.6**	**85.8**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.4**	**85.9**	**86.4**	**92.4**	**90.6**
Toluene-D8	2037-26-5	0.2	%		**85.7**	**82.6**	**80.2**	**85.1**	**85.1**
4-Bromofluorobenzene	460-00-4	0.2	%		**88.1**	**91.2**	**87.8**	**90.5**	**87.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	FD01	TB01	TB02	----	----
				Client sampling date / time	30-Sep-2020 00:00	29-Sep-2020 00:00	30-Sep-2020 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2017150-030	EM2017150-034	EM2017150-036	--------	--------
					Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**21.2**	<1.0	<1.0	----	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	0.5	mg/kg		<0.5	----	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	----	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	----	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	----	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	----	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	----	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	----	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	----	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	----	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	----	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	----	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	----	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	----	----	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	----	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	----	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	----	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	----	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	----	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	----	----	----	----
Chloromethane	74-87-3	5	mg/kg		<5	----	----	----	----
Vinyl chloride	75-01-4	5	mg/kg		<5	----	----	----	----
Bromomethane	74-83-9	5	mg/kg		<5	----	----	----	----
Chloroethane	75-00-3	5	mg/kg		<5	----	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	----	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	----	----	----	----
Iodomethane	74-88-4	0.5	mg/kg		<0.5	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	FD01	TB01	TB02	----	----
				Client sampling date / time	30-Sep-2020 00:00	29-Sep-2020 00:00	30-Sep-2020 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2017150-030	EM2017150-034	EM2017150-036	--------	--------
					Result	Result	Result	----	----
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	----	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	----	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	----	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	----	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	----	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	----	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	----	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	----	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	----	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	----	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	----	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	----	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	----	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	----	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	----	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	----	----	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	----	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	----	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	----	----	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	----	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	----	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	----	----	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	----	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	----	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	----	----	----	----
Bromoform	75-25-2	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	FD01	TB01	TB02	----	----
				Client sampling date / time	30-Sep-2020 00:00	29-Sep-2020 00:00	30-Sep-2020 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2017150-030	EM2017150-034	EM2017150-036	--------	--------
					Result	Result	Result	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**72.4**	----	----	----	----
Toluene-D8	2037-26-5	0.5	%		**88.1**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.5	%		**85.6**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**89.3**	**94.9**	**97.7**	----	----
Toluene-D8	2037-26-5	0.2	%		**86.0**	**89.0**	**91.5**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**87.2**	**93.5**	**92.8**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RB01	RB02	----	----	----
				Client sampling date / time	29-Sep-2020 00:00	30-Sep-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2017150-033	EM2017150-035	--------	--------	--------
					Result	Result	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	5	µg/L		<5	<5	----	----	----
Isopropylbenzene	98-82-8	5	µg/L		<5	<5	----	----	----
n-Propylbenzene	103-65-1	5	µg/L		<5	<5	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	<5	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L		<5	<5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	<5	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L		<5	<5	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L		<5	<5	----	----	----
n-Butylbenzene	104-51-8	5	µg/L		<5	<5	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	<50	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	<50	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	<50	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	<5	----	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	<5	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	<5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	<5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	<5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	<5	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	<50	----	----	----
Chloromethane	74-87-3	50	µg/L		<50	<50	----	----	----
Vinyl chloride	75-01-4	50	µg/L		<50	<50	----	----	----
Bromomethane	74-83-9	50	µg/L		<50	<50	----	----	----
Chloroethane	75-00-3	50	µg/L		<50	<50	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	<50	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	<5	----	----	----
Iodomethane	74-88-4	5	µg/L		<5	<5	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	<5	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	<5	----	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	<5	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RB01	RB02	----	----	----
				Client sampling date / time	29-Sep-2020 00:00	30-Sep-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2017150-033	EM2017150-035	--------	--------	--------
					Result	Result	----	----	----
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	<5	----	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	<5	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	<5	----	----	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	<5	----	----	----
Trichloroethene	79-01-6	5	µg/L		<5	<5	----	----	----
Dibromomethane	74-95-3	5	µg/L		<5	<5	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	<5	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	<5	----	----	----
Tetrachloroethene	127-18-4	5	µg/L		<5	<5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	<5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	<5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	<5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	<5	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	<5	----	----	----
Pentachloroethane	76-01-7	5	µg/L		<5	<5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	<5	----	----	----
Hexachlorobutadiene	87-68-3	5	µg/L		<5	<5	----	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	<5	----	----	----
Bromobenzene	108-86-1	5	µg/L		<5	<5	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L		<5	<5	----	----	----
4-Chlorotoluene	106-43-4	5	µg/L		<5	<5	----	----	----
1.3-Dichlorobenzene	541-73-1	5	µg/L		<5	<5	----	----	----
1.4-Dichlorobenzene	106-46-7	5	µg/L		<5	<5	----	----	----
1.2-Dichlorobenzene	95-50-1	5	µg/L		<5	<5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	5	µg/L		<5	<5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	<5	----	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	<5	----	----	----
Bromodichloromethane	75-27-4	5	µg/L		<5	<5	----	----	----
Dibromochloromethane	124-48-1	5	µg/L		<5	<5	----	----	----
Bromoform	75-25-2	5	µg/L		<5	<5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RB01	RB02	----	----	----
				Client sampling date / time	29-Sep-2020 00:00	30-Sep-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2017150-033	EM2017150-035	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		**96.1**	**101**	----	----	----
Toluene-D8	2037-26-5	5	%		**103**	**110**	----	----	----
4-Bromofluorobenzene	460-00-4	5	%		**105**	**106**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**93.8**	**99.5**	----	----	----
Toluene-D8	2037-26-5	2	%		**95.0**	**101**	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**98.9**	**100.0**	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	62	122
Toluene-D8	2037-26-5	64	120
4-Bromofluorobenzene	460-00-4	66	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	132
Toluene-D8	2037-26-5	77	132
4-Bromofluorobenzene	460-00-4	67	131
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2017150**	Page	: 1 of 17
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: SCOTT DAVIS	Contact	: Benjamin Comensoli
Address	: 423 City Rd South Melbourne	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 8625 9696	Telephone	: +61-3-8549 9600
Project	: 20200047	Date Samples Received	: 01-Oct-2020
Order number	: 20200047	Date Analysis Commenced	: 02-Oct-2020
C-O-C number	: ----	Issue Date	: 07-Oct-2020
Sampler	: NV		
Site	: Collingwood		
Quote number	: ME/147/20		
No. of samples received	: 36		
No. of samples analysed	: 20		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3290539)									
EM2017148-001	Anonymous	EA055: Moisture Content	----	0.1	%	17.1	17.4	1.83	0% - 50%
EM2017150-001	SVB03-0.2	EA055: Moisture Content	----	0.1	%	20.2	21.9	7.84	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3290540)									
EM2017150-020	SVB08-0.5	EA055: Moisture Content	----	0.1	%	17.2	16.3	5.01	0% - 50%
EM2017175-006	Anonymous	EA055: Moisture Content	----	0.1	%	27.8	28.0	0.502	0% - 20%
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 3289306)									
EM2017150-001	SVB03-0.2	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM2017150-020	SVB08-0.5	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074B: Oxygenated Compounds (QC Lot: 3289306)									
EM2017150-001	SVB03-0.2	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.00	No Limit
EM2017150-020	SVB08-0.5	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.00	No Limit
EP074C: Sulfonated Compounds (QC Lot: 3289306)									
EM2017150-001	SVB03-0.2	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM2017150-020	SVB08-0.5	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074D: Fumigants (QC Lot: 3289306)									
EM2017150-001	SVB03-0.2	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM2017150-020	SVB08-0.5	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3289306)									
EM2017150-001	SVB03-0.2	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3289306) - continued									
EM2017150-001	SVB03-0.2	EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.00	No Limit
EM2017150-020	SVB08-0.5	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.00	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 3289306)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074F: Halogenated Aromatic Compounds (QC Lot: 3289306) - continued									
EM2017150-001	SVB03-0.2	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM2017150-020	SVB08-0.5	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074G: Trihalomethanes (QC Lot: 3289306)									
EM2017150-001	SVB03-0.2	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM2017150-020	SVB08-0.5	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3289305)									
EM2017150-001	SVB03-0.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EM2017150-020	SVB08-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3289307)									
EM2016962-006	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EM2017148-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3290720)									
EM2017150-001	SVB03-0.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EM2017150-020	SVB08-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	1940	1760	9.83	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3290720) - continued									
EM2017150-020	SVB08-0.5	EP071: C29 - C36 Fraction	----	100	mg/kg	2080	2000	3.81	0% - 20%
		EP071: C10 - C14 Fraction	----	50	mg/kg	70	<50	32.1	No Limit
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	4090	3760	8.41	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3289305)									
EM2017150-001	SVB03-0.2	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EM2017150-020	SVB08-0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3289307)									
EM2016962-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EM2017148-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3290720)									
EM2017150-001	SVB03-0.2	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EM2017150-020	SVB08-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	3470	3250	6.40	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	730	690	5.68	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	70	<50	34.2	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	4270	3940	8.04	0% - 20%
EP080: BTEXN (QC Lot: 3289305)									
EM2017150-001	SVB03-0.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EM2017150-020	SVB08-0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 3289307)									
EM2016962-006	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEXN (QC Lot: 3289307) - continued									
EM2016962-006	Anonymous	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EM2017148-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 3290732)									
EM2017098-001	Anonymous	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.00	No Limit
EM2017104-001	Anonymous	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.00	No Limit
EP074B: Oxygenated Compounds (QC Lot: 3290732)									
EM2017098-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.00	No Limit
EM2017104-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.00	No Limit
EP074C: Sulfonated Compounds (QC Lot: 3290732)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074C: Sulfonated Compounds (QC Lot: 3290732) - continued									
EM2017098-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.00	No Limit
EM2017104-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.00	No Limit
EP074D: Fumigants (QC Lot: 3290732)									
EM2017098-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.00	No Limit
EM2017104-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.00	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3290732)									
EM2017098-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	39	44	12.2	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.00	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.00	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3290732) - continued									
EM2017098-001	Anonymous	EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.00	No Limit
EM2017104-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.00	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.00	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.00	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.00	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 3290732)									
EM2017098-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074F: Halogenated Aromatic Compounds (QC Lot: 3290732) - continued									
EM2017104-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.00	No Limit
EP074G: Trihalomethanes (QC Lot: 3290732)									
EM2017098-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	12	13	8.52	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.00	No Limit
EM2017104-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.00	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3290733)									
EM2017098-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	50	50	0.00	No Limit
EM2017104-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	30	40	32.6	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3290733)									
EM2017098-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	40	50	0.00	No Limit
EM2017104-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	40	50	33.0	No Limit
EP080: BTEXN (QC Lot: 3290733)									
EM2017098-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
EM2017104-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 3289306)								
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	97.3	69.8	115
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	99.0	66.5	114
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	90.7	56.8	107
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	90.0	61.2	106
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	91.3	58.4	109
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	88.1	60.2	107
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	94.3	62.4	108
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	87.6	59.1	111
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	80.4	51.1	109
EP074B: Oxygenated Compounds (QCLot: 3289306)								
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	73.2	61.9	127
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	# 59.3	61.2	128
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	108	63.2	137
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	79.4	65.0	128
EP074C: Sulfonated Compounds (QCLot: 3289306)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	109	48.5	121
EP074D: Fumigants (QCLot: 3289306)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	92.6	61.4	115
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	89.3	70.1	113
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	85.6	63.2	107
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	90.4	64.8	107
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	93.2	68.3	110
EP074E: Halogenated Aliphatic Compounds (QCLot: 3289306)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	91.9	26.0	137
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	110	49.4	140
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	117	46.0	138
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	95.5	39.1	127
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	108	59.2	128
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	106	60.1	123
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	107	61.7	119
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	69.0	47.0	125
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	100	63.6	115
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	104	68.0	116
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	102	71.0	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 3289306) - continued								
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	86.4	62.4	115
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	83.3	60.3	117
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	79.6	57.7	112
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	107	73.0	116
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	90.5	65.5	117
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	102	69.8	111
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	89.1	75.6	115
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	93.0	74.5	116
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	97.5	62.6	116
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	83.9	63.2	105
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	93.2	57.5	112
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	82.8	57.8	109
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	97.9	72.3	127
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	101	72.8	119
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	79.3	59.0	100
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	88.4	60.8	104
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	89.2	54.1	132
EP074F: Halogenated Aromatic Compounds (QCLot: 3289306)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	99.6	72.8	112
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	94.0	67.1	110
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	94.0	64.4	108
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	92.2	62.2	107
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	90.2	64.6	113
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	91.6	66.1	119
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	88.2	72.4	110
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	85.6	52.3	120
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	86.0	65.0	119
EP074G: Trihalomethanes (QCLot: 3289306)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	99.5	71.8	116
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	83.3	67.2	111
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	79.9	65.4	105
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	83.5	60.5	104
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3289305)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	85.9	61.2	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3289307)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	87.7	61.2	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3290720)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	900 mg/kg	101	71.8	129

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3290720) - continued								
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3030 mg/kg	102	83.9	125
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1520 mg/kg	103	77.9	119
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3289305)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.0	59.5	125
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3289307)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	86.3	59.5	125
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3290720)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1160 mg/kg	106	72.2	128
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	4020 mg/kg	101	82.1	122
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	280 mg/kg	97.2	55.1	131
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEXN (QCLot: 3289305)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	86.0	62.7	119
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	88.2	66.6	126
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	91.1	66.3	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.0	67.5	128
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	90.5	73.0	128
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	91.8	61.2	123
EP080: BTEXN (QCLot: 3289307)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.6	62.7	119
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	88.8	66.6	126
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	91.0	66.3	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.1	67.5	128
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	91.5	73.0	128
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	92.5	61.2	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 3290732)								
EP074: Styrene	100-42-5	5	µg/L	<5	20 µg/L	106	80.4	117
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	20 µg/L	104	75.0	118
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	20 µg/L	94.9	68.7	114
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	20 µg/L	94.5	72.1	114
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	20 µg/L	96.0	69.6	115
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	20 µg/L	94.9	72.4	113

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 3290732) - continued								
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	20 µg/L	96.7	72.6	116
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	20 µg/L	104	69.2	115
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	20 µg/L	98.1	61.4	115
EP074B: Oxygenated Compounds (QCLot: 3290732)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	200 µg/L	97.9	71.3	125
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	200 µg/L	85.1	66.4	132
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	200 µg/L	97.6	75.2	132
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	200 µg/L	96.3	73.9	131
EP074C: Sulfonated Compounds (QCLot: 3290732)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	20 µg/L	102	58.2	124
EP074D: Fumigants (QCLot: 3290732)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	20 µg/L	104	68.7	120
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	20 µg/L	94.6	79.6	116
EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	20 µg/L	92.9	76.2	114
EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	20 µg/L	94.6	77.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	20 µg/L	99.7	80.1	118
EP074E: Halogenated Aliphatic Compounds (QCLot: 3290732)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	200 µg/L	104	53.4	140
EP074: Chloromethane	74-87-3	50	µg/L	<50	200 µg/L	121	63.8	134
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	200 µg/L	116	57.1	135
EP074: Bromomethane	74-83-9	50	µg/L	<50	200 µg/L	94.9	51.1	126
EP074: Chloroethane	75-00-3	50	µg/L	<50	200 µg/L	111	64.9	129
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	200 µg/L	109	65.7	127
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	20 µg/L	100	67.4	123
EP074: Iodomethane	74-88-4	5	µg/L	<5	20 µg/L	84.1	30.9	126
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	20 µg/L	99.4	69.2	119
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	20 µg/L	100	76.7	120
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	20 µg/L	101	78.9	118
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	20 µg/L	97.8	69.2	120
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	20 µg/L	99.5	67.0	120
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	20 µg/L	97.3	63.7	120
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	20 µg/L	94.6	82.0	116
EP074: Trichloroethene	79-01-6	5	µg/L	<5	20 µg/L	100	72.9	118
EP074: Dibromomethane	74-95-3	5	µg/L	<5	20 µg/L	95.9	81.0	116
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	20 µg/L	101	84.9	118
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	20 µg/L	102	83.4	119
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	20 µg/L	104	70.4	118
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	20 µg/L	97.7	77.9	113

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 3290732) - continued								
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	20 µg/L	98.7	72.6	122
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	20 µg/L	92.4	67.8	119
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	20 µg/L	108	83.0	125
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	20 µg/L	105	82.4	123
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	20 µg/L	87.8	72.7	111
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	20 µg/L	91.8	75.4	114
EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	20 µg/L	103	62.6	128
EP074F: Halogenated Aromatic Compounds (QCLot: 3290732)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	20 µg/L	106	81.7	116
EP074: Bromobenzene	108-86-1	5	µg/L	<5	20 µg/L	95.6	75.2	118
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	20 µg/L	95.2	75.0	114
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	20 µg/L	95.7	72.8	113
EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	20 µg/L	98.2	74.7	116
EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	20 µg/L	106	75.5	119
EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	20 µg/L	99.2	82.0	113
EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	20 µg/L	94.3	64.0	123
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	20 µg/L	97.1	75.5	119
EP074G: Trihalomethanes (QCLot: 3290732)								
EP074: Chloroform	67-66-3	5	µg/L	<5	20 µg/L	102	80.4	118
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	20 µg/L	96.9	78.6	115
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	20 µg/L	97.8	77.7	113
EP074: Bromoform	75-25-2	5	µg/L	<5	20 µg/L	96.2	74.2	113
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3289119)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4600 µg/L	78.3	44.8	125
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16100 µg/L	105	51.3	135
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8130 µg/L	97.6	49.4	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3290733)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	100	65.5	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3289119)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6070 µg/L	88.7	47.3	129
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	21200 µg/L	103	50.4	133
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1500 µg/L	107	45.2	136
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3290733)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	96.7	64.3	126
EP080: BTEXN (QCLot: 3290733)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	89.0	69.8	124
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	98.2	73.6	126
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	98.3	72.0	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEXN (QCLot: 3290733) - continued								
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	104	71.5	132
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	104	76.5	132
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	105	70.5	127

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP074E: Halogenated Aliphatic Compounds (QCLot: 3289306)							
EM2017150-003	SVB03-1.0	EP074: 1.1-Dichloroethene	75-35-4	2 mg/kg	114	29.0	141
		EP074: Trichloroethene	79-01-6	2 mg/kg	83.8	50.0	126
EP074F: Halogenated Aromatic Compounds (QCLot: 3289306)							
EM2017150-003	SVB03-1.0	EP074: Chlorobenzene	108-90-7	2 mg/kg	104	65.0	133
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3289305)							
EM2017150-003	SVB03-1.0	EP080: C6 - C9 Fraction	----	28 mg/kg	75.7	42.0	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3289307)							
EM2016962-020	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	74.4	42.0	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3290720)							
EM2017150-003	SVB03-1.0	EP071: C10 - C14 Fraction	----	900 mg/kg	97.8	53.0	123
		EP071: C15 - C28 Fraction	----	3030 mg/kg	97.7	70.0	124
		EP071: C29 - C36 Fraction	----	1520 mg/kg	97.3	64.0	118
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3289305)							
EM2017150-003	SVB03-1.0	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	75.0	39.0	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3289307)							
EM2016962-020	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.9	39.0	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3290720)							
EM2017150-003	SVB03-1.0	EP071: >C10 - C16 Fraction	----	1160 mg/kg	102	65.0	123
		EP071: >C16 - C34 Fraction	----	4020 mg/kg	96.5	67.0	121
		EP071: >C34 - C40 Fraction	----	280 mg/kg	97.4	44.0	126
EP080: BTEXN (QCLot: 3289305)							
EM2017150-003	SVB03-1.0	EP080: Benzene	71-43-2	2 mg/kg	94.2	50.0	136
		EP080: Toluene	108-88-3	2 mg/kg	94.4	56.0	139

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 3289307)							
EM2016962-020	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	103	50.0	136
		EP080: Toluene	108-88-3	2 mg/kg	102	56.0	139

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 3290732)							
EM2017098-002	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	20 µg/L	80.7	40.0	124
		EP074: Trichloroethene	79-01-6	20 µg/L	91.4	54.0	126
EP074F: Halogenated Aromatic Compounds (QCLot: 3290732)							
EM2017098-002	Anonymous	EP074: Chlorobenzene	108-90-7	20 µg/L	110	68.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3290733)							
EM2017098-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	96.3	43.0	125
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3290733)							
EM2017098-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	90.9	44.0	122
EP080: BTEXN (QCLot: 3290733)							
EM2017098-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	96.6	68.0	130
		EP080: Toluene	108-88-3	20 µg/L	111	72.0	132

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2017150**	Page	: 1 of 10
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: SCOTT DAVIS	Telephone	: +61-3-8549 9600
Project	: 20200047	Date Samples Received	: 01-Oct-2020
Site	: Collingwood	Issue Date	: 07-Oct-2020
Sampler	: NV	No. of samples received	: 36
Order number	: 20200047	No. of samples analysed	: 20

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP074B: Oxygenated Compounds	QC-3289306-001	----	**2-Butanone (MEK)**	78-93-3	59.3 %	61.2-128%	**Recovery less than lower control limit**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
TRH - Semivolatile Fraction	0	13	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TRH - Semivolatile Fraction	0	13	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
SVB03-0.2, SVB03-1.0, SVB04-0.5, SVB04-1.5, SVB05-0.5, SVB05-1.5, TB01	**29-Sep-2020**	**----**	----	----	**03-Oct-2020**	13-Oct-2020	✓
Soil Glass Jar - Unpreserved (EA055)							
SVB06-0.2, SVB06-1.5, SVB07-0.2, SVB07-0.5, SVB08-0.5, SVB08-1.5, SVB09-0.2, SVB09-0.5, SVB10-0.2, FD01, TB02	**30-Sep-2020**	**----**	----	----	**03-Oct-2020**	14-Oct-2020	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074)								
SVB03-0.2,	SVB03-1.0,	**29-Sep-2020**	**02-Oct-2020**	06-Oct-2020	✓	**03-Oct-2020**	06-Oct-2020	✓
SVB04-0.5,	SVB04-1.5,							
SVB05-0.5,	SVB05-1.5							
Soil Glass Jar - Unpreserved (EP074)								
SVB06-0.2,	SVB06-1.5,	**30-Sep-2020**	**02-Oct-2020**	07-Oct-2020	✓	**03-Oct-2020**	07-Oct-2020	✓
SVB07-0.2,	SVB07-0.5,							
SVB08-0.5,	SVB08-1.5,							
SVB09-0.2,	SVB09-0.5,							
SVB10-0.2,	FD01							
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074)								
SVB03-0.2,	SVB03-1.0,	**29-Sep-2020**	**02-Oct-2020**	06-Oct-2020	✓	**03-Oct-2020**	06-Oct-2020	✓
SVB04-0.5,	SVB04-1.5,							
SVB05-0.5,	SVB05-1.5							
Soil Glass Jar - Unpreserved (EP074)								
SVB06-0.2,	SVB06-1.5,	**30-Sep-2020**	**02-Oct-2020**	07-Oct-2020	✓	**03-Oct-2020**	07-Oct-2020	✓
SVB07-0.2,	SVB07-0.5,							
SVB08-0.5,	SVB08-1.5,							
SVB09-0.2,	SVB09-0.5,							
SVB10-0.2,	FD01							
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074)								
SVB03-0.2,	SVB03-1.0,	**29-Sep-2020**	**02-Oct-2020**	06-Oct-2020	✓	**03-Oct-2020**	06-Oct-2020	✓
SVB04-0.5,	SVB04-1.5,							
SVB05-0.5,	SVB05-1.5							
Soil Glass Jar - Unpreserved (EP074)								
SVB06-0.2,	SVB06-1.5,	**30-Sep-2020**	**02-Oct-2020**	07-Oct-2020	✓	**03-Oct-2020**	07-Oct-2020	✓
SVB07-0.2,	SVB07-0.5,							
SVB08-0.5,	SVB08-1.5,							
SVB09-0.2,	SVB09-0.5,							
SVB10-0.2,	FD01							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074)								
SVB03-0.2,	SVB03-1.0,	**29-Sep-2020**	**02-Oct-2020**	06-Oct-2020	✓	**03-Oct-2020**	06-Oct-2020	✓
SVB04-0.5,	SVB04-1.5,							
SVB05-0.5,	SVB05-1.5							
Soil Glass Jar - Unpreserved (EP074)								
SVB06-0.2,	SVB06-1.5,	**30-Sep-2020**	**02-Oct-2020**	07-Oct-2020	✓	**03-Oct-2020**	07-Oct-2020	✓
SVB07-0.2,	SVB07-0.5,							
SVB08-0.5,	SVB08-1.5,							
SVB09-0.2,	SVB09-0.5,							
SVB10-0.2,	FD01							
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074)								
SVB03-0.2,	SVB03-1.0,	**29-Sep-2020**	**02-Oct-2020**	06-Oct-2020	✓	**03-Oct-2020**	06-Oct-2020	✓
SVB04-0.5,	SVB04-1.5,							
SVB05-0.5,	SVB05-1.5							
Soil Glass Jar - Unpreserved (EP074)								
SVB06-0.2,	SVB06-1.5,	**30-Sep-2020**	**02-Oct-2020**	07-Oct-2020	✓	**03-Oct-2020**	07-Oct-2020	✓
SVB07-0.2,	SVB07-0.5,							
SVB08-0.5,	SVB08-1.5,							
SVB09-0.2,	SVB09-0.5,							
SVB10-0.2,	FD01							
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074)								
SVB03-0.2,	SVB03-1.0,	**29-Sep-2020**	**02-Oct-2020**	06-Oct-2020	✓	**03-Oct-2020**	06-Oct-2020	✓
SVB04-0.5,	SVB04-1.5,							
SVB05-0.5,	SVB05-1.5							
Soil Glass Jar - Unpreserved (EP074)								
SVB06-0.2,	SVB06-1.5,	**30-Sep-2020**	**02-Oct-2020**	07-Oct-2020	✓	**03-Oct-2020**	07-Oct-2020	✓
SVB07-0.2,	SVB07-0.5,							
SVB08-0.5,	SVB08-1.5,							
SVB09-0.2,	SVB09-0.5,							
SVB10-0.2,	FD01							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074)								
SVB03-0.2,	SVB03-1.0,	**29-Sep-2020**	**02-Oct-2020**	06-Oct-2020	✓	**03-Oct-2020**	06-Oct-2020	✓
SVB04-0.5,	SVB04-1.5,							
SVB05-0.5,	SVB05-1.5							
Soil Glass Jar - Unpreserved (EP074)								
SVB06-0.2,	SVB06-1.5,	**30-Sep-2020**	**02-Oct-2020**	07-Oct-2020	✓	**03-Oct-2020**	07-Oct-2020	✓
SVB07-0.2,	SVB07-0.5,							
SVB08-0.5,	SVB08-1.5,							
SVB09-0.2,	SVB09-0.5,							
SVB10-0.2,	FD01							
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
SVB03-0.2,	SVB03-1.0,	**29-Sep-2020**	**02-Oct-2020**	13-Oct-2020	✓	**03-Oct-2020**	13-Oct-2020	✓
SVB04-0.5,	SVB04-1.5,							
SVB05-0.5,	SVB05-1.5,							
TB01								
Soil Glass Jar - Unpreserved (EP071)								
SVB03-0.2,	SVB03-1.0,	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	14-Nov-2020	✓
SVB04-0.5,	SVB04-1.5,							
SVB05-0.5,	SVB05-1.5							
Soil Glass Jar - Unpreserved (EP080)								
SVB06-0.2,	SVB06-1.5,	**30-Sep-2020**	**02-Oct-2020**	14-Oct-2020	✓	**03-Oct-2020**	14-Oct-2020	✓
SVB07-0.2,	SVB07-0.5,							
SVB08-0.5,	SVB08-1.5,							
SVB09-0.2,	SVB09-0.5,							
SVB10-0.2,	FD01,							
TB02								
Soil Glass Jar - Unpreserved (EP071)								
SVB06-0.2,	SVB06-1.5,	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Nov-2020	✓
SVB07-0.2,	SVB07-0.5,							
SVB08-0.5,	SVB08-1.5,							
SVB09-0.2,	SVB09-0.5,							
SVB10-0.2,	FD01							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
SVB03-0.2, SVB03-1.0, SVB04-0.5, SVB04-1.5, SVB05-0.5, SVB05-1.5, TB01	**29-Sep-2020**	**02-Oct-2020**	13-Oct-2020	✓	**03-Oct-2020**	13-Oct-2020	✓
Soil Glass Jar - Unpreserved (EP071)							
SVB03-0.2, SVB03-1.0, SVB04-0.5, SVB04-1.5, SVB05-0.5, SVB05-1.5	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	14-Nov-2020	✓
Soil Glass Jar - Unpreserved (EP080)							
SVB06-0.2, SVB06-1.5, SVB07-0.2, SVB07-0.5, SVB08-0.5, SVB08-1.5, SVB09-0.2, SVB09-0.5, SVB10-0.2, FD01, TB02	**30-Sep-2020**	**02-Oct-2020**	14-Oct-2020	✓	**03-Oct-2020**	14-Oct-2020	✓
Soil Glass Jar - Unpreserved (EP071)							
SVB06-0.2, SVB06-1.5, SVB07-0.2, SVB07-0.5, SVB08-0.5, SVB08-1.5, SVB09-0.2, SVB09-0.5, SVB10-0.2, FD01	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Nov-2020	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
SVB03-0.2, SVB03-1.0, SVB04-0.5, SVB04-1.5, SVB05-0.5, SVB05-1.5, TB01	**29-Sep-2020**	**02-Oct-2020**	13-Oct-2020	✓	**03-Oct-2020**	13-Oct-2020	✓
Soil Glass Jar - Unpreserved (EP080)							
SVB06-0.2, SVB06-1.5, SVB07-0.2, SVB07-0.5, SVB08-0.5, SVB08-1.5, SVB09-0.2, SVB09-0.5, SVB10-0.2, FD01, TB02	**30-Sep-2020**	**02-Oct-2020**	14-Oct-2020	✓	**03-Oct-2020**	14-Oct-2020	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP074) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP074) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP074) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP074) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓
EP074D: Fumigants							
Amber VOC Vial - Sulfuric Acid (EP074) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP074) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP074) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP074) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓
EP074G: Trihalomethanes							
Amber VOC Vial - Sulfuric Acid (EP074) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP074) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) RB01	**29-Sep-2020**	**02-Oct-2020**	06-Oct-2020	✓	**07-Oct-2020**	11-Nov-2020	✓
Amber Glass Bottle - Unpreserved (EP071) RB02	**30-Sep-2020**	**02-Oct-2020**	07-Oct-2020	✓	**07-Oct-2020**	11-Nov-2020	✓
Amber VOC Vial - Sulfuric Acid (EP080) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP080) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) RB01	**29-Sep-2020**	**02-Oct-2020**	06-Oct-2020	✓	**07-Oct-2020**	11-Nov-2020	✓
Amber Glass Bottle - Unpreserved (EP071) RB02	**30-Sep-2020**	**02-Oct-2020**	07-Oct-2020	✓	**07-Oct-2020**	11-Nov-2020	✓
Amber VOC Vial - Sulfuric Acid (EP080) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP080) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) RB01	**29-Sep-2020**	**05-Oct-2020**	13-Oct-2020	✓	**05-Oct-2020**	13-Oct-2020	✓
Amber VOC Vial - Sulfuric Acid (EP080) RB02	**30-Sep-2020**	**05-Oct-2020**	14-Oct-2020	✓	**05-Oct-2020**	14-Oct-2020	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	40	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	29	13.79	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	29	6.90	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	29	6.90	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	29	6.90	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
TRH - Semivolatile Fraction	EP071	0	13	0.00	10.00	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	12	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TRH - Semivolatile Fraction	EP071	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	8.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TRH - Semivolatile Fraction	EP071	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	8.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TRH - Semivolatile Fraction	EP071	0	13	0.00	5.00	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	8.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
Volatile Organic Compounds	EP074	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging.

ALS Melbourne: 4 Westall Rd, Springvale, VIC 3171 Phone (03) 8549 9600; Facsimile (03) 8549 9601. Email Samples.Melbourne@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd
2-4 Westall Road, Springvale, VIC 3171

CLIENT: EDGE GROUP
ADDRESS / OFFICE: 423 CITY RD SOUTH MELBOURNE
PROJECT MANAGER (PM):
PROJECT ID: 20200047
SITE: Collingwood P.O. NO.: 20200047
RESULTS REQUIRED (Date): Standard QUOTE NO.: ME/147/20

SAMPLER: Natasha Vella
MOBILE: 0402 924 941
PHONE
EMAIL REPORT TO: scottd@edgegroup.net.au
EMAIL INVOICE TO: accounts@edgegroup.net.au

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

BN 2/10

Notes: e.g. Highly contaminated samples
e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	TRH/VOC (inc. BTEXN) - S-09	TRH(C6-C9)/BTEXN - S-18	HOLD
1	SVB03-0.2	S	29/9				X		
2	SVB03-0.5								
3	SVB03-1.0						X		
4	SVB03-1.5								
5	SVB04-0.2								
6	SVB04-0.5						X		
7	SVB04-1.0								
8	SVB04-1.5						X		
9	SVB05-0.2								
10	SVB05-0.5						X		
11	SVB05-1.0								
12	SVB05-1.5						X		

SAMPLE INFORMATION (note: S = Soil, W=Water)
CONTAINER INFORMATION

ENVIROLAB GROUP
Envirolab Services
25 Research Drive
Croydon South VIC 3136
Ph: (03) 9763 2500

Job No: 22776
Date Received: 2/10/20
Time Received: 4-05pm
Received By: KS
Temp: Cool/Ambient 12-3°C
Cooling: ce/icepack
Security: Intact/Broken/None

Environmental Division
Melbourne
Work Order Reference
EM2017150

Telephone : + 61-3-8549 9600

BN 2/10

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Scott Davis	Date: 01/10/20	Name: Manu	Date:	Con' Note No:
Of: Edge Group	Time: 10:00	Of:	Time:	
Name:	Date:	Name: KS	Date: 2/10/20	Transport Co:
Of:	Time:	Of: ELS	Time: 4-05pm.	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

Relinquished by Mikha (ALS) 2/10

AUSTRALIAN LABORATORY SERVICES P/L

Received: 2/10, 10 Carrier:
C/note:
Temp: 13 °C Seal: Y N
Ice / Icebricks / NA

COC Page _1_ of 3_

ALS Melbourne: 4 Westall Rd, Springvale, VIC 3171 Phone (03) 8549 9600; Facsimile (03) 8549 9601. Email Samples.Melbourne@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

Australian Labc (ALS) Pty Ltd
2-4 Westall Road, Springvale, VIC 3171

CLIENT: EDGE GROUP	SAMPLER: Natasha Vella
ADDRESS / OFFICE: 423 CITY RD SOUTH MELBOURNE	MOBILE: 0402 924 941
PROJECT MANAGER (PM):	PHONE
PROJECT ID: 20200047	EMAIL REPORT TO: scottd@edgegroup.net.au
SITE: Collingwood P.O. NO.: 20200047	EMAIL INVOICE TO: accounts@edgegroup.net.au
RESULTS REQUIRED (Date): Standard QUOTE NO.: ME/147/20	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: N/A Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

BP 2/10

SAMPLE INFORMATION (note: S = Soil, W=Water) CONTAINER INFORMATION

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	TRH/VOC (inc. BTEXN) - S-09	TRH(C6-C9)/BTEXN - S-18									HOLD
25	SVB09-1.0	S	30/9														
26	SVB10-0.2						X										
27	SVB10-0.5																
28	SVB10-1.0																
29	SVB10-1.5																
30	FD01						X										
→	FS01						X										
31	FD02																X
32	FS02																X
33	RB01	W	29-Jan	29/9			X										
34	TB01	S		↓				X									
35	RB02	W	30/9				X										
36	TB02	S	↓					X									

Notes: e.g. Highly contaminated samples
e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.

Please forward FS01 to Envirolab for analysis

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Scott Davis	Date: 01/10/20	Name: Miluka	Date:	Con' Note No:
Of: Edge Group	Time: 10:00	Of:	Time:	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

AUSTRALIAN LABORATORY SERVICES P/L

Relinquished by Miluka (ALS) 3/10

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 22776

Client Details

Client	Edge Group Pty Ltd
Attention	Scott Davis
Address	Level 1, 423 City Road, South Melbourne, VIC, 3205

Sample Details

Your Reference	**20200047**
Number of Samples	1 SOIL
Date samples received	02/10/2020
Date completed instructions received	02/10/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	09/10/2020
Date of Issue	09/10/2020

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Chris De Luca, Operations Manager

Authorised By



Pamela Adams, Laboratory Manager

VOCs in soil		
Our Reference		22776-1
Your Reference	UNITS	FS01
Date Sampled		29/09/2020
Type of sample		SOIL
Date extracted	-	07/10/2020
Date analysed	-	08/10/2020
Dichlorodifluoromethane	mg/kg	<1
Chloromethane	mg/kg	<1
Vinyl Chloride	mg/kg	<1
Bromomethane	mg/kg	<1
Chloroethane	mg/kg	<1
Trichlorofluoromethane	mg/kg	<1
1,1-Dichloroethene	mg/kg	<0.5
trans-1,2-dichloroethene	mg/kg	<0.5
1,1-dichloroethane	mg/kg	<0.5
cis-1,2-dichloroethene	mg/kg	<0.5
bromochloromethane	mg/kg	<0.5
chloroform	mg/kg	<0.5
2,2-dichloropropane	mg/kg	<0.5
1,2-dichloroethane	mg/kg	<0.5
1,1,1-trichloroethane	mg/kg	<0.5
1,1-dichloropropene	mg/kg	<0.5
Cyclohexane	mg/kg	<1
carbon tetrachloride	mg/kg	<0.5
Benzene	mg/kg	<0.2
dibromomethane	mg/kg	<0.5
1,2-dichloropropane	mg/kg	<0.5
trichloroethene	mg/kg	<0.5
bromodichloromethane	mg/kg	<0.5
trans-1,3-dichloropropene	mg/kg	<0.5
cis-1,3-dichloropropene	mg/kg	<0.5
1,1,2-trichloroethane	mg/kg	<0.5
Toluene	mg/kg	<0.5
1,3-dichloropropane	mg/kg	<0.5
dibromochloromethane	mg/kg	<0.5
1,2-dibromoethane	mg/kg	<0.5
Tetrachloroethene	mg/kg	<0.5
1,1,1,2-tetrachloroethane	mg/kg	<0.5
chlorobenzene	mg/kg	<0.5
Ethylbenzene	mg/kg	<0.5

VOCs in soil		
Our Reference		22776-1
Your Reference	UNITS	FS01
Date Sampled		29/09/2020
Type of sample		SOIL
bromoform	mg/kg	<0.5
m+p-xylene	mg/kg	<1
styrene	mg/kg	<0.5
1,1,2,2-tetrachloroethane	mg/kg	<0.5
o-Xylene	mg/kg	<0.5
1,2,3-trichloropropane	mg/kg	<0.5
isopropylbenzene	mg/kg	<0.5
bromobenzene	mg/kg	<0.5
n-propyl benzene	mg/kg	<0.5
2-chlorotoluene	mg/kg	<0.5
4-chlorotoluene	mg/kg	<0.5
1,3,5-trimethyl benzene	mg/kg	<0.5
tert-butyl benzene	mg/kg	<0.5
1,2,4-trimethyl benzene	mg/kg	<0.5
1,3-dichlorobenzene	mg/kg	<0.5
sec-butyl benzene	mg/kg	<0.5
1,4-dichlorobenzene	mg/kg	<0.5
4-isopropyl toluene	mg/kg	<0.5
1,2-dichlorobenzene	mg/kg	<0.5
n-butyl benzene	mg/kg	<0.5
1,2-dibromo-3-chloropropane	mg/kg	<0.5
1,2,4-trichlorobenzene	mg/kg	<0.5
hexachlorobutadiene	mg/kg	<0.5
1,2,3-trichlorobenzene	mg/kg	<0.5
Surrogate Dibromofluoromethane	%	102
Surrogate aaa-Trifluorotoluene	%	88
Surrogate Toluene-d_8	%	100
Surrogate 4-Bromofluorobenzene	%	90

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		22776-1
Your Reference	UNITS	FS01
Date Sampled		29/09/2020
Type of sample		SOIL
Date extracted	-	07/10/2020
Date analysed	-	08/10/2020
vTRH C_6 - C_9	mg/kg	<25
vTRH C_6 - C_{10}	mg/kg	<25
TRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Naphthalene	mg/kg	<1
Total BTEX	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	92

TRH Soil C10-C40 NEPM		
Our Reference		22776-1
Your Reference	UNITS	FS01
Date Sampled		29/09/2020
Type of sample		SOIL
Date extracted	-	07/10/2020
Date analysed	-	08/10/2020
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	82

Moisture		
Our Reference		22776-1
Your Reference	UNITS	FS01
Date Sampled		29/09/2020
Type of sample		SOIL
Date prepared	-	7/10/2020
Date analysed	-	8/10/2020
Moisture	%	20

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			07/10/2020	[NT]	[NT]	[NT]	[NT]	07/10/2020	[NT]
Date analysed	-			08/10/2020	[NT]	[NT]	[NT]	[NT]	08/10/2020	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	82	[NT]
cis-1,2-dichloroethene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bromochloromethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
chloroform	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	85	[NT]
2,2-dichloropropane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	87	[NT]
1,1,1-trichloroethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	85	[NT]
1,1-dichloropropene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
carbon tetrachloride	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
dibromomethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
trichloroethene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	90	[NT]
bromodichloromethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	82	[NT]
trans-1,3-dichloropropene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
dibromochloromethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	79	[NT]
1,2-dibromoethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	86	[NT]
1,1,1,2-tetrachloroethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
chlorobenzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bromoform	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
styrene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
o-Xylene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
isopropylbenzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bromobenzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
tert-butyl benzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
sec-butyl benzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
hexachlorobutadiene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	102	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	82	[NT]	[NT]	[NT]	[NT]	81	[NT]
Surrogate Toluene-d_8	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	90	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			07/10/2020	[NT]	[NT]	[NT]	[NT]	07/10/2020	[NT]
Date analysed	-			08/10/2020	[NT]	[NT]	[NT]	[NT]	08/10/2020	[NT]
vTRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	102	[NT]
vTRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	102	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	95	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	106	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	85	[NT]	[NT]	[NT]	[NT]	86	[NT]

QUALITY CONTROL: TRH Soil C10-C40 NEPM						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			07/10/2020	[NT]	[NT]	[NT]	[NT]	07/10/2020	[NT]
Date analysed	-			07/10/2020	[NT]	[NT]	[NT]	[NT]	07/10/2020	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	88	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	91	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	88	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	91	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
Surrogate o-Terphenyl	%		Org-020	86	[NT]	[NT]	[NT]	[NT]	78	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

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DATA QUALITY ASSESSMENT SUMMARY

Report Details

Envirolab Report Reference	**22776**
Client ID	Edge Group Pty Ltd
Project Reference	20200047
Date Issued	09/10/2020

QC DATA

All laboratory QC data was within the Envirolab Group's specifications.

HOLDING TIME COMPLIANCE EVALUATION

All preservation / holding times (based on AS/ASPHA/ISO/NEPM/USEPA reference documents and standards) are compliant.

Certain analyses have had their recommended technical holding times elongated by filtering and/or freezing on receipt at the laboratory (e.g. BOD, chlorophyll/Pheophytin, nutrients and acid sulphate soil tests).

COMPLIANCE TO QC FREQUENCY (NEPM)

Internal laboratory QC rate complies with NEPM requirements (LCS/MB/MS 1 in 20, Duplicates 1 in 10 samples). Note, samples are batched together with other sample consignments in order to assign QC sample frequency.

QC Evaluation

Duplicate(s) was performed as per NEPM frequency	✓
Laboratory Control Sample(s) were analysed with the samples received	✓
A Method Blank was performed with the samples received	✓
Matrix spike(s) was performed as per NEPM frequency (Not Applicable for Air samples)	✓

Refer to Certificate of Analysis for all Quality Control data.

Appendix I
Soil Vapour Analytical Results Tables

Appendix I
Table I1 - Soil Vapour Analytical Results

Edge Project No.: 20200047
Soil Vapour Risk Assessment
21 Northumberland and 26 Wellington Streets
Collingwood

											Sample Code	204647-1	Oct17I9	T20-De35692	204647-3	Oct17I8	T20-De35694	204647-4	Oct17I7	T20-De35696	204647-5	Oct1709	T20-De35690	204647-6
											Field ID	SVP01			SVP02			SVP03			SVB01			SVB02
											Depth (mbgl)	0.1			0.1			0.1			1.5			
											Date	31/10/18	7/10/20	15/12/20	31/10/18	7/10/20	15/12/20	31/10/18	7/10/20	15/12/20	31/10/18	6/10/20	15/12/20	31/10/18
			NEPM 2013 Interim HILs - Table 1A(2)[1]		NEPM 2013 HSLs -Table 1A(5) - Clay[2]				EnRiskS Criteria[3]		USEPA RSLs THQ 1.0[4]															
					Comm/Ind D																					
Analyte	Units	LOR	Comm/Ind D	Res A/B	0-1m	1-2m	0-1m	1-2m	Commercial	Residential	Industrial Air	Resident Air														
TRH NEPM 2013 Fractions																										
>C_6-C_{10}	mg/m^3	0.1	*	*	*	*	*	*	*	*	*	*	-	<0.115	2.4	-	<0.115	<0.125	-	<0.115	1.5	-	<0.115	<0.115	-
F1 (>C_6-C_{10} minus BTEX)	mg/m^3	0.1	*	*	1,000	19,000	230	4,200	680	180	*	*	0.2	<0.115	1.4	0.2	<0.115	<0.125	0.2	<0.115	1.3	2.4	<0.115	<0.115	2.6
>C_{10}-C_{12} minus Naphthalene	µg/m^3	100	*	*	800,000	*	180,000	3,800,000	500,000	130,000	*	*	<40	520	1,400	<40	<115	1,300	<40	210	790	980	<115	130	0.05
>C_{10}-C_{12}	µg/m^3	100	*	*	*	*	*	*	*	*	*	*	-	520	1,400	-	<115	1,300	-	210	790	-	<115	130	-
BTEXN																										
Benzene	µg/m^3	1.6	*	*	5,000	80,000	1,000	15,000	4,000	1,000	*	*	<1.6	7.2	<4	<1.6	<4	<4	<1.6	<4	120	6	<4	<4	2
Toluene	µg/m^3	7.5	*	*	6,500,000	100,000,000	1,600,000	23,000,000	4,800,000	1,300,000	*	*	<1.9	<7.5	1,100	3	<7.5	450	2	<7.5	68	81	<7.5	<7.5	36
Ethylbenzene	µg/m^3	2.2	*	*	1,800,000	31,000,000	420,000	6,800,000	1,300,000	330,000	*	*	<2.2	<5	<5	<2.2	<5	6	<2.2	9.4	10	20	<5	<5	3
Xylene (m & p)	µg/m^3	4.4	*	*	*	*	*	*	*	*	*	*	<4.3	<10	<10	<4.3	<10	20	<4.3	<10	<11	40	<10	13	10
Xylene (o)	µg/m^3	2.2	*	*	*	*	*	*	*	*	*	*	<2.2	<5	<5	<2.2	<5	8.2	<2.2	<5	<5	31	<5	<5	6
Xylene Total	µg/m^3	6.6	*	*	1,200,000	21,000,000	280,000	4,800,000	840,000	220,000	*	*	-	<15	<14	-	<15	28	-	<15	<16	-	<15	<15	-
Naphthalene	µg/m^3	10.5	*	*	4,000	85,000	1,000	20,000	3,000	800	*	*	<2.6	<25	<24	<2.6	<25	<26	<2.6	<25	<27	7	<25	<25	<2.6
Solvents																										
1,4-Dioxane	µg/m^3	7.2	*	*	*	*	*	*	*	*	*250*	*56*	<1.8	<17	<16	<1.8	<17	<18	<1.8	<17	<18	<1.8	<17	<17	<1.8
Methyl Ethyl Ketone	µg/m^3	5.9	*	*	*	*	*	*	*	*	220,000	52,000	<1.5	<14	<13	<1.5	<14	<15	<1.5	<14	<15	<1.5	<14	<14	<1.5
2-hexanone (MBK)	µg/m^3	8.2	*	*	*	*	*	*	*	*	1,300	310	<2	<19	<18	<2	<19	<20	<2	<19	<21	<2	<19	<19	<2
4-Methyl-2-pentanone	µg/m^3	2.1	*	*	*	*	*	*	*	*	130,000	31,000	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2
Acetone	µg/m^3	11.9	*	*	*	*	*	*	140,000,000	6,400,000	*	*	<12	35	<26	20	73	<29	<12	50	<30	<12	<28	<28	<12
Allyl chloride	µg/m^3	6.3	*	*	*	*	*	*	*	*	200	47	-	<14	<14	-	<14	<15	-	<15	<16	-	<15	<15	-
Carbon disulfide	µg/m^3	6.2	*	*	*	*	*	*	3,100,000	146,000	*	*	<1.6	<14	<14	<1.6	<14	<15	<1.6	<15	<16	94	<14	<14	43
Cyclohexane	µg/m^3	1.7	*	*	*	*	*	*	24,000,000	1,260,000	260,000	63,000	<1.7	<4	<4	<1.7	<4	<4	<1.7	<4	<4	37	<4	<4	72
Ethanol	µg/m^3	3.8	*	*	*	*	*	*	460,000,000	20,000,000	*	*	<9.4	<9	<8	70	<9	<9	10	<9	<10	<9.4	<9	<9	<9.4
Heptane	µg/m^3	2.1	*	*	*	*	*	*	*	*	18,000	4,200	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2
Hexane	µg/m^3	3.5	*	*	*	*	*	*	3,100,000	146,000	6,100	1,400	3	<4	<4	10	<4	<4	<1.8	<4	<4	<1.8	<4	<4	<1.8
MTBE	µg/m^3	7.2	*	*	*	*	*	*	*	*	*4,700*	*1,100*	<1.8	<17	<16	<1.8	<17	<18	<1.8	<17	<18	<1.8	<17	<17	<1.8
2-Propanol	µg/m^3	49	*	*	*	*	*	*	880,000	42,000	8,800	2,100	<12	20,000	48,000	<12	26,000	40,000	20	6,300	24,000	390	610	<114	90
Pentane	MOL %		*	*	*	*	*	*	*	*	*	*	-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-
Tetrahydrofuran	µg/m^3	1.5	*	*	*	*	*	*	*	*	88,000	21,000	<1.5	<3	<3	<1.5	<3	<4	<1.5	<3	<4	<1.5	<3	<3	<1.5
Vinyl acetate	µg/m^3	7	*	*	*	*	*	*	*	*	8,800	2,100	<1.8	<16	<16	<1.8	<16	<17	<1.8	<16	<18	<1.8	<16	<16	<1.8
Chlorinated Hydrocarbons																										
Tetrachloroethene	µg/m^3	3.4	8,000	2,000	*	*	*	*	8,000	2,000	*	*	<3.4	100	<8	<3.4	<8	<8	<3.4	<8	<9	<3.4	<8	<8	<3.4
Trichloroethene	µg/m^3	2.7	80	20	*	*	*	*	80	20	*	*	<2.7	<6	<6	<2.7	25	<7	<2.7	<6	<7	<2.7	<6	<6	<2.7
1,1-dichloroethene	µg/m^3	2	*	*	*	*	*	*	*	*	8,800	2,100	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2
cis-1,2-dichloroethene	µg/m^3	2	300	80	*	*	*	*	*	*	*	*	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2
trans-1,2-dichloroethene	µg/m^3	2	*	*	*	*	*	*	*	*	*	*	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2
Vinyl chloride	µg/m^3	1.3	100	30	*	*	*	*	*	*	*	*	<1.3	<3	<3	<1.3	<3	<3	<1.3	<3	<3	<1.3	<3	<3	<1.3
1,1,1-trichloroethane	µg/m^3	2.7	230,000	60,000	*	*	*	*	*	*	*	*	<2.7	<6	<6	<2.7	<6	<7	<2.7	<6	<7	<2.7	<6	<6	<2.7
1,1,2,2-tetrachloroethane	µg/m^3	3.4	*	*	*	*	*	*	*	*	*21*	*4.8*	<3.4	<8	<8	<3.4	<8	<8	<3.4	<8	<9	<3.4	<8	<8	<3.4
1,1,2-trichloroethane	µg/m^3	2.7	*	*	*	*	*	*	*	*	77	18	<2.7	<6	<6	<2.7	<6	<7	<2.7	<6	<7	<2.7	<6	<6	<2.7
1,1-dichloroethane	µg/m^3	2	*	*	*	*	*	*	*	*	*770*	*180*	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2
1,2-dichloroethane	µg/m^3	2	*	*	*	*	*	*	*	*	*47*	*11*	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2
1,2-dichloropropane	µg/m^3	2.3	*	*	*	*	*	*	*	*	*330*	*76*	<2.3	<5	<5	<2.3	<5	<6	<2.3	<5	<6	<2.3	<5	<5	<2.3
Benzyl chloride	µg/m^3	2.6	*	*	*	*	*	*	*	*	*25*	*5.7*	<2.6	<6	<6	<2.6	<6	<6	<2.6	<6	<7	<2.6	<6	<6	<2.6
Bromodichloromethane	µg/m^3	3.4	*	*	*	*	*	*	640,000	28,000	*33*	*7.6*	<3.4	<8	<7	<3.4	<8	<8	30	<8	<8	3	<8	<8	5
Bromoform	µg/m^3	5.2	*	*	*	*	*	*	*	*	*1,100*	*260*	<5.2	<12	<11	<5.2	<12	<13	<5.2	<12	<13	<5.2	<12	<12	<5.2
Carbon tetrachloride	µg/m^3	3.1	*	*	*	*	*	*	*	*	*200*	*47*	<3.1	<7	<7	<3.1	<7	<8	<3.1	<7	<8	<3.1	<7	<7	<3.1
Chlorodibromomethane	µg/m^3	4.3	*	*	*	*	*	*	*	*	*	*	<1.6	<10	<9	<1.6	<10	<10	<1.6	<10	<11	<1.6	<10	<10	<1.6
Chloroethane	µg/m^3	5.3	*	*	*	*	*	*	*	*	440,000	100,000	<1.3	<12	<12	<1.3	<12	<13	<1.3	<12	<13	<1.3	<12	<12	<1.3
Chloroform	µg/m^3	2.4	*	*	*	*	*	*	640,000	28,000	*	*	<2.4	<6	<5	<2.4	<6	<6	190	<6	<6	26	<6	<6	20
Chloromethane	µg/m^3	10.3	*	*	*	*	*	*	*	*	3,900	940	<1	<24	<23	<1	<24	<25	<1	<24	<26	<1	<24	<24	<1
cis-1,3-dichloropropene	µg/m^3	2.3	*	*	*	*	*	*	*	*	*	*	<2.3	<5	<5	<2.3	<5	<6	<2.3	<5	<6	<2.3	<5	<5	<2.3
Dichloromethane	µg/m^3	17.4	*	*	*	*	*	*	*	*	12,000	1,000	<17	<40	<39	<17	<40	<43	<17	<41	<44	<17	<40	<40	<17
Hexachlorobutadiene	µg/m^3	21.3	*	*	*	*	*	*	*	*	*56*	*13*	<5.3	<49	<47	<5.3	<49	<52	<5.3	<50	<54	<5.3	<49	<49	<5.3
trans-1,3-dichloropropene	µg/m^3	2.3	*	*	*	*	*	*	*	*	*	*	<2.3	<5	<5	-	<5	<6	-	<5	<6	-	<5	<5	-

Notes
mbgl = metres below ground level
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- Analysis not performed
1 - NEPM 2013 - Interim Health Investigation Levels: Residential A (Low density), Residential B (Medium/High Density) and Commercial/Industrial D (Table 1A(2)).
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3 - EnRiskS Criteria - From Site specific risk assessment by EnRiskS (August 2021), Tables 3.1 and 3.3 (report reference: EG/17/ELR001)
4 - USEPA May 2018 - Regional Screening Levels: Resident and Industrial Air THQ=1.0. *Carcinogenic screening levels in italics.*

Analyte	Units	LOR	NEPM 2013 Interim HILs - Table 1A(2)[1]		NEPM 2013 HSLs -Table 1A(5) - Clay[2]				EnRiskS Criteria[3]		USEPA RSLs THQ 1.0[4]	
			Comm/Ind D	Res A/B	Comm/Ind D		Res A/B		Commercial	Residential	Industrial Air	Resident Air
					0-1m	1-2m	0-1m	1-2m				
General Gases												
Oxygen	MOL %		*	*	*	*	*	*	*	*	*	*
Carbon Dioxide	MOL %		*	*	*	*	*	*	*	*	*	*
Nitrogen (Total)	MOL %		*	*	*	*	*	*	*	*	*	*
Helium	MOL %		*	*	*	*	*	*	*	*	*	*
Carbon Monoxide	MOL %		*	*	*	*	*	*	*	*	*	*
Hydrogen	MOL %		*	*	*	*	*	*	*	*	*	*
MAH												
1,2,4-trimethylbenzene	µg/m^3	2.5	*	*	*	*	*	*	260,000	12,600	*	*
1,3,5-trimethylbenzene	µg/m^3	2.5	*	*	*	*	*	*	260,000	12,600	2,600	630
1-methyl-4 ethyl benzene	µg/m^3	2.5	*	*	*	*	*	*	1,300,000	330,000	*	*
Styrene	µg/m^3	2.1	*	*	*	*	*	*	*	*	44,000	10,000
VOCs												
1,3-Butadiene	MOL %		*	*	*	*	*	*	*	*	*	*
1,3-Butadiene	µg/m^3	1.1	*	*	*	*	*	*	*	*	41	9.4
NA												
1, 2-Propadiene	%	0.01	*	*	*	*	*	*	*	*	*	*
1-Butene	MOL %		*	*	*	*	*	*	*	*	*	*
1-Pentene	MOL %		*	*	*	*	*	*	*	*	*	*
2,2,4-Trimethylpentane	µg/m^3	9.3	*	*	*	*	*	*	8,300,000	360,000	*	*
2-methyl-2-butene	%	0.01	*	*	*	*	*	*	*	*	*	*
2-Methylbutane	MOL %		*	*	*	*	*	*	*	*	*	*
2-Methylpropane	MOL %		*	*	*	*	*	*	*	*	*	*
Acetylene	%	0.01	*	*	*	*	*	*	*	*	*	*
cis-2-Pentene	MOL %		*	*	*	*	*	*	*	*	*	*
Freon 114	µg/m^3		*	*	*	*	*	*	*	*	*	*
Freon 113	µg/m^3	3.8	*	*	*	*	*	*	*	*	220,000	*
Propene	µg/m^3	3.4	*	*	*	*	*	*	13,000,000	620,000	130,000	31,000
i-butylene	%	0.03	*	*	*	*	*	*	*	*	*	*
Methyl Acetylene	MOL %	0.01	*	*	*	*	*	*	*	*	*	*
trans-2-Butene	MOL %		*	*	*	*	*	*	*	*	*	*
trans-2-Pentene	MOL %		*	*	*	*	*	*	*	*	*	*
Butane	MOL %		*	*	*	*	*	*	*	*	*	*
Propane	MOL %		*	*	*	*	*	*	*	*	*	*
Halogenated Benzenes												
1,2,4-trichlorobenzene	µg/m^3	15	*	*	*	*	*	*	*	*	88	21
1,2-dichlorobenzene	µg/m^3	3	*	*	*	*	*	*	*	*	8,800	2,100
1,3-dichlorobenzene	µg/m^3	3	*	*	*	*	*	*	*	*	*	*
1,4-dichlorobenzene	µg/m^3	3	*	*	*	*	*	*	*	*	*110*	*26*
Chlorobenzene	µg/m^3	2.3	*	*	*	*	*	*	*	*	2,200	520
Halogenated Hydrocarbons												
1,2-dibromoethane	µg/m^3	3.6	*	*	*	*	*	*	*	*	*2*	*0.47*
Bromomethane	µg/m^3	19.4	*	*	*	*	*	*	*	*	220	52
Dichlorodifluoromethane	µg/m^3	2.5	*	*	*	*	*	*	106,000,000	4,600,000	4,400	1,000
Trichlorofluoromethane	µg/m^3	2.8	*	*	*	*	*	*	*	*	*	*
Organic												
Ethane	MOL %		*	*	*	*	*	*	*	*	*	*
Ethene	MOL %		*	*	*	*	*	*	*	*	*	*
Methane	MOL %		*	*	*	*	*	*	*	*	*	*

Sample Code																		
Field ID	SVP01			SVP02			SVP03			SVB01			SVB02					
Depth (mbgl)	0.1			0.1			0.1			1.5								
Date	31/10/18	7/10/20	15/12/20	31/10/18	7/10/20	15/12/20	31/10/18	7/10/20	15/12/20	31/10/18	6/10/20	15/12/20	31/10/18					
204647-1	Oct17I9	T20-De35692	204647-3	Oct17I8	T20-De35694	204647-4	Oct17I7	T20-De35696	204647-5	Oct17I9	T20-De35690	204647-6					
19	21	20	19	20	20	20	21	20	3.4	6.7	7.4	7.5					
1.3	1.2	1.4	0.73	0.65	<0.07	0.61	0.67	0.86	6.8	7.6	8.2	11					
-	78	79	-	79	80	-	78	78	-	86	84	-						
-	<0.12	<0.11	-	0.35	0.21	-	0.68	0.76	-	<0.12	<0.12	-						
-	<0.05	<0.04	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-						
-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-						
<2.5	<6	<5	<2.5	<6	<6	<2.5	8	7.8	75	<6	9.7	4						
<2.5	<6	<5	<2.5	<6	<6	<2.5	<6	<6	46	<6	<6	<2.5						
<2.5	<6	<5	<2.5	<6	<6	<2.5	<6	<6	10	<6	<6	<2.5						
<2.1	<5	<5	<2.1	<5	<5	<2.1	<5	<5	<2.1	<5	<5	<2.1						
<1.1	<0.08	<0.07	<1.1	<0.07	<0.07	<1.1	<0.07	<0.08	<1.1	<0.07	<0.07	<1.1						
<1.1	<3	<2	<1.1	<3	<3	<1.1	<3	<3	<1.1	<3	<3	<1.1						
-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-						
-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-						
-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-						
-	<21	<21	-	<21	<23	-	<22	330	-	<22	<22	-						
-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-						
-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-						
-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-						
-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-						
<2.5	<8	<8	<2.5	<8	<9	<2.5	<8	<9	<2.5	<8	<8	<2.5						
<3.8	<9	<9	<3.8	<9	<9	<3.8	<9	<10	<3.8	<9	<9	<3.8						
<0.9	<8	<8	<0.9	<8	<8	<0.9	<8	<9	400	<8	<8	290						
-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-						
-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-						
-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-						
-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-						
-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-						
-	<0.05	<0.04	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-						
<3.7	<34	<33	<3.7	<34	<37	<3.7	<35	<37	<3.7	<34	<34	<3.7						
<3	<7	<7	<3	<7	<7	<3	<7	<7	<3	<7	<7	<3						
<3	<7	<7	<3	<7	<7	<3	<7	<8	<3	<7	<7	<3						
<3	<7	<7	<3	<7	<7	<3	<7	<8	<3	<7	<7	<3						
<2.3	<5	<5	<2.3	<5	<6	<2.3	<5	<6	<2.3	<5	<5	<2.3						
<3.8	<8	<8	<3.8	<8	<9	<3.8	<8	<9	<3.8	<8	<8	<3.8						
<1.9	<45	<43	<1.9	<45	<48	<1.9	<45	<49	<1.9	<45	<45	<1.9						
<2.5	<6	<5	<2.5	<6	<6	<2.5	<6	<6	<2.5	<6	<6	2						
<2.8	<6	<6	<2.8	<6	<7	<2.8	<7	<7	<2.8	<7	<7	<2.8						
-	<0.1	<0.09	-	<0.09	<0.1	-	<0.09	<0.1	-	<0.09	<0.09	-						
-	<0.05	<0.04	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-						
<0.01	<0.12	<0.11	<0.01	<0.12	<0.12	<0.01	<0.12	<0.13	0.3	<0.12	<0.12	<0.01						

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												Sample Code	Oct1716	T20-De35695	Oct1715	T20-De35689	Oct1714	T20-De35693	Oct1711	T20-De35691	Oct1713	T20-De35686	Oct1712	T20-De35688	Oct1708	T20-De35687
												Field ID	SVB04		SVB05		SVB06		SVB07		SVB08		SVB09		SVB10	
												Depth (mbgl)	1.45		1.45		1.45		0.7		1.45		0.7		1.45	
												Date	7/10/20	15/12/20	7/10/20	14/12/20	6/10/20	15/12/20	6/10/20	15/12/20	6/10/20	14/12/20	6/10/20	14/12/20	6/10/20	14/12/20
			NEPM 2013 Interim HILs - Table 1A(2)[1]		NEPM 2013 HSLs -Table 1A(5) - Clay[2]				EnRiskS Criteria[3]		USEPA RSLs THQ 1.0[4]															
Analyte	Units	LOR	Comm/Ind D	Res A/B	Comm/Ind D		Res A/B		Commercial	Residential	Industrial Air	Resident Air														
					0-1m	1-2m	0-1m	1-2m																		
TRH NEPM 2013 Fractions																										
>C_6-C_{10}	mg/m^3	0.1	*	*	*	*	*	*	*	*	*	*	<0.11	<0.11	**3.5**	**0.86**	<0.115	<0.12	<0.12	<0.115	<0.11	<0.11	<0.115	<0.12	<0.11	<0.115
F1 (>C_6-C_{10} minus BTEX)	mg/m^3	0.1	*	*	1,000	19,000	230	4,200	680	180	*	*	<0.11	<0.11	**3.5**	**0.81**	<0.115	<0.12	<0.12	<0.115	<0.11	<0.11	<0.115	<0.12	<0.11	<0.115
>C_{10}-C_{12} minus Naphthalene	µg/m^3	100	*	*	800,000	*	180,000	3,800,000	500,000	130,000	*	*	<110	<110	**420**	**290**	<115	**610**	<120	<115	<110	**640**	<115	**150**	**490**	**400**
>C_{10}-C_{12}	µg/m^3	100	*	*	*	*	*	*	*	*	*	*	<110	<110	**420**	**290**	<115	**630**	<120	<115	<110	**650**	<115	**160**	**490**	**420**
BTEXN																										
Benzene	µg/m^3	1.6	*	*	5,000	80,000	1,000	15,000	4,000	1,000	*	*	<4	<4	**56**	**35**	**21**	<4	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	µg/m^3	7.5	*	*	6,500,000	100,000,000	1,600,000	23,000,000	4,800,000	1,300,000	*	*	**17**	<7.5	<7.5	**7.7**	**12**	**9.3**	<7.5	<7.5	<7.5	**9.1**	<7.5	<7.5	<7.5	<7.5
Ethylbenzene	µg/m^3	2.2	*	*	1,800,000	31,000,000	420,000	6,800,000	1,300,000	330,000	*	*	<5	<5	<5	<5	<5	<5	<5	<5	<5	**7.3**	<5	<5	<5	<5
Xylene (m & p)	µg/m^3	4.4	*	*	*	*	*	*	*	*	*	*	<10	<10	<11	<11	<10	<11	<10	**15**	<10	**44**	<10	<10	<10	<10
Xylene (o)	µg/m^3	2.2	*	*	*	*	*	*	*	*	*	*	<5	<5	<5	<5	<5	<5	<5	<5	<5	**16**	<5	<5	<5	<5
Xylene Total	µg/m^3	6.6	*	*	1,200,000	21,000,000	280,000	4,800,000	840,000	220,000	*	*	<15	<15	<16	<16	<15	<16	<15	<15	<15	**60**	<15	<16	<15	<15
Naphthalene	µg/m^3	10.5	*	*	4,000	85,000	1,000	20,000	3,000	800	*	*	<24	<25	<26	<27	<24	<26	<25	<25	<24	<23	<24	<25	<24	<25
Solvents																										
1,4-Dioxane	µg/m^3	7.2	*	*	*	*	*	*	*	*	*250*	*56*	<16	<16	<18	<18	<16	<17	<17	<17	<16	<16	<16	<17	<16	<17
Methyl Ethyl Ketone	µg/m^3	5.9	*	*	*	*	*	*	*	*	220,000	52,000	<13	<13	<15	<15	<13	<14	<14	<14	<13	<13	<13	<14	<13	<14
2-hexanone (MBK)	µg/m^3	8.2	*	*	*	*	*	*	*	*	1,300	310	<18	<18	<20	<20	<19	<20	<19	<19	<18	<18	<19	<20	<18	<19
4-Methyl-2-pentanone	µg/m^3	2.1	*	*	*	*	*	*	*	*	130,000	31,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	µg/m^3	11.9	*	*	*	*	*	*	140,000,000	6,400,000	*	*	**75**	<26	**92**	<30	**92**	<29	**54**	**140**	<26	**41**	**130**	<28	**53**	<28
Allyl chloride	µg/m^3	6.3	*	*	*	*	*	*	*	*	200	47	<14	<14	<15	<16	<14	<15	<15	<15	<14	<14	<14	<15	<14	<15
Carbon disulfide	µg/m^3	6.2	*	*	*	*	*	*	3,100,000	146,000	*	*	<14	<14	**200**	<16	**160**	<15	<15	<14	<14	<14	<14	<15	<14	<14
Cyclohexane	µg/m^3	1.7	*	*	*	*	*	*	24,000,000	1,260,000	260,000	63,000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethanol	µg/m^3	3.8	*	*	*	*	*	*	460,000,000	20,000,000	*	*	<8	<8	<9	<9	<9	<9	<9	<9	<8	<8	<9	<9	<8	<9
Heptane	µg/m^3	2.1	*	*	*	*	*	*	*	*	18,000	4,200	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Hexane	µg/m^3	3.5	*	*	*	*	*	*	3,100,000	146,000	6,100	1,400	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
MTBE	µg/m^3	7.2	*	*	*	*	*	*	*	*	*4,700*	*1,100*	<16	<16	<18	<18	<16	<17	<17	<17	<16	<16	<16	<17	<16	<17
2-Propanol	µg/m^3	49	*	*	*	*	*	*	880,000	42,000	8,800	2,100	<110	<110	**660**	**1,200**	**2,000**	<119	<116	<114	<110	**1,900**	<112	<117	<110	**630**
Pentane	MOL %		*	*	*	*	*	*	*	*	*	*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrahydrofuran	µg/m^3	1.5	*	*	*	*	*	*	*	*	88,000	21,000	<3	<3	<4	<4	<3	<4	<3	<3	<3	<3	<3	<4	<3	<3
Vinyl acetate	µg/m^3	7	*	*	*	*	*	*	*	*	8,800	2,100	<16	<16	<17	<18	<16	<17	<17	<16	<16	<15	<16	<17	<16	<16
Chlorinated Hydrocarbons																										
Tetrachloroethene	µg/m^3	3.4	8,000	2,000	*	*	*	*	8,000	2,000	*	*	<8	<8	<8	<8	<8	<8	<8	**46**	<8	<7	<8	<8	<8	<8
Trichloroethene	µg/m^3	2.7	80	20	*	*	*	*	80	20	*	*	<6	<6	<7	<7	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
1,1-dichloroethene	µg/m^3	2	*	*	*	*	*	*	*	*	8,800	2,100	<4	<4	<5	<5	<5	<5	<5	<5	<4	<4	<4	<5	<4	<5
cis-1,2-dichloroethene	µg/m^3	2	300	80	*	*	*	*	*	*	*	*	<4	<4	<5	<5	<5	<5	<5	<5	<4	<4	<4	<5	<4	<5
trans-1,2-dichloroethene	µg/m^3	2	*	*	*	*	*	*	*	*	*	*	<4	<4	<5	<5	<5	<5	<5	<5	<4	<4	<4	<5	<4	<5
Vinyl chloride	µg/m^3	1.3	100	30	*	*	*	*	*	*	*	*	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1,1-trichloroethane	µg/m^3	2.7	230,000	60,000	*	*	*	*	*	*	*	*	<6	<6	<7	<7	<6	<7	<6	<6	<6	<6	<6	<6	<6	<6
1,1,2,2-tetrachloroethane	µg/m^3	3.4	*	*	*	*	*	*	*	*	*21*	*4.8*	<8	<8	<8	<9	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
1,1,2-trichloroethane	µg/m^3	2.7	*	*	*	*	*	*	*	*	77	18	<6	<6	<7	<7	<6	<7	<6	<6	<6	<6	<6	<6	<6	<6
1,1-dichloroethane	µg/m^3	2	*	*	*	*	*	*	*	*	*770*	*180*	<5	<5	<5	<5	<5	<5	<5	<5	<5	<4	<5	<5	<5	<5
1,2-dichloroethane	µg/m^3	2	*	*	*	*	*	*	*	*	*47*	*11*	<5	<5	<5	<5	<5	<5	<5	<5	<5	<4	<5	<5	<5	<5
1,2-dichloropropane	µg/m^3	2.3	*	*	*	*	*	*	*	*	*330*	*76*	<5	<5	<6	<6	<5	<6	<5	<5	<5	<5	<5	<6	<5	<5
Benzyl chloride	µg/m^3	2.6	*	*	*	*	*	*	*	*	*25*	*5.7*	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Bromodichloromethane	µg/m^3	3.4	*	*	*	*	*	*	640,000	28,000	*33*	*7.6*	<8	<7	<8	<8	<8	<8	<8	<8	<7	<7	<8	<8	<8	<8
Bromoform	µg/m^3	5.2	*	*	*	*	*	*	*	*	*1,100*	*260*	<12	<12	<13	<13	<12	<13	<12	<12	<12	<11	<12	<12	<12	<12
Carbon tetrachloride	µg/m^3	3.1	*	*	*	*	*	*	*	*	*200*	*47*	<7	<7	<8	<8	<7	<8	<7	<7	<7	<7	<7	<7	<7	<7
Chlorodibromomethane	µg/m^3	4.3	*	*	*	*	*	*	*	*	*	*	<10	<10	<11	<11	<10	<10	<10	<10	<10	<9	<10	<10	<10	<10
Chloroethane	µg/m^3	5.3	*	*	*	*	*	*	*	*	440,000	100,000	<12	<12	<13	<13	<12	<13	<12	<12	<12	<12	<12	<13	<12	<12
Chloroform	µg/m^3	2.4	*	*	*	*	*	*	640,000	28,000	*	*	**170**	**18**	**130**	<6	**45**	<6	**14**	<6	**9.1**	<5	**32**	<6	<5	<6
Chloromethane	µg/m^3	10.3	*	*	*	*	*	*	*	*	3,900	940	<23	<23	<26	<26	<24	<25	<24	<24	<23	<23	<23	<25	<23	<24
cis-1,3-dichloropropene	µg/m^3	2.3	*	*	*	*	*	*	*	*	*	*	<5	<5	<6	<6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dichloromethane	µg/m^3	17.4	*	*	*	*	*	*	*	*	12,000	1,000	<39	<39	<43	<43	<40	<42	<41	<40	<39	<38	<39	<41	<39	<40
Hexachlorobutadiene	µg/m^3	21.3	*	*	*	*	*	*	*	*	*56*	*13*	<48	<48	<53	<53	<49	<52	<50	<49	<48	<47	<48	<51	<48	<49
trans-1,3-dichloropropene	µg/m^3	2.3	*	*	*	*	*	*	*	*	*	*	<5	<5	<6	<6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

Notes
mbgl = metres below ground level
LOR = Limit of Reporting
<## Result is less than the LOR
* No Relevant Criteria
- Analysis not performed
1 - NEPM 2013 - Interim Health Investigation Levels: Residential A (Low density), Residential B (Medium/High Density) and Commercial/Industrial D (Table 1A(2)).
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3 - EnRiskS Criteria - From Site specific risk assessment by EnRiskS (August 2021), Tables 3.1 and 3.3 (report reference: EG17ELR001)
4 - USEPA May 2018 - Regional Screening Levels: Resident and Industrial Air THQ=1.0. *Carcinogenic screening levels in italics.*

Analyte	Units	LOR	NEPM 2013 Interim HILs - Table 1A(2)[1]		NEPM 2013 HSLs -Table 1A(5) - Clay[2]				EnRiskS Criteria[3]		USEPA RSLs THQ 1.0[4]	
			Comm/Ind D	Res A/B	Comm/Ind D		Res A/B		Commercial	Residential	Industrial Air	Resident Air
					0-1m	1-2m	0-1m	1-2m				
General Gases												
Oxygen	MOL %		*	*	*	*	*	*	*	*	*	*
Carbon Dioxide	MOL %		*	*	*	*	*	*	*	*	*	*
Nitrogen (Total)	MOL %		*	*	*	*	*	*	*	*	*	*
Helium	MOL %		*	*	*	*	*	*	*	*	*	*
Carbon Monoxide	MOL %		*	*	*	*	*	*	*	*	*	*
Hydrogen	MOL %		*	*	*	*	*	*	*	*	*	*
MAH												
1,2,4-trimethylbenzene	µg/m^3	2.5	*	*	*	*	*	*	260,000	12,600	*	*
1,3,5-trimethylbenzene	µg/m^3	2.5	*	*	*	*	*	*	260,000	12,600	2,600	630
1-methyl-4 ethyl benzene	µg/m^3	2.5	*	*	*	*	*	*	1,300,000	330,000	*	*
Styrene	µg/m^3	2.1	*	*	*	*	*	*	*	*	44,000	10,000
VOCs												
1,3-Butadiene	MOL %		*	*	*	*	*	*	*	*	*	*
1,3-Butadiene	µg/m^3	1.1	*	*	*	*	*	*	*	*	41	9.4
NA												
1, 2-Propadiene	%	0.01	*	*	*	*	*	*	*	*	*	*
1-Butene	MOL %		*	*	*	*	*	*	*	*	*	*
1-Pentene	MOL %		*	*	*	*	*	*	*	*	*	*
2,2,4-Trimethylpentane	µg/m^3	9.3	*	*	*	*	*	*	8,300,000	360,000	*	*
2-methyl-2-butene	%	0.01	*	*	*	*	*	*	*	*	*	*
2-Methylbutane	MOL %		*	*	*	*	*	*	*	*	*	*
2-Methylpropane	MOL %		*	*	*	*	*	*	*	*	*	*
Acetylene	%	0.01	*	*	*	*	*	*	*	*	*	*
cis-2-Pentene	MOL %		*	*	*	*	*	*	*	*	*	*
Freon 114	µg/m^3		*	*	*	*	*	*	*	*	*	*
Freon 113	µg/m^3	3.8	*	*	*	*	*	*	*	*	220,000	*
Propene	µg/m^3	3.4	*	*	*	*	*	*	13,000,000	620,000	130,000	31,000
i-butylene	%	0.03	*	*	*	*	*	*	*	*	*	*
Methyl Acetylene	MOL %	0.01	*	*	*	*	*	*	*	*	*	*
trans-2-Butene	MOL %		*	*	*	*	*	*	*	*	*	*
trans-2-Pentene	MOL %		*	*	*	*	*	*	*	*	*	*
Butane	MOL %		*	*	*	*	*	*	*	*	*	*
Propane	MOL %		*	*	*	*	*	*	*	*	*	*
Halogenated Benzenes												
1,2,4-trichlorobenzene	µg/m^3	15	*	*	*	*	*	*	*	*	88	21
1,2-dichlorobenzene	µg/m^3	3	*	*	*	*	*	*	*	*	8,800	2,100
1,3-dichlorobenzene	µg/m^3	3	*	*	*	*	*	*	*	*	*	*
1,4-dichlorobenzene	µg/m^3	3	*	*	*	*	*	*	*	*	*110*	*26*
Chlorobenzene	µg/m^3	2.3	*	*	*	*	*	*	*	*	2,200	520
Halogenated Hydrocarbons												
1,2-dibromoethane	µg/m^3	3.6	*	*	*	*	*	*	*	*	*2*	*0.47*
Bromomethane	µg/m^3	19.4	*	*	*	*	*	*	*	*	220	52
Dichlorodifluoromethane	µg/m^3	2.5	*	*	*	*	*	*	106,000,000	4,600,000	4,400	1,000
Trichlorofluoromethane	µg/m^3	2.8	*	*	*	*	*	*	*	*	*	*
Organic												
Ethane	MOL %		*	*	*	*	*	*	*	*	*	*
Ethene	MOL %		*	*	*	*	*	*	*	*	*	*
Methane	MOL %		*	*	*	*	*	*	*	*	*	*

Sample Code	Oct1716	T20-De35695	Oct1715	T20-De35689	Oct1714	T20-De35693	Oct1711	T20-De35691	Oct1713	T20-De35686	Oct1712	T20-De35688	Oct1708	T20-De35687
Field ID	SVB04		SVB05		SVB06		SVB07		SVB08		SVB09		SVB10	
Depth (mbgl)	1.45		1.45		1.45		0.7		1.45		0.7		1.45	
Date	7/10/20	15/12/20	7/10/20	14/12/20	6/10/20	15/12/20	6/10/20	15/12/20	6/10/20	14/12/20	6/10/20	14/12/20	6/10/20	14/12/20
Oxygen	19	18	8.7	8.2	6.8	5.7	31	21	19	18	16	12	2.4	3
Carbon Dioxide	<0.07	<0.07	<0.07	<0.07	0.69	2.3	1.5	<0.07	2.1	3.3	<0.07	<0.07	8.5	9.9
Nitrogen (Total)	81	82	85	82	92	92	65	79	79	79	84	88	89	87
Helium	<0.11	<0.11	<0.12	<0.12	<0.11	<0.12	1.9	<0.12	<0.11	<0.11	<0.11	<0.12	<0.11	<0.12
Carbon Monoxide	<0.04	<0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.05	<0.05	<0.04	<0.05
Hydrogen	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
1,2,4-trimethylbenzene	<6	<5	7.7	<6	<6	73	<6	<6	<5	<5	<6	<6	<6	<6
1,3,5-trimethylbenzene	<6	<5	<6	<6	<6	13	<6	<6	<5	<5	<6	<6	<6	<6
1-methyl-4 ethyl benzene	<6	<5	<6	<6	<6	<6	<6	<6	<5	<5	<6	<6	<6	<6
Styrene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,3-Butadiene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
1,3-Butadiene	<2	<2	<3	<3	<3	<3	<3	<3	<2	<2	<3	<3	<2	<3
1, 2-Propadiene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1-Butene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
1-Pentene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2,2,4-Trimethylpentane	<21	<21	<23	<23	<21	<23	<22	<22	<21	<20	<21	<22	<21	<22
2-methyl-2-butene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-Methylbutane	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-Methylpropane	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
Acetylene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-2-Pentene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Freon 114	<8	<8	<9	<9	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Freon 113	<9	<9	<9	<10	<9	<9	<9	<9	<9	<8	<9	<9	<9	<9
Propene	<8	<8	<8	<9	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
i-butylene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
Methyl Acetylene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-2-Butene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
trans-2-Pentene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Butane	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
Propane	<0.04	<0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.05	<0.05	<0.04	<0.05
1,2,4-trichlorobenzene	<33	<37	<37	<37	<34	<36	<35	<34	<33	<33	<34	<35	<33	<34
1,2-dichlorobenzene	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
1,3-dichlorobenzene	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
1,4-dichlorobenzene	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
Chlorobenzene	<5	<5	<6	<6	<5	<6	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	<3	<3	<4	<4	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Bromomethane	<43	<43	<48	<48	<44	<47	<46	<45	<43	<43	<44	<46	<43	<45
Dichlorodifluoromethane	<6	<6	<6	<6	<6	<6	<6	<6	<6	<5	<6	<6	<6	<6
Trichlorofluoromethane	<6	<6	<7	<7	<6	<7	<7	<7	<6	<6	<6	<7	<6	<7
Ethane	<0.09	<0.09	<0.1	<0.1	<0.09	<0.1	<0.09	<0.09	<0.09	<0.09	<0.09	<0.1	<0.09	<0.09
Ethene	<0.04	<0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.05	<0.05	<0.04	<0.05
Methane	<0.11	<0.11	6.6	9.5	<0.11	<0.12	<0.12	<0.12	<0.11	<0.11	<0.11	<0.12	0.13	<0.12

Notes
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1 - NEPM 2013 - Interim Health Investigation Levels: Residential A (Low density), Residential B (Medium/High Density) and Commercial/Industrial D (Table 1A(2)).
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4 - USEPA May 2018 - Regional Screening Levels: Resident and Industrial Air THQ=1.0. *Carcinogenic screening levels in italics.*

			Intra-Laboratory Duplicate						Inter-Laboratory Duplicate					
	Lab Report No.		748889	748889	RPD	764336	764336	RPD	748889	ME316787	RPD	764336	EN2008513	RPD
	Field ID		SVB01	FD01		SVP03	FD01		SVB09	FS01		SVP02	FS01	
	Date		6/10/20	6/10/20		15/12/20	15/12/20		6/10/20	6/10/20		15/12/20	15/12/20	
	Matrix Type		gas	gas		gas	gas		gas	gas		gas	gas	
Analyte	**Unit**	**LOR**												
TRH NEPM 2013 Fractions														
>C_6-C_{10}	mg/m^3	0.115	<0.115	<0.115	0	**1.5**	<0.125	**169**	<0.115	**0.47**	**121**	<0.125	<20.0	0
F1 (>C_6-C_{10} minus BTEX)	mg/m^3	0.115	<0.115	<0.115	0	**1.3**	<0.125	**165**	<0.115	**0.46**	**120**	<0.125	<20.0	0
>C_{10}-C_{12} minus Naphthalene	µg/m^3	0.115	<115	<115	0	**790**	**750**	5	<115	<110	0	**1,300**	<40,000	0
>C_{10}-C_{12}	µg/m^3	0.115	<115	<115	0	**790**	**750**	5	<115	<110	0	**1,300**	-	-
BTEX														
Benzene	µg/m^3	4	<4	<4	0	**120**	**12**	**164**	<4	**4.9**	20	<4	<100	0
Toluene	µg/m^3	8	<7.5	<7.5	0	**68**	**67**	1	<7.5	**4.1**	0	**450**	**426**	5
Ethylbenzene	µg/m^3	5	<5	**5.8**	15	**10**	<5	67	<5	<3.2	0	**6**	<220	0
Xylene (m & p)	µg/m^3	10	<10	**29**	**97**	<11	<11	0	<10	<7	0	**20**	<430	0
Xylene (o)	µg/m^3	5	<5	**11**	**75**	<5	<5	0	<5	<3.2	0	**8.2**	<220	0
Xylene Total	µg/m^3	15.0	<15	**40**	**91**	<16	<16	0	<15	-	-	**28**	<650	0
PAH														
Naphthalene	µg/m^3	25	<25	<25	0	-	-	-	<24	<11	0	-	<100	-
Solvents														
1,4-Dioxane	µg/m^3	0	<17	<17	0	<18	<18	0	<16	<3.2	0	<18	<180	0
Methyl Ethyl Ketone	µg/m^3	0	<14	<14	0	<15	<15	0	<13	<2.7	0	<15	<150	0
2-hexanone (MBK)	µg/m^3	0	<19	<19	0	<21	<20	0	<19	<3.2	0	<20	<200	0
4-Methyl-2-pentanone	µg/m^3	0	<5	<5	0	<5	<5	0	<5	<3.2	0	<5	<200	0
Acetone	µg/m^3	11.9	<28	<27	0	<30	<30	0	**130**	-	-	<29	<120	0
Allyl chloride	µg/m^3	0	<15	<14	0	<16	<16	0	<14	<3.8	0	<15	<160	0
Carbon disulfide	µg/m^3	6.2	<14	<14	0	<16	<16	0	<14	-	-	<15	<160	0
Cyclohexane	µg/m^3	0	<4	<4	0	<4	<4	0	<4	<2.1	0	<4	<170	0
Ethanol	µg/m^3	3.8	<9	<9	0	<10	<9	0	<9	-	-	<9	-	-
Heptane	µg/m^3	0	<5	<5	0	<5	<5	0	<5	<3.8	0	<5	<200	0
Hexane	µg/m^3	0	<4	<4	0	<4	<4	0	<4	<3.2	0	<4	<180	0
MTBE	µg/m^3	0	<17	<17	0	<18	<18	0	<16	<3.2	0	<18	<180	0
2-Propanol	µg/m^3	0	**610**	**550**	10	**24,000**	**24,000**	0	<112	<54	0	**40,000**	**77,100**	**63**
Tetrahydrofuran	µg/m^3	0	<3	<3	0	<4	<4	0	<3	<2.1	0	<4	<150	0
Vinyl acetate	µg/m^3	0	<16	<16	0	<18	<18	0	<16	<3.8	0	<17	<180	0
Chlorinated Hydrocarbons														
Tetrachloroethene	µg/m^3	8	<8	<8	0	<9	<8	0	<8	<5.9	0	<8	<340	0
Trichloroethene	µg/m^3	6	<6	<6	0	<7	<7	0	<6	<4.8	0	<7	<25.0	0
1,1-dichloroethene	µg/m^3	5	<5	<5	0	<5	<5	0	<4	<3.2	0	<5	<200	0
cis-1,2-dichloroethene	µg/m^3	5	<5	<5	0	<5	<5	0	<4	<4.3	0	<5	<20.0	0
trans-1,2-dichloroethene	µg/m^3	5	<5	<5	0	<5	<5	0	<4	<3.2	0	<5	<200	0
Vinyl chloride	µg/m^3	3	<3	<3	0	<3	<3	0	<3	<2.1	0	<3	<12.8	0
1,1,1-trichloroethane	µg/m^3	6	<6	<6	0	<7	<7	0	<6	<4.3	0	<7	<270	0
1,1,2,2-tetrachloroethane	µg/m^3	8	<8	<8	0	<9	<9	0	<8	<3.8	0	<8	<340	0
1,1,2-trichloroethane	µg/m^3	6	<6	<6	0	<7	<7	0	<6	<4.3	0	<7	<270	0
1,1-dichloroethane	µg/m^3	5	<5	<5	0	<5	<5	0	<5	<3.8	0	<5	<200	0
1,2-dichloroethane	µg/m^3	5	<5	<5	0	<5	<5	0	<5	<5.4	0	<5	<200	0
1,2-dichloropropane	µg/m^3	5	<5	<5	0	<6	<6	0	<5	<9.7	0	<6	<230	0
Benzyl chloride	µg/m^3	6	<6	<6	0	<7	<6	0	<6	<3.8	0	<6	<260	0
Bromodichloromethane	µg/m^3	8	<8	<8	0	<8	<8	0	<8	<5.4	0	<8	<340	0
Bromoform	µg/m^3	12	<12	<12	0	<13	<13	0	<12	<6.4	0	<13	<520	0
Carbon tetrachloride	µg/m^3	7	<7	<7	0	<8	<8	0	<7	<5.4	0	<8	<310	0
Chlorodibromomethane	µg/m^3	10	<10	<10	0	<11	<11	0	<10	<6.4	0	<10	<430	0
Chloroethane	µg/m^3	12	<12	<12	0	<13	<13	0	<12	<3.2	0	<13	<130	0
Chloroform	µg/m^3	6	<6	<6	0	<6	<6	0	**32**	**35**	9	<6	<240	0
Chloromethane	µg/m^3	24	<24	<24	0	<26	<26	0	<23	<3.8	0	<25	<100	0
cis-1,3-dichloropropene	µg/m^3	5	<5	<5	0	<6	<6	0	<5	<3.2	0	<6	<230	0
Dichloromethane	µg/m^3	17.4	<40	<40	0	<44	<43	0	<39	-	-	<43	<170	0
Hexachlorobutadiene	µg/m^3	49	<49	<49	0	-	-	-	<48	<11	0	-	<530	-
trans-1,3-dichloropropene	µg/m^3	5	<5	<5	0	<6	<6	0	<5	<3.8	0	<6	<230	0
Inorganics														
Nitrogen (Total)	MOL %		**86**	**86**	0	**78**	**78**	0	**84**	-	-	**80**	-	-
MAH														
1,2,4-trimethylbenzene	µg/m^3	6	<6	**23**	**117**	**7.8**	<6	26	<6	<4.3	0	<6	<240	0
1,3,5-trimethylbenzene	µg/m^3	6	<6	**6.3**	5	<6	<6	0	<6	<3.2	0	<6	<240	0
1-methyl-4 ethyl benzene	µg/m^3	6	<6	**7.4**	21	<6	<6	0	<6	<3.2	0	<6	<240	0
Styrene	µg/m^3	5	<5	<5	0	<5	<5	0	<5	<3.2	0	<5	<210	0
VOCs														
1,3-Butadiene	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
	µg/m^3	3	<3	<3	0	<3	<3	0	<3	<1.6	0	<3	<110	0
NA														
1, 2-Propadiene	%	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
1-Butene	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
1-Pentene	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
2,2,4-Trimethylpentane	µg/m^3	22	<22	<21	0	**330**	**24**	**173**	<21	<4.8	0	<23	<230	0
2-methyl-2-butene	%	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
2-Methylbutane	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
2-Methylpropane	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
Acetylene	%	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
cis-2-Pentene	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
Freon 114	µg/m^3	8	<8	<8	0	<9	<9	0	<8	-	-	<9	-	-
i-butylene	%	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
Methyl Acetylene	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
trans-2-Butene	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
trans-2-Pentene	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
Butane	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
Freon 113	µg/m^3	9	<9	<9	0	<10	<10	0	<9	<5.4	0	<9	<380	0
Propane	MOL %	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	-	-	<0.05	-	-
Propene	µg/m^3	8	<8	<8	0	<9	<9	0	<8	<5.4	0	<8	<90.0	0
Halogenated Benzenes														
1,2,4-trichlorobenzene	µg/m^3	34	<34	<34	0	-	-	-	<34	<19	0	-	<370	-
1,2-dichlorobenzene	µg/m^3	7	<7	<7	0	<7	<7	0	<7	<7	0	<7	<300	0
1,3-dichlorobenzene	µg/m^3	7	<7	<7	0	<8	<8	0	<7	<7	0	<7	<300	0
1,4-dichlorobenzene	µg/m^3	7	<7	<7	0	<8	<8	0	<7	<7	0	<7	<300	0
Chlorobenzene	µg/m^3	5	<5	<5	0	<6	<6	0	<5	<3.2	0	<6	<230	0
Halogenated Hydrocarbons														
1,2-dibromoethane	µg/m^3	8	<8	<8	0	<9	<9	0	<8	<6.4	0	<9	<380	0
Bromomethane	µg/m^3	45	<45	<45	0	<49	<49	0	<44	<4.8	0	<48	<190	0
Dichlorodifluoromethane	µg/m^3	6	<6	<6	0	<6	<6	0	<6	<2.1	0	<6	<250	0
Trichlorofluoromethane	µg/m^3	7	<7	<6	0	<7	<7	0	<6	<1.6	0	<7	<280	0
Organic														
Ethane	MOL %	0.09	<0.09	<0.09	0	<0.1	<0.1	0	<0.09	-	-	<0.1	-	-
Ethene	MOL %	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	-	-	<0.05	-	-
Methane	MOL %	0.12	<0.12	<0.12	0	<0.13	<0.12	0	<0.11	-	-	<0.12	<0.010	0
Other														
Helium	MOL %	0.12	<0.12	<0.12	0	**0.76**	**0.77**	1	<0.11	-	-	**0.21**	**0.23**	9
Carbon Dioxide	MOL %	0.07	**7.6**	**7.6**	0	**0.86**	**0.87**	1	<0.07	-	-	<0.07	**0.714**	**164**
Carbon Monoxide	MOL %	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	-	-	<0.05	-	-
Hydrogen	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
Oxygen	MOL %		**6.7**	**6.7**	0	**20**	**20**	0	**16**	**17**	6	**20**	**20**	0

Notes:
Grey shading indicates RPD exceeds 50%
- Analysis not completed

Appendix J
Soil Vapour Laboratory Analytical Reports

SUMMA CANISTER
CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☐ Sydney Laboratory
Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
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☐ Perth Laboratory
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08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road, Dandenong South, VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Edge Group	Project №	20200047
Address	423 City Rd South Melbourne VIC 3025	Project Name	Collingwood VRA
Contact Name	Scott Davis	Project Manager	Scott Davis
Phone №	0439 688 664	EDDs (Circle)	ESdat, EQuIS, pdf
Special Direction		Handed over by	Natasha Vella 7/10/20
Purchase Order	20200047	Email for Results	Scott.D@edgegroup.net.au natasha.vella@edgegroup.net.au
Quote ID №	200925 EDGV		

Turn Around Requirements: ☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☑ 5 Day ☐ Other ( ) * Surcharges apply

№	Client Sample ID	Date	Time	62 VOCs (TO-15)	TRH, F1, mod F2 (TO-15)	VPH aliphatic/aromatic speciation (TO-15)		ASTM Gas List (D1945/1946) O_2, CH_4, CO_2, helium	Helium only (D1946)	Canister Vacuum/Pressure Initial	Canister Vacuum/Pressure Final	Canister ID (e.g 1L0020 or 6L0020)	Flow Controller ID (e.g FC020 or 000020)	Sample Comments / DG Hazard Warning
1	SVB10	6/10/20	9:08	X	X			X				1L0009	34	
2	SVB01	6-10-20	10:49	X	X			X				1L0044	156	
3	FD01	6-10-20	10:49	X	X			X				1L0182	156	
4	SVB07	6-10-20	11:22	X	X			X				1L0006	53	
5	SVB09	6-10-20	12:56	X	X			X				1L0165	115	
6	SVB08	6-10-20	15:23	X	X			X				1L0096	70	
7	SVB06	6-10-20	16:13	X	X			X				1L0128	75	
8														
9														
	Total Counts			7	7			7				7	7	

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal Name [redacted] Signature Date __/__/__ Time __:__

Laboratory Use Only

Received By	L. Burgess	SYD | BNE | MEL | PER | ADL | NEW | DAR	Signature	Date	07/10/20	Time	5:00	Temperature	17.1°C
Received By		SYD | BNE | MEL | PER | ADL | NEW | DAR	Signature	Date	__/__/__	Time	__:__	Report №	748887

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

Jake

SUMMA CANISTER
CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☐ Sydney Laboratory
Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
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07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2, 91 Leach Highway, Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road, Dandenong South, VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Edge Group
Address	423 City Road South Melbourne 3025 VIC
Contact Name	Scott Davis
Phone №	0439 588 664
Special Direction	
Purchase Order	20200047
Quote ID №	200925EDSV

Project №	20200047
Project Name	Collingwood VRA
Project Manager	Scott Davis
EDDs (Circle)	ESdat, EQuIS, pdf
Handed over by	Natasha Vella
	___:___ 7/10/20
Email for Results	Scott.D@edgegroup.net.au natasha.vella@edgegroup.net.au

Turn Around Requirements

☐ Overnight (9am)*
☐ 1 Day* ☐ 2 Day*
☐ 3 Day* ☑ 5 Day
☐ Other ( )
* Surcharges apply

№	Client Sample ID	Date	Time	62 VOCs (TO-15)	TRH, F1, mod F2 (TO-15)	VPH aliphatic/aromatic speciation (TO-15)	ASTM Gas List (D1945/1946) O2, CH4, CO2, helium	Helium only (D1946)	Canister Vacuum/Pressure Initial	Final	Canister ID (e.g 1L0020 or 6L0020)	Flow Controller ID (e.g FC020 or 000020)	Sample Comments / DG Hazard Warning
1	SVB05	7-10-20	08:19	X	X		X				1L0070	128	
2	SVB04	7-10-20	09:10	X	X		X				1L0232	10	
3	SVP03	7-10-20	10:19	X	X		X				1L0197	147	
4	SVP02	7-10-20	10:55	X	X		X				1L0091	110	
5	SVP01	7-10-20	12:03	X	X		X				1L0228	18	
6													
7													
8													
9													
	Total Counts			5	5		5				5	5	

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal Name Signature Date ___/___/___ Time ___:___

Laboratory Use Only

Received By SYD | BNE | MEL | PER | ADL | NEW | DAR Signature Date ___/___/___ Time ___:___ Temperature

Received By SYD | BNE | MEL | PER | ADL | NEW | DAR Signature Date ___/___/___ Time ___:___ Report №

QS3115_R2 Modified by V Porter Approved by L Hearn Approved on 14 February 2019
Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request

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Penrose, Auckland 1061
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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Edge Group P/L
Contact name:	Scott Davis
Project name:	COLLINGWOOD VRA
Project ID:	20200047
Turnaround time:	5 Day
Date/Time received	Oct 7, 2020 5:00 PM
Eurofins reference	748889

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Scott Davis - ScottD@edgegroup.net.au.

Note: A copy of these results will also be delivered to the general Edge Group P/L email address.

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IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: COLLINGWOOD VRA
Project ID: 20200047

Order No.: 20200047
Report #: 748889
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: Oct 7, 2020 5:00 PM
Due: Oct 14, 2020
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	AirToxics Extended Suite 1: US EPA Compendium Methods TO-14a TO-15/CRC
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	SVB10 (1L0009)	Oct 06, 2020		1L Summa Canister	M20-Oc11708	X	X	X	X
2	SVB01 (1L0044)	Oct 06, 2020		1L Summa Canister	M20-Oc11709	X	X	X	X
3	FD01 (1L0132)	Oct 06, 2020		1L Summa Canister	M20-Oc11710	X	X	X	X
4	SVB07 (1L0006)	Oct 06, 2020		1L Summa Canister	M20-Oc11711	X	X	X	X
5	SVB09 (1L0165)	Oct 06, 2020		1L Summa Canister	M20-Oc11712	X	X	X	X
6	SVB08	Oct 06, 2020		1L Summa	M20-Oc11713	X	X	X	X

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Phone : 0800 856 450
IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: COLLINGWOOD VRA
Project ID: 20200047

Order No.: 20200047
Report #: 748889
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: Oct 7, 2020 5:00 PM
Due: Oct 14, 2020
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	AirToxics Extended Suite 1: US EPA Compendium Methods TO-14a TO-15/CRC
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
	(1L0096)			Canister					
7	SVB06 (1L0128)	Oct 06, 2020		1L Summa Canister	M20-Oc11714	X	X	X	X
8	SVB05 (1L0070)	Oct 07, 2020		1L Summa Canister	M20-Oc11715	X	X	X	X
9	SVB04 (1L0232)	Oct 07, 2020		1L Summa Canister	M20-Oc11716	X	X	X	X
10	SVP03 (1L0197)	Oct 07, 2020		1L Summa Canister	M20-Oc11717	X	X	X	X
11	SVP02 (1L0091)	Oct 07, 2020		1L Summa Canister	M20-Oc11718	X	X	X	X
12	SVP01 (1L0228)	Oct 07, 2020		1L Summa Canister	M20-Oc11719	X	X	X	X

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Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: COLLINGWOOD VRA
Project ID: 20200047

Order No.: 20200047
Report #: 748889
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: Oct 7, 2020 5:00 PM
Due: Oct 14, 2020
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	AirToxics Extended Suite 1: US EPA Compendium Methods TO-14a TO-15/CRC
Melbourne Laboratory - NATA Site # 1254 & 14271				
Sydney Laboratory - NATA Site # 18217				
Brisbane Laboratory - NATA Site # 20794				
Perth Laboratory - NATA Site # 23736				
Mayfield Laboratory				
External Laboratory				
Test Counts	12	12	12	12

Edge Group P/L
1st Floor, 423 City Road
South Melbourne
VIC 3205

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Scott Davis**

Report **748889-TO**
Project name COLLINGWOOD VRA
Project ID 20200047
Received Date Oct 07, 2020

Client Sample ID			**SVB10 (1L0009)**	**SVB01 (1L0044)**	**FD01 (1L0132)**	**SVB07 (1L0006)**
Sample Matrix			**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**
Eurofins Sample No.			**M20-Oc11708**	**M20-Oc11709**	**M20-Oc11710**	**M20-Oc11711**
Date Sampled			**Oct 06, 2020**	**Oct 06, 2020**	**Oct 06, 2020**	**Oct 06, 2020**
Receipt Vac./Pressure (inHg)			**3.2**	**4.1**	**4.1**	**4.5**
Final Pressure (psi)			**15**	**15**	**15**	**15**
Test/Reference	LOR	Unit				
Dilution Factor	0.1		2.2	2.3	2.3	2.4
US EPA Compendium Methods TO-14a/TO-15						
1.1-Dichloroethane	2	ug/m3	< 5	< 5	< 5	< 5
1.1-Dichloroethene	2	ug/m3	< 4	< 5	< 5	< 5
1.1.1-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 6
1.1.2-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 6
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 8	< 8	< 8	< 8
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 8	< 8	< 8	< 8
1.2-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.2-Dichloroethane	2	ug/m3	< 5	< 5	< 5	< 5
1.2-Dichloropropane	2.3	ug/m3	< 5	< 5	< 5	< 5
1.2.4-Trichlorobenzene	15	ug/m3	< 33	< 34	< 34	< 35
1.2.4-Trimethylbenzene	2.5	ug/m3	< 6	< 6	23	< 6
1.3-Butadiene	1.1	ug/m3	< 2	< 3	< 3	< 3
1.3-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.3.5-Trimethylbenzene	2.5	ug/m3	< 6	< 6	6.3	< 6
1.4-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.4-Dioxane	7.2	ug/m3	< 16	< 17	< 17	< 17
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 13	< 14	< 14	< 14
2-Hexanone	8.2	ug/m3	< 18	< 19	< 19	< 19
2.2.4-Trimethylpentane	9.3	ug/m3	< 21	< 22	< 21	< 22
3-Chloropropene	6.3	ug/m3	< 14	< 15	< 14	< 15
4-Ethyltoluene	2.5	ug/m3	< 6	< 6	7.4	< 6
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 5	< 5	< 5	< 5
Acetone	11.9	ug/m3	53	< 28	< 27	54
Benzene	1.6	ug/m3	< 4	< 4	< 4	< 4
Bromodichloromethane	3.4	ug/m3	< 8	< 8	< 8	< 8
Bromoform	5.2	ug/m3	< 12	< 12	< 12	< 12
Bromomethane	19.4	ug/m3	< 43	< 45	< 45	< 46
Carbon Disulfide	6.2	ug/m3	< 14	< 14	< 14	< 15
Carbon Tetrachloride	3.1	ug/m3	< 7	< 7	< 7	< 7
Chlorobenzene	2.3	ug/m3	< 5	< 5	< 5	< 5

Client Sample ID			SVB10 (1L0009)	SVB01 (1L0044)	FD01 (1L0132)	SVB07 (1L0006)
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			M20-Oc11708	M20-Oc11709	M20-Oc11710	M20-Oc11711
Date Sampled			Oct 06, 2020	Oct 06, 2020	Oct 06, 2020	Oct 06, 2020
Receipt Vac./Pressure (inHg)			3.2	4.1	4.1	4.5
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
Chloroethane	5.3	ug/m3	< 12	< 12	< 12	< 12
Chloroform	2.4	ug/m3	< 5	< 6	< 6	14
Chloromethane	10.3	ug/m3	< 23	< 24	< 24	< 24
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 6	< 6	< 6	< 6
cis-1.2-Dichloroethene	2	ug/m3	< 4	< 5	< 5	< 5
cis-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 5
Cyclohexane	1.7	ug/m3	< 4	< 4	< 4	< 4
Dibromochloromethane	4.3	ug/m3	< 10	< 10	< 10	< 10
Methylene Chloride	17.4	ug/m3	< 39	< 40	< 40	< 41
Ethanol	3.8	ug/m3	< 8	< 9	< 9	< 9
Ethylbenzene	2.2	ug/m3	< 5	< 5	5.8	< 5
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 6	< 7	< 6	< 7
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 9	< 9	< 9	< 9
Freon 114	3.5	ug/m3	< 8	< 8	< 8	< 8
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 6	< 6	< 6	< 6
Heptane	2.1	ug/m3	< 5	< 5	< 5	< 5
Hexachlorobutadiene	21.3	ug/m3	< 48	< 49	< 49	< 50
Hexane	3.5	ug/m3	< 4	< 4	< 4	< 4
Isopropanol	49	ug/m3	< 110	610	550	< 116
m.p-Xylene	4.4	ug/m3	< 10	< 10	29	< 10
Xylenes - Total	6.6	ug/m3	< 15	< 15	40	< 15
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 16	< 17	< 17	< 17
Naphthalene	10.5	ug/m3	< 24	< 25	< 25	< 25
o-Xylene	2.2	ug/m3	< 5	< 5	11	< 5
Propylene	3.4	ug/m3	< 8	< 8	< 8	< 8
Styrene	2.1	ug/m3	< 5	< 5	< 5	< 5
Tetrachloroethene	3.4	ug/m3	< 8	< 8	< 8	< 8
Tetrahydrofuran	1.5	ug/m3	< 3	< 3	< 3	< 3
Toluene	7.5	ug/m3	< 7.5	< 7.5	< 7.5	< 7.5
trans-1.2-Dichloroethene	2	ug/m3	< 4	< 5	< 5	< 5
trans-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 5
Trichloroethene	2.7	ug/m3	< 6	< 6	< 6	< 6
Vinyl Acetate	7.0	ug/m3	< 16	< 16	< 16	< 17
Vinyl Chloride	1.3	ug/m3	< 3	< 3	< 3	< 3
4-Bromofluorobenzene (surr.)	1	%	80	75	76	77
ASTM D1945/D1946						
1-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
1-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
1.3-Butadiene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
2-Methyl-2-Butene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Carbon Dioxide	0.03	mol %	8.5	7.6	7.6	1.5
Carbon Monoxide	0.02	mol %	< 0.04	< 0.05	< 0.05	< 0.05
cis-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Ethane	0.04	mol %	< 0.09	< 0.09	< 0.09	< 0.09
Ethene	0.02	mol %	< 0.04	< 0.05	< 0.05	< 0.05

Client Sample ID			SVB10 (1L0009)	SVB01 (1L0044)	FD01 (1L0132)	SVB07 (1L0006)
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			M20-Oc11708	M20-Oc11709	M20-Oc11710	M20-Oc11711
Date Sampled			Oct 06, 2020	Oct 06, 2020	Oct 06, 2020	Oct 06, 2020
Receipt Vac./Pressure (inHg)			3.2	4.1	4.1	4.5
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
ASTM D1945/D1946						
Helium	0.05	mol %	< 0.11	< 0.12	< 0.12	1.9
Hydrogen	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isobutane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isobutylene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isopentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Methane	0.05	mol %	0.13	< 0.12	< 0.12	< 0.12
Methyl Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
n-Butane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
n-Pentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Nitrogen	0.1	mol %	89	86	86	65
Oxygen + Argon	0.1	mol %	2.4	6.7	6.7	31
Propadiene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Propane	0.02	mol %	< 0.04	< 0.05	< 0.05	< 0.05
Propylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
trans-2-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
trans-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	< 110	< 115	< 115	< 120
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	< 110	< 115	< 115	< 120
>C10-C12 minus Naphthalene (mod F2)[A11]	100	ug/m3	490	< 115	< 115	< 120
>C10-C12	100	ug/m3	490	< 115	< 115	< 120

Client Sample ID			SVB09 (1L0165)	SVB08 (1L0096)	SVB06 (1L0128)	SVB05 (1L0070)
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			M20-Oc11712	M20-Oc11713	M20-Oc11714	M20-Oc11715
Date Sampled			Oct 06, 2020	Oct 06, 2020	Oct 06, 2020	Oct 07, 2020
Receipt Vac./Pressure (inHg)			3.5	3.0	3.7	5.7
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
Dilution Factor	0.1		2.3	2.2	2.3	2.5
US EPA Compendium Methods TO-14a/TO-15						
1.1-Dichloroethane	2	ug/m3	< 5	< 5	< 5	< 5
1.1-Dichloroethene	2	ug/m3	< 4	< 4	< 5	< 5
1.1.1-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 7
1.1.2-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 7
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 8	< 8	< 8	< 8
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 8	< 8	< 8	< 9
1.2-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.2-Dichloroethane	2	ug/m3	< 5	< 5	< 5	< 5
1.2-Dichloropropane	2.3	ug/m3	< 5	< 5	< 5	< 6
1.2.4-Trichlorobenzene	15	ug/m3	< 34	< 33	< 34	< 37
1.2.4-Trimethylbenzene	2.5	ug/m3	< 6	< 5	< 6	7.7

Client Sample ID			SVB09 (1L0165)	SVB08 (1L0096)	SVB06 (1L0128)	SVB05 (1L0070)
Sample Matrix			**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**
Eurofins Sample No.			**M20-Oc11712**	**M20-Oc11713**	**M20-Oc11714**	**M20-Oc11715**
Date Sampled			**Oct 06, 2020**	**Oct 06, 2020**	**Oct 06, 2020**	**Oct 07, 2020**
Receipt Vac./Pressure (inHg)			**3.5**	**3.0**	**3.7**	**5.7**
Final Pressure (psi)			**15**	**15**	**15**	**15**
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
1.3-Butadiene	1.1	ug/m3	< 3	< 2	< 3	< 3
1.3-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.3.5-Trimethylbenzene	2.5	ug/m3	< 6	< 5	< 6	< 6
1.4-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.4-Dioxane	7.2	ug/m3	< 16	< 16	< 16	< 18
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 13	< 13	< 13	< 15
2-Hexanone	8.2	ug/m3	< 19	< 18	< 19	< 20
2.2.4-Trimethylpentane	9.3	ug/m3	< 21	< 21	< 21	< 23
3-Chloropropene	6.3	ug/m3	< 14	< 14	< 14	< 15
4-Ethyltoluene	2.5	ug/m3	< 6	< 5	< 6	< 6
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 5	< 5	< 5	< 5
Acetone	11.9	ug/m3	130	< 26	92	92
Benzene	1.6	ug/m3	< 4	< 4	21	56
Bromodichloromethane	3.4	ug/m3	< 8	< 7	< 8	< 8
Bromoform	5.2	ug/m3	< 12	< 12	< 12	< 13
Bromomethane	19.4	ug/m3	< 44	< 43	< 44	< 48
Carbon Disulfide	6.2	ug/m3	< 14	< 14	160	200
Carbon Tetrachloride	3.1	ug/m3	< 7	< 7	< 7	< 8
Chlorobenzene	2.3	ug/m3	< 5	< 5	< 5	< 6
Chloroethane	5.3	ug/m3	< 12	< 12	< 12	< 13
Chloroform	2.4	ug/m3	32	9.1	45	130
Chloromethane	10.3	ug/m3	< 23	< 23	< 24	< 26
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 6	< 6	< 6	< 6
cis-1.2-Dichloroethene	2	ug/m3	< 4	< 4	< 5	< 5
cis-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 6
Cyclohexane	1.7	ug/m3	< 4	< 4	< 4	< 4
Dibromochloromethane	4.3	ug/m3	< 10	< 10	< 10	< 11
Methylene Chloride	17.4	ug/m3	< 39	< 39	< 40	< 43
Ethanol	3.8	ug/m3	< 9	< 8	< 9	< 9
Ethylbenzene	2.2	ug/m3	< 5	< 5	< 5	< 5
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 6	< 6	< 6	< 7
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 9	< 9	< 9	< 9
Freon 114	3.5	ug/m3	< 8	< 8	< 8	< 9
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 6	< 6	< 6	< 6
Heptane	2.1	ug/m3	< 5	< 5	< 5	< 5
Hexachlorobutadiene	21.3	ug/m3	< 48	< 48	< 49	< 53
Hexane	3.5	ug/m3	< 4	< 4	< 4	< 4
Isopropanol	49	ug/m3	< 112	< 110	2000	660
m.p-Xylene	4.4	ug/m3	< 10	< 10	< 10	< 11
Xylenes - Total	6.6	ug/m3	< 15	< 15	< 15	< 16
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 16	< 16	< 16	< 18
Naphthalene	10.5	ug/m3	< 24	< 24	< 24	< 26
o-Xylene	2.2	ug/m3	< 5	< 5	< 5	< 5
Propylene	3.4	ug/m3	< 8	< 8	< 8	< 8
Styrene	2.1	ug/m3	< 5	< 5	< 5	< 5
Tetrachloroethene	3.4	ug/m3	< 8	< 8	< 8	< 8

Client Sample ID			SVB09 (1L0165)	SVB08 (1L0096)	SVB06 (1L0128)	SVB05 (1L0070)
Sample Matrix			**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**
Eurofins Sample No.			**M20-Oc11712**	**M20-Oc11713**	**M20-Oc11714**	**M20-Oc11715**
Date Sampled			**Oct 06, 2020**	**Oct 06, 2020**	**Oct 06, 2020**	**Oct 07, 2020**
Receipt Vac./Pressure (inHg)			**3.5**	**3.0**	**3.7**	**5.7**
Final Pressure (psi)			**15**	**15**	**15**	**15**
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
Tetrahydrofuran	1.5	ug/m3	< 3	< 3	< 3	< 4
Toluene	7.5	ug/m3	< 7.5	< 7.5	12	< 7.5
trans-1.2-Dichloroethene	2	ug/m3	< 4	< 4	< 5	< 5
trans-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 6
Trichloroethene	2.7	ug/m3	< 6	< 6	< 6	< 7
Vinyl Acetate	7.0	ug/m3	< 16	< 16	< 16	< 17
Vinyl Chloride	1.3	ug/m3	< 3	< 3	< 3	< 3
4-Bromofluorobenzene (surr.)	1	%	77	79	81	81
ASTM D1945/D1946						
1-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
1-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
1.3-Butadiene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
2-Methyl-2-Butene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Carbon Dioxide	0.03	mol %	< 0.07	2.1	0.69	< 0.07
Carbon Monoxide	0.02	mol %	< 0.05	< 0.04	< 0.05	< 0.05
cis-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Ethane	0.04	mol %	< 0.09	< 0.09	< 0.09	< 0.1
Ethene	0.02	mol %	< 0.05	< 0.04	< 0.05	< 0.05
Helium	0.05	mol %	< 0.11	< 0.11	< 0.11	< 0.12
Hydrogen	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isobutane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isobutylene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isopentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Methane	0.05	mol %	< 0.11	< 0.11	< 0.11	6.6
Methyl Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
n-Butane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
n-Pentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Nitrogen	0.1	mol %	84	79	92	85
Oxygen + Argon	0.1	mol %	16	19	6.8	8.7
Propadiene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Propane	0.02	mol %	< 0.05	< 0.04	< 0.05	< 0.05
Propylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
trans-2-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
trans-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	< 115	< 110	< 115	3500
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	< 115	< 110	< 115	3500
>C10-C12 minus Naphthalene (mod F2)[A11]	100	ug/m3	< 115	< 110	< 115	420
>C10-C12	100	ug/m3	< 115	< 110	< 115	420

Client Sample ID			SVB04 (1L0232)	SVP03 (1L0197)	SVP02 (1L0091)	SVP01 (1L0228)
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			M20-Oc11716	M20-Oc11717	M20-Oc11718	M20-Oc11719
Date Sampled			Oct 07, 2020	Oct 07, 2020	Oct 07, 2020	Oct 07, 2020
Receipt Vac./Pressure (inHg)			3.1	4.4	4.9	6.0
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
Dilution Factor	0.1		2.2	2.3	2.3	2.3
US EPA Compendium Methods TO-14a/TO-15						
1.1-Dichloroethane	2	ug/m3	< 5	< 5	< 5	< 5
1.1-Dichloroethene	2	ug/m3	< 4	< 5	< 5	< 5
1.1.1-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 6
1.1.2-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 6
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 8	< 8	< 8	< 8
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 8	< 8	< 8	< 8
1.2-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.2-Dichloroethane	2	ug/m3	< 5	< 5	< 5	< 5
1.2-Dichloropropane	2.3	ug/m3	< 5	< 5	< 5	< 5
1.2.4-Trichlorobenzene	15	ug/m3	< 33	< 35	< 34	< 34
1.2.4-Trimethylbenzene	2.5	ug/m3	< 6	8.0	< 6	< 6
1.3-Butadiene	1.1	ug/m3	< 2	< 3	< 3	< 3
1.3-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.3.5-Trimethylbenzene	2.5	ug/m3	< 6	< 6	< 6	< 6
1.4-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.4-Dioxane	7.2	ug/m3	< 16	< 17	< 17	< 17
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 13	< 14	< 14	< 14
2-Hexanone	8.2	ug/m3	< 18	< 19	< 19	< 19
2.2.4-Trimethylpentane	9.3	ug/m3	< 21	< 22	< 21	< 21
3-Chloropropene	6.3	ug/m3	< 14	< 15	< 14	< 14
4-Ethyltoluene	2.5	ug/m3	< 6	< 6	< 6	< 6
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 5	< 5	< 5	< 5
Acetone	11.9	ug/m3	75	50	73	35
Benzene	1.6	ug/m3	< 4	< 4	< 4	7.2
Bromodichloromethane	3.4	ug/m3	< 8	< 8	< 8	< 8
Bromoform	5.2	ug/m3	< 12	< 12	< 12	< 12
Bromomethane	19.4	ug/m3	< 43	< 45	< 45	< 45
Carbon Disulfide	6.2	ug/m3	< 14	< 15	< 14	< 14
Carbon Tetrachloride	3.1	ug/m3	< 7	< 7	< 7	< 7
Chlorobenzene	2.3	ug/m3	< 5	< 5	< 5	< 5
Chloroethane	5.3	ug/m3	< 12	< 12	< 12	< 12
Chloroform	2.4	ug/m3	170	< 6	< 6	< 6
Chloromethane	10.3	ug/m3	< 23	< 24	< 24	< 24
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 6	< 6	< 6	< 6
cis-1.2-Dichloroethene	2	ug/m3	< 4	< 5	< 5	< 5
cis-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 5
Cyclohexane	1.7	ug/m3	< 4	< 4	< 4	< 4
Dibromochloromethane	4.3	ug/m3	< 10	< 10	< 10	< 10
Methylene Chloride	17.4	ug/m3	< 39	< 41	< 40	< 40
Ethanol	3.8	ug/m3	< 8	< 9	< 9	< 9
Ethylbenzene	2.2	ug/m3	< 5	9.4	< 5	< 5
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 6	< 7	< 6	< 6
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 9	< 9	< 9	< 9
Freon 114	3.5	ug/m3	< 8	< 8	< 8	< 8

Client Sample ID			SVB04 (1L0232)	SVP03 (1L0197)	SVP02 (1L0091)	SVP01 (1L0228)
Sample Matrix			**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**
Eurofins Sample No.			**M20-Oc11716**	**M20-Oc11717**	**M20-Oc11718**	**M20-Oc11719**
Date Sampled			**Oct 07, 2020**	**Oct 07, 2020**	**Oct 07, 2020**	**Oct 07, 2020**
Receipt Vac./Pressure (inHg)			**3.1**	**4.4**	**4.9**	**6.0**
Final Pressure (psi)			**15**	**15**	**15**	**15**
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 6	< 6	< 6	< 6
Heptane	2.1	ug/m3	< 5	< 5	< 5	< 5
Hexachlorobutadiene	21.3	ug/m3	< 48	< 50	< 49	< 49
Hexane	3.5	ug/m3	< 4	< 4	< 4	< 4
Isopropanol	49	ug/m3	< 110	6300	26000	20000
m.p-Xylene	4.4	ug/m3	< 10	< 10	< 10	< 10
Xylenes - Total	6.6	ug/m3	< 15	< 15	< 15	< 15
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 16	< 17	< 17	< 17
Naphthalene	10.5	ug/m3	< 24	< 25	< 25	< 25
o-Xylene	2.2	ug/m3	< 5	< 5	< 5	< 5
Propylene	3.4	ug/m3	< 8	< 8	< 8	< 8
Styrene	2.1	ug/m3	< 5	< 5	< 5	< 5
Tetrachloroethene	3.4	ug/m3	< 8	< 8	< 8	100
Tetrahydrofuran	1.5	ug/m3	< 3	< 3	< 3	< 3
Toluene	7.5	ug/m3	17	< 7.5	< 7.5	< 7.5
trans-1.2-Dichloroethene	2	ug/m3	< 4	< 5	< 5	< 5
trans-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 5
Trichloroethene	2.7	ug/m3	< 6	< 6	25	< 6
Vinyl Acetate	7.0	ug/m3	< 16	< 16	< 16	< 16
Vinyl Chloride	1.3	ug/m3	< 3	< 3	< 3	< 3
4-Bromofluorobenzene (surr.)	1	%	79	75	73	76
ASTM D1945/D1946						
1-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.08
1-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
1.3-Butadiene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.08
2-Methyl-2-Butene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Carbon Dioxide	0.03	mol %	< 0.07	0.67	0.65	1.2
Carbon Monoxide	0.02	mol %	< 0.04	< 0.05	< 0.05	< 0.05
cis-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Ethane	0.04	mol %	< 0.09	< 0.09	< 0.09	< 0.1
Ethene	0.02	mol %	< 0.04	< 0.05	< 0.05	< 0.05
Helium	0.05	mol %	< 0.11	0.68	0.35	< 0.12
Hydrogen	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.08
Isobutane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.08
Isobutylene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.08
Isopentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Methane	0.05	mol %	< 0.11	< 0.12	< 0.12	< 0.12
Methyl Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
n-Butane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.08
n-Pentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Nitrogen	0.1	mol %	81	78	79	78
Oxygen + Argon	0.1	mol %	19	21	20	21
Propadiene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Propane	0.02	mol %	< 0.04	< 0.05	< 0.05	< 0.05
Propylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02

Client Sample ID			SVB04 (1L0232)	SVP03 (1L0197)	SVP02 (1L0091)	SVP01 (1L0228)
Sample Matrix			**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**
Eurofins Sample No.			**M20-Oc11716**	**M20-Oc11717**	**M20-Oc11718**	**M20-Oc11719**
Date Sampled			**Oct 07, 2020**	**Oct 07, 2020**	**Oct 07, 2020**	**Oct 07, 2020**
Receipt Vac./Pressure (inHg)			**3.1**	**4.4**	**4.9**	**6.0**
Final Pressure (psi)			**15**	**15**	**15**	**15**
Test/Reference	LOR	Unit				
ASTM D1945/D1946						
trans-2-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.08
trans-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	< 110	< 115	< 115	< 115
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	< 110	< 115	< 115	< 115
>C10-C12 minus Naphthalene (mod F2)[A11]	100	ug/m3	< 110	210	< 115	520
>C10-C12	100	ug/m3	< 110	210	< 115	520

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
US EPA Compendium Methods TO-14a/TO-15	BrisbaneAir	Oct 07, 2020	30 Days
- Method: SOP #6 Analysis of Volatile Organic Compounds in Summa Polished Canisters EPA Method TO-15 And Modified EPA Method TO-14A			
ASTM D1945/D1946	BrisbaneAir	Oct 07, 2020	30 Days
- Method: SOP #8 Analysis of Oxygen, Nitrogen, Methane, Ethane, Ethene, Carbon Monoxide, Carbon Dioxide, Hydrogen and NMOC by Modified ASTM Method D1946			
CRC CARE TR 23 PVI	BrisbaneAir	Oct 07, 2020	30 Days
- Method: SOP #111 TPH, NMOC, and TVH Hydrocarbon Fractionation Calculations from EPA Methods TO-14A/TO-15			

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Project Name: COLLINGWOOD VRA
Project ID: 20200047

Order No.: 20200047
Report #: 748889
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: Oct 7, 2020 5:00 PM
Due: Oct 14, 2020
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	AirToxics Extended Suite 1: US EPA Compendium Methods TO-14a TO-15/CRC
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	SVB10 (1L0009)	Oct 06, 2020		1L Summa Canister	M20-Oc11708	X	X	X	X
2	SVB01 (1L0044)	Oct 06, 2020		1L Summa Canister	M20-Oc11709	X	X	X	X
3	FD01 (1L0132)	Oct 06, 2020		1L Summa Canister	M20-Oc11710	X	X	X	X
4	SVB07 (1L0006)	Oct 06, 2020		1L Summa Canister	M20-Oc11711	X	X	X	X
5	SVB09 (1L0165)	Oct 06, 2020		1L Summa Canister	M20-Oc11712	X	X	X	X
6	SVB08	Oct 06, 2020		1L Summa	M20-Oc11713	X	X	X	X

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Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	AirToxics Extended Suite 1: US EPA Compendium Methods TO-14a TO-15/CRC
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
	(1L0096)			Canister					
7	SVB06 (1L0128)	Oct 06, 2020		1L Summa Canister	M20-Oc11714	X	X	X	X
8	SVB05 (1L0070)	Oct 07, 2020		1L Summa Canister	M20-Oc11715	X	X	X	X
9	SVB04 (1L0232)	Oct 07, 2020		1L Summa Canister	M20-Oc11716	X	X	X	X
10	SVP03 (1L0197)	Oct 07, 2020		1L Summa Canister	M20-Oc11717	X	X	X	X
11	SVP02 (1L0091)	Oct 07, 2020		1L Summa Canister	M20-Oc11718	X	X	X	X
12	SVP01 (1L0228)	Oct 07, 2020		1L Summa Canister	M20-Oc11719	X	X	X	X

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Contact Name: Scott Davis

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Sample Detail	Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	AirToxics Extended Suite 1: US EPA Compendium Methods TO-14a TO-15/CRC
Melbourne Laboratory - NATA Site # 1254 & 14271				
Sydney Laboratory - NATA Site # 18217				
Brisbane Laboratory - NATA Site # 20794				
Perth Laboratory - NATA Site # 23736				
Mayfield Laboratory				
External Laboratory				
Test Counts	12	12	12	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. Dilutions are performed on samples due to the presence of high level target species or the presence of high level non-target species.
3. Results are uncorrected for surrogate recoveries.
4. All QC limit exceedances and affected sample results are noted by flags. Each qualifying flag is defined below in section entitled 'Definition of Data Qualifying Flags' and additionally on individual sample results (where relevant).
5. "100% certification" is defined as evaluating the sampling system with humid zero air/N2 and humid calibration gases that pass through all active components of the sampling system. The system is "100% certified" if no significant additions or deletions (less than 0.2 ppbv each of target compounds) have occurred when challenged with the test gas stream.
6. The conversion equation from ppbv to g/m3 uses a temperature of 25 °C and an ambient sea level atmospheric pressure of 1 atmosphere (101.325 kPa) is assumed.
7. All canister samples are only analysed once temperature equilibrium with the laboratory has been achieved.
8. Safe Sampling Volume (SSV) - calculated by taking two-thirds of the breakthrough volume (direct method) and Appendix 1 of Method T0-17.
9. Samples were analysed on an 'as received' basis.
10. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
11. This report replaces any interim results previously issued.

Definition of Data Qualifying Flags

Qualifiers may have been used on the data analysis sheets and indicates as follows:

A01 Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

A02 Estimated value.

A03 Exceeds instrument calibration range.

A04 Saturated peak.

A05 Exceeds quality control limits.

A06 Compound analysed for but not detected above the Limit of Reporting (LOR). See data page for project specific U-flag definition.

A07 Non-detected compound associated with low bias in the CCV.

A08 The identification is based on presumptive evidence.

A09 SSV has been exceeded for this compound. It is likely that this compound has been underestimated.

A10 LORs cited do not take into account sample dilution due to canister pressurisation.

A11 Naphthalene elutes outside the >C10-C12 range on the system used for sample analysis. As a result, >C10-C12 TRH value is equivalent to the modified F2 value.

Holding Times

Under conditions of normal usage for sampling ambient air, most Volatile Organic Compounds (VOCs) can be recovered from canisters near their original concentrations after storage times of up to thirty days. For thermal desorption tubes (TDT) samples should be refrigerated at <4°C in a clean environment during storage and analysed within 30 days of sample collection (within one week for limonene, carene, bis-chloromethyl ether and labile sulfur or nitrogen containing volatiles).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

ppbv: parts per billion by volume

ug/m3: micrograms per cubic metre

kPa: kilopascal

psig: pounds per square inch gauge

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
US EPA Compendium Methods TO-14a/TO-15							
1.1-Dichloroethane	ug/m3	< 2			2	Pass	
1.1-Dichloroethene	ug/m3	< 2			2	Pass	
1.1.1-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2.2-Tetrachloroethane	ug/m3	< 3.4			3.4	Pass	
1.2-Dibromoethane (EDB)	ug/m3	< 3.6			3.6	Pass	
1.2-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.2-Dichloroethane	ug/m3	< 2			2	Pass	
1.2-Dichloropropane	ug/m3	< 2.3			2.3	Pass	
1.2.4-Trichlorobenzene	ug/m3	< 15			15	Pass	
1.2.4-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.3-Butadiene	ug/m3	< 1.1			1.1	Pass	
1.3-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.3.5-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.4-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.4-Dioxane	ug/m3	< 7.2			7.2	Pass	
2-Butanone (Methyl Ethyl Ketone)	ug/m3	< 5.9			5.9	Pass	
2-Hexanone	ug/m3	< 8.2			8.2	Pass	
2.2.4-Trimethylpentane	ug/m3	< 9.3			9.3	Pass	
3-Chloropropene	ug/m3	< 6.3			6.3	Pass	
4-Ethyltoluene	ug/m3	< 2.5			2.5	Pass	
4-Methyl-2-Pentanone (MIBK)	ug/m3	< 2.1			2.1	Pass	
Acetone	ug/m3	< 11.9			11.9	Pass	
Benzene	ug/m3	< 1.6			1.6	Pass	
Bromodichloromethane	ug/m3	< 3.4			3.4	Pass	
Bromoform	ug/m3	< 5.2			5.2	Pass	
Bromomethane	ug/m3	< 19.4			19.4	Pass	
Carbon Disulfide	ug/m3	< 6.2			6.2	Pass	
Carbon Tetrachloride	ug/m3	< 3.1			3.1	Pass	
Chlorobenzene	ug/m3	< 2.3			2.3	Pass	
Chloroethane	ug/m3	< 5.3			5.3	Pass	
Chloroform	ug/m3	< 2.4			2.4	Pass	
Chloromethane	ug/m3	< 10.3			10.3	Pass	
Chlorotoluene (Benzyl Chloride)	ug/m3	< 2.6			2.6	Pass	
cis-1.2-Dichloroethene	ug/m3	< 2			2	Pass	
cis-1.3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Cyclohexane	ug/m3	< 1.7			1.7	Pass	
Dibromochloromethane	ug/m3	< 4.3			4.3	Pass	
Methylene Chloride	ug/m3	< 17.4			17.4	Pass	
Ethanol	ug/m3	< 3.8			3.8	Pass	
Ethylbenzene	ug/m3	< 2.2			2.2	Pass	
Freon 11 (Trichlorofluoromethane)	ug/m3	< 2.8			2.8	Pass	
Freon 113 (Trichlorotrifluoroethane)	ug/m3	< 3.8			3.8	Pass	
Freon 114	ug/m3	< 3.5			3.5	Pass	
Freon 12 (Dichlorodifluoromethane)	ug/m3	< 2.5			2.5	Pass	
Heptane	ug/m3	< 2.1			2.1	Pass	
Hexachlorobutadiene	ug/m3	< 21.3			21.3	Pass	
Hexane	ug/m3	< 3.5			3.5	Pass	
Isopropanol	ug/m3	< 49			49	Pass	
m.p-Xylene	ug/m3	< 4.4			4.4	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total	ug/m3	< 6.6			6.6	Pass	
Methyl t-Butyl Ether (MTBE)	ug/m3	< 7.2			7.2	Pass	
Naphthalene	ug/m3	< 10.5			10.5	Pass	
o-Xylene	ug/m3	< 2.2			2.2	Pass	
Propylene	ug/m3	< 3.4			3.4	Pass	
Styrene	ug/m3	< 2.1			2.1	Pass	
Tetrachloroethene	ug/m3	< 3.4			3.4	Pass	
Tetrahydrofuran	ug/m3	< 1.5			1.5	Pass	
Toluene	ug/m3	< 7.5			7.5	Pass	
trans-1.2-Dichloroethene	ug/m3	< 2			2	Pass	
trans-1.3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Trichloroethene	ug/m3	< 2.7			2.7	Pass	
Vinyl Acetate	ug/m3	< 7			7.0	Pass	
Vinyl Chloride	ug/m3	< 1.3			1.3	Pass	
Method Blank							
ASTM D1945/D1946							
1-Butene	mol %	< 0.03			0.03	Pass	
1-Pentene	mol %	< 0.01			0.01	Pass	
1.3-Butadiene	mol %	< 0.03			0.03	Pass	
2-Methyl-2-Butene	mol %	< 0.01			0.01	Pass	
Acetylene	mol %	< 0.01			0.01	Pass	
Carbon Dioxide	mol %	< 0.03			0.03	Pass	
Carbon Monoxide	mol %	< 0.02			0.02	Pass	
cis-2-Pentene	mol %	< 0.01			0.01	Pass	
Ethane	mol %	< 0.04			0.04	Pass	
Ethene	mol %	< 0.02			0.02	Pass	
Helium	mol %	< 0.05			0.05	Pass	
Hydrogen	mol %	< 0.03			0.03	Pass	
Isobutane	mol %	< 0.03			0.03	Pass	
Isobutylene	mol %	< 0.03			0.03	Pass	
Isopentane	mol %	< 0.01			0.01	Pass	
Methane	mol %	< 0.05			0.05	Pass	
Methyl Acetylene	mol %	< 0.01			0.01	Pass	
n-Butane	mol %	< 0.03			0.03	Pass	
n-Pentane	mol %	< 0.01			0.01	Pass	
Oxygen + Argon	mol %	< 0.1			0.1	Pass	
Propadiene	mol %	< 0.01			0.01	Pass	
Propane	mol %	< 0.02			0.02	Pass	
Propylene	mol %	< 0.01			0.01	Pass	
trans-2-Butene	mol %	< 0.03			0.03	Pass	
trans-2-Pentene	mol %	< 0.01			0.01	Pass	
LCS - % Recovery							
US EPA Compendium Methods TO-14a/TO-15							
1.1-Dichloroethane	%	118			70-130	Pass	
1.1-Dichloroethene	%	120			70-130	Pass	
1.1.1-Trichloroethane	%	106			70-130	Pass	
1.1.2-Trichloroethane	%	115			70-130	Pass	
1.1.2.2-Tetrachloroethane	%	120			70-130	Pass	
1.2-Dibromoethane (EDB)	%	114			70-130	Pass	
1.2-Dichlorobenzene	%	87			70-130	Pass	
1.2-Dichloroethane	%	114			70-130	Pass	
1.2-Dichloropropane	%	127			70-130	Pass	
1.2.4-Trichlorobenzene	%	77			70-130	Pass	
1.2.4-Trimethylbenzene	%	88			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1.3-Butadiene	%	122			70-130	Pass	
1.3-Dichlorobenzene	%	80			70-130	Pass	
1.3.5-Trimethylbenzene	%	93			70-130	Pass	
1.4-Dichlorobenzene	%	77			70-130	Pass	
1.4-Dioxane	%	112			70-130	Pass	
2-Butanone (Methyl Ethyl Ketone)	%	114			70-130	Pass	
2-Hexanone	%	119			70-130	Pass	
2.2.4-Trimethylpentane	%	120			70-130	Pass	
3-Chloropropene	%	130			70-130	Pass	
4-Ethyltoluene	%	119			70-130	Pass	
4-Methyl-2-Pentanone (MIBK)	%	95			70-130	Pass	
Acetone	%	123			70-130	Pass	
Benzene	%	112			70-130	Pass	
Bromodichloromethane	%	118			70-130	Pass	
Bromoform	%	117			70-130	Pass	
Bromomethane	%	108			70-130	Pass	
Carbon Disulfide	%	124			70-130	Pass	
Carbon Tetrachloride	%	107			70-130	Pass	
Chlorobenzene	%	107			70-130	Pass	
Chloroethane	%	113			70-130	Pass	
Chloroform	%	111			70-130	Pass	
Chloromethane	%	129			70-130	Pass	
Chlorotoluene (Benzyl Chloride)	%	109			70-130	Pass	
cis-1.2-Dichloroethene	%	117			70-130	Pass	
cis-1.3-Dichloropropene	%	119			70-130	Pass	
Cyclohexane	%	106			70-130	Pass	
Dibromochloromethane	%	119			70-130	Pass	
Methylene Chloride	%	123			70-130	Pass	
Ethanol	%	112			70-130	Pass	
Ethylbenzene	%	115			70-130	Pass	
Freon 11 (Trichlorofluoromethane)	%	101			70-130	Pass	
Freon 113 (Trichlorotrifluoroethane)	%	94			70-130	Pass	
Freon 114	%	94			70-130	Pass	
Freon 12 (Dichlorodifluoromethane)	%	104			70-130	Pass	
Heptane	%	102			70-130	Pass	
Hexachlorobutadiene	%	83			70-130	Pass	
Hexane	%	103			70-130	Pass	
Isopropanol	%	122			70-130	Pass	
m.p-Xylene	%	118			70-130	Pass	
Xylenes - Total	%	115			70-130	Pass	
Methyl t-Butyl Ether (MTBE)	%	111			70-130	Pass	
Naphthalene	%	73			70-130	Pass	
o-Xylene	%	111			70-130	Pass	
Propylene	%	123			70-130	Pass	
Styrene	%	112			70-130	Pass	
Tetrachloroethene	%	98			70-130	Pass	
Tetrahydrofuran	%	102			70-130	Pass	
Toluene	%	111			70-130	Pass	
trans-1.2-Dichloroethene	%	118			70-130	Pass	
trans-1.3-Dichloropropene	%	127			70-130	Pass	
Trichloroethene	%	96			70-130	Pass	
Vinyl Acetate	%	124			70-130	Pass	
Vinyl Chloride	%	118			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
ASTM D1945/D1946							
1-Butene	%	92			70-130	Pass	
1-Pentene	%	92			70-130	Pass	
1.3-Butadiene	%	89			70-130	Pass	
2-Methyl-2-Butene	%	94			70-130	Pass	
Acetylene	%	93			70-130	Pass	
Carbon Dioxide	%	92			70-130	Pass	
Carbon Monoxide	%	98			70-130	Pass	
cis-2-Pentene	%	91			70-130	Pass	
Ethane	%	95			70-130	Pass	
Ethene	%	96			70-130	Pass	
Hydrogen	%	97			70-130	Pass	
Isobutane	%	95			70-130	Pass	
Isobutylene	%	93			70-130	Pass	
Isopentane	%	86			70-130	Pass	
Methane	%	95			70-130	Pass	
Methyl Acetylene	%	88			70-130	Pass	
n-Butane	%	94			70-130	Pass	
n-Pentane	%	91			70-130	Pass	
Propadiene	%	85			70-130	Pass	
Propane	%	96			70-130	Pass	
Propylene	%	95			70-130	Pass	
trans-2-Butene	%	92			70-130	Pass	
trans-2-Pentene	%	92			70-130	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
A11	Naphthalene elutes outside the >C10-C12 range on the system used for sample analysis. As a result, >C10-C12 TRH value is equivalent to the modified F2 value.

Authorised By

Savini Suduweli	Analytical Services Manager
Laurence Hearn	Senior Analyst-Air (QLD)



Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Canister Certification Report**

Report **747858-TO**
Project name CANISTER CERTIFICATION REPORT - OCTOBER
Received Date Oct 02, 2020

Client Sample ID			**1L0197**	**1L0228**	**1L0165**	**1L0232**
Sample Matrix			**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**
Eurofins Sample No.			**T20-Oc15191**	**T20-Oc15197**	**T20-Oc15200**	**T20-Oc15201**
Date Sampled			**Not Provided**[I12]	**Not Provided**[I12]	**Not Provided**[I12]	**Not Provided**[I12]
Receipt Vac./Pressure (inHg)						
Final Pressure (psi)						
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
1.1-Dichloroethane	2	ug/m3	< 2	< 2	< 2	< 2
1.1-Dichloroethene	2	ug/m3	< 2	< 2	< 2	< 2
1.1.1-Trichloroethane	2.7	ug/m3	< 2.7	< 2.7	< 2.7	< 2.7
1.1.2-Trichloroethane	2.7	ug/m3	< 2.7	< 2.7	< 2.7	< 2.7
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 3.6	< 3.6	< 3.6	< 3.6
1.2-Dichlorobenzene	3	ug/m3	< 3	< 3	< 3	< 3
1.2-Dichloroethane	2	ug/m3	< 2	< 2	< 2	< 2
1.2-Dichloropropane	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
1.2.4-Trichlorobenzene	15	ug/m3	< 15	< 15	< 15	< 15
1.2.4-Trimethylbenzene	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
1.3-Butadiene	1.1	ug/m3	< 1.1	< 1.1	< 1.1	< 1.1
1.3-Dichlorobenzene	3	ug/m3	< 3	< 3	< 3	< 3
1.3.5-Trimethylbenzene	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
1.4-Dichlorobenzene	3	ug/m3	< 3	< 3	< 3	< 3
1.4-Dioxane	7.2	ug/m3	< 7.2	< 7.2	< 7.2	< 7.2
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 5.9	< 5.9	< 5.9	< 5.9
2-Hexanone	8.2	ug/m3	< 8.2	< 8.2	< 8.2	< 8.2
2.2.4-Trimethylpentane	9.3	ug/m3	< 9.3	< 9.3	< 9.3	< 9.3
3-Chloropropene	6.3	ug/m3	< 6.3	< 6.3	< 6.3	< 6.3
4-Ethyltoluene	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 2.1	< 2.1	< 2.1	< 2.1
Acetone	11.9	ug/m3	< 11.9	< 11.9	< 11.9	< 11.9
Benzene	1.6	ug/m3	< 1.6	< 1.6	< 1.6	< 1.6
Bromodichloromethane	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
Bromoform	5.2	ug/m3	< 5.2	< 5.2	< 5.2	< 5.2
Bromomethane	19.4	ug/m3	< 19.4	< 19.4	< 19.4	< 19.4
Carbon Disulfide	6.2	ug/m3	< 6.2	< 6.2	< 6.2	< 6.2
Carbon Tetrachloride	3.1	ug/m3	< 3.1	< 3.1	< 3.1	< 3.1
Chlorobenzene	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
Chloroethane	5.3	ug/m3	< 5.3	< 5.3	< 5.3	< 5.3
Chloroform	2.4	ug/m3	< 2.4	< 2.4	< 2.4	< 2.4
Chloromethane	10.3	ug/m3	< 10.3	< 10.3	< 10.3	< 10.3

Client Sample ID			1L0197	1L0228	1L0165	1L0232
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-Oc15191	T20-Oc15197	T20-Oc15200	T20-Oc15201
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Receipt Vac./Pressure (inHg)						
Final Pressure (psi)						
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 2.6	< 2.6	< 2.6	< 2.6
cis-1.2-Dichloroethene	2	ug/m3	< 2	< 2	< 2	< 2
cis-1.3-Dichloropropene	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
Cyclohexane	1.7	ug/m3	< 1.7	< 1.7	< 1.7	< 1.7
Dibromochloromethane	4.3	ug/m3	< 4.3	< 4.3	< 4.3	< 4.3
Methylene Chloride	17.4	ug/m3	< 17.4	< 17.4	< 17.4	< 17.4
Ethanol	3.8	ug/m3	< 3.8	< 3.8	< 3.8	< 3.8
Ethylbenzene	2.2	ug/m3	< 2.2	< 2.2	< 2.2	< 2.2
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 2.8	< 2.8	< 2.8	< 2.8
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 3.8	< 3.8	< 3.8	< 3.8
Freon 114	3.5	ug/m3	< 3.5	< 3.5	< 3.5	< 3.5
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
Heptane	2.1	ug/m3	< 2.1	< 2.1	< 2.1	< 2.1
Hexachlorobutadiene	21.3	ug/m3	< 21.3	< 21.3	< 21.3	< 21.3
Hexane	3.5	ug/m3	< 3.5	< 3.5	< 3.5	< 3.5
Isopropanol	49	ug/m3	< 49	< 49	< 49	< 49
m.p-Xylene	4.4	ug/m3	< 4.4	< 4.4	< 4.4	< 4.4
Xylenes - Total	6.6	ug/m3	< 6.6	< 6.6	< 6.6	< 6.6
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 7.2	< 7.2	< 7.2	< 7.2
Naphthalene	10.5	ug/m3	< 10.5	< 10.5	< 10.5	< 10.5
o-Xylene	2.2	ug/m3	< 2.2	< 2.2	< 2.2	< 2.2
Propylene	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
Styrene	2.1	ug/m3	< 2.1	< 2.1	< 2.1	< 2.1
Tetrachloroethene	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
Tetrahydrofuran	1.5	ug/m3	< 1.5	< 1.5	< 1.5	< 1.5
Toluene	7.5	ug/m3	< 7.5	< 7.5	< 7.5	< 7.5
trans-1.2-Dichloroethene	2	ug/m3	< 2	< 2	< 2	< 2
trans-1.3-Dichloropropene	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
Trichloroethene	2.7	ug/m3	< 2.7	< 2.7	< 2.7	< 2.7
Vinyl Acetate	7.0	ug/m3	< 7	< 7	< 7	< 7
Vinyl Chloride	1.3	ug/m3	< 1.3	< 1.3	< 1.3	< 1.3
4-Bromofluorobenzene (surr.)	1	%	92	110	107	103

Client Sample ID			1L0009	1L0044	1L0132	1L0070
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-Oc15203	T20-Oc15204	T20-Oc15206	T20-Oc15207
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Receipt Vac./Pressure (inHg)						
Final Pressure (psi)						
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
1.1-Dichloroethane	2	ug/m3	< 2	< 2	< 2	< 2
1.1-Dichloroethene	2	ug/m3	< 2	< 2	< 2	< 2
1.1.1-Trichloroethane	2.7	ug/m3	< 2.7	< 2.7	< 2.7	< 2.7
1.1.2-Trichloroethane	2.7	ug/m3	< 2.7	< 2.7	< 2.7	< 2.7
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 3.6	< 3.6	< 3.6	< 3.6
1.2-Dichlorobenzene	3	ug/m3	< 3	< 3	< 3	< 3
1.2-Dichloroethane	2	ug/m3	< 2	< 2	< 2	< 2
1.2-Dichloropropane	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
1.2.4-Trichlorobenzene	15	ug/m3	< 15	< 15	< 15	< 15
1.2.4-Trimethylbenzene	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
1.3-Butadiene	1.1	ug/m3	< 1.1	< 1.1	< 1.1	< 1.1
1.3-Dichlorobenzene	3	ug/m3	< 3	< 3	< 3	< 3
1.3.5-Trimethylbenzene	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
1.4-Dichlorobenzene	3	ug/m3	< 3	< 3	< 3	< 3
1.4-Dioxane	7.2	ug/m3	< 7.2	< 7.2	< 7.2	< 7.2
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 5.9	< 5.9	< 5.9	< 5.9
2-Hexanone	8.2	ug/m3	< 8.2	< 8.2	< 8.2	< 8.2
2.2.4-Trimethylpentane	9.3	ug/m3	< 9.3	< 9.3	< 9.3	< 9.3
3-Chloropropene	6.3	ug/m3	< 6.3	< 6.3	< 6.3	< 6.3
4-Ethyltoluene	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 2.1	< 2.1	< 2.1	< 2.1
Acetone	11.9	ug/m3	< 11.9	< 11.9	< 11.9	< 11.9
Benzene	1.6	ug/m3	< 1.6	< 1.6	< 1.6	< 1.6
Bromodichloromethane	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
Bromoform	5.2	ug/m3	< 5.2	< 5.2	< 5.2	< 5.2
Bromomethane	19.4	ug/m3	< 19.4	< 19.4	< 19.4	< 19.4
Carbon Disulfide	6.2	ug/m3	< 6.2	< 6.2	< 6.2	< 6.2
Carbon Tetrachloride	3.1	ug/m3	< 3.1	< 3.1	< 3.1	< 3.1
Chlorobenzene	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
Chloroethane	5.3	ug/m3	< 5.3	< 5.3	< 5.3	< 5.3
Chloroform	2.4	ug/m3	< 2.4	< 2.4	< 2.4	< 2.4
Chloromethane	10.3	ug/m3	< 10.3	< 10.3	< 10.3	< 10.3
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 2.6	< 2.6	< 2.6	< 2.6
cis-1.2-Dichloroethene	2	ug/m3	< 2	< 2	< 2	< 2
cis-1.3-Dichloropropene	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
Cyclohexane	1.7	ug/m3	< 1.7	< 1.7	< 1.7	< 1.7
Dibromochloromethane	4.3	ug/m3	< 4.3	< 4.3	< 4.3	< 4.3
Methylene Chloride	17.4	ug/m3	< 17.4	< 17.4	< 17.4	< 17.4
Ethanol	3.8	ug/m3	< 3.8	< 3.8	< 3.8	< 3.8
Ethylbenzene	2.2	ug/m3	< 2.2	< 2.2	< 2.2	< 2.2
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 2.8	< 2.8	< 2.8	< 2.8
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 3.8	< 3.8	< 3.8	< 3.8
Freon 114	3.5	ug/m3	< 3.5	< 3.5	< 3.5	< 3.5
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
Heptane	2.1	ug/m3	< 2.1	< 2.1	< 2.1	< 2.1

Client Sample ID			1L0009	1L0044	1L0132	1L0070
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-Oc15203	T20-Oc15204	T20-Oc15206	T20-Oc15207
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Receipt Vac./Pressure (inHg)						
Final Pressure (psi)						
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
Hexachlorobutadiene	21.3	ug/m3	< 21.3	< 21.3	< 21.3	< 21.3
Hexane	3.5	ug/m3	< 3.5	< 3.5	< 3.5	< 3.5
Isopropanol	49	ug/m3	< 49	< 49	< 49	< 49
m.p-Xylene	4.4	ug/m3	< 4.4	< 4.4	< 4.4	< 4.4
Xylenes - Total	6.6	ug/m3	< 6.6	< 6.6	< 6.6	< 6.6
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 7.2	< 7.2	< 7.2	< 7.2
Naphthalene	10.5	ug/m3	< 10.5	< 10.5	< 10.5	< 10.5
o-Xylene	2.2	ug/m3	< 2.2	< 2.2	< 2.2	< 2.2
Propylene	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
Styrene	2.1	ug/m3	< 2.1	< 2.1	< 2.1	< 2.1
Tetrachloroethene	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
Tetrahydrofuran	1.5	ug/m3	< 1.5	< 1.5	< 1.5	< 1.5
Toluene	7.5	ug/m3	< 7.5	< 7.5	< 7.5	< 7.5
trans-1.2-Dichloroethene	2	ug/m3	< 2	< 2	< 2	< 2
trans-1.3-Dichloropropene	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
Trichloroethene	2.7	ug/m3	< 2.7	< 2.7	< 2.7	< 2.7
Vinyl Acetate	7.0	ug/m3	< 7	< 7	< 7	< 7
Vinyl Chloride	1.3	ug/m3	< 1.3	< 1.3	< 1.3	< 1.3
4-Bromofluorobenzene (surr.)	1	%	107	110	107	107

Client Sample ID			1L0006	1L0096	1I0091	1I0128
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-Oc15208	T20-Oc15209	T20-Oc15218	T20-Oc15219
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Receipt Vac./Pressure (inHg)						
Final Pressure (psi)						
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
1.1-Dichloroethane	2	ug/m3	< 2	< 2	< 2	< 2
1.1-Dichloroethene	2	ug/m3	< 2	< 2	< 2	< 2
1.1.1-Trichloroethane	2.7	ug/m3	< 2.7	< 2.7	< 2.7	< 2.7
1.1.2-Trichloroethane	2.7	ug/m3	< 2.7	< 2.7	< 2.7	< 2.7
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 3.6	< 3.6	< 3.6	< 3.6
1.2-Dichlorobenzene	3	ug/m3	< 3	< 3	< 3	< 3
1.2-Dichloroethane	2	ug/m3	< 2	< 2	< 2	< 2
1.2-Dichloropropane	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
1.2.4-Trichlorobenzene	15	ug/m3	< 15	< 15	< 15	< 15
1.2.4-Trimethylbenzene	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
1.3-Butadiene	1.1	ug/m3	< 1.1	< 1.1	< 1.1	< 1.1
1.3-Dichlorobenzene	3	ug/m3	< 3	< 3	< 3	< 3
1.3.5-Trimethylbenzene	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
1.4-Dichlorobenzene	3	ug/m3	< 3	< 3	< 3	< 3
1.4-Dioxane	7.2	ug/m3	< 7.2	< 7.2	< 7.2	< 7.2

Client Sample ID			1L0006	1L0096	1l0091	1l0128
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-Oc15208	T20-Oc15209	T20-Oc15218	T20-Oc15219
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Receipt Vac./Pressure (inHg)						
Final Pressure (psi)						
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 5.9	< 5.9	< 5.9	< 5.9
2-Hexanone	8.2	ug/m3	< 8.2	< 8.2	< 8.2	< 8.2
2.2.4-Trimethylpentane	9.3	ug/m3	< 9.3	< 9.3	< 9.3	< 9.3
3-Chloropropene	6.3	ug/m3	< 6.3	< 6.3	< 6.3	< 6.3
4-Ethyltoluene	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 2.1	< 2.1	< 2.1	< 2.1
Acetone	11.9	ug/m3	< 11.9	< 11.9	< 11.9	< 11.9
Benzene	1.6	ug/m3	< 1.6	< 1.6	< 1.6	< 1.6
Bromodichloromethane	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
Bromoform	5.2	ug/m3	< 5.2	< 5.2	< 5.2	< 5.2
Bromomethane	19.4	ug/m3	< 19.4	< 19.4	< 19.4	< 19.4
Carbon Disulfide	6.2	ug/m3	< 6.2	< 6.2	< 6.2	< 6.2
Carbon Tetrachloride	3.1	ug/m3	< 3.1	< 3.1	< 3.1	< 3.1
Chlorobenzene	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
Chloroethane	5.3	ug/m3	< 5.3	< 5.3	< 5.3	< 5.3
Chloroform	2.4	ug/m3	< 2.4	< 2.4	< 2.4	< 2.4
Chloromethane	10.3	ug/m3	< 10.3	< 10.3	< 10.3	< 10.3
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 2.6	< 2.6	< 2.6	< 2.6
cis-1.2-Dichloroethene	2	ug/m3	< 2	< 2	< 2	< 2
cis-1.3-Dichloropropene	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
Cyclohexane	1.7	ug/m3	< 1.7	< 1.7	< 1.7	< 1.7
Dibromochloromethane	4.3	ug/m3	< 4.3	< 4.3	< 4.3	< 4.3
Methylene Chloride	17.4	ug/m3	< 17.4	< 17.4	< 17.4	< 17.4
Ethanol	3.8	ug/m3	< 3.8	< 3.8	< 3.8	< 3.8
Ethylbenzene	2.2	ug/m3	< 2.2	< 2.2	< 2.2	< 2.2
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 2.8	< 2.8	< 2.8	< 2.8
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 3.8	< 3.8	< 3.8	< 3.8
Freon 114	3.5	ug/m3	< 3.5	< 3.5	< 3.5	< 3.5
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 2.5	< 2.5	< 2.5	< 2.5
Heptane	2.1	ug/m3	< 2.1	< 2.1	< 2.1	< 2.1
Hexachlorobutadiene	21.3	ug/m3	< 21.3	< 21.3	< 21.3	< 21.3
Hexane	3.5	ug/m3	< 3.5	< 3.5	< 3.5	< 3.5
Isopropanol	49	ug/m3	< 49	< 49	< 49	< 49
m.p-Xylene	4.4	ug/m3	< 4.4	< 4.4	< 4.4	< 4.4
Xylenes - Total	6.6	ug/m3	< 6.6	< 6.6	< 6.6	< 6.6
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 7.2	< 7.2	< 7.2	< 7.2
Naphthalene	10.5	ug/m3	< 10.5	< 10.5	< 10.5	< 10.5
o-Xylene	2.2	ug/m3	< 2.2	< 2.2	< 2.2	< 2.2
Propylene	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
Styrene	2.1	ug/m3	< 2.1	< 2.1	< 2.1	< 2.1
Tetrachloroethene	3.4	ug/m3	< 3.4	< 3.4	< 3.4	< 3.4
Tetrahydrofuran	1.5	ug/m3	< 1.5	< 1.5	< 1.5	< 1.5
Toluene	7.5	ug/m3	< 7.5	< 7.5	< 7.5	< 7.5
trans-1.2-Dichloroethene	2	ug/m3	< 2	< 2	< 2	< 2
trans-1.3-Dichloropropene	2.3	ug/m3	< 2.3	< 2.3	< 2.3	< 2.3
Trichloroethene	2.7	ug/m3	< 2.7	< 2.7	< 2.7	< 2.7

Client Sample ID			1L0006	1L0096	1l0091	1l0128
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-Oc15208	T20-Oc15209	T20-Oc15218	T20-Oc15219
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Receipt Vac./Pressure (inHg)						
Final Pressure (psi)						
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
Vinyl Acetate	7.0	ug/m3	< 7	< 7	< 7	< 7
Vinyl Chloride	1.3	ug/m3	< 1.3	< 1.3	< 1.3	< 1.3
4-Bromofluorobenzene (surr.)	1	%	104	112	104	110

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
US EPA Compendium Methods TO-14a/TO-15	BrisbaneAir	Oct 09, 2020	30 Days

- Method: SOP #6 Analysis of Volatile Organic Compounds in Summa Polished Canisters EPA Method TO-15 And Modified EPA Method TO-14A

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Project Name: CANISTER CERTIFICATION REPORT - OCTOBER

Order No.:
Report #: 747858
Phone: 07 3902 4600
Fax:

Received: Oct 2, 2020 12:00 AM
Due: Dec 29, 2020
Priority: 60 Day
Contact Name: Canister Certification Report

Eurofins Analytical Services Manager : Ryan Gilbert

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	1L0198	Not Provided		1L Summa Canister	T20-Oc02808	x	x	x	x
2	1L0008	Not Provided		1L Summa Canister	T20-Oc02809	x	x	x	x
3	1L0059	Not Provided		1L Summa Canister	T20-Oc02810	x	x	x	x
4	1L0042	Not Provided		1L Summa Canister	T20-Oc02811	x	x	x	x
5	1L0088	Not Provided		1L Summa Canister	T20-Oc02812	x	x	x	x
6	1L0112	Not Provided		1L Summa Canister	T20-Oc02813	x	x	x	x

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Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
7	1L0250	Not Provided		1L Summa Canister	T20-Oc02814	X	X	X	X
8	1L0020	Not Provided		1L Summa Canister	T20-Oc02815	X	X	X	X
9	1L0033	Not Provided		1L Summa Canister	T20-Oc02816	X	X	X	X
10	1L0136	Not Provided		1L Summa Canister	T20-Oc02817	X	X	X	X
11	1L0237	Not Provided		1L Summa Canister	T20-Oc02818	X	X	X	X
12	1L0092	Not Provided		1L Summa Canister	T20-Oc02819	X	X	X	X
13	1L0142	Not Provided		1L Summa Canister	T20-Oc02820	X	X	X	X

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Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
14	1L0002	Not Provided		1L Summa Canister	T20-Oc02821	X	X	X	X
15	1L0131	Not Provided		1L Summa Canister	T20-Oc02822	X	X	X	X
16	1L0141	Not Provided		1L Summa Canister	T20-Oc02823	X	X	X	X
17	1L0219	Not Provided		1L Summa Canister	T20-Oc02824	X	X	X	X
18	1L0211	Not Provided		1L Summa Canister	T20-Oc02825	X	X	X	X
19	1L0168	Not Provided		1L Summa Canister	T20-Oc02826	X	X	X	X
20	1L0197	Not Provided		1L Summa Canister	T20-Oc15191				X

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Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
21	1L0061	Not Provided		1L Summa Canister	T20-Oc15192				X
22	1L0180	Not Provided		1L Summa Canister	T20-Oc15193				X
23	1L0109	Not Provided		1L Summa Canister	T20-Oc15194				X
24	1L0225	Not Provided		1L Summa Canister	T20-Oc15195				X
25	1L0087	Not Provided		1L Summa Canister	T20-Oc15196				X
26	1L0228	Not Provided		1L Summa Canister	T20-Oc15197				X
27	1L0050	Not Provided		1L Summa Canister	T20-Oc15198				X

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Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
28	1L0244	Not Provided		1L Summa Canister	T20-Oc15199				X
29	1L0165	Not Provided		1L Summa Canister	T20-Oc15200				X
30	1L0232	Not Provided		1L Summa Canister	T20-Oc15201				X
31	1L0140	Not Provided		1L Summa Canister	T20-Oc15202				X
32	1L0009	Not Provided		1L Summa Canister	T20-Oc15203				X
33	1L0044	Not Provided		1L Summa Canister	T20-Oc15204				X
34	1L0060	Not Provided		1L Summa Canister	T20-Oc15205				X

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NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
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PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Eurofins | mgt - QLD
Address: 1/21 Smallwood Place
Murarrie
QLD 4712

Project Name: CANISTER CERTIFICATION REPORT - OCTOBER

Order No.:
Report #: 747858
Phone: 07 3902 4600
Fax:

Received: Oct 2, 2020 12:00 AM
Due: Dec 29, 2020
Priority: 60 Day
Contact Name: Canister Certification Report

Eurofins Analytical Services Manager : Ryan Gilbert

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
35	1L0132	Not Provided		1L Summa Canister	T20-Oc15206				X
36	1L0070	Not Provided		1L Summa Canister	T20-Oc15207				X
37	1L0006	Not Provided		1L Summa Canister	T20-Oc15208				X
38	1L0096	Not Provided		1L Summa Canister	T20-Oc15209				X
39	1L0133	Not Provided		1L Summa Canister	T20-Oc15210				X
40	6L0011	Not Provided		1L Summa Canister	T20-Oc15211				X
41	6L0064	Not Provided		1L Summa Canister	T20-Oc15212				X

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

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6 Monterey Road
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Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
42	6L0069	Not Provided		1L Summa Canister	T20-Oc15213				X
43	6L0020	Not Provided		1L Summa Canister	T20-Oc15214				X
44	6L0066	Not Provided		1L Summa Canister	T20-Oc15215				X
45	6L0041	Not Provided		1L Summa Canister	T20-Oc15216				X
46	6L0004	Not Provided		1L Summa Canister	T20-Oc15217				X
47	1I0091	Not Provided		1L Summa Canister	T20-Oc15218				X
48	1I0128	Not Provided		1L Summa Canister	T20-Oc15219				X

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Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
49	1l0115	Not Provided		1L Summa Canister	T20-Oc15220				X
Test Counts						19	19	19	49

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. Dilutions are performed on samples due to the presence of high level target species or the presence of high level non-target species.
3. Results are uncorrected for surrogate recoveries.
4. All QC limit exceedances and affected sample results are noted by flags. Each qualifying flag is defined below in section entitled 'Definition of Data Qualifying Flags' and additionally on individual sample results (where relevant).
5. "100% certification" is defined as evaluating the sampling system with humid zero air/N2 and humid calibration gases that pass through all active components of the sampling system. The system is "100% certified" if no significant additions or deletions (less than 0.2 ppbv each of target compounds) have occurred when challenged with the test gas stream.
6. The conversion equation from ppbv to g/m3 uses a temperature of 25 °C and an ambient sea level atmospheric pressure of 1 atmosphere (101.325 kPa) is assumed.
7. All canister samples are only analysed once temperature equilibrium with the laboratory has been achieved.
8. Safe Sampling Volume (SSV) - calculated by taking two-thirds of the breakthrough volume (direct method) and Appendix 1 of Method T0-17.
9. Samples were analysed on an 'as received' basis.
10. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
11. This report replaces any interim results previously issued.

Definition of Data Qualifying Flags

Qualifiers may have been used on the data analysis sheets and indicates as follows:

A01 Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

A02 Estimated value.

A03 Exceeds instrument calibration range.

A04 Saturated peak.

A05 Exceeds quality control limits.

A06 Compound analysed for but not detected above the Limit of Reporting (LOR). See data page for project specific U-flag definition.

A07 Non-detected compound associated with low bias in the CCV.

A08 The identification is based on presumptive evidence.

A09 SSV has been exceeded for this compound. It is likely that this compound has been underestimated.

A10 LORs cited do not take into account sample dilution due to canister pressurisation.

A11 Naphthalene elutes outside the >C10-C12 range on the system used for sample analysis. As a result, >C10-C12 TRH value is equivalent to the modified F2 value.

Holding Times

Under conditions of normal usage for sampling ambient air, most Volatile Organic Compounds (VOCs) can be recovered from canisters near their original concentrations after storage times of up to thirty days. For thermal desorption tubes (TDT) samples should be refrigerated at <4°C in a clean environment during storage and analysed within 30 days of sample collection (within one week for limonene, carene, bis-chloromethyl ether and labile sulfur or nitrogen containing volatiles).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

ppbv: parts per billion by volume

ug/m3: micrograms per cubic metre

kPa: kilopascal

psig: pounds per square inch gauge

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	No
Appropriate sample containers have been used	No
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
I12	Where sampling date has not been provided, Eurofins | Environment Testing is not able to determine whether analysis has been performed within recommended holding times.

Authorised By

Ryan Gilbert	Analytical Services Manager
Laurence Hearn	Senior Analyst-Air (QLD)



Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Due date. 15/10/20

TO-15 Canister Chain of Custody Record

Dispatch samples to: Unit 10/585 Blackburn Road, Notting Hill, Victoria 3168, Australia

Attn: Sample Reception - Contact Ph: +613 9574 3311
Email: au.samplereceipt.melbourne@sgs.com

CLIENT NAME: Edge Group
CLIENT ADDRESS: 423 City Road South Melbourne 3205 VIC
ABN:
CONTACT:
SAMPLED BY: Natasha Vella
PROJECT REF: 20200047

CONTACT PHONE No: 0439 588 664
CONTACT FAX No:
RESULTS REQUIRED BY: Scott Davis and Natasha Vella
EMAIL ADDRESS: scottD@edgegroup.net.au
natasha.vella@edgegroup.net.au
LAB QUOTE NUMBER:
PURCHASE ORDER NUMBER:

PAGE 1 OF 1

Client Sample ID (Field Location)	Canister #	Back up Carbon Tube #	Soil Gas Train/ Mass Flow Controller #	Purge Volume	Leak Test Passed	PID	Vacuum	Carbon Tube Sample Volume	Date of Collection	Collection Time		Canister Pressure/Vacuum		Analysis Requested				
										Time on	Time Off	Inital	Final	62 VOCs (TO-15)	TRH, F1, modified (TO-15)	ASTM Gas List (O2, CH4, CO2, Helium)		
FS01	1L0109	–	115	~~N/A~~ –	Pass	13.7	–	–	6-10-20	12:56	13:59	-30	-5	X	X	X		

SGS EHS Melbourne COC
ME316787

RELEASED BY: (Name) Natasha Vella (Signature) ~~N Vella~~ (Date / Time) 7-10-2020/15:15
RECEIVED BY: (Name) ALBERT (Signature) Albert M (Date / Time) 8/10/20 10.25

Please return Eurofins canister in briefcase provided and liase with Savini Suduweli: SaviniSuduweli@eurofins.com

Notes:
FS01 Canister is a Eurofins Canister. ← The SGS canister was not used.
↳ S/N 4213

SAMPLE RECEIPT ADVICE

ME316787

CLIENT DETAILS

Contact	Scott Davis
Client	EDGE GROUP PTY LTD
Address	423 CITY ROAD SOUTH MELBOURNE VIC 3205
Telephone	0439 588 664
Facsimile	61 3 96769133
Email	ScottD@edgegroup.net.au
Project	**20200047**
Order Number	**20200047**
Samples	1

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
Samples Received	Thu 8/10/2020
Report Due	Thu 15/10/2020
SGS Reference	**ME316787**

SUBMISSION DETAILS

This is to confirm that 1 sample was received on Thursday 8/10/2020. Results are expected to be ready by COB Thursday 15/10/2020. Please quote SGS reference ME316787 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	Other Lab	Sample cooling method	None
Samples received in correct containers	Yes	Sample counts by matrix	1 X AIR
Date documentation received	20201008 10:58:45	Type of documentation received	COC
Number of eskies/boxes received	NA	Samples received in good order	Yes
Samples received without headspace	N/A	Sample temperature upon receipt	Ambient
Sufficient sample for analysis	Yes	Turnaround time requested	Standard

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

The canister is a Eurofins lab canister. This will be returned once we have finished analysis

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

SAMPLE RECEIPT ADVICE

ME316787

CLIENT DETAILS

Client EDGE GROUP PTY LTD

Project 20200047

SUMMARY OF ANALYSIS

No.	Sample ID	General Gases MA-1105 Norm	Receipt Pressure/Vacuum of Canisters	TO-15 in Air	TO-15 TPH
001	FS01	4	2	77	4

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Scott Davis
Client	EDGE GROUP PTY LTD
Address	423 CITY ROAD SOUTH MELBOURNE VIC 3205
Telephone	0439 588 664
Facsimile	61 3 96769133
Email	ScottD@edgegroup.net.au
Project	**20200047**
Order Number	**20200047**
Samples	1

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME316787 R0**
Date Received	08 Oct 2020
Date Reported	12 Oct 2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(14420).

SIGNATORIES



Adam ATKINSON
Australian Chemistry Manager

Parameter	Units	LOR	Sample Number ME316787.001 Sample Matrix CANISTER Sample Date 6/10/20 13:59 Sample Name FS01
Receipt Pressure/Vacuum of Canisters Method: TO-15 Tested: 8/10/2020			
Receipt Vacuum (inch Hg below std atmospheric	No unit	-	**2.24**
Receipt Pressure (PSIA)*	No unit	-	**13.5**
TO-15 in Air Method: TO15 Tested: 8/10/2020			
Acrolein	µg/m³	-	<3.8
Acrylonitrile	µg/m³	-	<9.7
tert-Amyl Methyl Ether	µg/m³	-	<3.2
Benzene	µg/m³	-	**4.9**
Bromodichloromethane	µg/m³	-	<5.4
Bromoform	µg/m³	-	<6.4
Bromomethane	µg/m³	-	<4.8
1,3-Butadiene	µg/m³	-	<1.6
2-Butanone (Methyl Ethyl Ketone)	µg/m³	-	<2.7
tert-Butyl Alcohol	µg/m³	-	<2.7
n-Butylbenzene	µg/m³	-	<4.3
sec-Butylbenzene	µg/m³	-	<4.3
tert-Butylbenzene	µg/m³	-	<4.3
Carbon Tetrachloride	µg/m³	-	<5.4
Chlorobenzene	µg/m³	-	<3.2
Chloroethane	µg/m³	-	<3.2
Chloroform	µg/m³	-	**35**
Chloromethane	µg/m³	-	<3.8
2-Chloroprene	µg/m³	-	<5.9
3-Chloropropene	µg/m³	-	<3.8
2-Chlorotoluene	µg/m³	-	<4.8
alpha-Chlorotoluene	µg/m³	-	<3.8
Cumene	µg/m³	-	<4.3
Cyclohexane	µg/m³	-	<2.1
o-Cymene	µg/m³	-	<4.3
Dibromochloromethane	µg/m³	-	<6.4
1,2-Dibromoethane (EDB)	µg/m³	-	<6.4
1,2-Dichlorobenzene	µg/m³	-	<7
1,3-Dichlorobenzene	µg/m³	-	<7
1,4-Dichlorobenzene	µg/m³	-	<7
1,1-Dichloroethane	µg/m³	-	<3.8
1,2-Dichloroethane	µg/m³	-	<5.4
1,1-Dichloroethene	µg/m³	-	<3.2
cis-1,2-Dichloroethene	µg/m³	-	<4.3
trans-1,2-Dichloroethene	µg/m³	-	<3.2
1,2-Dichloropropane	µg/m³	-	<9.7
cis-1,3-Dichloropropene	µg/m³	-	<3.2
trans-1,3-Dichloropropene	µg/m³	-	<3.8
Diisopropyl Ether	µg/m³	-	<3.8
1,4-Dioxane	µg/m³	-	<3.2
Ethyl Acetate	µg/m³	-	<4.3
Ethyl Benzene	µg/m³	-	<3.2
Ethyl tert-Butyl Ether	µg/m³	-	<2.7
4-Ethyltoluene	µg/m³	-	<3.2
Freon 11	µg/m³	-	<1.6
Freon 113	µg/m³	-	<5.4
Freon 114	µg/m³	-	<1.6
Freon 12	µg/m³	-	<2.1
Heptane	µg/m³	-	<3.8
Hexachlorobutadiene	µg/m³	-	<11
Hexane	µg/m³	-	<3.2
2-Hexanone	µg/m³	-	<3.2
m,p-Xylene	µg/m³	-	<7
Methyl Methacrylate	µg/m³	-	<3.8

Parameter	Units	LOR	Sample Number ME316787.001 Sample Matrix CANISTER Sample Date 6/10/20 13:59 Sample Name FS01
TO-15 in Air Method: TO15 Tested: 8/10/2020 (continued)			
Methyl tert-butyl ether	µg/m³	-	<3.2
4-Methyl-2-pentanone	µg/m³	-	<3.2
Naphthalene	µg/m³	-	<11
2-Propanol	µg/m³	-	<54
Propene	µg/m³	-	<5.4
Propylbenzene	µg/m³	-	<3.8
Styrene	µg/m³	-	<3.2
1,1,1,2-Tetrachloroethane	µg/m³	-	<5.4
1,1,2,2-Tetrachloroethane	µg/m³	-	<3.8
Tetrachloroethene	µg/m³	-	<5.9
Tetrahydrofuran	µg/m³	-	<2.1
Toluene	µg/m³	-	**4.1**
1,2,4-Trichlorobenzene	µg/m³	-	<19
1,1,1-Trichloroethane	µg/m³	-	<4.3
1,1,2-Trichloroethane	µg/m³	-	<4.3
Trichloroethene	µg/m³	-	<4.8
1,2,4-Trimethylbenzene	µg/m³	-	<4.3
1,3,5-Trimethylbenzene	µg/m³	-	<3.2
2,2,4-Trimethylpentane	µg/m³	-	<4.8
Vinyl Acetate	µg/m³	-	<3.8
Vinyl Bromide	µg/m³	-	<4.3
Vinyl Chloride	µg/m³	-	<2.1
o-Xylene	µg/m³	-	<3.2

Parameter	Units	LOR	Sample Number: ME316787.001 Sample Matrix: CANISTER Sample Date: 6/10/20 13:59 Sample Name: FS01
TO-15 TPH Method: TO15_TPH Tested: 8/10/2020			
C6-C10	mg/m³	-	**0.47**
C6-C10 (less BTEX)	mg/m³	-	**0.46**
>C10-C12	mg/m³	-	<0.11
>C10-C12 (less naphthalene)	mg/m³	-	<0.11
General Gases MA-1105 Method: MA1105 Tested: 9/10/2020			
Helium	%v/v	0.01	<0.01
Oxygen	%v/v	0.5	**17**
Methane	%v/v	0.01	<0.01
Carbon Dioxide	%v/v	0.01	<0.01

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage.* Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

General Gases MA-1105 Method: MA1105

Parameter	QC Reference	Units	LOR	DUP %RPD	LCS %Recovery
Helium	LB036054	%v/v	0.01	0%	NA
Oxygen	LB036054	%v/v	0.5	1%	NA
Methane	LB036054	%v/v	0.01	0%	NA
Carbon Dioxide	LB036054	%v/v	0.01	0%	NA

TO-15 in Air Method: TO15

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Acrolein	LB036047	µg/m³	-	<7.0		NA
Acrylonitrile	LB036047	µg/m³	-	<18		105%
tert-Amyl Methyl Ether	LB036047	µg/m³	-	<6.0		NA
Benzene	LB036047	µg/m³	-	<5.0	12%	77%
Bromodichloromethane	LB036047	µg/m³	-	<10		NA
Bromoform	LB036047	µg/m³	-	<12		NA
Bromomethane	LB036047	µg/m³	-	<9.0		NA
1,3-Butadiene	LB036047	µg/m³	-	<3.0		81%
2-Butanone (Methyl Ethyl Ketone)	LB036047	µg/m³	-	<5.0		NA
tert-Butyl Alcohol	LB036047	µg/m³	-	<5.0		NA
n-Butylbenzene	LB036047	µg/m³	-	<8.0		NA
sec-Butylbenzene	LB036047	µg/m³	-	<8.0		NA
tert-Butylbenzene	LB036047	µg/m³	-	<8.0		NA
Carbon Tetrachloride	LB036047	µg/m³	-	<10		NA
Chlorobenzene	LB036047	µg/m³	-	<6.0		NA
Chloroethane	LB036047	µg/m³	-	<6.0		NA
Chloroform	LB036047	µg/m³	-	<9.0	11%	77%
Chloromethane	LB036047	µg/m³	-	<7.0		NA
2-Chloroprene	LB036047	µg/m³	-	<11		NA
3-Chloropropene	LB036047	µg/m³	-	<7.0		NA
2-Chlorotoluene	LB036047	µg/m³	-	<9.0		NA
alpha-Chlorotoluene	LB036047	µg/m³	-	<7.0		NA
Cumene	LB036047	µg/m³	-	<8.0		NA
Cyclohexane	LB036047	µg/m³	-	<4.0		NA
o-Cymene	LB036047	µg/m³	-	<8.0		NA
Dibromochloromethane	LB036047	µg/m³	-	<12		NA
1,2-Dibromoethane (EDB)	LB036047	µg/m³	-	<12		NA
1,2-Dichlorobenzene	LB036047	µg/m³	-	<13		NA
1,3-Dichlorobenzene	LB036047	µg/m³	-	<13		NA
1,4-Dichlorobenzene	LB036047	µg/m³	-	<13		NA
1,1-Dichloroethane	LB036047	µg/m³	-	<7.0		NA
1,2-Dichloroethane	LB036047	µg/m³	-	<10		77%
1,1-Dichloroethene	LB036047	µg/m³	-	<6.0		NA
cis-1,2-Dichloroethene	LB036047	µg/m³	-	<8.0		NA
trans-1,2-Dichloroethene	LB036047	µg/m³	-	<6.0		NA
1,2-Dichloropropane	LB036047	µg/m³	-	<18		NA
cis-1,3-Dichloropropene	LB036047	µg/m³	-	<6.0		NA
trans-1,3-Dichloropropene	LB036047	µg/m³	-	<7.0		NA
Diisopropyl Ether	LB036047	µg/m³	-	<7.0		NA
1,4-Dioxane	LB036047	µg/m³	-	<6.0		NA
Ethyl Acetate	LB036047	µg/m³	-	<8.0		NA
Ethyl Benzene	LB036047	µg/m³	-	<6.0		NA
Ethyl tert-Butyl Ether	LB036047	µg/m³	-	<5.0		NA
4-Ethyltoluene	LB036047	µg/m³	-	<6.0		NA
Freon 11	LB036047	µg/m³	-	<3.0		NA
Freon 113	LB036047	µg/m³	-	<10		NA
Freon 114	LB036047	µg/m³	-	<3.0		NA
Freon 12	LB036047	µg/m³	-	<4.0		NA

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage.* Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

TO-15 in Air **Method: TO15 (continued)**

				MB	DUP %RPD	LCS %Recovery
Heptane	LB036047	µg/m³	-	<7.0		NA
Hexachlorobutadiene	LB036047	µg/m³	-	<20		NA
Hexane	LB036047	µg/m³	-	<6.0		NA
2-Hexanone	LB036047	µg/m³	-	<6.0		NA
m,p-Xylene	LB036047	µg/m³	-	<13		NA
Methyl Methacrylate	LB036047	µg/m³	-	<7.0		NA
Methyl tert-butyl ether	LB036047	µg/m³	-	<6.0		NA
4-Methyl-2-pentanone	LB036047	µg/m³	-	<6.0		NA
Naphthalene	LB036047	µg/m³	-	<21		NA
2-Propanol	LB036047	µg/m³	-	<100		NA
Propene	LB036047	µg/m³	-	<10		NA
Propylbenzene	LB036047	µg/m³	-	<7.0		NA
Styrene	LB036047	µg/m³	-	<6.0		NA
1,1,1,2-Tetrachloroethane	LB036047	µg/m³	-	<10		NA
1,1,2,2-Tetrachloroethane	LB036047	µg/m³	-	<7.0		NA
Tetrachloroethene	LB036047	µg/m³	-	<11		76%
Tetrahydrofuran	LB036047	µg/m³	-	<4.0		NA
Toluene	LB036047	µg/m³	-	<6.0	11%	NA
1,2,4-Trichlorobenzene	LB036047	µg/m³	-	<36		NA
1,1,1-Trichloroethane	LB036047	µg/m³	-	<8.0		NA
1,1,2-Trichloroethane	LB036047	µg/m³	-	<8.0		NA
Trichloroethene	LB036047	µg/m³	-	<9.0		77%
1,2,4-Trimethylbenzene	LB036047	µg/m³	-	<8.0		NA
1,3,5-Trimethylbenzene	LB036047	µg/m³	-	<6.0		NA
2,2,4-Trimethylpentane	LB036047	µg/m³	-	<9.0		NA
Vinyl Acetate	LB036047	µg/m³	-	<7.0		NA
Vinyl Bromide	LB036047	µg/m³	-	<8.0		NA
Vinyl Chloride	LB036047	µg/m³	-	<4.0		81%
o-Xylene	LB036047	µg/m³	-	<6.0		NA

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage.* Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

TO-15 TPH **Method: TO15_TPH**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD
C6-C10	LB036047	mg/m³	-	<0.20	9%
C6-C10 (less BTEX)	LB036047	mg/m³	-	<0.20	9%
>C10-C12	LB036047	mg/m³	-	<0.20	
>C10-C12 (less naphthalene)	LB036047	mg/m³	-	<0.20	

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
MA-1105	This method is intended for the analysis of light hydrocarbons and permanent gases in low pressure gas, by micro gas chromatography (µGC) coupled with thermal conductivity detectors. Low pressure samples are analysed using an Agilent 490 Micro GC, (a 4-channel system). The sample is drawn through the inlet by the instrument's vacuum pump. The sample is then directed via separate paths through each of the four modules (containing different GC columns), the target analytes are separated and then passed through into the thermal conductivity detector.
TO-15	"This method is intended for the analysis of Volatile Organic Compounds (VOCs) for ambient air or soil gas, sampled onto canisters and analysed by gas chromatography mass spectrometry (GCMS) coupled with the Markes sample introduction units. This method is based on the USEPA Method TO-15.
TO-15	This method involves GC-MS analysis of the air sample collected in evacuated canisters. In the lab, a portion of sample is pre-screened if from an unknown source or is suspected to be high. Once the pre-screening is complete the sample is passed onto a sorbent trap, and is desorbed to the GC where the analytes are separated, and are then passed into the MS where fragmentation of the molecules occurs, to produce mass spectra of each analyte. The data is recorded on a Total Ion Chromatogram (TIC) from which each analyte detected can be individually identified (using the Mass Spectra) and quantitated against standards.
TO15-TPH	This method is intended for the analysis of total petroleum hydrocarbon (TPH) fractions for ambient air or soil gas, sampled onto canisters and analysed by gas chromatography mass spectrometry (GCMS) coupled with the Markes sample introduction units. This method is based on the USEPA Method TO-15.
TO15-TPH	This method involves GC-MS analysis of the air sample collected in evacuated canisters. In the lab, a portion of sample is pre-screened if from an unknown source or is suspected to be high. Once the pre-screening is complete the sample is passed onto a sorbent trap, and is desorbed to the GC where the analytes are separated, and are then passed into the MS where fragmentation of the molecules occurs, to produce mass spectra of each analyte. The data is recorded on a Total Ion Chromatogram (TIC) from which each analyte detected can be individually identified (using the Mass Spectra) and quantitated against standards.
TO15-Vacuum	Canisters returned containing samples have the receipt pressure measured using Model 4600A Dynamic Diluter.

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
		QFL	QC result is below the lower tolerance
**	Indicative data, theoretical holding time exceeded.	-	The sample was not analysed for this analyte
***	Indicates that both * and ** apply.	NVL	Not Validated

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calcuated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

ME316787 R0

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Project	**20200047**	SGS Reference	**ME316787 R0**
Order Number	**20200047**	Date Received	08 Oct 2020
Samples	1	Date Reported	12 Oct 2020

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Melbourne EH&S laboratory).

SAMPLE SUMMARY

HOLDING TIME SUMMARY

ME316787 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

General Gases MA-1105 — **Method: MA1105**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
FS01	ME316787.001	LB036054	06 Oct 2020	08 Oct 2020	20 Oct 2020	09 Oct 2020	06 Nov 2020	09 Oct 2020

TO-15 in Air — **Method: TO15**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
FS01	ME316787.001	LB036047	06 Oct 2020	08 Oct 2020	20 Oct 2020	08 Oct 2020	05 Nov 2020	09 Oct 2020

TO-15 TPH — **Method: TO15_TPH**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
FS01	ME316787.001	LB036047	06 Oct 2020	08 Oct 2020	03 Nov 2020	08 Oct 2020	03 Nov 2020	09 Oct 2020

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No surrogates were required for this job.

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TO-15 in Air

Method: TO15

Sample Number	Parameter	Units	LOR	Result
LB036047.001	Acrolein	µg/m³	-	<7.0
	Acrylonitrile	µg/m³	-	<18
	tert-Amyl Methyl Ether	µg/m³	-	<6.0
	Benzene	µg/m³	-	<5.0
	Bromodichloromethane	µg/m³	-	<10
	Bromoform	µg/m³	-	<12
	Bromomethane	µg/m³	-	<9.0
	1,3-Butadiene	µg/m³	-	<3.0
	2-Butanone (Methyl Ethyl Ketone)	µg/m³	-	<5.0
	tert-Butyl Alcohol	µg/m³	-	<5.0
	n-Butylbenzene	µg/m³	-	<8.0
	sec-Butylbenzene	µg/m³	-	<8.0
	tert-Butylbenzene	µg/m³	-	<8.0
	Carbon Tetrachloride	µg/m³	-	<10
	Chlorobenzene	µg/m³	-	<6.0
	Chloroethane	µg/m³	-	<6.0
	Chloroform	µg/m³	-	<9.0
	Chloromethane	µg/m³	-	<7.0
	2-Chloroprene	µg/m³	-	<11
	3-Chloropropene	µg/m³	-	<7.0
	2-Chlorotoluene	µg/m³	-	<9.0
	alpha-Chlorotoluene	µg/m³	-	<7.0
	Cumene	µg/m³	-	<8.0
	Cyclohexane	µg/m³	-	<4.0
	o-Cymene	µg/m³	-	<8.0
	Dibromochloromethane	µg/m³	-	<12
	1,2-Dibromoethane (EDB)	µg/m³	-	<12
	1,2-Dichlorobenzene	µg/m³	-	<13
	1,3-Dichlorobenzene	µg/m³	-	<13
	1,4-Dichlorobenzene	µg/m³	-	<13
	1,1-Dichloroethane	µg/m³	-	<7.0
	1,2-Dichloroethane	µg/m³	-	<10
	1,1-Dichloroethene	µg/m³	-	<6.0
	cis-1,2-Dichloroethene	µg/m³	-	<8.0
	trans-1,2-Dichloroethene	µg/m³	-	<6.0
	1,2-Dichloropropane	µg/m³	-	<18
	cis-1,3-Dichloropropene	µg/m³	-	<6.0
	trans-1,3-Dichloropropene	µg/m³	-	<7.0
	Diisopropyl Ether	µg/m³	-	<7.0
	1,4-Dioxane	µg/m³	-	<6.0
	Ethyl Acetate	µg/m³	-	<8.0
	Ethyl Benzene	µg/m³	-	<6.0
	Ethyl tert-Butyl Ether	µg/m³	-	<5.0
	4-Ethyltoluene	µg/m³	-	<6.0
	Freon 11	µg/m³	-	<3.0
	Freon 113	µg/m³	-	<10
	Freon 114	µg/m³	-	<3.0
	Freon 12	µg/m³	-	<4.0
	Heptane	µg/m³	-	<7.0
	Hexachlorobutadiene	µg/m³	-	<20
	Hexane	µg/m³	-	<6.0
	2-Hexanone	µg/m³	-	<6.0
	m,p-Xylene	µg/m³	-	<13
	Methyl Methacrylate	µg/m³	-	<7.0
	Methyl tert-butyl ether	µg/m³	-	<6.0
	4-Methyl-2-pentanone	µg/m³	-	<6.0
	Naphthalene	µg/m³	-	<21
	2-Propanol	µg/m³	-	<100
	Propene	µg/m³	-	<10
	Propylbenzene	µg/m³	-	<7.0
	Styrene	µg/m³	-	<6.0

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TO-15 in Air (continued) — Method: TO15

Sample Number	Parameter	Units	LOR	Result
LB036047.001	1,1,1,2-Tetrachloroethane	µg/m³	-	<10
	1,1,2,2-Tetrachloroethane	µg/m³	-	<7.0
	Tetrachloroethene	µg/m³	-	<11
	Tetrahydrofuran	µg/m³	-	<4.0
	Toluene	µg/m³	-	<6.0
	1,2,4-Trichlorobenzene	µg/m³	-	<36
	1,1,1-Trichloroethane	µg/m³	-	<8.0
	1,1,2-Trichloroethane	µg/m³	-	<8.0
	Trichloroethene	µg/m³	-	<9.0
	1,2,4-Trimethylbenzene	µg/m³	-	<8.0
	1,3,5-Trimethylbenzene	µg/m³	-	<6.0
	2,2,4-Trimethylpentane	µg/m³	-	<9.0
	Vinyl Acetate	µg/m³	-	<7.0
	Vinyl Bromide	µg/m³	-	<8.0
	Vinyl Chloride	µg/m³	-	<4.0
	o-Xylene	µg/m³	-	<6.0

TO-15 TPH — Method: TO15_TPH

Sample Number	Parameter	Units	LOR	Result
LB036047.001	C6-C10	mg/m³	-	<0.20
	C6-C10 (less BTEX)	mg/m³	-	<0.20
	>C10-C12	mg/m³	-	<0.20
	>C10-C12 (less naphthalene)	mg/m³	-	<0.20

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

General Gases MA-1105 — Method: MA1105

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME316787.001	LB036054.003	Helium	%v/v	0.01	<0.01	<0.01	200	0
		Oxygen	%v/v	0.5	17	17	33	1
		Methane	%v/v	0.01	<0.01	<0.01	200	0
		Carbon Dioxide	%v/v	0.01	<0.01	<0.01	200	0

TO-15 in Air — Method: TO15

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME316787.001	LB036047.004	Benzene	µg/m³	-	4.9	4.3	30	12
		Chloroform	µg/m³	-	35	32	30	11
		Toluene	µg/m³	-	4.1	3.6	30	11

TO-15 TPH — Method: TO15_TPH

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME316787.001	LB036047.004	C6-C10	mg/m³	-	0.47	0.43	30	9
		C6-C10 (less BTEX)	mg/m³	-	0.46	0.42	30	9

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TO-15 in Air — **Method: TO15**

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB036047.002	Acrylonitrile	µg/m³	-	23	22	60 - 140	105
	Benzene	µg/m³	-	25	32.4	60 - 140	77
	1,3-Butadiene	µg/m³	-	18	22.4	60 - 140	81
	Chloroform	µg/m³	-	38	49.4	60 - 140	77
	1,2-Dichloroethane	µg/m³	-	32	41.1	60 - 140	77
	Tetrachloroethene	µg/m³	-	52	68.8	60 - 140	76
	Trichloroethene	µg/m³	-	42	54.5	60 - 140	77
	Vinyl Chloride	µg/m³	-	21	25.93	60 - 140	81

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spikes were required for this job.

MATRIX SPIKE DUPLICATES

ME316787 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

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Phone №	0439 588 664	EDDs (Circle)	ESdat, EQuIS, pdf
Special Direction		Handed over by	Natasha Vella
Purchase Order	20200047		___:___ 16/12/20
Quote ID №	200925EDGV	Email for Results	Scott.D@edgegroup.net.au natasha.vella@edgegroup.net.au

Turn Around Requirements: ☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☑ 5 Day ☐ Other ( ) * Surcharges apply

№	Client Sample ID	Date	Time	62 VOCs (TO-15)	TRH, F1, mod F2 (TO-15)	VPH aliphatic/aromatic speciation (TO-15)	ASTM Gas List (D1945/1946) O2, CH4, CO2, helium	Helium only (D1946)	Canister Vacuum/Pressure Initial	Canister Vacuum/Pressure Final	Canister ID (e.g 1L0020 or 6L0020)	Flow Controller ID (e.g FC020 or 000020)	Sample Comments / DG Hazard Warning
1	SVB08	14-12-20	09:63	X	X		X		-30	-5	1L0223	23	
2	SVB10	14-12-20	11:14	X	X		X		-30	-5	1L0221	73	
3	SVB09	14-12-20	12:04	X	X		X		-30	-5	1L0023	172	
4	SVB05	14-12-20	14:28	X	X		X		-29	-10	1L0091	128	
5													
6	Please do not analyse canister 1L0056 and controller 000188. These were used for sampling												
7	however water was seen coming up through line, so sampling was terminated.												
8	The following canisters + controllers were not used: 000070, 000167, 000076, 000106,												
9	FC067, 1L0050, 1L0177, 1L0036.												
	Total Counts			4	4		4		4	4	4	4	

Method of Shipment: ☒ Courier (#) ☐ Hand Delivered ☐ Postal Name Signature Date ___/___/___ Time ___:___

Laboratory Use Only

Received By	Issue	SYD | BNE | MEL | PER | ADL | NEW | DAR	Signature	Date	17/12/20	Time	1:am	Temperature	
Received By		SYD | BNE | MEL | PER | ADL | NEW | DAR	Signature	Date	___/___/___	Time	___:___	Report №	764336

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

SUMMA CANISTER
CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☐ **Sydney Laboratory** Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1, 21 Smallwood Pl., Murarrie, QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2, 91 Leach Highway, Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road, Dandenong South, VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Edge Group	Project №	20200047	Project Manager	Scott Davis
Address	423 City Road South Melbourne VIC 3025	Project Name	Collingwood VRA	EDDs (Circle)	ESdat, EQuIS, (pdf)
Contact Name	Scott Davis			Handed over by	Natasha Vella
Phone №	0439 588 664				__:__ 16/12/20
Special Direction				Email for Results	ScottD@edgegroup.net.au natasha.vella@edgegroup.net.au
Purchase Order	20200047				
Quote ID №	200925EDGV				

Turn Around Requirements

☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☑ 5 Day ☐ 3 Day* ☐ Other ( ) * Surcharges apply

№	Client Sample ID	Date	Time	Analysis: 62 VOCs (TO-15)	TRH, F1, mod F2 (TO-15)	VPH aliphatic/aromatic speciation (TO-15)	ASTM Gas List (D1945/1946) O2, CH4, CO2, helium	Helium only (D1946)	Canister Vacuum/Pressure: Initial	Final	Canister ID (e.g 1L0020 or 6L0020)	Flow Controller ID (e.g FC020 or 000020)	Sample Comments / DG Hazard Warning
1	SVB01	15-12-20	08:28	X	X		X		-30	-5	1L0052	83	
2	SVB07	15-12-20	09:09	X	X		X		-30	-5	1L0022	37	
3	SVR01	15-12-20	09:55	X	X		X		-30	-5	1L0210	178	
4	SVB06	15-12-20	10:10	X	X		X		-30	-5	1L0061	4	
5	SVP02	15-12-20	11:06	X	X		X		-30	-5	1L0097	184	
6	SVB04	15-12-20	13:11	X	X		X		-30	-5	1L0130	149	
7	SVP03	15-12-20	13:35	X	X		X		-30	-5	1L0174	107	
8	FD01	15-12-20	13:35	X	X		X		-30	-5	1L0065	107	
9													
	Total Counts			8	8		8		8	8	8	8	

Method of Shipment	☒ Courier (#)	☐ Hand Delivered	☐ Postal	Name		Signature		Date __/__/__	Time __:__
Laboratory Use Only	Received By Issue	SYD | BNE | MEL | PER | ADL | NEW | DAR		Signature		Date 17/12/20	Time 9:am	Temperature	
	Received By	SYD | BNE | MEL | PER | ADL | NEW | DAR		Signature		Date __/__/__	Time __:__	Report №	764386

Submission of samples to this laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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NATA # 1261 Site # 18217

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IANZ # 1290

Sample Receipt Advice

Company name:	Edge Group P/L
Contact name:	Scott Davis
Project name:	COLLINGWOOD VRA
Project ID:	20200047
Turnaround time:	5 Day
Date/Time received	Dec 17, 2020 9:00 AM
Eurofins reference	764336

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Scott Davis - ScottD@edgegroup.net.au.

Note: A copy of these results will also be delivered to the general Edge Group P/L email address.

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43 Detroit Drive
Rolleston, Christchurch 7675
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IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: COLLINGWOOD VRA
Project ID: 20200047

Order No.: 20200047
Report #: 764336
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: Dec 17, 2020 9:00 AM
Due: Dec 24, 2020
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15	ASTM D1945/D1946	CRC CARE TR 23 PVI
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	SVB08	Dec 14, 2020		1L Summa Canister	T20-De35686	x	x	x	x	x	x
2	SVB10	Dec 14, 2020	11:14AM	1L Summa Canister	T20-De35687	x	x	x	x	x	x
3	SVB09	Dec 14, 2020	12:04PM	1L Summa Canister	T20-De35688	x	x	x	x	x	x
4	SVB05	Dec 14, 2020	2:28PM	1L Summa Canister	T20-De35689	x	x	x	x	x	x
5	SVB01	Dec 15, 2020	8:28AM	1L Summa Canister	T20-De35690	x	x	x	x	x	x
6	SVB07	Dec 15, 2020	9:09AM	1L Summa	T20-De35691	x	x	x	x	x	x

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Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: COLLINGWOOD VRA
Project ID: 20200047

Order No.: 20200047
Report #: 764336
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: Dec 17, 2020 9:00 AM
Due: Dec 24, 2020
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15	ASTM D1945/D1946	CRC CARE TR 23 PVI
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
				Canister							
7	SVP01	Dec 15, 2020	9:55AM	1L Summa Canister	T20-De35692	X	X	X	X	X	X
8	SVB06	Dec 15, 2020	10:10AM	1L Summa Canister	T20-De35693	X	X	X	X	X	X
9	SVP02	Dec 15, 2020	11:06AM	1L Summa Canister	T20-De35694	X	X	X	X	X	X
10	SVB04	Dec 15, 2020	1:11PM	1L Summa Canister	T20-De35695	X	X	X	X	X	X
11	SVP03	Dec 15, 2020	1:35PM	1L Summa Canister	T20-De35696	X	X	X	X	X	X
12	FD01	Dec 15, 2020	1:35PM	1L Summa Canister	T20-De35697	X	X	X	X	X	X

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: COLLINGWOOD VRA
Project ID: 20200047

Order No.: 20200047
Report #: 764336
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: Dec 17, 2020 9:00 AM
Due: Dec 24, 2020
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15	ASTM D1945/D1946	CRC CARE TR 23 PVI
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory						
External Laboratory						
Test Counts	12	12	12	12	12	12

Edge Group P/L
1st Floor, 423 City Road
South Melbourne
VIC 3205

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Scott Davis**

Report **764336-TO-V2**
Project name COLLINGWOOD VRA
Project ID 20200047
Received Date Dec 17, 2020

Client Sample ID			**SVB08**	**SVB10**	**SVB09**	**SVB05**
Sample Matrix			**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**	**1L Summa Canister**
Eurofins Sample No.			**T20-De35686**	**T20-De35687**	**T20-De35688**	**T20-De35689**
Date Sampled			**Dec 14, 2020**	**Dec 14, 2020**	**Dec 14, 2020**	**Dec 14, 2020**
Receipt Vac./Pressure (inHg)			**2.7**	**4.2**	**4.9**	**6.0**
Final Pressure (psi)			**15**	**15**	**15**	**15**
Test/Reference	LOR	Unit				
Dilution Factor	0.1		2.2	2.3	2.4	2.5
US EPA Compendium Methods TO-14a/TO-15						
1.1-Dichloroethane	2	ug/m3	< 4	< 5	< 5	< 5
1.1-Dichloroethene	2	ug/m3	< 4	< 5	< 5	< 5
1.1.1-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 7
1.1.2-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 7
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 8	< 8	< 8	< 9
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 8	< 8	< 8	< 9
1.2-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.2-Dichloroethane	2	ug/m3	< 4	< 5	< 5	< 5
1.2-Dichloropropane	2.3	ug/m3	< 5	< 5	< 6	< 6
1.2.4-Trichlorobenzene	15	ug/m3	< 33	< 34	< 35	< 37
1.2.4-Trimethylbenzene	2.5	ug/m3	< 5	< 6	< 6	< 6
1.3-Butadiene	1.1	ug/m3	< 2	< 3	< 3	< 3
1.3-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.3.5-Trimethylbenzene	2.5	ug/m3	< 5	< 6	< 6	< 6
1.4-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.4-Dioxane	7.2	ug/m3	< 16	< 17	< 17	< 18
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 13	< 14	< 14	< 15
2-Hexanone	8.2	ug/m3	< 18	< 19	< 20	< 20
2.2.4-Trimethylpentane	9.3	ug/m3	< 20	< 22	< 22	< 23
3-Chloropropene	6.3	ug/m3	< 14	< 15	< 15	< 16
4-Ethyltoluene	2.5	ug/m3	< 5	< 6	< 6	< 6
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 5	< 5	< 5	< 5
Acetone	11.9	ug/m3	41	< 28	< 28	< 30
Benzene	1.6	ug/m3	< 4	< 4	< 4	35
Bromodichloromethane	3.4	ug/m3	< 7	< 8	< 8	< 8
Bromoform	5.2	ug/m3	< 11	< 12	< 12	< 13
Bromomethane	19.4	ug/m3	< 43	< 45	< 46	< 48
Carbon Disulfide	6.2	ug/m3	< 14	< 14	< 15	< 16
Carbon Tetrachloride	3.1	ug/m3	< 7	< 7	< 7	< 8
Chlorobenzene	2.3	ug/m3	< 5	< 5	< 5	< 6

Client Sample ID			SVB08	SVB10	SVB09	SVB05
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-De35686	T20-De35687	T20-De35688	T20-De35689
Date Sampled			Dec 14, 2020	Dec 14, 2020	Dec 14, 2020	Dec 14, 2020
Receipt Vac./Pressure (inHg)			2.7	4.2	4.9	6.0
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
Chloroethane	5.3	ug/m3	< 12	< 12	< 13	< 13
Chloroform	2.4	ug/m3	< 5	< 6	< 6	< 6
Chloromethane	10.3	ug/m3	< 23	< 24	< 25	< 26
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 6	< 6	< 6	< 6
cis-1.2-Dichloroethene	2	ug/m3	< 4	< 5	< 5	< 5
cis-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 6
Cyclohexane	1.7	ug/m3	< 4	< 4	< 4	< 4
Dibromochloromethane	4.3	ug/m3	< 9	< 10	< 10	< 11
Methylene Chloride	17.4	ug/m3	< 38	< 40	< 41	< 43
Ethanol	3.8	ug/m3	< 8	< 9	< 9	< 9
Ethylbenzene	2.2	ug/m3	7.3	< 5	< 5	< 5
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 6	< 7	< 7	< 7
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 8	< 9	< 9	< 10
Freon 114	3.5	ug/m3	< 8	< 8	< 8	< 9
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 5	< 6	< 6	< 6
Heptane	2.1	ug/m3	< 5	< 5	< 5	< 5
Hexachlorobutadiene	21.3	ug/m3	< 47	< 49	< 51	< 53
Hexane	3.5	ug/m3	< 4	< 4	< 4	< 4
Isopropanol	49	ug/m3	1900	630	< 117	1200
m.p-Xylene	4.4	ug/m3	44	< 10	< 10	< 11
Xylenes - Total	6.6	ug/m3	60	< 15	< 16	< 16
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 16	< 17	< 17	< 18
Naphthalene	10.5	ug/m3	< 23	< 25	< 25	< 27
o-Xylene	2.2	ug/m3	16	< 5	< 5	< 5
Propylene	3.4	ug/m3	< 8	< 8	< 8	< 9
Styrene	2.1	ug/m3	< 5	< 5	< 5	< 5
Tetrachloroethene	3.4	ug/m3	< 7	< 8	< 8	< 8
Tetrahydrofuran	1.5	ug/m3	< 3	< 3	< 4	< 4
Toluene	7.5	ug/m3	9.1	< 7.5	< 7.5	7.7
trans-1.2-Dichloroethene	2	ug/m3	< 4	< 5	< 5	< 5
trans-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 6
Trichloroethene	2.7	ug/m3	< 6	< 6	< 6	< 7
Vinyl Acetate	7.0	ug/m3	< 15	< 16	< 17	< 18
Vinyl Chloride	1.3	ug/m3	< 3	< 3	< 3	< 3
4-Bromofluorobenzene (surr.)	1	%	93	91	90	89
ASTM D1945/D1946						
1-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
1-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
1.3-Butadiene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
2-Methyl-2-Butene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Carbon Dioxide	0.03	mol %	3.3	9.9	< 0.07	< 0.07
Carbon Monoxide	0.02	mol %	< 0.04	< 0.05	< 0.05	< 0.05
cis-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Ethane	0.04	mol %	< 0.09	< 0.09	< 0.1	< 0.1
Ethene	0.02	mol %	< 0.04	< 0.05	< 0.05	< 0.05

Client Sample ID			SVB08	SVB10	SVB09	SVB05
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-De35686	T20-De35687	T20-De35688	T20-De35689
Date Sampled			Dec 14, 2020	Dec 14, 2020	Dec 14, 2020	Dec 14, 2020
Receipt Vac./Pressure (inHg)			2.7	4.2	4.9	6.0
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
ASTM D1945/D1946						
Helium	0.05	mol %	< 0.11	< 0.12	< 0.12	< 0.12
Hydrogen	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isobutane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isobutylene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isopentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Methane	0.05	mol %	< 0.11	< 0.12	< 0.12	9.5
Methyl Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
n-Butane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
n-Pentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Nitrogen	0.1	mol %	79	87	88	82
Oxygen + Argon	0.1	mol %	18	3.0	12	8.2
Propadiene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Propane	0.02	mol %	< 0.04	< 0.05	< 0.05	< 0.05
Propylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
trans-2-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
trans-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	< 110	< 115	< 120	860
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	< 110	< 115	< 120	810
>C10-C12 minus Naphthalene (mod F2)[A11]	100	ug/m3	640	400	150	290
>C10-C12	100	ug/m3	650	420	160	290

Client Sample ID			SVB01	SVB07	SVP01	SVB06
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-De35690	T20-De35691	T20-De35692	T20-De35693
Date Sampled			Dec 15, 2020	Dec 15, 2020	Dec 15, 2020	Dec 15, 2020
Receipt Vac./Pressure (inHg)			4.2	4.2	3.0	5.2
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
Dilution Factor	0.1		2.3	2.3	2.2	2.4
US EPA Compendium Methods TO-14a/TO-15						
1.1-Dichloroethane	2	ug/m3	< 5	< 5	< 4	< 5
1.1-Dichloroethene	2	ug/m3	< 5	< 5	< 4	< 5
1.1.1-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 7
1.1.2-Trichloroethane	2.7	ug/m3	< 6	< 6	< 6	< 7
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 8	< 8	< 8	< 8
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 8	< 8	< 8	< 9
1.2-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.2-Dichloroethane	2	ug/m3	< 5	< 5	< 4	< 5
1.2-Dichloropropane	2.3	ug/m3	< 5	< 5	< 5	< 6
1.2.4-Trichlorobenzene	15	ug/m3	< 34	< 34	< 33	< 36
1.2.4-Trimethylbenzene	2.5	ug/m3	9.7	< 6	< 5	73
1.3-Butadiene	1.1	ug/m3	< 3	< 3	< 2	< 3

Client Sample ID			SVB01	SVB07	SVP01	SVB06
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-De35690	T20-De35691	T20-De35692	T20-De35693
Date Sampled			Dec 15, 2020	Dec 15, 2020	Dec 15, 2020	Dec 15, 2020
Receipt Vac./Pressure (inHg)			4.2	4.2	3.0	5.2
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
1.3-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.3.5-Trimethylbenzene	2.5	ug/m3	< 6	< 6	< 5	13
1.4-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.4-Dioxane	7.2	ug/m3	< 17	< 17	< 16	< 17
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 14	< 14	< 13	< 14
2-Hexanone	8.2	ug/m3	< 19	< 19	< 18	< 20
2.2.4-Trimethylpentane	9.3	ug/m3	< 22	< 22	< 21	< 23
3-Chloropropene	6.3	ug/m3	< 15	< 15	< 14	< 15
4-Ethyltoluene	2.5	ug/m3	< 6	< 6	< 5	< 6
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 5	< 5	< 5	< 5
Acetone	11.9	ug/m3	< 28	140	< 26	< 29
Benzene	1.6	ug/m3	< 4	< 4	< 4	< 4
Bromodichloromethane	3.4	ug/m3	< 8	< 8	< 7	< 8
Bromoform	5.2	ug/m3	< 12	< 12	< 11	< 13
Bromomethane	19.4	ug/m3	< 45	< 45	< 43	< 47
Carbon Disulfide	6.2	ug/m3	< 14	< 14	< 14	< 15
Carbon Tetrachloride	3.1	ug/m3	< 7	< 7	< 7	< 8
Chlorobenzene	2.3	ug/m3	< 5	< 5	< 5	< 6
Chloroethane	5.3	ug/m3	< 12	< 12	< 12	< 13
Chloroform	2.4	ug/m3	< 6	< 6	< 5	< 6
Chloromethane	10.3	ug/m3	< 24	< 24	< 23	< 25
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 6	< 6	< 6	< 6
cis-1.2-Dichloroethene	2	ug/m3	< 5	< 5	< 4	< 5
cis-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 5
Cyclohexane	1.7	ug/m3	< 4	< 4	< 4	< 4
Dibromochloromethane	4.3	ug/m3	< 10	< 10	< 9	< 10
Methylene Chloride	17.4	ug/m3	< 40	< 40	< 39	< 42
Ethanol	3.8	ug/m3	< 9	< 9	< 8	< 9
Ethylbenzene	2.2	ug/m3	< 5	< 5	< 5	< 5
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 7	< 7	< 6	< 7
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 9	< 9	< 9	< 9
Freon 114	3.5	ug/m3	< 8	< 8	< 8	< 8
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 6	< 6	< 5	< 6
Heptane	2.1	ug/m3	< 5	< 5	< 5	< 5
Hexachlorobutadiene	21.3	ug/m3	< 49	< 49	< 47	< 52
Hexane	3.5	ug/m3	< 4	< 4	< 4	< 4
Isopropanol	49	ug/m3	< 114	< 114	48000	< 119
m.p-Xylene	4.4	ug/m3	13	15	< 10	< 11
Xylenes - Total	6.6	ug/m3	< 15	< 15	< 14	< 16
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 17	< 17	< 16	< 17
Naphthalene	10.5	ug/m3	< 25	< 25	< 24	< 26
o-Xylene	2.2	ug/m3	< 5	< 5	< 5	< 5
Propylene	3.4	ug/m3	< 8	< 8	< 8	< 8
Styrene	2.1	ug/m3	< 5	< 5	< 5	< 5
Tetrachloroethene	3.4	ug/m3	< 8	46	< 8	< 8
Tetrahydrofuran	1.5	ug/m3	< 3	< 3	< 3	< 4

Client Sample ID			SVB01	SVB07	SVP01	SVB06
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-De35690	T20-De35691	T20-De35692	T20-De35693
Date Sampled			Dec 15, 2020	Dec 15, 2020	Dec 15, 2020	Dec 15, 2020
Receipt Vac./Pressure (inHg)			4.2	4.2	3.0	5.2
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
Toluene	7.5	ug/m3	< 7.5	< 7.5	1100	9.3
trans-1.2-Dichloroethene	2	ug/m3	< 5	< 5	< 4	< 5
trans-1.3-Dichloropropene	2.3	ug/m3	< 5	< 5	< 5	< 5
Trichloroethene	2.7	ug/m3	< 6	< 6	< 6	< 6
Vinyl Acetate	7.0	ug/m3	< 16	< 16	< 16	< 17
Vinyl Chloride	1.3	ug/m3	< 3	< 3	< 3	< 3
4-Bromofluorobenzene (surr.)	1	%	91	88	91	92
ASTM D1945/D1946						
1-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
1-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
1.3-Butadiene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
2-Methyl-2-Butene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Carbon Dioxide	0.03	mol %	8.2	< 0.07	1.4	2.3
Carbon Monoxide	0.02	mol %	< 0.05	< 0.05	< 0.04	< 0.05
cis-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Ethane	0.04	mol %	< 0.09	< 0.09	< 0.09	< 0.1
Ethene	0.02	mol %	< 0.05	< 0.05	< 0.04	< 0.05
Helium	0.05	mol %	< 0.12	< 0.12	< 0.11	< 0.12
Hydrogen	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isobutane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isobutylene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
Isopentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Methane	0.05	mol %	< 0.12	< 0.12	< 0.11	< 0.12
Methyl Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
n-Butane	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
n-Pentane	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Nitrogen	0.1	mol %	84	79	79	92
Oxygen + Argon	0.1	mol %	7.4	21	20	5.7
Propadiene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
Propane	0.02	mol %	< 0.05	< 0.05	< 0.04	< 0.05
Propylene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
trans-2-Butene	0.03	mol %	< 0.07	< 0.07	< 0.07	< 0.07
trans-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.02	< 0.02
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	< 115	< 115	2400	< 120
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	< 115	< 115	1400	< 120
>C10-C12 minus Naphthalene (mod F2)[A11]	100	ug/m3	130	< 115	1400	610
>C10-C12	100	ug/m3	130	< 115	1400	630

Client Sample ID			SVP02	SVB04	SVP03	FD01
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-De35694	T20-De35695	T20-De35696	T20-De35697
Date Sampled			Dec 15, 2020	Dec 15, 2020	Dec 15, 2020	Dec 15, 2020
Receipt Vac./Pressure (inHg)			5.7	3.0	6.2	6.1
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
Dilution Factor	0.1		2.5	2.2	2.5	2.5
US EPA Compendium Methods TO-14a/TO-15						
1.1-Dichloroethane	2	ug/m3	< 5	< 5	< 5	< 5
1.1-Dichloroethene	2	ug/m3	< 5	< 4	< 5	< 5
1.1.1-Trichloroethane	2.7	ug/m3	< 7	< 6	< 7	< 7
1.1.2-Trichloroethane	2.7	ug/m3	< 7	< 6	< 7	< 7
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 8	< 8	< 9	< 9
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 9	< 8	< 9	< 9
1.2-Dichlorobenzene	3	ug/m3	< 7	< 7	< 7	< 7
1.2-Dichloroethane	2	ug/m3	< 5	< 5	< 5	< 5
1.2-Dichloropropane	2.3	ug/m3	< 6	< 5	< 6	< 6
1.2.4-Trichlorobenzene	15	ug/m3	< 37	< 33	< 37	< 37
1.2.4-Trimethylbenzene	2.5	ug/m3	< 6	< 5	7.8	< 6
1.3-Butadiene	1.1	ug/m3	< 3	< 2	< 3	< 3
1.3-Dichlorobenzene	3	ug/m3	< 7	< 7	< 8	< 8
1.3.5-Trimethylbenzene	2.5	ug/m3	< 6	< 5	< 6	< 6
1.4-Dichlorobenzene	3	ug/m3	< 7	< 7	< 8	< 8
1.4-Dioxane	7.2	ug/m3	< 18	< 16	< 18	< 18
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 15	< 13	< 15	< 15
2-Hexanone	8.2	ug/m3	< 20	< 18	< 21	< 20
2.2.4-Trimethylpentane	9.3	ug/m3	< 23	< 21	330	24
3-Chloropropene	6.3	ug/m3	< 15	< 14	< 16	< 16
4-Ethyltoluene	2.5	ug/m3	< 6	< 5	< 6	< 6
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 5	< 5	< 5	< 5
Acetone	11.9	ug/m3	< 29	< 26	< 30	< 30
Benzene	1.6	ug/m3	< 4	< 4	120	12
Bromodichloromethane	3.4	ug/m3	< 8	< 7	< 8	< 8
Bromoform	5.2	ug/m3	< 13	< 12	< 13	< 13
Bromomethane	19.4	ug/m3	< 48	< 43	< 49	< 49
Carbon Disulfide	6.2	ug/m3	< 15	< 14	< 16	< 16
Carbon Tetrachloride	3.1	ug/m3	< 8	< 7	< 8	< 8
Chlorobenzene	2.3	ug/m3	< 6	< 5	< 6	< 6
Chloroethane	5.3	ug/m3	< 13	< 12	< 13	< 13
Chloroform	2.4	ug/m3	< 6	18	< 6	< 6
Chloromethane	10.3	ug/m3	< 25	< 23	< 26	< 26
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 6	< 6	< 7	< 6
cis-1.2-Dichloroethene	2	ug/m3	< 5	< 4	< 5	< 5
cis-1.3-Dichloropropene	2.3	ug/m3	< 6	< 5	< 6	< 6
Cyclohexane	1.7	ug/m3	< 4	< 4	< 4	< 4
Dibromochloromethane	4.3	ug/m3	< 10	< 10	< 11	< 11
Methylene Chloride	17.4	ug/m3	< 43	< 39	< 44	< 43
Ethanol	3.8	ug/m3	< 9	< 8	< 10	< 9
Ethylbenzene	2.2	ug/m3	6.0	< 5	10	< 5
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 7	< 6	< 7	< 7
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 9	< 9	< 10	< 10
Freon 114	3.5	ug/m3	< 9	< 8	< 9	< 9

Client Sample ID			SVP02	SVB04	SVP03	FD01
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-De35694	T20-De35695	T20-De35696	T20-De35697
Date Sampled			Dec 15, 2020	Dec 15, 2020	Dec 15, 2020	Dec 15, 2020
Receipt Vac./Pressure (inHg)			5.7	3.0	6.2	6.1
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-14a/TO-15						
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 6	< 6	< 6	< 6
Heptane	2.1	ug/m3	< 5	< 5	< 5	< 5
Hexachlorobutadiene	21.3	ug/m3	< 52	< 48	< 54	< 53
Hexane	3.5	ug/m3	< 4	< 4	< 4	< 4
Isopropanol	49	ug/m3	40000	< 110	24000	24000
m.p-Xylene	4.4	ug/m3	20	< 10	< 11	< 11
Xylenes - Total	6.6	ug/m3	28	< 15	< 16	< 16
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 18	< 16	< 18	< 18
Naphthalene	10.5	ug/m3	< 26	< 24	< 27	< 27
o-Xylene	2.2	ug/m3	8.2	< 5	< 5	< 5
Propylene	3.4	ug/m3	< 8	< 8	< 9	< 9
Styrene	2.1	ug/m3	< 5	< 5	< 5	< 5
Tetrachloroethene	3.4	ug/m3	< 8	< 8	< 9	< 8
Tetrahydrofuran	1.5	ug/m3	< 4	< 3	< 4	< 4
Toluene	7.5	ug/m3	450	< 7.5	68	67
trans-1.2-Dichloroethene	2	ug/m3	< 5	< 4	< 5	< 5
trans-1.3-Dichloropropene	2.3	ug/m3	< 6	< 5	< 6	< 6
Trichloroethene	2.7	ug/m3	< 7	< 6	< 7	< 7
Vinyl Acetate	7.0	ug/m3	< 17	< 16	< 18	< 18
Vinyl Chloride	1.3	ug/m3	< 3	< 3	< 3	< 3
4-Bromofluorobenzene (surr.)	1	%	92	89	90	90
ASTM D1945/D1946						
1-Butene	0.03	mol %	< 0.07	< 0.07	< 0.08	< 0.08
1-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02
1.3-Butadiene	0.03	mol %	< 0.07	< 0.07	< 0.08	< 0.08
2-Methyl-2-Butene	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02
Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02
Carbon Dioxide	0.03	mol %	< 0.07	< 0.07	0.86	0.87
Carbon Monoxide	0.02	mol %	< 0.05	< 0.04	< 0.05	< 0.05
cis-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02
Ethane	0.04	mol %	< 0.1	< 0.09	< 0.1	< 0.1
Ethene	0.02	mol %	< 0.05	< 0.04	< 0.05	< 0.05
Helium	0.05	mol %	0.21	< 0.11	0.76	0.77
Hydrogen	0.03	mol %	< 0.07	< 0.07	< 0.08	< 0.08
Isobutane	0.03	mol %	< 0.07	< 0.07	< 0.08	< 0.08
Isobutylene	0.03	mol %	< 0.07	< 0.07	< 0.08	< 0.08
Isopentane	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02
Methane	0.05	mol %	< 0.12	< 0.11	< 0.13	< 0.12
Methyl Acetylene	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02
n-Butane	0.03	mol %	< 0.07	< 0.07	< 0.08	< 0.08
n-Pentane	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02
Nitrogen	0.1	mol %	80	82	78	78
Oxygen + Argon	0.1	mol %	20	18	20	20
Propadiene	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02
Propane	0.02	mol %	< 0.05	< 0.04	< 0.05	< 0.05
Propylene	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02

Client Sample ID			SVP02	SVB04	SVP03	FD01
Sample Matrix			1L Summa Canister	1L Summa Canister	1L Summa Canister	1L Summa Canister
Eurofins Sample No.			T20-De35694	T20-De35695	T20-De35696	T20-De35697
Date Sampled			Dec 15, 2020	Dec 15, 2020	Dec 15, 2020	Dec 15, 2020
Receipt Vac./Pressure (inHg)			5.7	3.0	6.2	6.1
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
ASTM D1945/D1946						
trans-2-Butene	0.03	mol %	< 0.07	< 0.07	< 0.08	< 0.08
trans-2-Pentene	0.01	mol %	< 0.02	< 0.02	< 0.03	< 0.02
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	< 125	< 110	1500	< 125
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	< 125	< 110	1300	< 125
>C10-C12 minus Naphthalene (mod F2)[A11]	100	ug/m3	1300	< 110	790	750
>C10-C12	100	ug/m3	1300	< 110	790	750

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
US EPA Compendium Methods TO-14a/TO-15	BrisbaneAir	Dec 17, 2020	30 Days
- Method: SOP #6 Analysis of Volatile Organic Compounds in Summa Polished Canisters EPA Method TO-15 And Modified EPA Method TO-14A			
ASTM D1945/D1946	BrisbaneAir	Dec 17, 2020	30 Days
- Method: SOP #8 Analysis of Oxygen, Nitrogen, Methane, Ethane, Ethene, Carbon Monoxide, Carbon Dioxide, Hydrogen and NMOC by Modified ASTM Method D1946			
CRC CARE TR 23 PVI	BrisbaneAir	Dec 17, 2020	30 Days
- Method: SOP #111 TPH, NMOC, and TVH Hydrocarbon Fractionation Calculations from EPA Methods TO-14A/TO-15			

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IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: COLLINGWOOD VRA
Project ID: 20200047

Order No.: 20200047
Report #: 764336
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: Dec 17, 2020 9:00 AM
Due: Dec 24, 2020
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15	ASTM D1945/D1946	CRC CARE TR 23 PVI
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	SVB08	Dec 14, 2020		1L Summa Canister	T20-De35686	x	x	x	x	x	x
2	SVB10	Dec 14, 2020	11:14AM	1L Summa Canister	T20-De35687	x	x	x	x	x	x
3	SVB09	Dec 14, 2020	12:04PM	1L Summa Canister	T20-De35688	x	x	x	x	x	x
4	SVB05	Dec 14, 2020	2:28PM	1L Summa Canister	T20-De35689	x	x	x	x	x	x
5	SVB01	Dec 15, 2020	8:28AM	1L Summa Canister	T20-De35690	x	x	x	x	x	x
6	SVB07	Dec 15, 2020	9:09AM	1L Summa	T20-De35691	x	x	x	x	x	x

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
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PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

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Penrose, Auckland 1061
Phone : +64 9 526 45 51
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43 Detroit Drive
Rolleston, Christchurch 7675
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IANZ # 1290

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Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15	ASTM D1945/D1946	CRC CARE TR 23 PVI
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
				Canister							
7	SVP01	Dec 15, 2020	9:55AM	1L Summa Canister	T20-De35692	X	X	X	X	X	X
8	SVB06	Dec 15, 2020	10:10AM	1L Summa Canister	T20-De35693	X	X	X	X	X	X
9	SVP02	Dec 15, 2020	11:06AM	1L Summa Canister	T20-De35694	X	X	X	X	X	X
10	SVB04	Dec 15, 2020	1:11PM	1L Summa Canister	T20-De35695	X	X	X	X	X	X
11	SVP03	Dec 15, 2020	1:35PM	1L Summa Canister	T20-De35696	X	X	X	X	X	X
12	FD01	Dec 15, 2020	1:35PM	1L Summa Canister	T20-De35697	X	X	X	X	X	X

eurofins | Environment Testing

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43 Detroit Drive
Rolleston, Christchurch 7675
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Sample Detail	Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15	ASTM D1945/D1946	CRC CARE TR 23 PVI
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory						
External Laboratory						
Test Counts	12	12	12	12	12	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. Dilutions are performed on samples due to the presence of high level target species or the presence of high level non-target species.
3. Results are uncorrected for surrogate recoveries.
4. All QC limit exceedances and affected sample results are noted by flags. Each qualifying flag is defined below in section entitled 'Definition of Data Qualifying Flags' and additionally on individual sample results (where relevant).
5. "100% certification" is defined as evaluating the sampling system with humid zero air/N2 and humid calibration gases that pass through all active components of the sampling system. The system is "100% certified" if no significant additions or deletions (less than 0.2 ppbv each of target compounds) have occurred when challenged with the test gas stream.
6. The conversion equation from ppbv to g/m3 uses a temperature of 25 °C and an ambient sea level atmospheric pressure of 1 atmosphere (101.325 kPa) is assumed.
7. All canister samples are only analysed once temperature equilibrium with the laboratory has been achieved.
8. Safe Sampling Volume (SSV) - calculated by taking two-thirds of the breakthrough volume (direct method) and Appendix 1 of Method T0-17.
9. Samples were analysed on an 'as received' basis.
10. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
11. This report replaces any interim results previously issued.

Definition of Data Qualifying Flags

Qualifiers may have been used on the data analysis sheets and indicates as follows:

A01 Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

A02 Estimated value.

A03 Exceeds instrument calibration range.

A04 Saturated peak.

A05 Exceeds quality control limits.

A06 Compound analysed for but not detected above the Limit of Reporting (LOR). See data page for project specific U-flag definition.

A07 Non-detected compound associated with low bias in the CCV.

A08 The identification is based on presumptive evidence.

A09 SSV has been exceeded for this compound. It is likely that this compound has been underestimated.

A10 LORs cited do not take into account sample dilution due to canister pressurisation.

A11 Naphthalene elutes outside the >C10-C12 range on the system used for sample analysis. As a result, >C10-C12 TRH value is equivalent to the modified F2 value.

Holding Times

Under conditions of normal usage for sampling ambient air, most Volatile Organic Compounds (VOCs) can be recovered from canisters near their original concentrations after storage times of up to thirty days. For thermal desorption tubes (TDT) samples should be refrigerated at <4°C in a clean environment during storage and analysed within 30 days of sample collection (within one week for limonene, carene, bis-chloromethyl ether and labile sulfur or nitrogen containing volatiles).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

ppbv: parts per billion by volume

ug/m3: micrograms per cubic metre

kPa: kilopascal

psig: pounds per square inch gauge

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
US EPA Compendium Methods TO-14a/TO-15							
1.1-Dichloroethane	ug/m3	< 2			2	Pass	
1.1-Dichloroethene	ug/m3	< 2			2	Pass	
1.1.1-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2.2-Tetrachloroethane	ug/m3	< 3.4			3.4	Pass	
1.2-Dibromoethane (EDB)	ug/m3	< 3.6			3.6	Pass	
1.2-Dichloroethane	ug/m3	< 2			2	Pass	
1.2-Dichloropropane	ug/m3	< 2.3			2.3	Pass	
1.2.4-Trichlorobenzene	ug/m3	< 15			15	Pass	
1.2.4-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.3-Butadiene	ug/m3	< 1.1			1.1	Pass	
1.3-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.3.5-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.4-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.4-Dioxane	ug/m3	< 7.2			7.2	Pass	
2-Butanone (Methyl Ethyl Ketone)	ug/m3	< 5.9			5.9	Pass	
2-Hexanone	ug/m3	< 8.2			8.2	Pass	
2.2.4-Trimethylpentane	ug/m3	< 9.3			9.3	Pass	
3-Chloropropene	ug/m3	< 6.3			6.3	Pass	
4-Ethyltoluene	ug/m3	< 2.5			2.5	Pass	
4-Methyl-2-Pentanone (MIBK)	ug/m3	< 2.1			2.1	Pass	
Acetone	ug/m3	< 11.9			11.9	Pass	
Benzene	ug/m3	< 1.6			1.6	Pass	
Bromodichloromethane	ug/m3	< 3.4			3.4	Pass	
Bromoform	ug/m3	< 5.2			5.2	Pass	
Bromomethane	ug/m3	< 19.4			19.4	Pass	
Carbon Disulfide	ug/m3	< 6.2			6.2	Pass	
Carbon Tetrachloride	ug/m3	< 3.1			3.1	Pass	
Chlorobenzene	ug/m3	< 2.3			2.3	Pass	
Chloroethane	ug/m3	< 5.3			5.3	Pass	
Chloroform	ug/m3	< 2.4			2.4	Pass	
Chloromethane	ug/m3	< 10.3			10.3	Pass	
Chlorotoluene (Benzyl Chloride)	ug/m3	< 2.6			2.6	Pass	
cis-1.2-Dichloroethene	ug/m3	< 2			2	Pass	
cis-1.3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Cyclohexane	ug/m3	< 1.7			1.7	Pass	
Dibromochloromethane	ug/m3	< 4.3			4.3	Pass	
Methylene Chloride	ug/m3	< 17.4			17.4	Pass	
Ethanol	ug/m3	< 3.8			3.8	Pass	
Ethylbenzene	ug/m3	< 2.2			2.2	Pass	
Freon 11 (Trichlorofluoromethane)	ug/m3	< 2.8			2.8	Pass	
Freon 113 (Trichlorotrifluoroethane)	ug/m3	< 3.8			3.8	Pass	
Freon 114	ug/m3	< 3.5			3.5	Pass	
Freon 12 (Dichlorodifluoromethane)	ug/m3	< 2.5			2.5	Pass	
Heptane	ug/m3	< 2.1			2.1	Pass	
Hexachlorobutadiene	ug/m3	< 21.3			21.3	Pass	
Hexane	ug/m3	< 3.5			3.5	Pass	
Isopropanol	ug/m3	< 49			49	Pass	
m.p-Xylene	ug/m3	< 4.4			4.4	Pass	
Xylenes - Total	ug/m3	< 6.6			6.6	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Methyl t-Butyl Ether (MTBE)	ug/m3	< 7.2			7.2	Pass	
Naphthalene	ug/m3	< 10.5			10.5	Pass	
o-Xylene	ug/m3	< 2.2			2.2	Pass	
Propylene	ug/m3	< 3.4			3.4	Pass	
Styrene	ug/m3	< 2.1			2.1	Pass	
Tetrachloroethene	ug/m3	< 3.4			3.4	Pass	
Tetrahydrofuran	ug/m3	< 1.5			1.5	Pass	
Toluene	ug/m3	< 7.5			7.5	Pass	
trans-1.2-Dichloroethene	ug/m3	< 2			2	Pass	
trans-1.3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Trichloroethene	ug/m3	< 2.7			2.7	Pass	
Vinyl Acetate	ug/m3	< 7			7.0	Pass	
Vinyl Chloride	ug/m3	< 1.3			1.3	Pass	
Method Blank							
ASTM D1945/D1946							
1-Butene	mol %	< 0.03			0.03	Pass	
1-Pentene	mol %	< 0.01			0.01	Pass	
1.3-Butadiene	mol %	< 0.03			0.03	Pass	
2-Methyl-2-Butene	mol %	< 0.01			0.01	Pass	
Acetylene	mol %	< 0.01			0.01	Pass	
Carbon Dioxide	mol %	< 0.03			0.03	Pass	
Carbon Monoxide	mol %	< 0.02			0.02	Pass	
cis-2-Pentene	mol %	< 0.01			0.01	Pass	
Ethane	mol %	< 0.04			0.04	Pass	
Ethene	mol %	< 0.02			0.02	Pass	
Helium	mol %	< 0.05			0.05	Pass	
Hydrogen	mol %	< 0.03			0.03	Pass	
Isobutane	mol %	< 0.03			0.03	Pass	
Isobutylene	mol %	< 0.03			0.03	Pass	
Isopentane	mol %	< 0.01			0.01	Pass	
Methane	mol %	< 0.05			0.05	Pass	
Methyl Acetylene	mol %	< 0.01			0.01	Pass	
n-Butane	mol %	< 0.03			0.03	Pass	
n-Pentane	mol %	< 0.01			0.01	Pass	
Oxygen + Argon	mol %	< 0.1			0.1	Pass	
Propadiene	mol %	< 0.01			0.01	Pass	
Propane	mol %	< 0.02			0.02	Pass	
Propylene	mol %	< 0.01			0.01	Pass	
trans-2-Butene	mol %	< 0.03			0.03	Pass	
trans-2-Pentene	mol %	< 0.01			0.01	Pass	
LCS - % Recovery							
US EPA Compendium Methods TO-14a/TO-15							
1.1-Dichloroethane	%	102			70-130	Pass	
1.1-Dichloroethene	%	109			70-130	Pass	
1.1.1-Trichloroethane	%	112			70-130	Pass	
1.1.2-Trichloroethane	%	92			70-130	Pass	
1.1.2.2-Tetrachloroethane	%	83			70-130	Pass	
1.2-Dibromoethane (EDB)	%	92			70-130	Pass	
1.2-Dichlorobenzene	%	77			70-130	Pass	
1.2-Dichloroethane	%	113			70-130	Pass	
1.2-Dichloropropane	%	111			70-130	Pass	
1.2.4-Trichlorobenzene	%	78			70-130	Pass	
1.2.4-Trimethylbenzene	%	85			70-130	Pass	
1.3-Butadiene	%	114			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1.3-Dichlorobenzene	%	89			70-130	Pass	
1.3.5-Trimethylbenzene	%	85			70-130	Pass	
1.4-Dichlorobenzene	%	75			70-130	Pass	
1.4-Dioxane	%	91			70-130	Pass	
2-Butanone (Methyl Ethyl Ketone)	%	88			70-130	Pass	
2-Hexanone	%	91			70-130	Pass	
2.2.4-Trimethylpentane	%	120			70-130	Pass	
3-Chloropropene	%	122			70-130	Pass	
4-Ethyltoluene	%	80			70-130	Pass	
4-Methyl-2-Pentanone (MIBK)	%	75			70-130	Pass	
Acetone	%	98			70-130	Pass	
Benzene	%	102			70-130	Pass	
Bromodichloromethane	%	111			70-130	Pass	
Bromoform	%	99			70-130	Pass	
Bromomethane	%	98			70-130	Pass	
Carbon Disulfide	%	92			70-130	Pass	
Carbon Tetrachloride	%	116			70-130	Pass	
Chlorobenzene	%	85			70-130	Pass	
Chloroethane	%	109			70-130	Pass	
Chloroform	%	99			70-130	Pass	
Chloromethane	%	123			70-130	Pass	
Chlorotoluene (Benzyl Chloride)	%	75			70-130	Pass	
cis-1.2-Dichloroethene	%	104			70-130	Pass	
cis-1.3-Dichloropropene	%	114			70-130	Pass	
Cyclohexane	%	99			70-130	Pass	
Dibromochloromethane	%	102			70-130	Pass	
Methylene Chloride	%	103			70-130	Pass	
Ethanol	%	75			70-130	Pass	
Ethylbenzene	%	94			70-130	Pass	
Freon 11 (Trichlorofluoromethane)	%	102			70-130	Pass	
Freon 113 (Trichlorotrifluoroethane)	%	92			70-130	Pass	
Freon 114	%	89			70-130	Pass	
Freon 12 (Dichlorodifluoromethane)	%	81			70-130	Pass	
Heptane	%	108			70-130	Pass	
Hexachlorobutadiene	%	76			70-130	Pass	
Hexane	%	93			70-130	Pass	
Isopropanol	%	109			70-130	Pass	
m.p-Xylene	%	90			70-130	Pass	
Xylenes - Total	%	91			70-130	Pass	
Methyl t-Butyl Ether (MTBE)	%	112			70-130	Pass	
Naphthalene	%	83			70-130	Pass	
o-Xylene	%	87			70-130	Pass	
Propylene	%	74			70-130	Pass	
Styrene	%	82			70-130	Pass	
Tetrachloroethene	%	83			70-130	Pass	
Tetrahydrofuran	%	97			70-130	Pass	
Toluene	%	105			70-130	Pass	
trans-1.2-Dichloroethene	%	104			70-130	Pass	
trans-1.3-Dichloropropene	%	111			70-130	Pass	
Trichloroethene	%	94			70-130	Pass	
Vinyl Acetate	%	130			70-130	Pass	
Vinyl Chloride	%	104			70-130	Pass	
LCS - % Recovery							
ASTM D1945/D1946							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1-Butene	%	94			70-130	Pass	
1-Pentene	%	95			70-130	Pass	
1.3-Butadiene	%	90			70-130	Pass	
2-Methyl-2-Butene	%	96			70-130	Pass	
Acetylene	%	95			70-130	Pass	
Carbon Dioxide	%	85			70-130	Pass	
Carbon Monoxide	%	100			70-130	Pass	
cis-2-Pentene	%	94			70-130	Pass	
Ethane	%	95			70-130	Pass	
Ethene	%	96			70-130	Pass	
Hydrogen	%	95			70-130	Pass	
Isobutane	%	95			70-130	Pass	
Isobutylene	%	94			70-130	Pass	
Isopentane	%	88			70-130	Pass	
Methane	%	96			70-130	Pass	
Methyl Acetylene	%	91			70-130	Pass	
n-Butane	%	95			70-130	Pass	
n-Pentane	%	93			70-130	Pass	
Propadiene	%	91			70-130	Pass	
Propane	%	95			70-130	Pass	
Propylene	%	95			70-130	Pass	
trans-2-Butene	%	93			70-130	Pass	
trans-2-Pentene	%	94			70-130	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
A11	Naphthalene elutes outside the >C10-C12 range on the system used for sample analysis. As a result, >C10-C12 TRH value is equivalent to the modified F2 value.

Authorised By

Savini Suduweli	Analytical Services Manager
Laurence Hearn	Senior Analyst-Air (QLD)



Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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ALS Melbourne: 4 Westall Rd, Springvale, VIC 3171 Phone (03) 8549 9600; Facsimile (03) 8549 9601. Email Samples.Melbourne@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd
2-4 Westall Road, Springvale, VIC 3171

CLIENT: EDGE GROUP
ADDRESS / OFFICE: 423 CITY RD SOUTH MELBOURNE
PROJECT MANAGER (PM): Scott Davis
PROJECT ID: 20200047
SITE: Collingwood P.O. NO.: 20200047
RESULTS REQUIRED (Date): QUOTE NO.:

SAMPLER: Natasha Vella
MOBILE: 0421 439 887
PHONE
EMAIL REPORT TO: ScottD@edgegroup.net.au natasha.vella@edgegroup.net.au
EMAIL INVOICE TO: accounts@edgegroup.net.au

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		62 VOCs (TO-15)	TRH, F1, mod F2 (TO-15)	ASTM Gas List (D1945/1946) O_2, CH_4, CO_2, Helium								HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Canister #	Controller #											
	FS01	SV	15-Dec	11:06	IL0057	184	x	x	x								

Notes: e.g. Highly contaminated samples
e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.

Environmental Division
Newcastle
Work Order Reference
EN2008513

Telephone : +61 2 4014 2500

FS01 Canister (IL0057) is a Eurofins Canister.
Please return the cansiter to Eurofins in the Briefcase provided (6 Monterey Road, Dandenong South, VIC 3175) and liase with Savini Suduweli: SaviniSuduweli@eurofins.com

Initial Canister Vacuum = -30
Final Canister Vacuum = -5

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Natasha Vella	Date: 16/12/2020	Name: MM	Date: 17/12/20	Con' Note No: MYTG810818
Of: Edge Group	Time: 12:00	Of:	Time: 9:45am	
Name: Mitika	Date: 16/12/20	Name:	Date:	Transport Co: TOLL
Of: ALS	Time: 14:10	Of:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

AUSTRALIAN LABORATORY SERVICES P/L

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EN2008513**

Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Contact	:
Address	: 423 City Rd South Melbourne	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
E-mail	: scottd@edgegroup.net.au	E-mail	:
Telephone	: +61 03 8625 9696	Telephone	: +61 2 4014 2500
Facsimile	: ----	Facsimile	: +61 2 4967 7382
Project	: 20200047	Page	: 1 of 2
Order number	: 20200047	Quote number	: ----
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Collingwood		
Sampler	: NATASHA VELLA		

Dates

Date Samples Received	: 17-Dec-2020 09:45	Issue Date	: 18-Dec-2020
Client Requested Due Date	: 24-Dec-2020	Scheduled Reporting Date	: **24-Dec-2020**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method Sample ID	Sample Container Received	Preferred Sample Container for Analysis
Canister Sampling - Field Data : CAN-001		
FS01 CIL0057_S184	- Gas Canister - Non-ALS (Other)	- Summa style Canister - ALS Supplied Silonite

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **AIR**

Laboratory sample ID	Sampling date / time	Sample ID	AIR - CAN-1.4L-SAMPLE Canister Sampling - Field Data (1 or 1.4 litre	AIR - EP104-GM Permanent Gases and Methane	AIR - SG-PH2 Soil Gas - TO15/NEPM TRH
EN2008513-001	15-Dec-2020 11:06	FS01 CIL0057_S184	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ALL INVOICES

- A4 - AU Tax Invoice (INV)	Email	accounts@edgegroup.net.au

NATASHA VELLA

- *AU Certificate of Analysis - NATA (COA)	Email	natasha.vella@edgegroup.net.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	natasha.vella@edgegroup.net.au
- *AU QC Report - DEFAULT (Anon QC Rep) - USEPA (QC-USEPA)	Email	natasha.vella@edgegroup.net.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	natasha.vella@edgegroup.net.au
- Chain of Custody (CoC) (COC)	Email	natasha.vella@edgegroup.net.au
- EDI Format - ENMRG (ENMRG)	Email	natasha.vella@edgegroup.net.au
- EDI Format - ESDAT (ESDAT)	Email	natasha.vella@edgegroup.net.au
- EDI Format - XTab (XTAB)	Email	natasha.vella@edgegroup.net.au

SCOTT DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	scottd@edgegroup.net.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	scottd@edgegroup.net.au
- *AU QC Report - DEFAULT (Anon QC Rep) - USEPA (QC-USEPA)	Email	scottd@edgegroup.net.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	scottd@edgegroup.net.au
- Chain of Custody (CoC) (COC)	Email	scottd@edgegroup.net.au
- EDI Format - ENMRG (ENMRG)	Email	scottd@edgegroup.net.au
- EDI Format - ESDAT (ESDAT)	Email	scottd@edgegroup.net.au
- EDI Format - XTab (XTAB)	Email	scottd@edgegroup.net.au

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EN2008513**	Page	: 1 of 9
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Contact	:
Address	: 423 City Rd South Melbourne	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 03 8625 9696	Telephone	: +61 2 4014 2500
Project	: 20200047	Date Samples Received	: 17-Dec-2020 09:45
Order number	: 20200047	Date Analysis Commenced	: 21-Dec-2020
C-O-C number	: ----	Issue Date	: 24-Dec-2020 14:24
Sampler	: NATASHA VELLA		
Site	: Collingwood		
Quote number	: ----		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dale Semple	Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP101: Sample required dilution due to the presence of high level isopropanol. Where applicable, LOR values have been adjusted accordingly.
- EP101, EP103: Results reported in µg/m³ are calculated from PPBV results based on a temperature of 25°C and atmospheric pressure of 101.3 kPa.
- CAN-001: Results for Pressure - As Received are measured under controlled conditions using calibrated laboratory gauges. These results are expressed as an Absolute Pressure. Equivalent gauge pressures may be calculated by subtracting the Pressure - Laboratory Atmosphere taken at the time of measurement.
- CAN-001: Results for Pressure - Gauge as Received are obtained from uncalibrated field gauges and are indicative only. These results may not precisely match calibrated gauge readings and may vary from field measurements due to changes in temperature and pressure
- EP104: Results reported in mg/m³ are calculated from Mol% results based on a temperature of 25°C and atmospheric pressure of 101.3 kPa
- EP104: Sample canisters were received at sub-ambient pressures and required dilution in the laboratory prior to analysis. LOR values have been adjusted accordingly

Analytical Results

Sub-Matrix: AIR (Matrix: AIR)			Sample ID	FS01 CIL0057_S184	----	----	----	----
			Sampling date / time	15-Dec-2020 11:06	----	----	----	----
Compound	CAS Number	LOR	Unit	EN2008513-001	--------	--------	--------	--------
				Result	----	----	----	----
EP101: VOCs by USEPA Method TO15 (Calculated Concentration)								
Freon 12	75-71-8	0.250	mg/m³	<0.250	----	----	----	----
Chloromethane	74-87-3	0.100	mg/m³	<0.100	----	----	----	----
Freon 114	76-14-2	0.350	mg/m³	<0.350	----	----	----	----
Vinyl chloride	75-01-4	0.0051	mg/m³	<0.0128	----	----	----	----
Bromomethane	74-83-9	0.190	mg/m³	<0.190	----	----	----	----
Chloroethane	75-00-3	0.130	mg/m³	<0.130	----	----	----	----
Freon 11	75-69-4	0.280	mg/m³	<0.280	----	----	----	----
1.1-Dichloroethene	75-35-4	0.200	mg/m³	<0.200	----	----	----	----
Dichloromethane	75-09-2	0.170	mg/m³	<0.170	----	----	----	----
Freon 113	76-13-1	0.380	mg/m³	<0.380	----	----	----	----
1.1-Dichloroethane	75-34-3	0.200	mg/m³	<0.200	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.0200	mg/m³	<0.0200	----	----	----	----
Chloroform	67-66-3	0.240	mg/m³	<0.240	----	----	----	----
1.2-Dichloroethane	107-06-2	0.200	mg/m³	<0.200	----	----	----	----
1.1.1-Trichloroethane	71-55-6	0.270	mg/m³	<0.270	----	----	----	----
Benzene	71-43-2	0.100	mg/m³	<0.100	----	----	----	----
Carbon Tetrachloride	56-23-5	0.310	mg/m³	<0.310	----	----	----	----
1.2-Dichloropropane	78-87-5	0.230	mg/m³	<0.230	----	----	----	----
Trichloroethene	79-01-6	0.0050	mg/m³	<0.0250	----	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.230	mg/m³	<0.230	----	----	----	----
trans-1.3-Dichloropropene	10061-02-6	0.230	mg/m³	<0.230	----	----	----	----
1.1.2-Trichloroethane	79-00-5	0.270	mg/m³	<0.270	----	----	----	----
Toluene	108-88-3	0.190	mg/m³	**0.426**	----	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.380	mg/m³	<0.380	----	----	----	----
Tetrachloroethene	127-18-4	0.340	mg/m³	<0.340	----	----	----	----
Chlorobenzene	108-90-7	0.230	mg/m³	<0.230	----	----	----	----
Ethylbenzene	100-41-4	0.220	mg/m³	<0.220	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.430	mg/m³	<0.430	----	----	----	----
Styrene	100-42-5	0.210	mg/m³	<0.210	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.340	mg/m³	<0.340	----	----	----	----
ortho-Xylene	95-47-6	0.220	mg/m³	<0.220	----	----	----	----
4-Ethyltoluene	622-96-8	0.240	mg/m³	<0.240	----	----	----	----
Total Xylenes	----	0.650	mg/m³	<0.650	----	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.240	mg/m³	<0.240	----	----	----	----

Analytical Results

Sub-Matrix: AIR (Matrix: AIR)			Sample ID	FS01 CIL0057_S184	----	----	----	----
			Sampling date / time	15-Dec-2020 11:06	----	----	----	----
Compound	CAS Number	LOR	Unit	EN2008513-001	--------	--------	--------	--------
				Result	----	----	----	----
EP101: VOCs by USEPA Method TO15 (Calculated Concentration) - Continued								
1.2.4-Trimethylbenzene	95-63-6	0.240	mg/m³	<0.240	----	----	----	----
1.3-Dichlorobenzene	541-73-1	0.300	mg/m³	<0.300	----	----	----	----
Benzylchloride	100-44-7	0.260	mg/m³	<0.260	----	----	----	----
1.4-Dichlorobenzene	106-46-7	0.300	mg/m³	<0.300	----	----	----	----
1.2-Dichlorobenzene	95-50-1	0.300	mg/m³	<0.300	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.370	mg/m³	<0.370	----	----	----	----
Hexachlorobutadiene	87-68-3	0.530	mg/m³	<0.530	----	----	----	----
Acetone	67-64-1	0.120	mg/m³	<0.120	----	----	----	----
Bromodichloromethane	75-27-4	0.340	mg/m³	<0.340	----	----	----	----
1.3-Butadiene	106-99-0	0.110	mg/m³	<0.110	----	----	----	----
Carbon disulfide	75-15-0	0.160	mg/m³	<0.160	----	----	----	----
1-Chloro-2-propene (Allyl chloride)	107-05-1	0.160	mg/m³	<0.160	----	----	----	----
Cyclohexane	110-82-7	0.170	mg/m³	<0.170	----	----	----	----
Dibromochloromethane	124-48-1	0.430	mg/m³	<0.430	----	----	----	----
1.4-Dioxane	123-91-1	0.180	mg/m³	<0.180	----	----	----	----
Ethylacetate	9002-89-5	0.180	mg/m³	<0.180	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.200	mg/m³	<0.200	----	----	----	----
Heptane	142-82-5	0.200	mg/m³	<0.200	----	----	----	----
Hexane	110-54-3	0.180	mg/m³	<0.180	----	----	----	----
Isooctane	540-84-1	0.230	mg/m³	<0.230	----	----	----	----
Isopropyl Alcohol	67-63-0	0.120	mg/m³	**77.1**	----	----	----	----
2-Butanone (MEK)	78-93-3	0.150	mg/m³	<0.150	----	----	----	----
Methyl iso-Butyl ketone	108-10-1	0.200	mg/m³	<0.200	----	----	----	----
2-Hexanone (MBK)	591-78-6	0.200	mg/m³	<0.200	----	----	----	----
Propene	115-07-1	0.0900	mg/m³	<0.0900	----	----	----	----
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.180	mg/m³	<0.180	----	----	----	----
Tetrahydrofuran	109-99-9	0.150	mg/m³	<0.150	----	----	----	----
Bromoform	75-25-2	0.520	mg/m³	<0.520	----	----	----	----
Vinyl Acetate	108-05-4	0.180	mg/m³	<0.180	----	----	----	----
Vinyl bromide	593-60-2	0.220	mg/m³	<0.220	----	----	----	----
Naphthalene	91-20-3	0.100	mg/m³	<0.100	----	----	----	----
EP101: VOCs by USEPA Method TO15r								
Freon 12	75-71-8	0.0500	ppmv	<0.0500	----	----	----	----

Analytical Results

Sub-Matrix: AIR (Matrix: AIR)				Sample ID	FS01 CIL0057_S184	----	----	----	----
				Sampling date / time	15-Dec-2020 11:06	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2008513-001	--------	--------	--------	--------
					Result	----	----	----	----
EP101: VOCs by USEPA Method TO15r - Continued									
Chloromethane	74-87-3	0.0500	ppmv		<0.0500	----	----	----	----
Freon 114	76-14-2	0.0500	ppmv		<0.0500	----	----	----	----
Vinyl chloride	75-01-4	0.0020	ppmv		<0.0050	----	----	----	----
Bromomethane	74-83-9	0.0500	ppmv		<0.0500	----	----	----	----
Chloroethane	75-00-3	0.0500	ppmv		<0.0500	----	----	----	----
Freon 11	75-69-4	0.0500	ppmv		<0.0500	----	----	----	----
1.1-Dichloroethene	75-35-4	0.0500	ppmv		<0.0500	----	----	----	----
Dichloromethane	75-09-2	0.0500	ppmv		<0.0500	----	----	----	----
Freon 113	76-13-1	0.0500	ppmv		<0.0500	----	----	----	----
1.1-Dichloroethane	75-34-3	0.0500	ppmv		<0.0500	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.0050	ppmv		<0.0050	----	----	----	----
Chloroform	67-66-3	0.0500	ppmv		<0.0500	----	----	----	----
1.2-Dichloroethane	107-06-2	0.0500	ppmv		<0.0500	----	----	----	----
1.1.1-Trichloroethane	71-55-6	0.0500	ppmv		<0.0500	----	----	----	----
Benzene	71-43-2	0.0300	ppmv		<0.0300	----	----	----	----
Carbon Tetrachloride	56-23-5	0.0500	ppmv		<0.0500	----	----	----	----
1.2-Dichloropropane	78-87-5	0.0500	ppmv		<0.0500	----	----	----	----
Trichloroethene	79-01-6	0.0010	ppmv		<0.0050	----	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.0500	ppmv		<0.0500	----	----	----	----
trans-1.3-Dichloropropene	10061-02-6	0.0500	ppmv		<0.0500	----	----	----	----
1.1.2-Trichloroethane	79-00-5	0.0500	ppmv		<0.0500	----	----	----	----
Toluene	108-88-3	0.0500	ppmv		**0.113**	----	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.0500	ppmv		<0.0500	----	----	----	----
Tetrachloroethene	127-18-4	0.0500	ppmv		<0.0500	----	----	----	----
Chlorobenzene	108-90-7	0.0500	ppmv		<0.0500	----	----	----	----
Ethylbenzene	100-41-4	0.0500	ppmv		<0.0500	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.100	ppmv		<0.100	----	----	----	----
Styrene	100-42-5	0.0500	ppmv		<0.0500	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.0500	ppmv		<0.0500	----	----	----	----
ortho-Xylene	95-47-6	0.0500	ppmv		<0.0500	----	----	----	----
4-Ethyltoluene	622-96-8	0.0500	ppmv		<0.0500	----	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.0500	ppmv		<0.0500	----	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.0500	ppmv		<0.0500	----	----	----	----
1.3-Dichlorobenzene	541-73-1	0.0500	ppmv		<0.0500	----	----	----	----

Analytical Results

Sub-Matrix: AIR (Matrix: AIR)				Sample ID	FS01 CIL0057_S184	----	----	----	----
				Sampling date / time	15-Dec-2020 11:06	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2008513-001	--------	--------	--------	--------
					Result	----	----	----	----
EP101: VOCs by USEPA Method TO15r - Continued									
Benzylchloride	100-44-7	0.0500	ppmv		<0.0500	----	----	----	----
1.4-Dichlorobenzene	106-46-7	0.0500	ppmv		<0.0500	----	----	----	----
1.2-Dichlorobenzene	95-50-1	0.0500	ppmv		<0.0500	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.0500	ppmv		<0.0500	----	----	----	----
Hexachlorobutadiene	87-68-3	0.0500	ppmv		<0.0500	----	----	----	----
Acetone	67-64-1	0.0500	ppmv		<0.0500	----	----	----	----
Bromodichloromethane	75-27-4	0.0500	ppmv		<0.0500	----	----	----	----
1.3-Butadiene	106-99-0	0.0500	ppmv		<0.0500	----	----	----	----
Carbon disulfide	75-15-0	0.0500	ppmv		<0.0500	----	----	----	----
1-Chloro-2-propene (Allyl chloride)	107-05-1	0.0500	ppmv		<0.0500	----	----	----	----
Cyclohexane	110-82-7	0.0500	ppmv		<0.0500	----	----	----	----
Dibromochloromethane	124-48-1	0.0500	ppmv		<0.0500	----	----	----	----
1.4-Dioxane	123-91-1	0.0500	ppmv		<0.0500	----	----	----	----
Ethylacetate	9002-89-5	0.0500	ppmv		<0.0500	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.0500	ppmv		<0.0500	----	----	----	----
Heptane	142-82-5	0.0500	ppmv		<0.0500	----	----	----	----
Hexane	110-54-3	0.0500	ppmv		<0.0500	----	----	----	----
Isooctane	540-84-1	0.0500	ppmv		<0.0500	----	----	----	----
Isopropyl Alcohol	67-63-0	0.0500	ppmv		**31.4**	----	----	----	----
2-Butanone (MEK)	78-93-3	0.0500	ppmv		<0.0500	----	----	----	----
Methyl iso-Butyl ketone	108-10-1	0.0500	ppmv		<0.0500	----	----	----	----
2-Hexanone (MBK)	591-78-6	0.0500	ppmv		<0.0500	----	----	----	----
Propene	115-07-1	0.0500	ppmv		<0.0500	----	----	----	----
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.0500	ppmv		<0.0500	----	----	----	----
Tetrahydrofuran	109-99-9	0.0500	ppmv		<0.0500	----	----	----	----
Bromoform	75-25-2	0.0500	ppmv		<0.0500	----	----	----	----
Vinyl Acetate	108-05-4	0.0500	ppmv		<0.0500	----	----	----	----
Vinyl bromide	593-60-2	0.0500	ppmv		<0.0500	----	----	----	----
Naphthalene	91-20-3	0.0190	ppmv		<0.0190	----	----	----	----
EP103: Petroleum Hydrocarbons in Gaseous Samples									
C6 - C9 Fraction	----	5.00	ppmv		<5.00	----	----	----	----
C10 - C14 Fraction	----	5.00	ppmv		<5.00	----	----	----	----
EP103: Petroleum Hydrocarbons in Gaseous Samples (Calc Conc)									

Analytical Results

Sub-Matrix: AIR (Matrix: AIR)				Sample ID	FS01 CIL0057_S184	----	----	----	----
				Sampling date / time	15-Dec-2020 11:06	----	----	----	----
Compound	CAS Number	LOR	Unit		EN2008513-001	--------	--------	--------	--------
					Result	----	----	----	----
EP103: Petroleum Hydrocarbons in Gaseous Samples (Calc Conc) - Continued									
C6 - C9 Fraction	----	20.0	mg/m³		<20.0	----	----	----	----
C10 - C14 Fraction	----	35.0	mg/m³		<35.0	----	----	----	----
EP103: Total Recoverable Hydrocarbons - NEPM 2013									
C6 - C10 Fraction	C6_C10	5.00	ppmv		<5.00	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	5.00	ppmv		<5.00	----	----	----	----
>C10 - C16 Fraction	----	5.00	ppmv		<5.00	----	----	----	----
>C10 - C16 Fraction minus Naphthalene (F2)	----	5.00	ppmv		<5.00	----	----	----	----
EP103: Total Recoverable Hydrocarbons - NEPM 2013 (Calc Conc)									
C6 - C10 Fraction	C6_C10	20.0	mg/m³		<20.0	----	----	----	----
C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20.0	mg/m³		<20.0	----	----	----	----
>C10 - C16 Fraction	----	40.0	mg/m³		<40.0	----	----	----	----
>C10 - C16 Fraction minus Naphthalene (F2)	----	40.0	mg/m³		<40.0	----	----	----	----
EP104: Light Hydrocarbons									
Methane	74-82-8	0.005	Mol %		<0.010	----	----	----	----
EP104: Light Hydrocarbons (Calc Conc)									
Methane	74-82-8	33	mg/m³		<66	----	----	----	----
EP104: Permanent Gases									
Carbon Dioxide	124-38-9	0.005	Mol %		**0.714**	----	----	----	----
Helium	7440-59-7	0.005	Mol %		**0.230**	----	----	----	----
Oxygen	7782-44-7	0.10	Mol %		**20.0**	----	----	----	----
EP104: Permanent Gases (Calc Conc)									
Carbon Dioxide	124-38-9	90	mg/m³		**12800**	----	----	----	----
Helium	7440-59-7	8	mg/m³		**376**	----	----	----	----
Oxygen	7782-44-7	1310	mg/m³		**261000**	----	----	----	----
Sampling Quality Assurance									
Pressure - As received	PRESSURE	0.1	kPaa		**81.5**	----	----	----	----
Pressure - Laboratory Atmosphere	----	0.1	kPaa		**101**	----	----	----	----
Temperature as Received	----	0.1	°C		**20.0**	----	----	----	----
Vacuum - As received	----	0.03	Inches Hg		**5.79**	----	----	----	----
USEPA Air Toxics Method TO15r Surrogates									

Analytical Results

Sub-Matrix: **AIR** (Matrix: **AIR**)				Sample ID	**FS01 CIL0057_S184**	----	----	----	----
				Sampling date / time	15-Dec-2020 11:06	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**EN2008513-001**	--------	--------	--------	--------
					Result	----	----	----	----
USEPA Air Toxics Method TO15r Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.5	%		**96.3**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **AIR**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
USEPA Air Toxics Method TO15r Surrogates			
4-Bromofluorobenzene	460-00-4	60	140

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EN2008513**	Page	: 1 of 8
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Contact	:
Address	: 423 City Rd South Melbourne	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 03 8625 9696	Telephone	: +61 2 4014 2500
Project	: 20200047	Date Samples Received	: 17-Dec-2020
Order number	: 20200047	Date Analysis Commenced	: 21-Dec-2020
C-O-C number	: ----	Issue Date	: 24-Dec-2020
Sampler	: NATASHA VELLA		
Site	: Collingwood		
Quote number	: ----		
No. of samples received	: 1		
No. of samples analysed	: 1		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report ; Recovery and Acceptance Limits
- Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dale Semple	Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **AIR**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP101: VOCs by USEPA Method TO15r (QC Lot: 3433022)									
EN2008529-001	Anonymous	EP101-15X: Freon 12	75-71-8	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Chloromethane	74-87-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Freon 114	76-14-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Vinyl chloride	75-01-4	0.5	ppbv	<0.0020 ppmv	<2.0	0.00	No Limit
		EP101-15X: Bromomethane	74-83-9	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Chloroethane	75-00-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Freon 11	75-69-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1-Dichloroethene	75-35-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Dichloromethane	75-09-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Freon 113	76-13-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1-Dichloroethane	75-34-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: cis-1.2-Dichloroethene	156-59-2	0.5	ppbv	<0.0050 ppmv	<5.0	0.00	No Limit
		EP101-15X: Chloroform	67-66-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2-Dichloroethane	107-06-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1.1-Trichloroethane	71-55-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Benzene	71-43-2	0.5	ppbv	<0.0300 ppmv	<30.0	0.00	No Limit
		EP101-15X: Carbon Tetrachloride	56-23-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2-Dichloropropane	78-87-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Trichloroethene	79-01-6	0.5	ppbv	<0.0010 ppmv	<1.0	0.00	No Limit
		EP101-15X: cis-1.3-Dichloropropylene	10061-01-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: trans-1.3-Dichloropropene	10061-02-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1.2-Trichloroethane	79-00-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Toluene	108-88-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2-Dibromoethane (EDB)	106-93-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Tetrachloroethene	127-18-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit

Sub-Matrix: **AIR**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP101: VOCs by USEPA Method TO15r (QC Lot: 3433022) - continued									
EN2008529-001	Anonymous	EP101-15X: Chlorobenzene	108-90-7	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Ethylbenzene	100-41-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Styrene	100-42-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: ortho-Xylene	95-47-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 4-Ethyltoluene	622-96-8	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.3.5-Trimethylbenzene	108-67-8	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2.4-Trimethylbenzene	95-63-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.3-Dichlorobenzene	541-73-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Benzylchloride	100-44-7	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.4-Dichlorobenzene	106-46-7	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2-Dichlorobenzene	95-50-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2.4-Trichlorobenzene	120-82-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Hexachlorobutadiene	87-68-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Acetone	67-64-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Bromodichloromethane	75-27-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.3-Butadiene	106-99-0	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Carbon disulfide	75-15-0	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1-Chloro-2-propene (Allyl chloride)	107-05-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Cyclohexane	110-82-7	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Dibromochloromethane	124-48-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.4-Dioxane	123-91-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Ethylacetate	9002-89-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: trans-1.2-Dichloroethene	156-60-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Heptane	142-82-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Hexane	110-54-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Isooctane	540-84-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Isopropyl Alcohol	67-63-0	0.5	ppbv	0.128 ppmv	128	0.358	No Limit
		EP101-15X: 2-Butanone (MEK)	78-93-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Methyl iso-Butyl ketone	108-10-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 2-Hexanone (MBK)	591-78-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Propene	115-07-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Tetrahydrofuran	109-99-9	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Bromoform	75-25-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Vinyl Acetate	108-05-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Vinyl bromide	593-60-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Naphthalene	91-20-3	0.5	ppbv	<0.0190 ppmv	<19.0	0.00	No Limit
		EP101-15X: meta- & para-Xylene	108-38-3 106-42-3	1	ppbv	<0.100 ppmv	<100	0.00	No Limit

Sub-Matrix: **AIR**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP101: VOCs by USEPA Method TO15r (QC Lot: 3433022) - continued									
EN2008529-011	Anonymous	EP101-15X: Freon 12	75-71-8	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Chloromethane	74-87-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Freon 114	76-14-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Vinyl chloride	75-01-4	0.5	ppbv	<0.0020 ppmv	<2.0	0.00	No Limit
		EP101-15X: Bromomethane	74-83-9	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Chloroethane	75-00-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Freon 11	75-69-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1-Dichloroethene	75-35-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Dichloromethane	75-09-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Freon 113	76-13-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1-Dichloroethane	75-34-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: cis-1.2-Dichloroethene	156-59-2	0.5	ppbv	<0.0050 ppmv	<5.0	0.00	No Limit
		EP101-15X: Chloroform	67-66-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2-Dichloroethane	107-06-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1.1-Trichloroethane	71-55-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Benzene	71-43-2	0.5	ppbv	<0.0300 ppmv	<30.0	0.00	No Limit
		EP101-15X: Carbon Tetrachloride	56-23-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2-Dichloropropane	78-87-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Trichloroethene	79-01-6	0.5	ppbv	<0.0010 ppmv	<1.0	0.00	No Limit
		EP101-15X: cis-1.3-Dichloropropylene	10061-01-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: trans-1.3-Dichloropropene	10061-02-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1.2-Trichloroethane	79-00-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Toluene	108-88-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2-Dibromoethane (EDB)	106-93-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Tetrachloroethene	127-18-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Chlorobenzene	108-90-7	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Ethylbenzene	100-41-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Styrene	100-42-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: ortho-Xylene	95-47-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 4-Ethyltoluene	622-96-8	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.3.5-Trimethylbenzene	108-67-8	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2.4-Trimethylbenzene	95-63-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.3-Dichlorobenzene	541-73-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Benzylchloride	100-44-7	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.4-Dichlorobenzene	106-46-7	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2-Dichlorobenzene	95-50-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.2.4-Trichlorobenzene	120-82-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Hexachlorobutadiene	87-68-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Acetone	67-64-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit

Sub-Matrix: **AIR**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP101: VOCs by USEPA Method TO15r (QC Lot: 3433022) - continued									
EN2008529-011	Anonymous	EP101-15X: Bromodichloromethane	75-27-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.3-Butadiene	106-99-0	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Carbon disulfide	75-15-0	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1-Chloro-2-propene (Allyl chloride)	107-05-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Cyclohexane	110-82-7	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Dibromochloromethane	124-48-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 1.4-Dioxane	123-91-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Ethylacetate	9002-89-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: trans-1.2-Dichloroethene	156-60-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Heptane	142-82-5	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Hexane	110-54-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Isooctane	540-84-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Isopropyl Alcohol	67-63-0	0.5	ppbv	0.0734 ppmv	70.7	3.79	No Limit
		EP101-15X: 2-Butanone (MEK)	78-93-3	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Methyl iso-Butyl ketone	108-10-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: 2-Hexanone (MBK)	591-78-6	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Propene	115-07-1	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Tetrahydrofuran	109-99-9	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Bromoform	75-25-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Vinyl Acetate	108-05-4	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Vinyl bromide	593-60-2	0.5	ppbv	<0.0500 ppmv	<50.0	0.00	No Limit
		EP101-15X: Naphthalene	91-20-3	0.5	ppbv	<0.0190 ppmv	<19.0	0.00	No Limit
		EP101-15X: meta- & para-Xylene	108-38-3 106-42-3	1	ppbv	<0.100 ppmv	<100	0.00	No Limit
EP103: Petroleum Hydrocarbons in Gaseous Samples (QC Lot: 3433027)									
EN2008525-001	Anonymous	EP103-PC: C6 - C9 Fraction	----	50	ppbv	<50	<50	0.00	No Limit
		EP103-PC: C10 - C14 Fraction	----	50	ppbv	<50	<50	0.00	No Limit
EP103: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3433027)									
EN2008525-001	Anonymous	EP103-PC: C6 - C10 Fraction	C6_C10	50	ppbv	<50	<50	0.00	No Limit
		EP103-PC: >C10 - C16 Fraction	----	50	ppbv	<50	<50	0.00	No Limit
EP104: Light Hydrocarbons (QC Lot: 3438453)									
EN2008564-001	Anonymous	EP104: Methane	74-82-8	0.005	Mol %	35.5	35.8	1.03	0% - 20%
EP104: Permanent Gases (QC Lot: 3438453)									
EN2008564-001	Anonymous	EP104: Carbon Dioxide	124-38-9	0.005	Mol %	5.31	5.30	0.130	0% - 20%
		EP104: Helium	7440-59-7	0.005	Mol %	<0.020	<0.020	0.00	No Limit
		EP104: Oxygen	7782-44-7	0.1	Mol %	1.84	1.86	1.08	No Limit

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control terms Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (DCS) refers to certified reference materials, or known interference free matrices spiked with target analytes. The purpose of these QC parameters are to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS and DCS.

Sub-Matrix: **AIR**

		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EP101: VOCs by USEPA Method TO15r (QCLot: 3433022)											
EP101-15X: Freon 12	75-71-8	0.5	ppbv	<0.5	10 ppbv	96.1	95.0	72.1	127	25	25
EP101-15X: Chloromethane	74-87-3	0.5	ppbv	<0.5	10 ppbv	107	107	70.0	130	25	25
EP101-15X: Freon 114	76-14-2	0.5	ppbv	<0.5	10 ppbv	99.9	99.0	73.8	126	25	25
EP101-15X: Vinyl chloride	75-01-4	0.5	ppbv	<0.5	10 ppbv	99.9	99.4	70.5	127	25	25
EP101-15X: Bromomethane	74-83-9	0.5	ppbv	<0.5	10 ppbv	96.2	96.6	70.0	130	25	25
EP101-15X: Chloroethane	75-00-3	0.5	ppbv	<0.5	10 ppbv	100	100	73.8	130	25	25
EP101-15X: Freon 11	75-69-4	0.5	ppbv	<0.5	10 ppbv	91.4	90.1	79.7	121	25	25
EP101-15X: 1.1-Dichloroethene	75-35-4	0.5	ppbv	<0.5	10 ppbv	97.9	98.4	74.6	124	25	25
EP101-15X: Dichloromethane	75-09-2	0.5	ppbv	<0.5	10 ppbv	95.2	98.0	70.0	127	25	25
EP101-15X: Freon 113	76-13-1	0.5	ppbv	<0.5	10 ppbv	104	104	76.8	128	25	25
EP101-15X: 1.1-Dichloroethane	75-34-3	0.5	ppbv	<0.5	10 ppbv	103	102	75.4	124	25	25
EP101-15X: cis-1.2-Dichloroethene	156-59-2	0.5	ppbv	<0.5	10 ppbv	99.2	98.2	77.6	123	25	25
EP101-15X: Chloroform	67-66-3	0.5	ppbv	<0.5	10 ppbv	93.4	92.6	80.0	120	25	25
EP101-15X: 1.2-Dichloroethane	107-06-2	0.5	ppbv	<0.5	10 ppbv	87.8	86.7	75.1	122	25	25
EP101-15X: 1.1.1-Trichloroethane	71-55-6	0.5	ppbv	<0.5	10 ppbv	108	106	80.5	121	25	25
EP101-15X: Benzene	71-43-2	0.5	ppbv	<0.5	10 ppbv	98.2	96.9	78.3	122	25	25
EP101-15X: Carbon Tetrachloride	56-23-5	0.5	ppbv	<0.5	10 ppbv	112	110	74.8	130	25	25
EP101-15X: 1.2-Dichloropropane	78-87-5	0.5	ppbv	<0.5	10 ppbv	106	104	70.0	129	25	25
EP101-15X: Trichloroethene	79-01-6	0.5	ppbv	<0.5	10 ppbv	98.4	97.5	79.5	120	25	25
EP101-15X: cis-1.3-Dichloropropylene	10061-01-5	0.5	ppbv	<0.5	10 ppbv	94.5	93.5	76.4	123	25	25
EP101-15X: trans-1.3-Dichloropropene	10061-02-6	0.5	ppbv	<0.5	10 ppbv	95.2	95.1	70.0	125	25	25
EP101-15X: 1.1.2-Trichloroethane	79-00-5	0.5	ppbv	<0.5	10 ppbv	111	111	81.0	120	25	25
EP101-15X: Toluene	108-88-3	0.5	ppbv	<0.5	10 ppbv	105	106	72.1	130	25	25
EP101-15X: 1.2-Dibromoethane (EDB)	106-93-4	0.5	ppbv	<0.5	10 ppbv	104	104	79.6	121	25	25
EP101-15X: Tetrachloroethene	127-18-4	0.5	ppbv	<0.5	10 ppbv	110	109	70.0	130	25	25
EP101-15X: Chlorobenzene	108-90-7	0.5	ppbv	<0.5	10 ppbv	106	106	80.2	119	25	25
EP101-15X: Ethylbenzene	100-41-4	0.5	ppbv	<0.5	10 ppbv	99.4	100	78.0	122	25	25
EP101-15X: meta- & para-Xylene	108-38-3 106-42-3	1	ppbv	<1.0	20 ppbv	96.2	97.5	79.4	122	25	25
EP101-15X: Styrene	100-42-5	0.5	ppbv	<0.5	10 ppbv	98.2	99.2	70.0	125	25	25
EP101-15X: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	ppbv	<0.5	10 ppbv	91.4	91.3	80.6	127	25	25
EP101-15X: ortho-Xylene	95-47-6	0.5	ppbv	<0.5	10 ppbv	91.7	92.5	78.1	126	25	25
EP101-15X: 4-Ethyltoluene	622-96-8	0.5	ppbv	<0.5	10 ppbv	88.5	90.0	74.4	128	25	25

Sub-Matrix: **AIR**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EP101: VOCs by USEPA Method TO15r (QCLot: 3433022) - continued											
EP101-15X: 1.3.5-Trimethylbenzene	108-67-8	0.5	ppbv	<0.5	10 ppbv	84.9	85.4	72.6	128	25	25
EP101-15X: 1.2.4-Trimethylbenzene	95-63-6	0.5	ppbv	<0.5	10 ppbv	79.8	80.2	70.0	128	25	25
EP101-15X: 1.3-Dichlorobenzene	541-73-1	0.5	ppbv	<0.5	10 ppbv	84.8	85.0	70.0	130	25	25
EP101-15X: Benzylchloride	100-44-7	0.5	ppbv	<0.5	10 ppbv	90.4	91.2	70.0	130	25	25
EP101-15X: 1.4-Dichlorobenzene	106-46-7	0.5	ppbv	<0.5	10 ppbv	85.8	86.7	70.0	130	25	25
EP101-15X: 1.2-Dichlorobenzene	95-50-1	0.5	ppbv	<0.5	10 ppbv	82.1	80.5	70.0	130	25	25
EP101-15X: 1.2.4-Trichlorobenzene	120-82-1	0.5	ppbv	<0.5	10 ppbv	82.3	83.1	70.0	130	25	25
EP101-15X: Hexachlorobutadiene	87-68-3	0.5	ppbv	<0.5	10 ppbv	83.9	84.6	70.0	130	25	25
EP101-15X: Acetone	67-64-1	0.5	ppbv	<0.5	10 ppbv	96.9	95.9	70.0	124	25	25
EP101-15X: Bromodichloromethane	75-27-4	0.5	ppbv	<0.5	10 ppbv	97.0	95.6	80.3	125	25	25
EP101-15X: 1.3-Butadiene	106-99-0	0.5	ppbv	<0.5	10 ppbv	103	104	70.0	129	25	25
EP101-15X: Carbon disulfide	75-15-0	0.5	ppbv	<0.5	10 ppbv	97.7	97.1	77.9	122	25	25
EP101-15X: 1-Chloro-2-propene (Allyl chloride)	107-05-1	0.5	ppbv	<0.5	10 ppbv	108	108	70.0	130	25	25
EP101-15X: Cyclohexane	110-82-7	0.5	ppbv	<0.5	10 ppbv	99.1	98.3	73.0	130	25	25
EP101-15X: Dibromochloromethane	124-48-1	0.5	ppbv	<0.5	10 ppbv	104	103	76.6	130	25	25
EP101-15X: 1.4-Dioxane	123-91-1	0.5	ppbv	<0.5	10 ppbv	95.8	95.1	70.6	130	25	25
EP101-15X: Ethylacetate	9002-89-5	0.5	ppbv	<0.5	10 ppbv	104	104	72.7	130	25	25
EP101-15X: trans-1.2-Dichloroethene	156-60-5	0.5	ppbv	<0.5	10 ppbv	92.2	92.4	72.4	124	25	25
EP101-15X: Heptane	142-82-5	0.5	ppbv	<0.5	10 ppbv	97.7	97.2	70.0	130	25	25
EP101-15X: Hexane	110-54-3	0.5	ppbv	<0.5	10 ppbv	96.8	96.1	70.0	130	25	25
EP101-15X: Isooctane	540-84-1	0.5	ppbv	<0.5	10 ppbv	96.8	96.2	71.9	130	25	25
EP101-15X: Isopropyl Alcohol	67-63-0	0.5	ppbv	<0.5	10 ppbv	102	102	70.0	128	25	25
EP101-15X: 2-Butanone (MEK)	78-93-3	0.5	ppbv	<0.5	10 ppbv	103	102	75.8	123	25	25
EP101-15X: Methyl iso-Butyl ketone	108-10-1	0.5	ppbv	<0.5	10 ppbv	96.2	95.8	70.0	130	25	25
EP101-15X: 2-Hexanone (MBK)	591-78-6	0.5	ppbv	<0.5	10 ppbv	107	108	70.0	130	25	25
EP101-15X: Propene	115-07-1	0.5	ppbv	<0.5	10 ppbv	112	112	70.0	130	25	25
EP101-15X: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	ppbv	<0.5	10 ppbv	122	123	73.1	125	25	25
EP101-15X: Tetrahydrofuran	109-99-9	0.5	ppbv	<0.5	10 ppbv	96.8	95.5	70.0	130	25	25
EP101-15X: Bromoform	75-25-2	0.5	ppbv	<0.5	10 ppbv	100	99.6	70.0	130	25	25
EP101-15X: Vinyl Acetate	108-05-4	0.5	ppbv	<0.5	10 ppbv	114	116	70.0	128	25	25
EP101-15X: Vinyl bromide	593-60-2	0.5	ppbv	<0.5	10 ppbv	96.4	96.9	78.0	124	25	25
EP101-15X: Naphthalene	91-20-3	0.5	ppbv	<0.5	10 ppbv	89.0	89.4	70.0	129	25	25
EP103: Petroleum Hydrocarbons in Gaseous Samples (QCLot: 3433027)											
EP103-PC: C6 - C9 Fraction	----	50	ppbv	<50	2800 ppbv	85.3	85.2	70.0	130	25	25
EP103-PC: C10 - C14 Fraction	----	50	ppbv	<50	1200 ppbv	85.2	85.2	70.0	130	25	25
EP103: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3433027)											
EP103-PC: C6 - C10 Fraction	C6_C10	50	ppbv	<50	3000 ppbv	84.3	84.4	70.0	130	25	25
EP103-PC: >C10 - C16 Fraction	----	50	ppbv	<50	500 ppbv	83.3	83.2	70.0	130	25	25
EP104: Light Hydrocarbons (QCLot: 3438453)											

Sub-Matrix: **AIR**

		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EP104: Light Hydrocarbons (QCLot: 3438453) - continued											
EP104: Methane	74-82-8	0.005	Mol %	<0.005	0.105 Mol %	103	104	90.0	110	25	25
				<0.005	17.04 Mol %	98.6	98.0	90.0	110	25	25
EP104: Permanent Gases (QCLot: 3438453)											
EP104: Carbon Dioxide	124-38-9	0.005	Mol %	<0.005	5.276 Mol %	103	104	90.0	110	25	25
EP104: Helium	7440-59-7	0.005	Mol %	<0.005	0.105 Mol %	104	99.6	90.0	110	25	25
EP104: Oxygen	7782-44-7	0.1	Mol %	<0.10	9.304 Mol %	96.6	99.2	90.0	110	25	25

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EN2008513**	Page	: 1 of 4
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Telephone	: +61 2 4014 2500
Project	: 20200047	Date Samples Received	: 17-Dec-2020
Site	: Collingwood	Issue Date	: 24-Dec-2020
Sampler	: NATASHA VELLA	No. of samples received	: 1
Order number	: 20200047	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **AIR**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP101: VOCs by USEPA Method TO15r							
Gas Canister - Non-ALS (Other) (EP101-15X)							
FS01 - CIL0057_S184	**15-Dec-2020**	**----**	----	----	**21-Dec-2020**	14-Jan-2021	✓
EP103: Petroleum Hydrocarbons in Gaseous Samples							
Gas Canister - Non-ALS (Other) (EP103-PC)							
FS01 - CIL0057_S184	**15-Dec-2020**	**----**	----	----	**21-Dec-2020**	14-Jan-2021	✓
EP103: Total Recoverable Hydrocarbons - NEPM 2013							
Gas Canister - Non-ALS (Other) (EP103-PC)							
FS01 - CIL0057_S184	**15-Dec-2020**	**----**	----	----	**21-Dec-2020**	14-Jan-2021	✓
EP104: Light Hydrocarbons							
Gas Canister - Non-ALS (Other) (EP104)							
FS01 - CIL0057_S184	**15-Dec-2020**	**----**	----	----	**23-Dec-2020**	14-Jan-2021	✓
EP104: Permanent Gases							
Gas Canister - Non-ALS (Other) (EP104)							
FS01 - CIL0057_S184	**15-Dec-2020**	**----**	----	----	**23-Dec-2020**	14-Jan-2021	✓
Sampling Quality Assurance							
Gas Canister - Non-ALS (Other) (CAN-001)							
FS01 - CIL0057_S184	**15-Dec-2020**	**----**	----	----	**21-Dec-2020**	15-Dec-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **AIR**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Duplicate Control Samples (DCS)							
Permanent Gases and Light Hydrocarbons	EP104	2	8	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile TPH/TRH in Gaseous Samples	EP103-PC	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Duplicates (DUP)							
Permanent Gases and Light Hydrocarbons	EP104	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile TPH/TRH in Gaseous Samples	EP103-PC	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Permanent Gases and Light Hydrocarbons	EP104	2	8	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile TPH/TRH in Gaseous Samples	EP103-PC	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Permanent Gases and Light Hydrocarbons	EP104	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile TPH/TRH in Gaseous Samples	EP103-PC	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Canister Sampling - Field Data	CAN-001	AIR	In house: Referenced to USEPA TO14 / TO15
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	AIR	In house: Referenced to USEPA TO15r Volatile Organic Compounds in Air by USEPA TO15. Extended Suite
VOCs in Air by USEPA TO15r - Extended Suite (mass/volume)	EP101-15X-MV	AIR	In house: Referenced to USEPA TO15r Volatile Organic Compounds in Air by USEPA TO15. Extended Suite (Calculated Concentration)
Volatile TPH/TRH in Gaseous Samples	EP103-PC	AIR	Volatile TPH/TRH by GC-MS with Preconcentration and Thermal Desorption Injection Based on USEPA TO15, MassDEP APH and TPH/NEPM Schedule B(3) Fractions
Volatile TPH/TRH in Gaseous Samples (Calc Conc)	EP103-PC-MV	AIR	Volatile TPH/TRH by GC-MS with Preconcentration and Thermal Desorption Injection Based on USEPA TO15, MassDEP APH and TPH/NEPM Schedule B(3) Fractions, calculated from ppbv results based on given Temperature and Atmospheric Pressure and mid-range molecular weights
Permanent Gases and Light Hydrocarbons	EP104	AIR	Hydrocarbons, Carbon Dioxide and Carbon Monoxide by GC-FID-TCD. Gases by GC-TCD In house: Referenced to ASTM D1945 applied to Gases and Light Hydrocarbons (C1-C4) using capillary GC
Permanent Gases and Light Hydrocarbons (mass/volume)	EP104-MV	AIR	Permanent Gases and Light Hydrocarbons - Calculated as mass/volume concentration from percentage composition and given termperature and pressure.

Appendix K
Indoor Air Analytical Results Table

Appendix K
Indoor Air Analytical Results

Edge Project No.: 20200047
Soil Vapour Risk Assessment
21 Northumberland and
26 Wellington Streets
Collingwood, VIC

			Sample Code	T21-Jn02707	T21-Jn02708	T21-Jn02709	T21-Jn02710	T21-Jn02711	T21-Jn02712	T21-Jn02713
			Field ID	OAS	IAS01	IAS02	IAS03	IAS04	IAS05	IAS06
			Date	26/05/2021	26/05/2021	26/05/2021	26/05/2021	26/05/2021	26/05/2021	26/05/2021
			Ambient Air Guidelines[1]							
Analyte	Unit	LOR	Residential	Commercial						
Solvents										
2-Propanol	µg/m^3	49	210	880	<82	<67	<75	<79	<79	<87	<64

Notes

LOR = Limit of Reporting

1 - USEPA (November 2020) Regional Screening Levels (RSL) for air, based on an incremental cancer risk level of 1×10^{-5} and target threshold risk of 1.

Appendix L
Indoor Air Laboratory Analytical Reports

SUMMA CANISTER
CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☐ **Sydney Laboratory** Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1, 21 Smallwood Pl., Murarrie, QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2, 91 Leach Highway, Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☑ **Melbourne Laboratory** 6 Monterey Road, Dandenong South, VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Edge Group	Project №	20200047
Address	423 City Rd, South Melbourne VIC 3205	Project Name	Indoor Air Sampling
Contact Name	Mikki Nada	Project Manager	Scott Davis
Phone №	0420 415 019	EDDs (Circle)	ESdat, EQuIS, pdf
Special Direction	Report only IPA results	Handed over by	Mikki Nada 13:41 27/05/2021
Purchase Order	20200047	Email for Results	scottd@edgegroup.net.au mikki.tan.nada@edgegroup.net.au
Quote ID №	200925EDGV	Turn Around Requirements	☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ 5 Day ☐ Other ( ) * Surcharges apply

№	Client Sample ID	Date	Time	Analysis: 62 VOCs (TO-15) low-level	TRH, F1, mod F2 (TO-15)	VPH aliphatic/aromatic speciation (TO-15)	ASTM Gas List (D1945/1946)	Helium only (D1946)	Canister Vacuum/Pressure: Initial	Final	Canister ID (e.g 1L0020 or 6L0020)	Flow Controller ID (e.g FC0020 or 000020)	Sample Comments / DG Hazard Warning
1	OAS	26/05/2021	08:42	X					-30	-11	6L0069	1019	
2	IAS01	"	09:03	X					-30	0	6L0011	215	
3	IAS02	"	09:33	X					-30	-6	6L0040	88	
4	IAS03	"	10:06	X					-30	-5	6L0032	150	
5	IAS04	"	10:20	X					-30	-9	6L0029	155	
6	IAS05	"	10:50	X					-30	-12	6L0009	135	
7	IAS06	"	11:05	X					-30	0	6L0042	207	
8													
9													
	Total Counts												

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal Name Signature Date ___/___/___ Time ___:___

Laboratory Use Only

Received By		SYD | BNE | MEL | PER | ADL | NEW | DAR	Signature	Date ___/___/___	Time ___:___	Temperature	
Received By	Ben	SYD | BNE | MEL | PER | ADL | NEW | DAR	Signature	Date ___/___/___	Time ___:___	Report №	749802

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | ingt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | ingt Standard Terms and Conditions is available on request

eurofins | mgt

ABN 50 005 085 521

Melbourne: +61 3 8564 5000
Sydney: +61 2 9900 8400
Brisbane: +61 7 3902 4600

Adelaide: +61 8 8154 3100
Darwin:+61 8 8154 3190
Newcastle: +61 2 9900 8490
Perth: +61 8 8925 9600

SUMMA CANISTER ORDER FORM

C01274.

Client Name:	Edge Group	Date Requested:	19/05/2021
Site Name/Job #			
Delivery Address:	423 City Road, South Melbourne 3205	Date Required:	25/05/2021
Contact Name:	Mikki Nada	Sent by:	MY TI 08/7 2021
Phone Number :	0420 415 019	Checked by:	
Eurofins | mgt contact:	Harry Bacalis		
Service required	OVERNIGHT FIRST CLASS*	LOCAL COURIER	
Please circle:	COLLECT SAME DAY*	Eurofins | mgt COURIER	
	INTERNATIONAL	FREIGHT COST TO BE ON-CHARGED?	Y / N

DELIVERY: LOCAL (Melbourne/Sydney/Adelaide/Brisbane/Perth) allow two days. INTERSTATE and REGIONAL allow five days. *For urgent deliveries contact Client Services.

				Laboratory Use Only				
Quantity	Canister Vol	Flow Controller	Comments	Certification Number	Canister ID	Vacuum	Flow Controller ID	Equipment Integrity Check
	1 L	2 hour fill time (6.7mL/min)		792325	6L0029	30" Hg	155	✓
	1 L	1 hour fill time (13.3mL/min)			6L0009		135	✓
	1 L	20 minute fill time (40mL/min)			6L0032		150	✓
	1 L	10 minute fill time (80mL/min)			6L0040		188	✓
	1 L	4.8 minute fill time (167mL/min)			6L0011		215	✓
	6 L	1 hour fill time (83mL/min)			6L0023		170	✓
	6 L	8 hour fill time (11.5mL/min)			6L0042		207	✓
	6 L	'Grab' type controller - fill time approx 3 minutes			6L0007		309	✓
	6 L	Ultra Low Level			6L0069		1014	✓
10	6L	24 Hour Fill Time						

Quantity	Accessories	Notes
	Duplicate T piece	
	1/4" Swagelok nuts + Ferrules	
	Female Quick Connects Fittings	
	Male Quick Connects Fittings	
	Additional pressure gauge	

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ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

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NATA # 1261
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PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Edge Group P/L
Contact name:	Scott Davis
Project name:	INDOOR AIR SAMPLING
Project ID:	20200047
Turnaround time:	5 Day
Date/Time received	May 27, 2021
Eurofins reference	799802

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Harry Bacalis on phone : or by email: HarryBacalis@eurofins.com

Results will be delivered electronically via email to Scott Davis - ScottD@edgegroup.net.au.

Note: A copy of these results will also be delivered to the general Edge Group P/L email address.

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Christchurch
43 Detroit Drive
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Phone : 0800 856 450
IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: INDOOR AIR SAMPLING
Project ID: 20200047

Order No.:
Report #: 799802
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: May 27, 2021 12:00 AM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Harry Bacalis

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	OAS	May 26, 2021	8:42AM	6L Summa Canister	T21-Jn02707	X	X	X	X
2	IAS01	May 26, 2021	9:03AM	6L Summa Canister	T21-Jn02708	X	X	X	X
3	IAS02	May 26, 2021	9:33AM	6L Summa Canister	T21-Jn02709	X	X	X	X
4	IAS03	May 26, 2021	10:06AM	6L Summa Canister	T21-Jn02710	X	X	X	X
5	IAS04	May 26, 2021	10:20AM	6L Summa Canister	T21-Jn02711	X	X	X	X
6	IAS05	May 26, 2021	10:50AM	6L Summa	T21-Jn02712	X	X	X	X

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: INDOOR AIR SAMPLING
Project ID: 20200047

Order No.:
Report #: 799802
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: May 27, 2021 12:00 AM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Harry Bacalis

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
				Canister					
7	IAS06	May 26, 2021	11:05AM	6L Summa Canister	T21-Jn02713	X	X	X	X
Test Counts						7	7	7	7

Edge Group P/L
1st Floor, 423 City Road
South Melbourne
VIC 3205

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Scott Davis**

Report **799802-TO-V2**
Project name INDOOR AIR SAMPLING
Project ID 20200047
Received Date May 27, 2021

Client Sample ID			**OAS**	**IAS01**	**IAS02**	**IAS03**
Sample Matrix			**6L Summa Canister**	**6L Summa Canister**	**6L Summa Canister**	**6L Summa Canister**
Eurofins Sample No.			**T21-Jn02707**	**T21-Jn02708**	**T21-Jn02709**	**T21-Jn02710**
Date Sampled			**May 26, 2021**	**May 26, 2021**	**May 26, 2021**	**May 26, 2021**
Receipt Vac./Pressure (inHg)			**5.8**	**0.8**	**3.7**	**5.1**
Final Pressure (psi)			**5.1**	**5.1**	**5.1**	**5.1**
Test/Reference	LOR	Unit				
Dilution Factor	0.1		1.7	1.4	1.5	1.6
US EPA Compendium Methods TO-14a/TO-15						
Isopropanol	49	ug/m3	< 82	< 67	< 75	< 79

Client Sample ID			**IAS04**	**IAS05**	**IAS06**
Sample Matrix			**6L Summa Canister**	**6L Summa Canister**	**6L Summa Canister**
Eurofins Sample No.			**T21-Jn02711**	**T21-Jn02712**	**T21-Jn02713**
Date Sampled			**May 26, 2021**	**May 26, 2021**	**May 26, 2021**
Receipt Vac./Pressure (inHg)			**5.2**	**7.3**	**0.7**
Final Pressure (psi)			**5.1**	**5.1**	**5.1**
Test/Reference	LOR	Unit			
Dilution Factor	0.1		1.6	1.8	1.3
US EPA Compendium Methods TO-14a/TO-15					
Isopropanol	49	ug/m3	< 79	< 87	< 64

eurofins | Air Toxics

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
US EPA Compendium Methods TO-14a/TO-15	BrisbaneAir	Jun 02, 2021	30 Days

- Method: SOP #6 Analysis of Volatile Organic Compounds in Summa Polished Canisters EPA Method TO-15 And Modified EPA Method TO-14A

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Phone : 0800 856 450
IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: INDOOR AIR SAMPLING
Project ID: 20200047

Order No.:
Report #: 799802
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: May 27, 2021 12:00 AM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Harry Bacalis

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	OAS	May 26, 2021	8:42AM	6L Summa Canister	T21-Jn02707	X	X	X	X
2	IAS01	May 26, 2021	9:03AM	6L Summa Canister	T21-Jn02708	X	X	X	X
3	IAS02	May 26, 2021	9:33AM	6L Summa Canister	T21-Jn02709	X	X	X	X
4	IAS03	May 26, 2021	10:06AM	6L Summa Canister	T21-Jn02710	X	X	X	X
5	IAS04	May 26, 2021	10:20AM	6L Summa Canister	T21-Jn02711	X	X	X	X
6	IAS05	May 26, 2021	10:50AM	6L Summa	T21-Jn02712	X	X	X	X

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Rolleston, Christchurch 7675
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Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: INDOOR AIR SAMPLING
Project ID: 20200047

Order No.:
Report #: 799802
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: May 27, 2021 12:00 AM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Harry Bacalis

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
				Canister					
7	IAS06	May 26, 2021	11:05AM	6L Summa Canister	T21-Jn02713	X	X	X	X
Test Counts						7	7	7	7

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. Dilutions are performed on samples due to the presence of high level target species or the presence of high level non-target species.
3. Results are uncorrected for surrogate recoveries.
4. All QC limit exceedances and affected sample results are noted by flags. Each qualifying flag is defined below in section entitled 'Definition of Data Qualifying Flags' and additionally on individual sample results (where relevant).
5. "100% certification" is defined as evaluating the sampling system with humid zero air/N2 and humid calibration gases that pass through all active components of the sampling system. The system is "100% certified" if no significant additions or deletions (less than 0.2 ppbv each of target compounds) have occurred when challenged with the test gas stream.
6. The conversion equation from ppbv to g/m3 uses a temperature of 25 °C and an ambient sea level atmospheric pressure of 1 atmosphere (101.325 kPa) is assumed.
7. All canister samples are only analysed once temperature equilibrium with the laboratory has been achieved.
8. Safe Sampling Volume (SSV) - calculated by taking two-thirds of the breakthrough volume (direct method) and Appendix 1 of Method T0-17.
9. Samples were analysed on an 'as received' basis.
10. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
11. This report replaces any interim results previously issued.

Definition of Data Qualifying Flags

Qualifiers may have been used on the data analysis sheets and indicates as follows:

A01 Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

A02 Estimated value.

A03 Exceeds instrument calibration range.

A04 Saturated peak.

A05 Exceeds quality control limits.

A06 Compound analysed for but not detected above the Limit of Reporting (LOR). See data page for project specific U-flag definition.

A07 Non-detected compound associated with low bias in the CCV.

A08 The identification is based on presumptive evidence.

A09 SSV has been exceeded for this compound. It is likely that this compound has been underestimated.

A10 LORs cited do not take into account sample dilution due to canister pressurisation.

A11 Naphthalene elutes outside the >C10-C12 range on the system used for sample analysis. As a result, >C10-C12 TRH value is equivalent to the modified F2 value.

Holding Times

Under conditions of normal usage for sampling ambient air, most Volatile Organic Compounds (VOCs) can be recovered from canisters near their original concentrations after storage times of up to thirty days. For thermal desorption tubes (TDT) samples should be refrigerated at <4°C in a clean environment during storage and analysed within 30 days of sample collection (within one week for limonene, carene, bis-chloromethyl ether and labile sulfur or nitrogen containing volatiles).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

ppbv: parts per billion by volume

ug/m3: micrograms per cubic metre

kPa: kilopascal

psig: pounds per square inch gauge

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
US EPA Compendium Methods TO-14a/TO-15							
Isopropanol	ug/m3	< 49			49	Pass	
LCS - % Recovery							
US EPA Compendium Methods TO-14a/TO-15							
Isopropanol	%	71			70-130	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Harry Bacalis	Analytical Services Manager
Laurence Hearn	Senior Analyst-Air (QLD)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

ALS Melbourne: 4 Westall Rd, Springvale, VIC 3171 Phone (03) 8549 9600; Facsimile (03) 8549 9601. Email Samples.Melbourne@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd
2-4 Westall Road, Springvale, VIC 3171

CLIENT: EDGE GROUP
ADDRESS / OFFICE: 423 CITY RD SOUTH MELBOURNE
PROJECT MANAGER (PM): Scott Davis
PROJECT ID: 20200047
SITE: Collingwood P.O. NO.: 20200047
RESULTS REQUIRED (**Date**): QUOTE NO.:

SAMPLER: Mikki Nada, Humaira Cadekiwala
MOBILE: 0420 415 019
PHONE
EMAIL REPORT TO: ScottD@edgegroup.net.au mikki.tan@edgegroup.net.au
EMAIL INVOICE TO: accounts@edgegroup.net.au

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DIPOSAL:
Report only IPA results

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		62 VOCs (TO-15) (low level)	TRH, F1, mod F2 (TO-15)	ASTM Gas List (D1945/1946) O_2, CH_4, CO_2, Helium										HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Canister #	Controller #													
	FS01	ndoor Ai	26-May	10:20	6L0021	307	X												

Environmental Division
Newcastle
Work Order Reference
EN2104608
Telephone : +61 2 4014 2500

Notes: e.g. Highly contaminated samples
e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.

FS01 Canister (6L0021) is a Eurofins Canister.
Please return the cansiter to Eurofins (6 Monterey Road, Dandenong South, VIC 3175).

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Humaira Cadekiwala	Date: 27/05/2021	Name: Scott	Date: 27/5/21	Con' Note No: MTTI147044
Of: Edge Group	Time: : 13:33	Of: ALS	Time: ~~1630~~ 1630	
Name: M.S	Date: 31/5/21	Name:	Date: 1/6/21	Transport Co: Toll
Of: ALS	Time:	Of: ALS	Time: 11:15	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

AUSTRALIAN LABORATORY SERVICES P/L

ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EN2104608**

Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Contact	: Hannah White
Address	: 423 City Rd South Melbourne	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
E-mail	: scottd@edgegroup.net.au	E-mail	: Hannah.White@alsglobal.com
Telephone	: +61 03 8625 9696	Telephone	: +61 2 4014 2500
Facsimile	: ----	Facsimile	: +61 2 4967 7382
Project	: 20200047	Page	: 1 of 2
Order number	: 20200047	Quote number	: EM2017EDGGRO0001 (MEBQ/108/20 Primary Work Only)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Collingwood		
Sampler	: Humaira Cadekiwali, Mikki Nada		

Dates

Date Samples Received	: 01-Jun-2021 11:15	Issue Date	: 01-Jun-2021
Client Requested Due Date	: 08-Jun-2021	Scheduled Reporting Date	: **08-Jun-2021**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **AIR**

Laboratory sample ID	Sampling date / time	Sample ID	AIR - EP101-IPA Isopropyl Alcohol - Ambient Air
EN2104608-001	26-May-2021 10:20	FS01 6L0021_307	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ALL INVOICES

- A4 - AU Tax Invoice (INV)	Email	accounts@edgegroup.net.au

MIKKI TAN

- *AU Certificate of Analysis - NATA (COA)	Email	mikki.tan@edgegroup.net.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mikki.tan@edgegroup.net.au
- *AU QC Report - DEFAULT (Anon QC Rep) - USEPA (QC-USEPA)	Email	mikki.tan@edgegroup.net.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mikki.tan@edgegroup.net.au
- Chain of Custody (CoC) (COC)	Email	mikki.tan@edgegroup.net.au
- EDI Format - ENMRG (ENMRG)	Email	mikki.tan@edgegroup.net.au
- EDI Format - ESDAT (ESDAT)	Email	mikki.tan@edgegroup.net.au
- EDI Format - XTab (XTAB)	Email	mikki.tan@edgegroup.net.au

SCOTT DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	scottd@edgegroup.net.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	scottd@edgegroup.net.au
- *AU QC Report - DEFAULT (Anon QC Rep) - USEPA (QC-USEPA)	Email	scottd@edgegroup.net.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	scottd@edgegroup.net.au
- Chain of Custody (CoC) (COC)	Email	scottd@edgegroup.net.au
- EDI Format - ENMRG (ENMRG)	Email	scottd@edgegroup.net.au
- EDI Format - ESDAT (ESDAT)	Email	scottd@edgegroup.net.au
- EDI Format - XTab (XTAB)	Email	scottd@edgegroup.net.au

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EN2104608**	Page	: 1 of 3
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Contact	: Hannah White
Address	: 423 City Rd South Melbourne	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 03 8625 9696	Telephone	: +61 2 4014 2500
Project	: 20200047	Date Samples Received	: 01-Jun-2021 11:15
Order number	: 20200047	Date Analysis Commenced	: 02-Jun-2021
C-O-C number	: ----	Issue Date	: 03-Jun-2021 15:20
Sampler	: Humaira Cadekiwali, Mikki Nada		
Site	: Collingwood		
Quote number	: MEBQ/108/20 Primary Work Only		
No. of samples received	: 1		
No. of samples analysed	: 1		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dale Semple	Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP101: Results reported in µg/m³ are calculated from PPBV results based on a temperature of 25°C and atmospheric pressure of 101.3 kPa.
- CAN-001: Results for Pressure - As Received are measured under controlled conditions using calibrated laboratory gauges. These results are expressed as an Absolute Pressure. Equivalent gauge pressures may be calculated by subtracting the Pressure - Laboratory Atmosphere taken at the time of measurement.
- CAN-001: Results for Pressure - Gauge as Received are obtained from uncalibrated field gauges and are indicative only. These results may not precisely match calibrated gauge readings and may vary from field measurements due to changes in temperature and pressure

Analytical Results

Sub-Matrix: **AIR** (Matrix: **AIR**)			Sample ID	**FS01 6L0021_307**	**----**	**----**	**----**	**----**
			Sampling date / time	26-May-2021 10:20	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**EN2104608-001**	**--------**	**--------**	**--------**	**--------**
				Result	----	----	----	----
EP101: VOCs by USEPA Method TO15 (Calculated Concentration)								
Isopropyl Alcohol	67-63-0	1.2	µg/m³	**58.9**	**----**	**----**	**----**	**----**
EP101: VOCs by USEPA Method TO15r								
Isopropyl Alcohol	67-63-0	0.5	ppbv	**24.0**	**----**	**----**	**----**	**----**
Sampling Quality Assurance								
Pressure - As received	PRESSURE	0.1	kPaa	**64.5**	**----**	**----**	**----**	**----**
Pressure - Laboratory Atmosphere	----	0.1	kPaa	**102**	**----**	**----**	**----**	**----**
Temperature as Received	----	0.1	°C	**20.0**	**----**	**----**	**----**	**----**
Vacuum - As received	----	0.03	Inches Hg	**11.1**	**----**	**----**	**----**	**----**
USEPA Air Toxics Method TO15r Surrogates								
4-Bromofluorobenzene	460-00-4	0.5	%	**94.9**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **AIR**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
USEPA Air Toxics Method TO15r Surrogates			
4-Bromofluorobenzene	460-00-4	60	140

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EN2104608**	Page	: 1 of 3
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Contact	: Hannah White
Address	: 423 City Rd South Melbourne	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 03 8625 9696	Telephone	: +61 2 4014 2500
Project	: 20200047	Date Samples Received	: 01-Jun-2021
Order number	: 20200047	Date Analysis Commenced	: 02-Jun-2021
C-O-C number	: ----	Issue Date	: 03-Jun-2021
Sampler	: Humaira Cadekiwali, Mikki Nada		
Site	: Collingwood		
Quote number	: MEBQ/108/20 Primary Work Only		
No. of samples received	: 1		
No. of samples analysed	: 1		

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Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report ; Recovery and Acceptance Limits
- Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dale Semple	Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **AIR**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP101: VOCs by USEPA Method TO15r (QC Lot: 3713463)									
EN2104494-001	Anonymous	EP101-15X: Isopropyl Alcohol	67-63-0	0.5	ppbv	4.1	3.4	19.3	No Limit

Method Blank (MB), Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (DCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control terms Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (DCS) refers to certified reference materials, or known interference free matrices spiked with target analytes. The purpose of these QC parameters are to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS and DCS.

Sub-Matrix: **AIR**

		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EP101: VOCs by USEPA Method TO15r (QCLot: 3713463)											
EP101-15X: Isopropyl Alcohol	67-63-0	0.5	ppbv	<0.5	10 ppbv	79.6	83.9	70.0	126	20	----

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EN2104608**	Page	: 1 of 4
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Telephone	: +61 2 4014 2500
Project	: 20200047	Date Samples Received	: 01-Jun-2021
Site	: Collingwood	Issue Date	: 03-Jun-2021
Sampler	: Humaira Cadekiwali, Mikki Nada	No. of samples received	: 1
Order number	: 20200047	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **AIR**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	***Date analysed***	Due for analysis	Evaluation
EP101: VOCs by USEPA Method TO15r							
Gas Canister - Non-ALS (Other) (EP101-15X)							
FS01 - 6L0021_307	**26-May-2021**	**----**	----	----	**02-Jun-2021**	25-Jun-2021	✓
Sampling Quality Assurance							
Gas Canister - Non-ALS (Other) (CAN-001)							
FS01 - 6L0021_307	**26-May-2021**	**----**	----	----	**02-Jun-2021**	26-May-2022	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **AIR**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

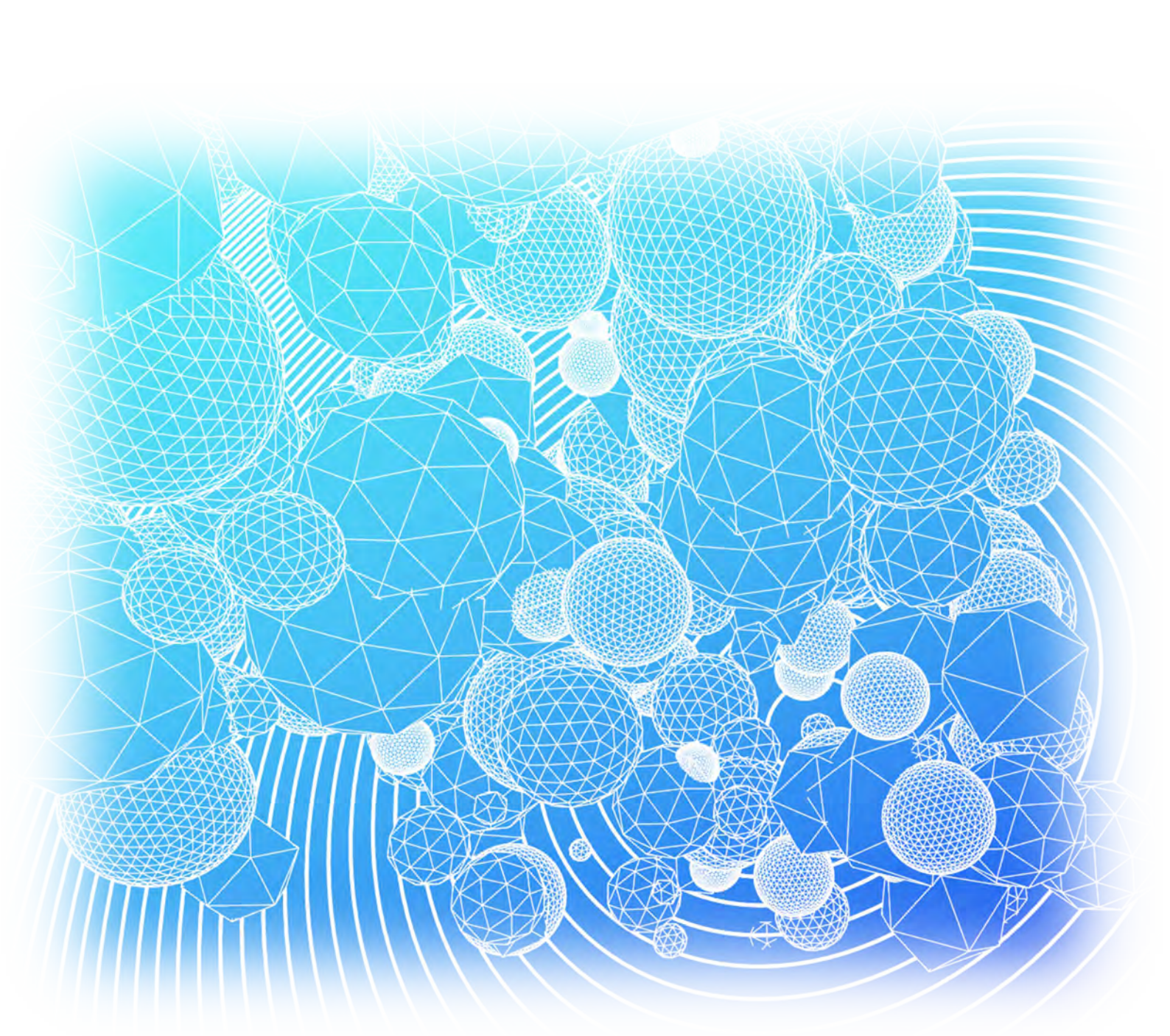
Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Duplicate Control Samples (DCS)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Duplicates (DUP)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Canister Sampling - Field Data	CAN-001	AIR	In house: Referenced to USEPA TO14 / TO15
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	AIR	In house: Referenced to USEPA TO15r Volatile Organic Compounds in Air by USEPA TO15. Extended Suite
VOCs in Air by USEPA TO15r - Extended Suite (mass/volume)	EP101-15X-MV	AIR	In house: Referenced to USEPA TO15r Volatile Organic Compounds in Air by USEPA TO15. Extended Suite (Calculated Concentration)

Appendix M
Detailed SVRA



Vapour Risk Assessment – Former Collingwood Distillery, Victoria

Prepared for: Edge Group Pty Ltd

17 August 2021

Document History and Status

Report Reference	EG/17/ELR001
Revision	D – Revised Final
Date	17 August 2021
Previous Revisions	A – Draft (26 March 2021) B – Revised Draft (9 July 2021) C – Final (5 August 2021)

Limitations

Environmental Risk Sciences Pty Ltd has prepared this report for the use of Edge Group Pty Ltd (Edge) in accordance with the usual care and thoroughness of the consulting profession. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report.

It is prepared in accordance with the scope of work and for the purpose outlined in the **Section 1** of this report.

The methodology adopted and sources of information used are outlined in this report. Environmental Risk Sciences has made no independent verification of this information beyond the agreed scope of works and assumes no responsibility for any inaccuracies or omissions. No indications were found that information contained in information provided for use in this assessment was false.

This report was prepared in March 2021, updated in July 2021 and finalised in August 2021, and is based on the information provided and reviewed at that time. Environmental Risk Sciences disclaims responsibility for any changes that may have occurred after this time.

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This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

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Glossary of Terms

ADI	Acceptable daily intake
AHD	Australian height datum
ANZECC	Australia and New Zealand Environment and Conservation Council
AT	Averaging time
BGL	Below ground level
CoPC	Contaminant of potential concern
ED	Exposure duration
EF	Exposure frequency
ET	Exposure time
HI	Hazard index
HIL	Health investigation level
HQ	Hazard quotient
HSL	Health screening level
J&E	Johnson and Ettinger
LOAEL	Lowest Observed Adverse Effect Level
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NOAEL	No Observed Adverse Effect Level
POD	Point of Departure
PPTRV	Provisional Peer-Reviewed Toxicity Reference Value
REL	Reference Exposure Level
RfC	Reference concentration
RME	Reasonable maximum exposure
TC	Tolerable concentration
TDI	Tolerable daily intake
TRV	Toxicity reference value
UF	Uncertainty Factor
USEPA	United States Environmental Protection Agency
VI	Vapour intrusion
VOC	Volatile organic compound
WHO	World Health Organization

Executive summary

Introduction

Environmental Risk Sciences Pty Ltd (enRiskS) has been commissioned by Edge Group Pty Ltd (Edge) to undertake a vapour risk assessment (VRA) in relation to the presence of volatile organic compounds (VOC; particularly isopropanol) in soil vapour beneath the Former Collingwood Distillery (the "site"; refer to **Figure 1**).

The site is located at 21 Northumberland and 26 Wellington Streets, Collingwood, Victoria. The current site land-use is mixed use including high density residential and commercial. Investigations undertaken at the site by Edge have identified the presence of elevated concentrations of isopropanol in soil vapour beneath the site. Isopropanol is also called 2-propanol and isopropyl alcohol (commonly abbreviated to IPA). The term "isopropanol" has been used in this report.

A VRA is required to address human health (vapour inhalation) risks relevant to current use of the site.

Objectives

The objectives of the VRA presented in this report are:

- To conduct an evaluation of potential human health (vapour intrusion/inhalation) risk issues in the context of the ongoing use of the site for mixed use, including high density residential.
- Based on the VRA, and where necessary, identify any additional data that may be required to assist in refining the assessment of risk or in considering additional risk management measures that may be needed.

The assessment has addressed vapour intrusion/inhalation risk issues associated with concentrations of contaminants in soil vapour and indoor air, based on the information available to 9 July 2021, and in the context of the current use of the site with the existing site layout. The assessment has not addressed any risk issues associated with other environmental media (including soil and groundwater), any other site layouts or developments, any environmental or ecological risk issues or any risk issues at off-site properties.

Conclusions

Based on the available data collected and with reference to the uncertainties identified:

- Risks to on-site residents are low and acceptable.
- Risks to on-site workers, including intrusive maintenance workers, are low and acceptable.

Hence, no risk management measures are considered necessary.

Section 1. Introduction

1.1 Background

Environmental Risk Sciences Pty Ltd (enRiskS) has been commissioned by Edge Group Pty Ltd (Edge) to undertake a vapour risk assessment (VRA) in relation to the presence of volatile organic compounds (VOC; particularly isopropanol) in soil vapour beneath the Former Collingwood Distillery (the "site"; refer to **Figure 1**).

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A VRA is required to address human health (vapour inhalation) risks relevant to current use of the site.

1.2 Objectives

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- Based on the VRA, and where necessary, identify any additional data that may be required to assist in refining the assessment of risk or in considering additional risk management measures that may be needed.

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1.3 Methodology and scope of works

The approach taken to the quantitative assessment of human health risks is in accordance with the following guidelines/protocols:

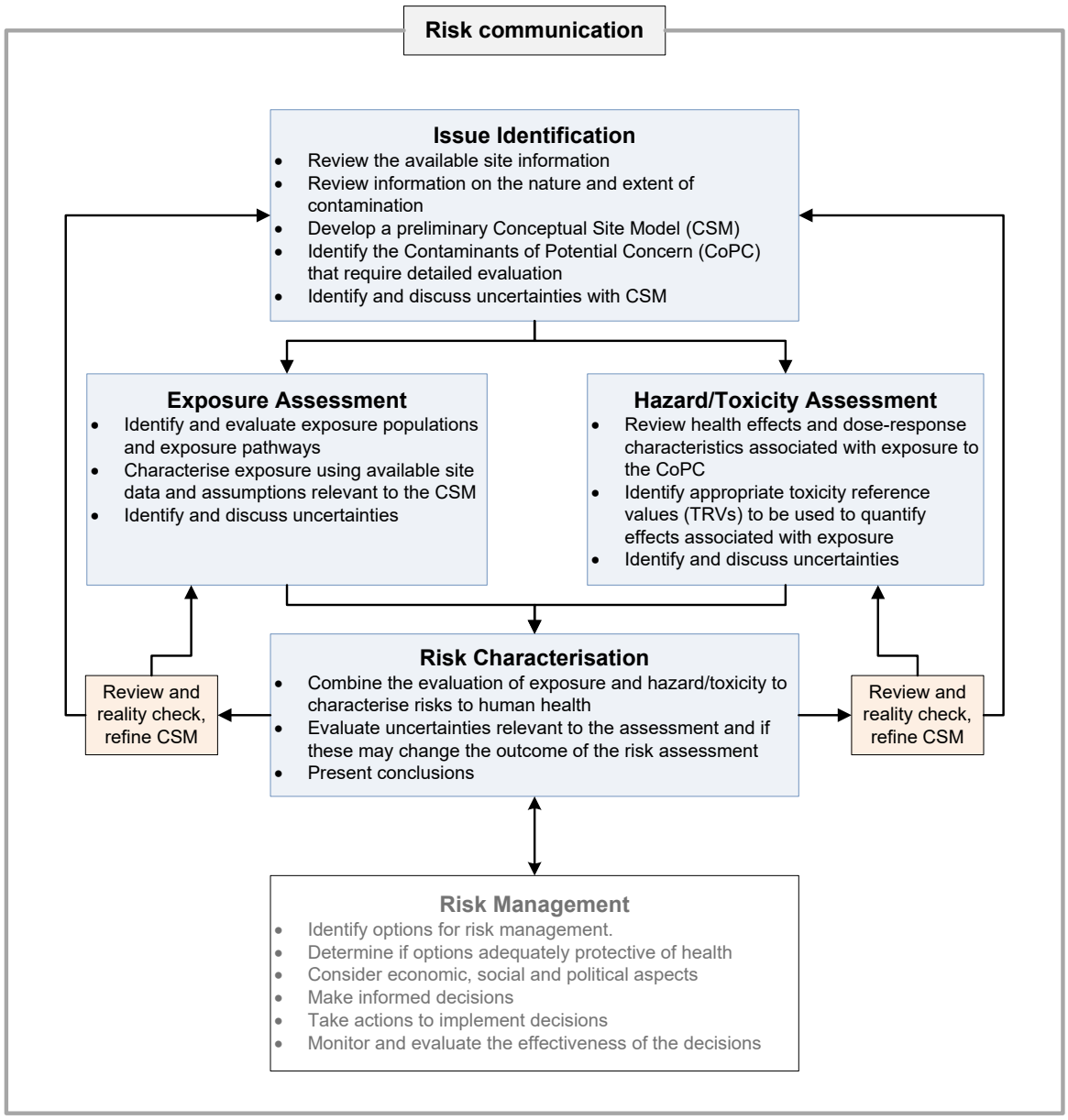
- enHealth, Environmental Health Risk Assessment, Guidelines for Assessing Human Health Risks from Environmental Hazards (enHealth 2012a).
- enHealth, Australian Exposure Factor Guide (enHealth 2012b).
- NEPM, National Environmental Protection Measure – Assessment of Site Contamination referred to as the 2013 NEPM, including:
  - Schedule B4 Guideline on Health Risk Assessment Methodology (NEPC 1999 amended 2013a)
  - Schedule B7 Guideline on Health-Based Investigation Levels (NEPC 1999 amended 2013b)
- Technical guidance in relation to the assessment of vapour risks (CRC CARE 2011, 2013; Davis, Wright & Patterson 2009).

In addition, protocols and guidelines developed by international agencies such as the United States Environmental Protection Agency (USEPA) and the World Health Organisation (WHO) have been used (and referenced) to provide supplementary guidance where required.

Following this guidance, this VRA includes the following:

- A review of the previous investigations and data with the aim of developing an appropriate conceptual site model (CSM) including the identification of contaminants of potential concern (CoPC) (**Section 2**).
- Characterisation of vapour intrusion risks (**Section 3**).
- Conclusions of the vapour intrusion risks with consideration of the assessment presented and the uncertainties identified (**Section 4**).

The overall approach is outlined in the following (modified from enHealth (enHealth 2012a)):



Section 2. Site description and conceptual site model

2.1 General

This section provides a summary of the information relevant to the assessment and characterisation of chemicals in soil vapour and indoor air at the site. This information has been used to develop a conceptual site model (CSM) relevant to the VRA. This assessment is based on a review of the following information:

- Edge (2018), *Preliminary Site Investigation, 21 Northumberland and 26 Wellington Street, Collingwood, VIC, 3066*, 26 March 2018.
- Edge (2019), *Detailed Site Investigation, 21 Northumberland and 26 Wellington Street, Collingwood, VIC, 3066*, January 2019.
- Edge (2021), Soil Vapour Risk Assessment, *21 Northumberland and 26 Wellington Street, Collingwood, VIC, 3066*, June 2021.

The soil vapour and indoor assessment data collected by Edge is provided in **Appendix A** and **Appendix B** respectively.

2.2 Site description

The site has an area of approximately 2,875 m^2 and is located on an 'L' shaped parcel of land that fronts both Northumberland Street and Wellington Streets in Collingwood. The site occupies multiple lots (with multiple registered owners) on Plan of Subdivision PS 727529.

The site was used as a Distillery from the mid-1800s to 1992. Potential sources of contamination identified at the site include historical use as a distillery, the presence of a 'Tank' (details unknown) in the north-west corner of the site and the potential presence of imported fill. There is also the potential for site contamination from off-site activities. Areas surrounding the site are primarily commercial/industrial, with residential present to the east and to the west across Wellington Street.

In 1997, the site was developed and is now understood to be used for residential and commercial use. Ground floor uses in each area of the site are shown on **Figure 2**. Based on this figure, most of the ground floor area of the site is used for commercial purposes, car parking, storage or other utility areas e.g. foyers. There are 2 buildings where there is residential use, with a total of 4 apartments (Units 12 to 15).

The northern building has 3 levels and is split into three apartments (Units 12 to 14). Only 1 apartment has ground floor living, and this apartment is built on a crawl space. The remaining 2 apartments have a common ground floor entrance, with the residential on the first floor. A photograph of the outside of this building (taken during a site inspection by Edge) is shown as **Exhibit 1**.

The southern building also has 3 levels and is constructed slab on ground. The foyer and living room of this apartment (Unit 15) are located on ground floor and the bedrooms are located on the first floor.

There are no basements or underground spaces beneath these 2 buildings.



Exhibit 1. Photograph of outside of building with residential on the ground floor (provided by Edge)

2.3 Geology

Investigations undertaken by Edge (2019) identified the presence of silty clay fill to 1.5 m below ground level (m bgl), underlain by natural silty clay. The natural silty clay was first encountered at 0.6 m bgl. Groundwater was not encountered during the soil investigation works which extended to a maximum of 1.8 m bgl.

2.4 Receptors and exposure pathways

The following receptors have been identified in the context of the use of the site for residential and commercial use with no basements:

- Residents (adults and children).
- Commercial workers (adults) including intrusive maintenance workers in a shallow trench.

2.5 Available data

Edge has collected soil vapour and indoor air data that can be used for the HHRA. The available data is summarised below.

Edge has installed and sampled 3 sub-slab vapour pins and 9 soil vapour bores. Soil vapour bore SVB09 is installed in the eastern portion of the southern building with residential use on the ground floor, and vapour bore SVB01 is located to the south of this building. No soil vapour bores have been installed within the northern building with residential use on the ground floor. The soil vapour sampling locations closest to this building are SVP01 (to the east), SVB02 (to the west) and SVB07 (to the south-east).

Three rounds of soil vapour sampling have been undertaken by Edge in October 2018, October 2020 and December 2020. Soil vapour samples were collected into canisters during all sampling rounds. Leak testing was undertaken using the following methods:

- October 2018 “SVP” locations – water.
- October 2018 “SVB” locations – isopropanol.
- October and December 2020 – helium.

Duplicate soil vapour samples were collected at locations SVB01 and SVB09 (October 2020), and SVP02 and SVP03 (December 2020).

In addition to the above, Edge completed 1 round of indoor air sampling in May 2021. Prior to the indoor air sampling event, Edge wrote letters to the residents requesting the removal of any products containing isopropanol from the apartments 48 hours prior to the sampling event and avoiding the use of any products which may contain isopropanol until after the completion of sampling. Where isopropanol-containing products were removed from the apartment, ventilation of the apartment was requested by opening windows for as much time as possible up to a maximum of 8 hours. Any chemicals that were present or that have been removed from the apartment were noted.

Indoor air samples were collected from the following locations into 6-litre canisters over a period of 24 hours:

- OAS – Outside Unit 5BDF (The Germinating Warehouse).
- IAS01 – Inside car park space 59 on Byron Street.
- IAS02 – Inside the ground floor of Unit 15.
- IAS03 – Inside the ground floor of Unit 14.
- IAS04 – Inside the second floor of Unit 13.
- IAS05 – Inside the first floor of Unit 12.
- IAS06 – Inside Silo car park, between car park space PT11K and the storage cages.

All samples were analysed for isopropanol. A duplicate indoor air sample was collected at location IAS04.

Edge (2019; 2021) provides a review of the quality assurance/quality control procedures adopted during soil vapour and indoor air sampling, where it was concluded that the data obtained is suitable for interpretative use.

A summary of sampling undertaken by Edge is provided in **Table 2.1**, with locations grouped by area.

Soil vapour and indoor air sampling locations are shown on **Figure 3** and the assessment data is provided in **Appendix A** (soil vapour) and **Appendix B** (indoor air).

Table 2.1: Summary of soil vapour and indoor air sampling undertaken by Edge

Sampling Location	Sample type/depth	Sampling Round			
		October 2018	October 2020	December 2020	May 2021
Commercial areas					
SVP03	Sub-slab soil vapour	✓	✓	✓	--
SVB04	Soil vapour at 1.5 m bgl	--	✓	✓	--
SVB02	Soil vapour at 1.5 m bgl	✓	--	--	--
SVB07	Soil vapour at 0.7 m bgl	--	✓	✓	--
OAS	Outdoor air				✓
SVB08	Soil vapour at 1.5 m bgl	--	✓	✓	--
SVP02	Sub-slab soil vapour	✓	✓	✓	--

Sampling Location	Sample type/depth	Sampling Round			
		October 2018	October 2020	December 2020	May 2021
SVB05	Soil vapour at 1.5 m bgl	--	✓	✓	--
IAS06	Indoor air	--	--	--	✓
SVP01	Sub-slab soil vapour	✓	✓	✓	--
SVB06	Soil vapour at 1.5 m bgl	--	✓	✓	--
IAS01	Indoor air	--	--	--	✓
IAS05	Indoor air	--	--	--	✓
SVB01	Soil vapour at 1.5 m bgl	✓	✓	✓	--
SVB09	Soil vapour at 0.7 m bgl	--	✓	✓	--
SVB10	Soil vapour at 1.5 m bgl	--	✓	✓	--
Residential areas					
IAS02	Indoor air	--	--	--	✓
IAS03	Indoor air	--	--	--	✓
IAS04	Indoor air	--	--	--	✓
IAS05	Indoor air	--	--	--	✓

2.6 Toxicity of isopropanol

No Australian reviews of the human toxicity of isopropanol following inhalation exposures could be located, and reviews are not available from the USEPA integrated Risk Information System (IRIS), or the US Agency for Toxic Substances and Disease Registry (ATSDR). Isopropanol is classified as Group 3 (Not Classifiable) by the International Agency for Research on Cancer (IARC).

A provision peer-reviewed toxicity value (PPRTV), which is a toxicity value derived for use under the US Superfund Program, is available (USEPA 2014). This review also indicates that an assessment has been completed by the California EPA (OEHHA)[1]. The WHO International Program on Chemical Safety (IPCS) also provides a review (IPCS) and a listing for this chemical is available in the PubChem Database which incorporates the Hazardous Substances Data Bank (PubChem). The information provided in these reviews is summarised below.

Isopropanol is an aliphatic alcohol hydrocarbon that is prepared from propylene through the cracking of petroleum hydrocarbons or by the reduction of acetone. It is used in vehicle antifreeze, as an industrial solvent, in personal care products, window cleaners and is a main component in 70% alcohol-based hand rubs. Isopropanol is a colourless liquid at ambient temperature with an alcohol/acetone odour, has a relatively high vapour pressure and is soluble in water, alcohol and ether. Exposure of the general population to isopropanol is primarily via inhalation and oral ingestion, however isopropanol my also be absorbed through intact skin following prolonged contact.

As noted previously, isopropanol is volatile and is readily degrades in terrestrial environments under aerobic and anaerobic conditions. The half-life of isopropanol in air is 3.2 days. Isopropanol has a high mobility in soil and a low potential for bioconcentration in aquatic organisms. The odour threshold is listed in the range 22 to 90 mg/m^3.

Isopropanol is readily absorbed following inhalation and oral ingestion exposures, with 80% of the oral dose absorbed within 30 minutes. Once absorbed, isopropanol distributed in the body water

[1] https://oehha.ca.gov/air/chemicals/isopropyl-alcohol

and 20-50% of the absorbed dose is excreted unchanged. Most isopropanol is oxidised in the liver to acetone, formate and finally carbon dioxide, with acetone slowly eliminated in the lung or kidney.

It appears that most of the data on isopropanol toxicity is sourced from accidental or intentional poisonings and exposures by workers manufacturing products involving isopropanol. Isopropanol is an irritant to the eyes and mucous membranes and causes central nervous system depression. Health effects reported following vapour inhalation exposures to isopropanol include irritation of the eyes and respiratory tract, and at high concentrations, nausea, headache, light-headedness, drowsiness, ataxia (lack of muscle control) and narcosis. Long term studies have identified sinus and laryngeal cancers in workers involved in manufacturing isopropanol, however this may be caused by the by-product – isopropyl oil. Workplace exposure guidelines for isopropanol are in the order of 400 ppm (983 mg/m^3). The available data shows that isopropanol does not cause birth defects at concentrations that do not cause maternal toxicity.

2.6.1 Toxicity reference values

Two inhalation toxicity reference values (TRV) for isopropanol were able to be located – a USEPA PPRTV and an OEHHA reference exposure level (REL).

The USEPA PPRTV is a chronic Reference Concentration (RfC) set at 0.2 mg/m^3. The PPRTV is by definition "provisional" and is based on the following:

- Chronic inhalation study with male mice Burleigh-Flayer et. al. (1997):
  - Critical effect – decreased absolute and relative test weights
  - Point of departure (POD) = 221 mg/m^3
  - Uncertainty factor (UF) = 1,000.
  - RfC = 0.2 mg/m^3.

The UF of 1,000 comprises 3 times for toxicodynamic differences between rats and humans, 3 times as there was 1 acceptable developmental toxicity study for rats but no acceptable 2 generation studies, 10 times for variability between humans and 10 times for extrapolation from the POD which is a Lowest Observed Adverse Effect Concentration (LOAEL) to No Observed Adverse Effect Level (NOAEL).

OEHHA also provides a chronic inhalation toxicity value for isopropanol – called a reference exposure level (REL). The OEHHA REL is also based on the study by Burleigh-Flayer et. al. (1997) however lists the critical effects as kidney lesions in mice and rats, foetal growth retardation and development abnormalities in rats. The POD was also defined as 221 mg/m^3 (90 ppm) however this POD was assessed to be a NOAEL rather than a LOAEL. This means that the UF adopted by the USEPA for the use of a LOAEL not a LOAEL was neglected. OEHHA also applied a UF of 3 times (not 10 times) for variability between humans and no UF was applied for toxicodynamic differences. This results in an overall UF of 30 (not 1,000) and the REL was defined at 7 mg/m^3.

The screening level assessment presented in **Section 3** has adopted the USEPA Regional Screening Level (RSL) for indoor air which is 0.2 mg/m^3 (i.e. the RfC from USEPA). This approach is conservative given that the OEHHA REL is 35 times higher (less conservative) and is not listed as provisional.

Section 3. Screening human health risk assessment

3.1 General

In this VRA, potential vapour intrusion risks from concentrations of chemicals in soil vapour have been assessed based on the soil vapour and indoor air assessment works undertaken by Edge.

This has been done using a screening level assessment where maximum concentrations of chemicals in soil vapour and indoor air have been compared with Tier 1 screening criteria relevant to the residential and commercial use of the site with no basements.

The findings of these assessment is outlined below.

3.2 Soil vapour screening assessment

3.2.1 Adopted screening guidelines

The screening guidelines adopted for this assessment have been derived from the following:

- NEPM interim health investigation levels (i-HILs) and health screening levels (HSLs) for soil vapour, relevant to residential and commercial land use i.e. Residential A & B and Commercial/Industrial D respectively (NEPC 1999 amended 2013c, 1999 amended 2013b).
- Where soil vapour i-HILs or HSLs are not available from the above document, ambient air guidelines have been used.

In relation to the use of the ambient air guidelines, the measurement of soil vapour is not a measure of an exposure concentration in indoor air. Volatiles present in soil vapour need to migrate upwards through overlying soils and/or concrete and into the ambient or indoor air before being inhaled. During these processes the soil vapour is subject to diffusion, degradation, mixing and dispersion (dilution) resulting in lower concentrations being present indoors or outdoors. An attenuation factor is the ratio of the indoor (or outdoor) air concentration to the soil vapour concentration. Due to the lower potential for mixing and dispersion, vapour concentrations are higher indoors than outdoors.

The ASC NEPM makes use of a number of attenuation factors for soil vapour to indoor air depending on the type of chemical and the information available at the time of finalisation of the background appendices (NEPC 1999 amended 2013b, 1999 amended 2013c). A value of 0.005 for residential land uses and 0.001 for commercial land uses was recommended in the technical support document for the derivation of petroleum hydrocarbon HSLs (CRC CARE 2011). A value of 0.1 was used in the derivation of the i-HILs for the chlorinated hydrocarbons. It is understood that the main reasons for adopting a lower attenuation factor for the derivation of the i-HILs was the short time frame available for deriving the guidelines and because chlorinated hydrocarbons do not degrade in the presence of oxygen, the way petroleum hydrocarbons do. Isopropanol is a petroleum hydrocarbon and readily degrades in both aerobic and anaerobic conditions.[2]

Based on the above, this VRA has adopted an attenuation factor of 0.005 (200-fold) for a residential land use and an attenuation factor of 0.001 (1,000-fold) for a commercial land use. It is noted that the i-HIL/HSL-D values have not been modified in this way.

[2] https://pubchem.ncbi.nlm.nih.gov/compound/Isopropyl-alcohol#section=Artificial-Pollution-Sources

3.2.2 Residential

The soil vapour screening assessment for residential use is provided in **Table 3.1**.

Table 3.1: Summary and review of soil vapour data – residential land use

VOC detected	Maximum Concentration Reported (mg/m³)			NEPM HSL or i-HIL (mg/m³)	Ambient Air Guideline (mg/m³)	Adopted Screening Guideline (mg/m³)[1]
	0.1 m bgl[2]	0.7 m bgl[3]	1.5 m bgl[4]			
TRH C6-C10 (TRH F1)	1.4	ND	3.5	180 N	--	180
TRH >C10-C16 (TRH F2)	1.4	0.15	0.98	130 N	--	130
Benzene	0.12	ND	0.056	1 N	--	1
Toluene	1.1	ND	0.081	1,300 N	--	1,300
Ethylbenzene	0.01	ND	0.02	330 N	--	330
Xylenes	0.028	ND	0.071	220 N	--	220
Naphthalene	ND	ND	0.007	0.8 N	--	0.8
Tetrachloroethene	0.1	0.046	ND	2 N	--	2
Trichloroethene	0.025	ND	ND	0.02 N	--	0.02
1,2,4-Trimethylbenzene[6]	0.008	ND	0.075	--	0.063 U	12.6
1,3,5-Trimethylbenzene[6]	ND	ND	0.046			
1-Methyl-4-ethylbenzene[6]	ND	ND	0.01	--	330 N,S	330
2,2,4-Trimethylpentane[6]	0.33	ND	ND	--	1.8 T	360
Isopropanol[5,6]	77.1	ND	2	--	0.21 U	42
Acetone	0.073	0.14	0.092	--	32 U	6,400
Bromodichloromethane[7]	0.03	ND	0.005	--	0.14 W,S	28
Carbon disulfide	ND	ND	0.2	--	0.73 U	146
Chloroform	0.19	0.032	0.17	--	0.14 W	28
Cyclohexane[5]	ND	ND	0.072	--	6.3 U	1,260
Dichlorodifluoromethane[7]	ND	ND	0.002	--	23 T	4,600
Ethanol	0.07	ND	ND	--	100 O	20,000
Hexane[5]	0.01	ND	ND	--	0.73 U	146
Propene[5,8]	ND	ND	0.4	--	3.1 U	620

Notes:

QA/QC sample results included. Shading indicates an exceedance of the adopted screening levels.

1 = NEPM or ambient air guideline x 200 (refer to discussion above).
2 = Locations SVP01, SVP02 and SVP03.
3 = SVB07 and SVB09.
4 = SVB01, SVB02, SVB04, SVB05, SVB06, SVB08 and SVB10.
5 = Individual petroleum hydrocarbons which would be included in the TRH analysis, and also captured in the screening level review for TRH. These chemicals have also been assessed separately which results in some double counting.
6 = Also known as 2-propanol and isopropyl alcohol.
7 = Also known as Freon 12.
8 = Also known as Propylene
N = Interim HILs of HSLs for soil vapour. HSLs based on data collected from 0 to <1m depth with sand overlying, conservative for soil vapour bores installed at 0.7 and 1.5 m depth
ND = Not detected at an appropriate limit of reporting relevant to the adopted soil vapour screening criteria.
O = = OEHHA chronic inhalation guideline for ethanol (OEHHA 2009).
S = Guideline for surrogate adopted as no guideline available for primary compound (guideline for ethylbenzene adopted for 1-Methyl-4-ethylbenzene; guideline for chloroform adopted for bromodichloromethane).
T = TCEQ (November 2016) chronic Effects Screening Level (ESL).
U = USEPA (May 2021) Regional Screening Levels (RSL) for air, based on an incremental cancer risk level of $1x10^{-5}$ and target threshold risk of 1.
W = WHO tolerable concentration.[3]

[3] http://www.inchem.org/documents/cicads/cicads/cicad58.htm#11.0

Review of **Table 3.1** indicates that except for trichloroethene (TCE) and isopropanol, concentrations of chemicals in soil vapour are below the adopted soil vapour screening criteria for a residential land use. It is noted that concentrations of other analytes in soil vapour are well below the adopted soil vapour screening criteria for a residential land use, with concentrations of most analytes at or below the residential ambient air guidelines.

Concentrations of TCE slightly in excess of the adopted residential soil vapour screening criteria were reported at location SVP02 in October 2020 (reported concentration of 0.025 mg/m^3 versus a criterion of 0.02 mg/m^3). TCE was not detected in soil vapour at any other location, including in the vapour bores closest to the buildings with residential on the ground floor, and was not detected at location SVP02 in the October 2018 and December 2020 sampling rounds. Given this, TCE has not been identified as a CoPC that requires further assessment in this VRA, in relation to potential exposures by residents.

Concentrations of isopropanol exceeding the adopted residential soil vapour screening guideline of 42 mg/m^3 were reported at location SVP01 and SVP02 in December 2020 – the reported concentrations were 48 and 77.1 mg/m^3 respectively. The concentration of 77.1 mg/m^3 from December 2020 was reported for the field duplicate; concentrations of 40 mg/m^3 (below the guideline) were reported in the primary sample. As noted above, location SVP01 is adjacent to the east of the northern building with residential use on the ground floor. Location SVP02 is in the northern portion of the site in the commercial area. Concentrations of isopropanol in all other samples were below the soil vapour screening criteria.

There is some variability in the reported concentrations of isopropanol in soil vapour, as summarised in **Table 3.2**.

Table 3.2 Summary of isopropanol concentrations

Soil Vapour Sampling Location	Sampling Round		
	October 2018	October 2020	December 2020
SVP01	<0.012	20	48
SVP02	<0.012	26	40 – 77.1
SVP03	0.02	6.3	24
SVB01	0.39	0.55 - 0.61	<0.114
SVB02	0.09	--	--
SVB04	--	<0.110	<0.110
SVB05	--	0.66	1.2
SVB06	--	2.0	<0.119
SVB07	--	<0.116	<0.114
SVB08	--	<0.110	1.9
SVB09	--	<0.054 - <0.112	<0.117
SVB10	--	<0.110	0.63

Notes:
Shading indicates an exceedance of the adopted residential screening criteria of 42 mg/m^3.

A location SVP01, 3 rounds of soil vapour sampling have been undertaken and the reported concentrations were <0.012 mg/m^3, 20 mg/m^3 and 48 mg/m^3. The average concentrations of isopropanol in soil vapour, which is more representative of long-term exposures by residents, is 22.7 mg/m^3, below the screening level guideline of 42 mg/m^3. Similarly, 3 rounds of soil vapour sampling have been undertaken at location SVP02, and a field duplicate sample was also collected at this location in December 2020. The reported concentrations of isopropanol in soil vapour were <0.012 mg/m^3, 26 mg/m^3, 40 mg/m^3 and 77.1 mg/m^3. The average concentrations of isopropanol in soil

vapour (adopting the highest concentration of the primary and duplicate sample from December 2020) is 34 mg/m^3. It is also noted that isopropanol was not detected in soil vapour bore SVB09, installed in the eastern portion of the southern building with residential on the ground floor.

No specific source of isopropanol has been identified and a review of the available data does not indicate any obvious sources (either site-derived or sampling derived e.g. cross contamination). This VRA has assumed that the available data is representative of concentrations that may be present in soil vapour beneath the site.

Based on the above, isopropanol is a contaminant of potential concern (CoPC) that requires further assessment in this VRA, in relation to potential exposures by residents.

Following the identification of the elevated concentrations of isopropanol in soil vapour, preliminary vapour intrusion modelling was undertaken by enRiskS using the Johnson & Ettinger (J&E) Vapour Model (USEPA 2004). The modelling adopted conservative default parameters for a residential building from the 2013 NEPM and assumed that maximum concentrations of isopropanol in soil vapour (77.1 mg/m^3) were present in sand directly beneath the slab of a residential building. Advective vapour migration was assumed to occur. The preliminary modelling indicated that the estimated concentrations of isopropanol in indoor air within a residential building were below the adopted odour threshold, however, calculated health risks to residents were potentially unacceptable by 1 to 2 times (i.e. a calculated Hazard Index of 1 to 2 above an adopted acceptable level of 1). This means that the preliminary vapour intrusion modelling was unable to preclude the potential for unacceptable health risks to residents from isopropanol in soil vapour at the site.

Indoor air sampling within the residential buildings was subsequently undertaken by Edge. In this VRA, the further assessment of potential health risks from isopropanol in indoor air has been undertaken based on the indoor air data, which measures the concentrations of isopropanol in air that residents will be exposed to. The indoor air data is reviewed in **Section 3.3**.

3.2.3 Commercial

The soil vapour screening assessment for commercial use is provided in **Table 3.3**.

Table 3.3: Summary and review of soil vapour data – commercial land use

VOC detected	Maximum Concentration Reported (mg/m^3)			NEPM HSL or i-HIL (mg/m^3)	Ambient Air Guideline (mg/m^3)	Adopted Screening Guideline (mg/m^3)[1]
	0.1 m bgl[2]	0.7 m bgl[3]	1.5 m bgl[4]			
TRH C6-C10 (TRH F1)	1.4	ND	3.5	680 [N]	--	680
TRH >C10-C16 (TRH F2)	1.4	0.15	0.98	500 [N]	--	500
Benzene	0.12	ND	0.056	4 [N]	--	4
Toluene	1.1	ND	0.081	4,800 [N]	--	4,800
Ethylbenzene	0.01	ND	0.02	1,300 [N]	--	1,300
Xylenes	0.028	ND	0.071	840 [N]	--	840
Naphthalene	ND	ND	0.007	3 [N]	--	3
Tetrachloroethene	0.1	0.046	ND	8 [N]	--	8
Trichloroethene	0.025	ND	ND	0.08 [N]	--	0.08
1,2,4-Trimethylbenzene[6]	0.008	ND	0.075	--	0.26 [U]	260
1,3,5-Trimethylbenzene[6]	ND	ND	0.046			
1-Methyl-4-ethylbenzene[6]	ND	ND	0.01	--	1,300 [N,S]	1,300
2,2,4-Trimethylpentane[6]	0.33	ND	ND	--	8.3 [T5]	8,300
Isopropanol[6,7]	77.1	ND	2	--	0.88 [U]	880
Acetone	0.073	0.14	0.092	--	140 [U]	140,000
Bromodichloromethane	0.03	ND	0.005	--	0.64 [W,S,5]	640
Carbon disulfide	ND	ND	0.2	--	3.1 [U]	3,100

VOC detected	Maximum Concentration Reported (mg/m^3)			NEPM HSL or i-HIL (mg/m^3)	Ambient Air Guideline (mg/m^3)	Adopted Screening Guideline (mg/m^3)[1]
	0.1 m bgl[2]	0.7 m bgl[3]	1.5 m bgl[4]			
Chloroform	0.19	0.032	0.17	--	0.64 W,5	640
Cyclohexane[6]	ND	ND	0.072	--	24 U	24,000
Dichlorodifluoromethane[8]	ND	ND	0.002	--	106 T	106,000
Ethanol	0.07	ND	ND	--	460 O	460,000
Hexane[6]	0.01	ND	ND	--	3.1 U	3,100
Propene[6,9]	ND	ND	0.4	--	13 U	13,000

Notes:

QA/QC sample results included. Shading indicates an exceedance of the adopted screening levels.

1 = NEPM or ambient air guideline x 1,000 for commercial (refer to discussion above).
2 = Locations SVP01, SVP02 and SVP03.
3 = SVB07 and SVB09.
4 = SVB01, SVB02, SVB04, SVB05, SVB06, SVB08 and SVB10.
5 = Ambient air guideline converted to a value relevant for workers using a factor of 4.6.
6 = Individual petroleum hydrocarbons which would be included in the TRH analysis, and also captured in the screening level review for TRH. These chemicals have also been assessed separately which results in some double counting.
7 = Also known as 2-propanol and isopropyl alcohol.
8 = Also known as Freon 12.
9 = Also known as Propylene
N = Interim HILs of HSLs for soil vapour. HSLs based on data collected from 0 to <1m depth with sand overlying, conservative for soil vapour bores installed at 0.7 and 1.5 m depth
ND = Not detected at an appropriate limit of reporting relevant to the adopted soil vapour screening criteria.
O = = OEHHA chronic inhalation guideline for ethanol (OEHHA 2009).
S = Guideline for surrogate adopted as no guideline available for primary compound (guideline for ethylbenzene adopted for 1-Methyl-4-ethylbenzene; guideline for chloroform adopted for bromodichloromethane).
T = TCEQ (November 2016) chronic Effects Screening Level (ESL).
U = USEPA (May 2021) Regional Screening Levels (RSL) for air, based on an incremental cancer risk level of 1x10^{-5} and target threshold risk of 1.
W = WHO tolerable concentration.[4]

Review of **Table 3.3** indicates that concentrations of chemicals in soil vapour are below the adopted soil vapour screening criteria for commercial workers, which are also relevant for potential exposures by workers in other buildings at the site (i.e. the areas of the site where there is commercial use, car parking or utilities on the ground floor), as well as intrusive maintenance workers in a shallow trench.

Hence, there are no CoPC in soil vapour that require further assessment in this VRA, for potential exposures by commercial workers and intrusive workers.

3.3 Indoor air screening assessment

The USEPA Regional Screening Levels (RSL) for residential air (i.e. the ambient air guidelines) have been adopted for the indoor air screening assessment. The ambient air guidelines from the USEPA have been adopted in the absence of any Australian guidelines for isopropanol in ambient air.

3.3.1 Residential

The indoor air screening assessment for residential use is provided in **Table 3.4**.

[4] http://www.inchem.org/documents/cicads/cicads/cicad58.htm#11.0

Review of **Table 3.4** indicates that concentrations of isopropanol in indoor air are below the adopted indoor air screening criteria for residents.

Hence, it can be concluded that potential risks to residents from isopropanol in indoor air are low and acceptable.

Table 3.4: Summary and review of indoor air data – residential land use

VOC	Reported Concentration (mg/m^3)								Adopted Screening Criteria (mg/m^3)[1]
	OAS	IAS01	IAS02	IAS03	IAS04	IAS04 Duplicate	IAS05	IAS06	
Isopropanol[1]	<0.082	<0.067	<0.075	<0.079	<0.079	0.059	<0.087	<0.064	0.21 [2]

Notes:

1 = Also known as 2-propanol and isopropyl alcohol.

2 = USEPA (May 2021) Regional Screening Levels (RSL) for air, based on an incremental cancer risk level of $1x10^{-5}$ and target threshold risk of 1.

3.4 Uncertainties

Uncertainty in any assessment refers to a lack of knowledge (that could be better refined through the collection of additional data or conduct of additional studies) and is an important aspect of the risk assessment process. An assessment of uncertainty is a qualitative or quantitative process relating to the selection and rejection of specific data within the risk assessment.

In this VRA, indoor air data has been used to assess potential risks to residents from isopropanol. Indoor air data is a direct measure of concentrations of isopropanol in air that residents will be exposed to. One round of indoor air sampling has been undertaken, and isopropanol was not detected in the 6 primary samples analysed and detected at low concentrations (4 times below the adopted indoor air guideline) in the duplicate sample.

The need for the indoor air sampling was triggered by the identification of elevated concentrations of isopropanol in soil vapour, based on the adoption of maximum isopropanol concentrations and the most conservative screening guideline (from the USEPA). Maximum concentrations in soil vapour are 1-2 times the adopted screening level guideline, indicating the potential for risks to be unacceptable by 1-2 times (which was confirmed by the preliminary vapour intrusion modelling undertaken by enRiskS). This does not indicate the potential for significant risk issues from isopropanol. The adoption of average isopropanol concentrations (which are relevant for long-term exposures by residents) and/or the adoption of the less conservative screening guideline (from OEHHA) would not have identified elevated concentrations in soil vapour. If this approach had been chosen, indoor air sampling would not have been necessary.

Based on the above 1 round of indoor air sampling is considered adequate to confirm that risks to residents from isopropanol in air are low and acceptable.

In relation to TCE, compilation of a conservative vapour intrusion model has confirmed that risks to residents from TCE in soil vapour are negligible. This model is based on maximum TCE concentrations and assumed that the residential buildings were constructed slab on ground which is very conservative for the northern building which has a crawl space. The modelling also assumed that vapour intrusion is dominated by advection. Where a crawl space is present and/or levels in the residence are separated with stairs and/or include mezzanine areas, vapour intrusion will be driving by diffusion not advection. The vapour intrusion modelling input and output files are provided in **Appendix C**.

Section 4. Conclusions

Environmental Risk Sciences Pty Ltd has been commissioned by Edge Group Pty Ltd to undertake a vapour risk assessment in relation to the presence of volatile organic compounds (particularly isopropanol) in soil vapour beneath the Former Collingwood Distillery (the “site”).

The assessment has addressed vapour intrusion/inhalation risk issues associated with concentrations of contaminants in soil vapour and indoor air, based on the information available to 9 July 2021, and in the context of the current use of the site with the existing site layout. The assessment has not addressed any risk issues associated with other environmental media (including soil and groundwater), any other site layouts or developments, any environmental or ecological risk issues or any risk issues at off-site properties.

Based on the available data collected and with reference to the uncertainties identified:

- Risks to on-site residents are low and acceptable.
- Risks to on-site workers, including intrusive maintenance workers, are low and acceptable.

Hence, no risk management measures are considered necessary.

Section 5. References

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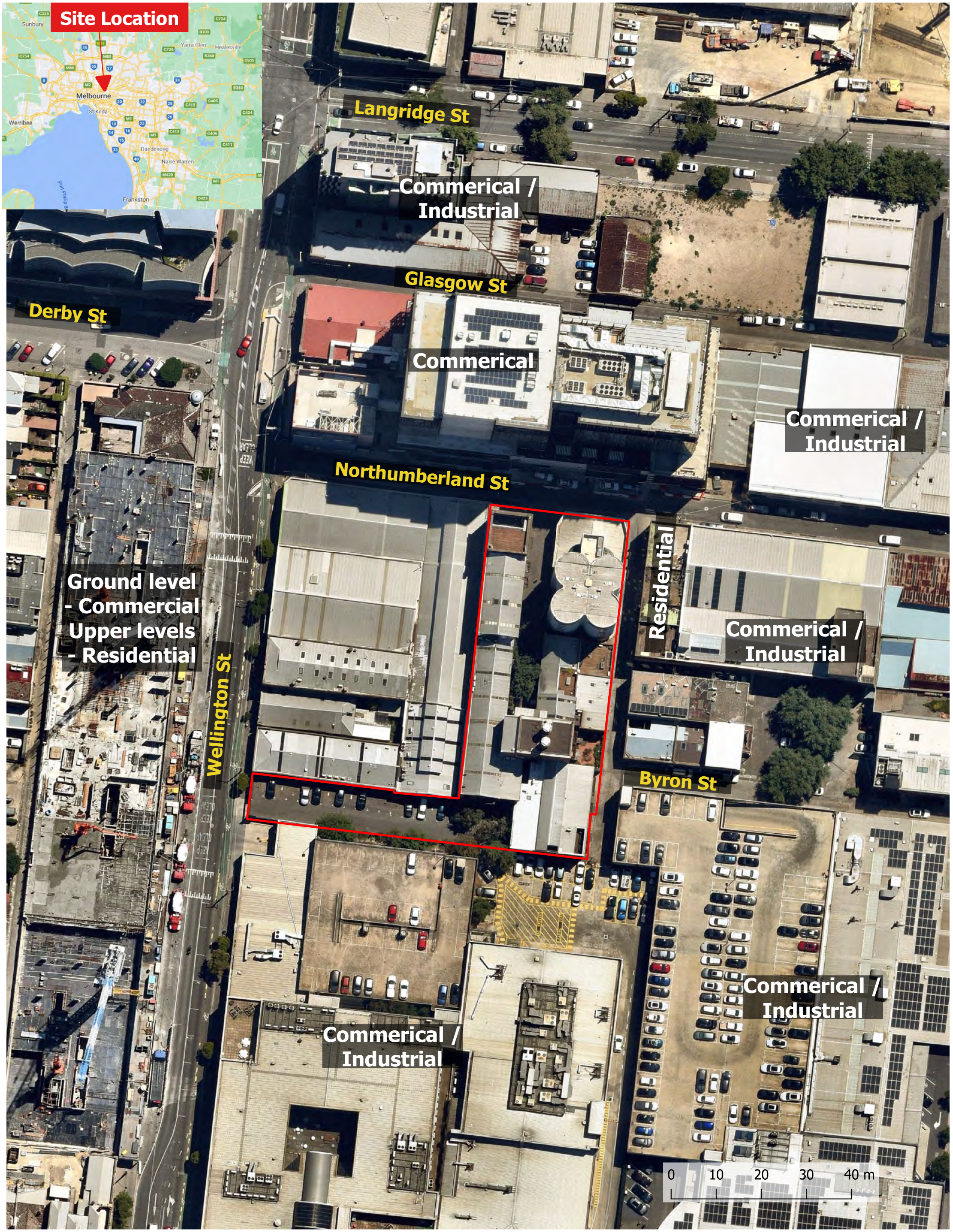
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Figures



Legend:

Site Boundary

GDA2020
MGA Zone 55

Edge Group Pty Ltd.
423 City Road
South Melbourne,
Victoria 3205
Phone: (03) 8625 9696
info@edgegroup.net.au

Site Location & Surrounding Land Uses
Victorian Distillery and Silos Owners Consortium
21 Northumberland & 26 Wellington Streets, Collingwood, Vic

A3	Drawn: ND	Date: 24/02/2021	Figure 1
	Rev.: 0	Project No.: 20200047	

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Legend:

- Site Boundary

Ground Floor Use

- 1 - Residential
- 2 - Commercial
- 3 - Foyer
- 4 - Parking
- 5 - Storage & Facilities

GDA2020
MGA Zone 55

Edge Group Pty Ltd.
423 City Road
South Melbourne,
Victoria 3205
Phone: (03) 8625 9696
info@edgegroup.net.au

Site Layout
Victorian Distillery and Silos Owners Consortium
21 Northumberland & 26 Wellington Streets, Collingwood, Vic

A3	Drawn: ND	Date: 24/02/2021	Figure 2
	Rev.: 0	Project No.: 20200047	

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Legend:

- Site Boundary
- Indoor Air Sampling Locations
- Soil Vapour Bore
- Soil Vapour Pin

GDA2020
MGA Zone 55

Edge Group Pty Ltd.
423 City Road
South Melbourne,
Victoria 3205
Phone: (03) 8625 9696
info@edgegroup.net.au

Sample Locations
Victorian Distillery and Silos Owners Consortium
21 Northumberland & 26 Wellington Streets, Collingwood, Vic

A3	Drawn: ND	Date: 08/06/2021	Figure 3
	Rev.: 0	Project No.: 20200047	

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Appendix A Soil vapour data

Project Name	Vic Dist	Canister Flow Control Rate:	60ml/min
Project number	2017056 1	Notes:	Condensation on inside of well.
Field Staff	CP, SD, MT		No condensation in tube - SVB02
Date	31/10/18		SVP03 - Water drained from hole
Site Location	Collingwood		
Weather Conditions	Cool, Dry		
Temperature/Humidity/Pressure	Day Start: 16.9°C 74% 1021 hpa	Day End:	

Bore ID	Can S/N.	Flow Control Serial No.	PID in Shroud (SVBs) (ppm)	PRE-SAMPLE Purge/Leak Test				SAMPLING					POST-SAMPLE General Gases Screen						
				PID Purge Peak/ Stable (ppm)		PID Duration (secs)	Leak Test (Pass / Fail)	Initial Canister Vacuum	Start Time	Finish Time	Duration (mins)	Final Canister Vacuum	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	Air Press. (mb)
SVB02	2476	2082	[illegible]273	6.9	5.5	60	Pass	-30	9:14	10:44	75	-5	0.0	10.7	8.1	81.2	0	0	-3.75
SVP02	2548	2078	-	2.9	1.9	20	Pass	-29.30	11:30	11:44	14	-5	0.0	1.1	18.8	80.0	0	0	0.09
SVP03	2545	2078	-	1.7	1.7	20	Pass	-30	12:54	13:08	14	-5	0.0	0.9	19.2	79.9	0	0	0.3

Project Name		Canister Flow Control Rate:	60ml/m
Project number	20170561	Notes:	
Field Staff	SD, CP, MT		
Date	31/10/18		
Site Location	Collingwood		
Weather Conditions	Cool, overcast		
Temperature/Humidity/Pressure	Day Start:	Day End: 17.9/727/1019.7 hpa	

Bore ID	Can S/N.	Flow Control Serial No.	PID in Shroud (SVBs)	PRE-SAMPLE Purge/Leak Test				SAMPLING					POST-SAMPLE General Gases Screen						
				PID Purge Peak/ Stable (ppm)		PID Duration (secs)	Leak Test (Pass / Fail)	Initial Canister Vacuum	Start Time	Finish Time	Duration (mins)	Final Canister Vacuum	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	Air Press. (mb)
SVP01	1695	2083	—	2.4	2.4	20	P H_2O drop 1cm	-30	10:49	11:16		-5	0.0	1.3	19.7	79.0	0	0	1019
FD01	2553	2083						-29	10:49	11:16		-5							
SVB01	1697	626	535	~~8.1~~ 6.0	6.0	60	P	-30	12:41	13:03		-5	0.3	7.5	1.6	90.5	2	0	1017

Project Name	Vic Distillery VRA	Canister Flow Control Rate:	40 ml/min
Project number	20200047	Notes:	
Field Staff	SO, NV		SVB10 +1 inside parking garage LPG gas bottle present
Date	6-10-2020		
Site Location	Collingwood		
Weather Conditions	overcast		
Temperature/Humidity/Pressure	Day Start: 10.9°C 57% 1025.1 hPa	Day End: 9.7°C 43% 1023.0 hPa	

① Bore ID	② Can S/N.	③ Flow Control Serial No.	④ Helium in Shroud (SVBs) ppm	⑥ Helium in SVB	PRE-SAMPLE Purge/Leak Test: ⑤ PID Purge Peak/ Stable (ppm)		⑤ PID Duration (secs)	⑦ Leak Test (Pass/ Fail)	SAMPLING: ⑧ Initial Canister Vacuum	⑧ Start Time	⑧ Finish Time	⑧ Duration (mins)	⑨ Final Canister Vacuum	POST-SAMPLE General Gases Screen: ⑩ CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	Air Press. (mb)
SVB10	[illegible]	34	9999990	13500	19.9	8.5	180	Pass	-30	09:08	09:38	30	-5	0.2	8.6	0.3	91.0	0	0	-0.12
SVB01	IL0044	156	9999990	2900	14.6	7.6	180	Pass	-30	10:49	11:48	59	-5	0.2	6.9	5.6	87.4	0	0	-0.02
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]0132	156	" "	" "	" "	" "	" "	" "	" "	-30	10:49	11:48	59	-5	0.2	6.9	5.6	87.4	0	0	-0.02
SVB07	IL0006	53	9999990	2040	13.6	6.6	180	Pass	-30	11:22	11:48	26	-5	0.0	0.0	20.4	79.5	0	0	0.02
SVB09	IL0165	115	9999990	2760	13.7	6.3	180	Pass	-30	12:56	13:59	63	-5	0.0	0.1	15.7	84.2	0	0	-0.09
FB01	IL0109	115	" "	2760	"	"	"	Pass	-30	12:56	13:59	63	-5	0.0	0.1	15.7	84.2	0	0	-0.09
SVB03	IL0096	70	9999990	290	5.6	4.5	180	Pass	-30	15:23	16:09	46	-5	0.0	2.6	17.2	80.1	0	0	-0.05
SVB06	IL0128	75	9999990	1920	10.0	8.4	180	Pass	-30	16:13	16:43	30	-5	0.1	2.4	5.8	91.7	87	1	0.02
	[illegible]	[illegible]																		

Document Title	Document Number	Approved By	Version Date	Page
Active Soil Vapour Sampling Log	IMSF22		5 October 2020	1 of

UNCONTROLLED WHEN PRINTED

Project Name	Vic Distillery VRA	Canister Flow Control Rate:	40 ml/min
Project number	20200047	Notes:	SVB05 downhole pressure rose to ~-10 and dropped to ~-6 by end of sampling
Field Staff	NV		
Date	7-10-2020		
Site Location	Collingwood		
Weather Conditions	overcast		
Temperature/Humidity/Pressure	Day Start: 9.6°C 1019hPa 89%	Day End:	12.6°C 1017.3hPa 82%

Bore ID	Can S/N.	Flow Control Serial No.	Helium in Shroud (SVBs)	Helium in SVB	PRE-SAMPLE Purge/Leak Test				SAMPLING					POST-SAMPLE General Gases Screen						
					PID Purge Peak/ Stable (ppm)		PID Duration (secs)	Leak Test (Pass/ Fail)	Initial Canister Vacuum	Start Time	Finish Time	Duration (mins)	Final Canister Vacuum	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	Air Press. (mb)
SVB05	1L0070	128	9999990	2850	2.0	0.3	180	Pass	-30	08:19	09:14	55	-10	10.4	0.1	7.3	82.3	45	0	0.14
SVB04	1L0232	10	9999990	2610	6.5	4.8	180	Pass	-30	09:10	09:40	30	-5	0.0	0.0	17.9	82.0	0	0	0.05
SVB03	1L0197	147	9999990	710	6.3	5.1	180	Pass	-30	10:19	10:49	30	-5	0.0	1.0	19.8	79.2	0	0	0.06
SVB02	1L0091	110	9999990	1040	1.8	1.6	140	Pass	-30	10:55	11:26	31	-5	0.0	1.0	19.8	79.2	0	0	0.08
SVB01	1L0229	18	9999990	990	1.7	0.9	180	Pass	-30	12:03	12:29	26	-5	0.0	1.4	19.5	79.1	0	0	0.09

Project Name	Vic Distillery SUME 2	Canister Flow Control Rate:	80ml/min
Project number	20200047	Notes/Comments	
Field Staff	NV SH		
Date	15.12.20		
Site Location	Collingwood		
Weather Conditions	Sunny		
Temperature/Humidity	Day Start: 25°C 46.0% Day End: 20.7°C 77%		

should this be for helium instead?, when using helium rather than IPA

Bore ID	Initial PID Water Check (Max) (30 seconds)	Ambient Air / Helium Concentration	PRE-SAMPLE Purge/Leak Test				Cannister & Gauge Details		SAMPLING						POST-SAMPLE General Gases Screen							
			PID Purge Peak/ Stable (ppm)	PID Duration (secs)	Leak Test (Pass/ Fail)		Cannister Serial Number	Flow Controller Serial ID	Initial Canister Vacuum	Initial Downhole Vacuum	Start Time	Finish Time	Duration (mins)	Final Canister Vacuum	Final Downhole Vacuum	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	relative press	Air Pressure (mb)
SVB 01	0.0	140	1.6	180			1L0052	83	-30	0	08:28	08:41	13	-5	0	0.1	7.6	5.9	86.4	1	0	0.02	1,011
SVB 07	0.0	10	0.8	0.7	180		1L0022	37	-30	0	09:09	09:21	12	-5	0	0.0	0.1	20.2	79.5	0	0	0.00	1,011
SVB 04	0.0	40	7.2	2.5	180		1L0210	178	-30	1	09:55	10:12	17	-5	0	0.0	1.5	18.9	79.6	0	0	0.17	1,011
SVB 06	0.0	40	0.4	0.1	180		140061	004	-30	[illegible]2	10:10	10:26	16	-5	3	0.0	4.3	2.1	43.6	2	0	0.09	1,012
SVB 02	3.4	10	2.5	1.5	180		1L0097	184	-30	0	11:06	11:31	25	-5	0	0.0	0.8	19.5	79.6	0	0	-0.05	1,011
FD01	3.9	10	2.5	1.5	180		1L0057	184	-30	0	11:06	11:31	25	-5	0	0.0	0.8	19.6	79.6	0	0	-0.05	1,011
SVB 05	0.0	20	0.5	0.5	180		1L0130	149	-30	[illegible]1	13:11	13:27	16	-5	1	0.0	0.2	17.5	82.3	1	0	0.03	1,010
SVB 03	2.5	20	0.3	0.2	180		1L0174	107	-30	0	13:35	13:59	24	-5	0	0.0	1.0	19.9	79.1	0	0	-0.02	1,012
FD01	2.5	20	0.3	0.2	180		1L0055	107	-30	0	13:35	13:59	24	-5	0	0.0	1.0	19.9	79.1	0	0	-0.02	1,012
											:	:										

Put key in Ex.

Project Name	Vic Distillery SVME2	Canister Flow Control Rate:	80ml/min
Project number	2020C0472	Notes/Comments	
Field Staff	NV + SH	SVB03 + SVB02 water intrusion	
Date	14-12-2020	Not sampled/analysed.	
Site Location	Collingwood		
Weather Conditions	~~Hot~~ Sunny 34°C		
Temperature/Humidity	Day Start: 24.~~3~~°C 40%	Day End: 32.5C 25%	

Add helium columns

Dup + Split on SVP02 SVP03

Shorten column.

	PRE-SAMPLE Purge/Leak Test				Cannister & Gauge Details		SAMPLING							POST-SAMPLE General Gases Screen							
Bore ID	Initial PID Water Check (Max) (30 seconds)	Ambient PID / Helium Concentration	PID Purge Peak/ Stable (ppm)		PID Duration (secs)	Leak Test (Pass/ Fail)	Cannister Serial Number	Flow Controller Serial ID	Initial Canister Vacuum	Initial Downhole Vacuum	Start Time	Finish Time	Duration (mins)	Final Canister Vacuum	Final Downhole Vacuum	CH_4 (%)	CO_2 (%)	O_2 (%)	Bal (%)	CO	H_2S	Air Pressure (mb)
SVB 08	7.2	130	71.2	~~218~~	~~255~~ 180		IL0223	23	-30	0	09:53	10:11	18	-5	0	0.0	3.5	16.6	79.9	0	0	0.8, 1014
SVB 10	0.0	40	32.6	12.5	180		IL0221	73	-30	0	11:14	11:29	15	-5	~~1~~	0.1	9.7	0.2	90.6	0	0	0.10, 1013
SVB 09	0.0	50	25.7	10.5	180		IL0023	FC172	-30	0	12:04	12:18	14	-5	0	0.0	0.9	11.5	87.6	0	0	0.07, 1012
SVB 03	1.9	30	52.3	–	~~180~~		IL0056	~~180~~	-30	~~1~~5	13:33	–	–	–	–	–	–	–	–	–	–	–
SVB 05	0.0	20	12.8	1.0	60		IL0091	~~1.25~~	-29	6	14:26	15:05	~~31~~	~~-10~~	3	0.4	0.0	7.9	81.6	6	0	0.10, 1012
											:	:										
											:	:										
											:	:										
											:	:										
											:	:										

SVB03 → IL0056 not sampled due to water in the line.

* SVB03 Vac alarm for PID pre-sample

* SVB05 Vac alarm for PID pre sample after stabilising

Appendix A
Table A5 - Soil Vapour Analytical Results

Edge Project No.: 20200047
Vapour Risk Assessment
21 Northumberland 26 Wellington Streets
Collingwood

											Sample Code	204647-1	Qc11719	T20-De35692	204647-3	Qc11718	T20-De35694	204647-4	Qc11717	T20-De35696	204647-5	Qc11709	T20-De35698	204647-6	Qc11716	T20-De35695	Qc11715	T20-De35689	Qc11714	T20-De35693	Qc11711	T20-De35691	Qc11713	T20-De35694	Qc11712	T20-De35688	Qc11708	T20-De35687
											Field ID	SVP01			SVP02			SVP03			SVB01			SVB02	SVB04		SVB05		SVB06		SVB07		SVB08		SVB09		SVB10	
											Depth	0.1			0.1			0.1			1.5			1.5	1.45		1.45		1.45		0.7		1.45		0.7		1.45	
											Date	31/10/18	7/10/20	15/12/20	31/10/18	7/10/20	15/12/20	31/10/18	7/10/20	15/12/20	31/10/18	6/10/20	15/12/20	31/10/18	7/10/20	15/12/20	7/10/20	14/12/20	6/10/20	15/12/20	6/10/20	15/12/20	6/10/20	14/12/20	6/10/20	14/12/20	6/10/20	14/12/20
Analyte	Units	LOR	Interim HILs - Table 1A(2)[1] Comm/ Ind D	Interim HILs - Table 1A(2)[1] Res A/B	NEPM 2013 HSLs -Table 1A(5) - Clay[2] Comm/Ind D 0-1m	NEPM 2013 HSLs -Table 1A(5) - Clay[2] Comm/Ind D 1-2m	NEPM 2013 HSLs -Table 1A(5) - Clay[2] Res A/B f 0-1m	NEPM 2013 HSLs -Table 1A(5) - Clay[2] Res A/B f 1-2m	EnRISkS Criteria[3]	USEPA RSLs THQ 1.0[4] Industrial Air	USEPA RSLs THQ 1.0[4] Resident Air																															
TRH NEPM 2013 Fractions																																					
C6-C10	mg/m3	0.1	*	*	*	*	*	*	*	*	*	-	<0.115	**2.4**	-	<0.115	<0.125	-	<0.115	**1.5**	-	<0.115	<0.115	-	<0.11	<0.11	**3.5**	**0.86**	<0.115	<0.12	<0.12	<0.115	<0.11	<0.11	<0.115	<0.12	<0.11	<0.115
F1 minus BTEX	mg/m3	0.1	*	*	1,000	10,000	230	4,200	*	*	*	**0.2**	<0.115	**1.4**	**0.2**	<0.115	<0.125	**0.2**	<0.115	**1.3**	**2.4**	<0.115	<0.115	**2.6**	<0.11	<0.11	**3.5**	**0.81**	<0.115	<0.12	<0.12	<0.115	<0.11	<0.11	<0.115	<0.12	<0.11	<0.115
F2 minus Naphthalene	µg/m3	100	*	*	800,000	*	180,000	3,800,000	*	*	*	<40	**520**	**1,400**	<40	<115	**1,300**	<40	**210**	**790**	**980**	<115	**130**	**0.05**	<110	<110	**420**	**290**	<115	**610**	<120	<115	<110	**640**	<115	**150**	**490**	**400**
>C10-C12	µg/m3	100	*	*	*	*	*	*	*	*	*	-	**520**	**1,400**	-	<115	**1,300**	-	**210**	**790**	-	<115	**130**	-	<110	<110	**420**	**290**	<115	**630**	<120	<115	<110	**650**	<115	**160**	**490**	**420**
BTEXN																																					
Benzene	µg/m3	1.6	*	*	5,000	80,000	1,000	15,000	*	*	*	<1.6	**7.2**	<4	<1.6	<4	<4	<1.6	<4	**120**	**6**	<4	<4	**2**	<4	<4	**56**	**35**	**21**	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	µg/m3	7.5	*	*	6,500,000	100,000,000	1,600,000	23,000,000	*	*	*	<1.9	<7.5	**1,100**	**3**	<7.5	**450**	**2**	<7.5	**68**	**81**	<7.5	<7.5	**36**	**17**	<7.5	<7.5	**7.7**	**12**	**9.3**	<7.5	<7.5	<7.5	**9.1**	<7.5	<7.5	<7.5	<7.5
Ethylbenzene	µg/m3	2.2	*	*	1,800,000	31,000,000	420,000	6,800,000	*	*	*	<2.2	<5	<5	<2.2	<5	**6**	<2.2	**9.4**	**10**	**20**	<5	<5	**3**	<5	<5	<5	<5	<5	<5	<5	<5	<5	**7.3**	<5	<5	<5	<5
Xylene (m & p)	µg/m3	4.4	*	*	*	*	*	*	*	*	*	<4.3	<10	<10	<4.3	<10	**20**	<4.3	<10	<11	**40**	<10	**13**	**10**	<10	<10	<11	<11	<10	<11	<10	**15**	<10	**44**	<10	<10	<10	<10
Xylene (o)	µg/m3	2.2	*	*	*	*	*	*	*	*	*	<2.2	<5	<5	<2.2	<5	**8.2**	<2.2	<5	<5	**31**	<5	<5	**6**	<5	<5	<5	<5	<5	<5	<5	<5	<5	**16**	<5	<5	<5	<5
Xylene Total	µg/m3	6.6	*	*	1,200,000	21,000,000	280,000	4,800,000	*	*	*	-	<15	<14	-	<15	**28**	**-**	<15	<16	-	<15	<15	-	<15	<15	<16	<16	<15	<16	<15	<15	<15	**60**	<15	<16	<15	<15
Naphthalene	µg/m3	10.5	*	*	4,000	85,000	1,000	20,000	*	*	*	<2.6	<25	<24	<2.6	<25	<26	<2.6	<25	<27	**7**	<25	<25	<2.6	<24	<25	<26	<27	<24	<26	<25	<25	<24	<23	<24	<25	<24	<25
Solvents																																					
1,4-Dioxane	µg/m3	7.2	*	*	*	*	*	*	*	250	56	<1.8	<17	<16	<1.8	<17	<18	<1.8	<17	<18	<1.8	<17	<17	<1.8	<16	<16	<18	<18	<16	<17	<17	<17	<16	<16	<16	<17	<16	<17
Methyl Ethyl Ketone	µg/m3	5.9	*	*	*	*	*	*	*	220,000	52,000	<1.5	<14	<13	<1.5	<14	<15	<1.5	<14	<15	<1.5	<14	<14	<1.5	<13	<13	<15	<15	<13	<14	<14	<14	<13	<13	<13	<14	<13	<14
2-hexanone (MBK)	µg/m3	8.2	*	*	*	*	*	*	*	1,300	310	<2	<19	<18	<2	<19	<20	<2	<19	<21	<2	<19	<19	<2	<18	<18	<20	<20	<19	<20	<19	<19	<18	<18	<19	<20	<18	<19
4-Methyl-2-pentanone	µg/m3	2.1	*	*	*	*	*	*	*	130,000	31,000	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	µg/m3	11.9	*	*	*	*	*	*	320,000	*	*	<12	**35**	<26	**20**	**73**	<29	<12	**50**	<30	<12	<28	<28	<12	**75**	<26	**92**	<30	**92**	<29	**54**	**140**	<26	**41**	**130**	<28	**53**	<28
Allyl chloride	µg/m3	6.3	*	*	*	*	*	*	*	200	47	-	<14	<14	-	<14	<15	-	<15	<16	-	<15	<15	-	<14	<14	<15	<16	<14	<15	<15	<15	<14	<14	<14	<15	<14	<15
Carbon disulfide	µg/m3	6.2	*	*	*	*	*	*	200	*	*	<1.6	<14	<14	<1.6	<14	<15	<1.6	<15	<16	**94**	<14	<14	**43**	<14	<14	**200**	<16	**160**	<15	<15	<14	<14	<14	<14	<15	<14	<14
Cyclohexane	µg/m3	1.7	*	*	*	*	*	*	*	260,000	63,000	<1.7	<4	<4	<1.7	<4	<4	<1.7	<4	<4	**37**	<4	<4	**72**	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethanol	µg/m3	3.8	*	*	*	*	*	*	*	*	*	<9.4	<9	<8	**70**	<9	<9	**10**	<9	<10	<9.4	<9	<9	<9.4	<8	<8	<9	<9	<9	<9	<9	<9	<8	<8	<9	<9	<8	<9
Heptane	µg/m3	2.1	*	*	*	*	*	*	*	18,000	4,200	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Hexane	µg/m3	3.5	*	*	*	*	*	*	*	6,100	1,400	**3**	<4	<4	**10**	<4	<4	<1.8	<4	<4	<1.8	<4	<4	<1.8	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
MTBE	µg/m3	7.2	*	*	*	*	*	*	*	4,700	1,100	<1.8	<17	<16	<1.8	<17	<18	<1.8	<17	<18	<1.8	<17	<17	<1.8	<16	<16	<18	<18	<16	<17	<17	<17	<16	<16	<16	<17	<16	<17
2-Propanol	µg/m3	49	*	*	*	*	*	*	2,100	8,800	2100	<12	**20,000**	**48,000**	<12	**26,000**	**40,000**	**20**	**6,300**	**24,000**	**390**	**610**	<114	**90**	<110	<110	**660**	**1,200**	**2,000**	<119	<116	<114	<110	**1,900**	<112	<117	<110	**630**
Pentane	MOL %		*	*	*	*	*	*	*	*	*	-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrahydrofuran	µg/m3	1.5	*	*	*	*	*	*	*	88,000	21,000	<1.5	<3	<3	<1.5	<3	<4	<1.5	<3	<4	<1.5	<3	<3	<1.5	<3	<3	<4	<4	<3	<4	<3	<3	<3	<3	<3	<4	<3	<3
Vinyl acetate	µg/m3	7	*	*	*	*	*	*	*	8,800	2,100	<1.8	<16	<16	<1.8	<16	<17	<1.8	<16	<18	<1.8	<16	<16	<1.8	<16	<16	<17	<18	<16	<17	<17	<17	<16	<16	<15	<16	<17	<16
Chlorinated Hydrocarbons			*	*	*	*	*	*	*	*	*																											
Tetrachloroethene	µg/m3	3.4	8,000	2,000	*	*	*	*	*	*	*	<3.4	**100**	<8	<3.4	<8	<8	<3.4	<8	<9	<3.4	<8	<8	<3.4	<8	<8	<8	<8	<8	<8	<8	**46**	<8	<7	<8	<8	<8	<8
Trichloroethene	µg/m3	2.7	80	20	*	*	*	*	*	*	*	<2.7	<6	<6	<2.7	**25**	<7	<2.7	<6	<7	<2.7	<6	<6	<2.7	<6	<6	<7	<7	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
1,1-dichloroethene	µg/m3	2	*	*	*	*	*	*	*	8,800	2,100	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<4	<4	<5	<5	<5	<5	<5	<5	<4	<4	<4	<5	<4	<5
cis-1,2-dichloroethene	µg/m3	2	300	80	*	*	*	*	*	*	*	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<4	<4	<5	<5	<5	<5	<5	<5	<4	<4	<4	<5	<4	<5
trans-1,2-dichloroethene	µg/m3	2	*	*	*	*	*	*	*	*	*	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<4	<4	<5	<5	<5	<5	<5	<5	<4	<4	<4	<5	<4	<5
Vinyl chloride	µg/m3	1.3	100	30	*	*	*	*	*	*	*	<1.3	<3	<3	<1.3	<3	<3	<1.3	<3	<3	<1.3	<3	<3	<1.3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1,1-trichloroethane	µg/m3	2.7	230,000	60,000	*	*	*	*	*	*	*	<2.7	<6	<6	<2.7	<6	<7	<2.7	<6	<7	<2.7	<6	<6	<2.7	<6	<6	<7	<7	<6	<7	<6	<6	<6	<6	<6	<6	<6	<6
1,1,2,2-tetrachloroethane	µg/m3	3.4	*	*	*	*	*	*	*	21	4.8	<3.4	<8	<8	<3.4	<8	<8	<3.4	<8	<9	<3.4	<8	<8	<3.4	<8	<8	<8	<9	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
1,1,2-trichloroethane	µg/m3	2.7	*	*	*	*	*	*	*	77	18	**<2.7**	<6	<6	**<2.7**	<6	<7	**<2.7**	<6	<7	**<2.7**	<6	<6	**<2.7**	<6	<6	<7	<7	<6	<7	<6	<6	<6	<6	<6	<6	<6	<6
1,1-dichloroethane	µg/m3	2	*	*	*	*	*	*	*	770	180	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<5	<5	<5	<5	<5	<5	<5	<5	<4	<5	<5	<5	<5	<5
1,2-dichloroethane	µg/m3	2	*	*	*	*	*	*	*	47	11	<2	<5	<4	<2	<5	<5	<2	<5	<5	<2	<5	<5	<2	<5	<5	<5	<5	<5	<5	<5	<5	<4	<5	<5	<5	<5	<5
1,2-dichloropropane	µg/m3	2.3	*	*	*	*	*	*	*	330	76	<2.3	<5	<5	<2.3	<5	<6	<2.3	<5	<6	<2.3	<5	<5	<2.3	<5	<5	<6	<6	<5	<6	<5	<5	<5	<5	<6	<5	<5	<5
Benzyl chloride	µg/m3	2.6	*	*	*	*	*	*	*	25	5.7	<2.6	<6	<6	<2.6	<6	<6	<2.6	<6	<7	<2.6	<6	<6	<2.6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Bromodichloromethane	µg/m3	3.4	*	*	*	*	*	*	*	33	7.6	<3.4	<8	<7	<3.4	<8	<8	**30**	<8	<8	**3**	<8	<8	**5**	<8	<7	<8	<8	<8	<8	<8	<8	<7	<7	<8	<8	<8	<8
Bromoform	µg/m3	5.2	*	*	*	*	*	*	*	1,100	260	<5.2	<12	<11	<5.2	<12	<13	<5.2	<12	<13	<5.2	<12	<12	<5.2	<12	<12	<13	<13	<12	<13	<12	<12	<12	<11	<12	<12	<12	<12
Carbon tetrachloride	µg/m3	3.1	*	*	*	*	*	*	*	200	47	<3.1	<7	<7	<3.1	<7	<8	<3.1	<7	<8	<3.1	<7	<7	<3.1	<7	<7	<8	<8	<7	<8	<7	<7	<7	<7	<7	<7	<7	<7
Chlorodibromomethane	µg/m3	4.3	*	*	*	*	*	*	*	*	*	<1.6	<10	<9	<1.6	<10	<10	<1.6	<10	<11	<1.6	<10	<10	<1.6	<10	<10	<11	<11	<10	<10	<10	<10	<10	<9	<10	<10	<10	<10
Chloroethane	µg/m3	5.3	*	*	*	*	*	*	*	440,000	100,000	<1.3	<12	<12	<1.3	<12	<13	<1.3	<12	<13	<1.3	<12	<12	<1.3	<12	<12	<13	<13	<12	<13	<12	<12	<12	<12	<12	<13	<12	<12
Chloroform	µg/m3	2.4	*	*	*	*	*	*	1,400	*	*	<2.4	<6	<5	<2.4	<6	<6	**190**	<6	<6	**26**	<6	<6	**20**	**170**	**18**	**130**	<6	**45**	<6	**14**	<6	**9.1**	<5	**32**	<6	<5	<6
Chloromethane	µg/m3	10.3	*	*	*	*	*	*	*	3,900	940	<1	<24	<23	<1	<24	<25	<1	<24	<26	<1	<24	<24	<1	<23	<23	<26	<26	<24	<25	<24	<24	<23	<23	<23	<25	<23	<24
cis-1,3-dichloropropene	µg/m3	2.3	*	*	*	*	*	*	*	*	*	<2.3	<5	<5	<2.3	<5	<6	<2.3	<5	<6	<2.3	<5	<5	<2.3	<5	<5	<6	<6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dichloromethane	µg/m3	17.4	*	*	*	*	*	*	*	12,000	1,000	<17	<40	<39	<17	<40	<43	<17	<41	<44	<17	<40	<40	<17	<39	<39	<43	<43	<40	<42	<41	<40	<39	<38	<39	<41	<39	<40
Hexachlorobutadiene	µg/m3	21.3	*	*	*	*	*	*	*	56	13	<5.3	<49	<47	<5.3	<49	<52	<5.3	<50	<54	<5.3	<49	<49	<5.3	<48	<48	<53	<53	<49	<52	<50	<49	<48	<47	<48	<51	<48	<49
trans-1,3-dichloropropene	µg/m3	2.3	*	*	*	*	*	*	*	*	*	<2.3	<5	<5	-	<5	<6	-	<5	<6	-	<5	<5	-	<5	<5	<6	<6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

Notes
LOR = Limit of Reporting
<## Result is less than the LOR
* No Relevant Criteria
- Analysis not performed
1 - NEPM 2013 - Interim Health Investigation Levels: Residential A (Low density), Residential B (Medium/High Density) and Commercial/Industrial D (Table 1A(2)).
2 - NEPM 2013 - Health Screening Levels: Residential A (Low density), Residential B (Medium/High Density) and Commercial/Industrial D (Table 1A(5)).
3 - EnRIskS Criteria - From Site specific risk assessment by EnRIskS (see Edge report ***20170561-R-03***)
4 - USEPA May 2018 - Regional Screening Levels: Resident Air THQ=0.1. *Carcinogenic screening levels in italics.*

Appendix A
Table A5 - Soil Vapour Analytical Results

Edge Project No.: 20200047
Vapour Risk Assessment
21 Northumberland 26 Wellington Streets
Collingwood

												Sample Code	284647-1	Oc11719	T20-De35692	284647-3	Oc11718	T20-De35694	284647-4	Oc11717	T20-De35696	284647-5	Oc11709	T20-De35698	284647-6	Oc11716	T20-De35695	Oc11715	T20-De35689	Oc11714	T20-De35693	Oc11711	T20-De35691	Oc11713	T20-De35694	Oc11712	T20-De35688	Oc11708	T20-De35687
												Field ID	SVP01			SVP02			SVP03			SVB01			SVB02	SVB04		SVB05		SVB06		SVB07		SVB08		SVB09		SVB10	
												Depth	0.1			0.1			0.1			1.5			1.5	1.45		1.45		1.45		0.7		1.45		0.7		1.45	
												Date	31/10/18	7/10/20	15/12/20	31/10/18	7/10/20	15/12/20	31/10/18	7/10/20	15/12/20	31/10/18	6/10/20	15/12/20	31/10/18	7/10/20	15/12/20	7/10/20	14/12/20	6/10/20	15/12/20	6/10/20	15/12/20	6/10/20	14/12/20	6/10/20	14/12/20	6/10/20	14/12/20
Analyte	Units	LOR	Interim HILs - Table 1A(2)[1] Comm/ Ind D	Interim HILs - Table 1A(2)[1] Res A/B	NEPM 2013 HSLs -Table 1A(5) - Clay[2] Comm/Ind D 0-1m	NEPM 2013 HSLs -Table 1A(5) - Clay[2] Comm/Ind D 1-2m	NEPM 2013 HSLs -Table 1A(5) - Clay[2] Res A/B f 0-1m	NEPM 2013 HSLs -Table 1A(5) - Clay[2] Res A/B f 1-2m	EnRISkS Criteria[3]	USEPA RSLs THQ 1.0[4] Industrial Air	USEPA RSLs THQ 1.0[4] Resident Air																																
General Gases																																					
Oxygen	MOL %		*	*	*	*	*	*	*	*	*		19	21	20	19	20	20	20	21	20	3.4	6.7	7.4	7.5	19	18	8.7	8.2	6.8	5.7	31	21	19	18	16	12	2.4	3
Carbon Dioxide	MOL %		*	*	*	*	*	*	*	*	*		1.3	1.2	1.4	0.73	0.65	<0.07	0.61	0.67	0.86	6.8	7.6	8.2	11	<0.07	<0.07	<0.07	<0.07	0.69	2.3	1.5	<0.07	2.1	3.3	<0.07	<0.07	8.5	9.9
Nitrogen (Total)	MOL %		*	*	*	*	*	*	*	*	*		-	78	79	-	79	80	-	78	78	-	86	84	-	81	82	85	82	92	92	65	79	79	79	84	88	89	87
Helium	MOL %		*	*	*	*	*	*	*	*	*		-	<0.12	<0.11	-	0.35	0.21	-	0.68	0.76	-	<0.12	<0.12	-	<0.11	<0.11	<0.12	<0.12	<0.11	<0.12	1.9	<0.12	<0.11	<0.11	<0.11	<0.12	<0.11	<0.12
Carbon Monoxide	MOL %		*	*	*	*	*	*	*	*	*		-	<0.05	<0.04	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.04	<0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.05	<0.05	<0.04	<0.05
Hydrogen	MOL %		*	*	*	*	*	*	*	*	*		-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
MAH																																					
1,2,4-trimethylbenzene	µg/m3	2.5	*	*	*	*	*	*	630	*	*		<2.5	<6	<5	<2.5	<6	<6	<2.5	8	7.8	75	<6	9.7	4	<6	<5	7.7	<6	<6	73	<6	<6	<5	<5	<6	<6	<6	<6
1,3,5-trimethylbenzene	µg/m3	2.5	*	*	*	*	*	*	*	2,600	630		<2.5	<6	<5	<2.5	<6	<6	<2.5	<6	<6	46	<6	<6	<2.5	<6	<5	<6	<6	<6	13	<6	<6	<5	<5	<6	<6	<6	<6
1-methyl-4 ethyl benzene	µg/m3	2.5	*	*	*	*	*	*	330,000	*	*		<2.5	<6	<5	<2.5	<6	<6	<2.5	<6	<6	10	<6	<6	<2.5	<6	<5	<6	<6	<6	<6	<6	<6	<5	<5	<6	<6	<6	<6
Styrene	µg/m3	2.1	*	*	*	*	*	*	*	44,000	10,000		<2.1	<5	<5	<2.1	<5	<5	<2.1	<5	<5	<2.1	<5	<5	<2.1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
VOCs																																					
1,3-Butadiene	MOL %		*	*	*	*	*	*	*	*	*		<1.1	<0.08	<0.07	<1.1	<0.07	<0.07	<1.1	<0.07	<0.08	<1.1	<0.07	<0.07	<1.1	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
1,3-Butadiene	µg/m3	1.1	*	*	*	*	*	*	*	41	9.4		<1.1	<3	<2	<1.1	<3	<3	<1.1	<3	<3	<1.1	<3	<3	<1.1	<2	<2	<3	<3	<3	<3	<3	<3	<2	<2	<3	<3	<2	<3
NA																																					
1, 2-Propadiene	%	0.01	*	*	*	*	*	*	*	*	*		-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1-Butene	MOL %		*	*	*	*	*	*	*	*	*		-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
1-Pentene	MOL %		*	*	*	*	*	*	*	*	*		-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2,2,4-Trimethylpentane	µg/m3	9.3	*	*	*	*	*	*	*	*	*		-	<21	<21	-	<21	<23	-	<22	330	-	<22	<22	-	<21	<21	<23	<23	<21	<23	<22	<22	<21	<20	<21	<22	<21	<22
2-methyl-2-butene	%	0.01	*	*	*	*	*	*	*	*	*		-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-Methylbutane	MOL %		*	*	*	*	*	*	*	*	*		-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2-Methylpropane	MOL %		*	*	*	*	*	*	*	*	*		-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
Acetylene	%	0.01	*	*	*	*	*	*	*	*	*		-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-2-Pentene	MOL %		*	*	*	*	*	*	*	*	*		-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Freon 114	UG/M3		*	*	*	*	*	*	*	*	*		<2.5	<8	<8	<2.5	<8	<9	<2.5	<8	<9	<2.5	<8	<8	<2.5	<8	<8	<9	<9	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Freon 113	µg/m3	3.8	*	*	*	*	*	*	*	220,000	*		<3.8	<9	<9	<3.8	<9	<9	<3.8	<9	<10	<3.8	<9	<9	<3.8	<9	<9	<9	<10	<9	<9	<9	<9	<9	<8	<9	<9	<9	<9
Propene	µg/m3	3.4	*	*	*	*	*	*	*	130,000	31,000		<0.9	<8	<8	<0.9	<8	<8	<0.9	<8	<9	400	<8	<8	290	<8	<8	<8	<9	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
1-butylene	%	0.03	*	*	*	*	*	*	*	*	*		-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
Methyl Acetylene	MOL %	0.01	*	*	*	*	*	*	*	*	*		-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-2-Butene	MOL %		*	*	*	*	*	*	*	*	*		-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
trans-2-Pentene	MOL %		*	*	*	*	*	*	*	*	*		-	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	<0.03	-	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Butane	MOL %		*	*	*	*	*	*	*	*	*		-	<0.08	<0.07	-	<0.07	<0.07	-	<0.07	<0.08	-	<0.07	<0.07	-	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
Propane	MOL %		*	*	*	*	*	*	*	*	*		-	<0.05	<0.04	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.04	<0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.05	<0.05	<0.04	<0.05
Halogenated Benzenes																																					
1,2,4-trichlorobenzene	µg/m3	15	*	*	*	*	*	*	*	88	21		<3.7	<34	<33	<3.7	<34	<37	<3.7	<35	<37	<3.7	<34	<34	<3.7	<33	<37	<37	<37	<34	<36	<35	<34	<33	<33	<34	<35	<33	<34
1,2-dichlorobenzene	µg/m3	3	*	*	*	*	*	*	*	8,800	2,100		<3	<7	<7	<3	<7	<7	<3	<7	<7	<3	<7	<7	<3	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
1,3-dichlorobenzene	µg/m3	3	*	*	*	*	*	*	*	*	*		<3	<7	<7	<3	<7	<7	<3	<7	<8	<3	<7	<7	<3	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
1,4-dichlorobenzene	µg/m3	3	*	*	*	*	*	*	*	110	26		<3	<7	<7	<3	<7	<7	<3	<7	<8	<3	<7	<7	<3	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
Chlorobenzene	µg/m3	2.3	*	*	*	*	*	*	*	2,200	520		<2.3	<5	<5	<2.3	<5	<6	<2.3	<5	<6	<2.3	<5	<5	<2.3	<5	<5	<6	<6	<5	<6	<5	<5	<5	<5	<5	<5	<5	<5
Halogenated Hydrocarbons																																					
1,2-dibromoethane	µg/m3	3.6	*	*	*	*	*	*	*	2	0.47		*<3.8*	<8	<8	*<3.8*	<8	<9	*<3.8*	<8	<9	*<3.8*	<8	<8	*<3.8*	<8	<8	<9	<9	<8	<9	<8	<8	<8	<8	<8	<8	<8	<8
Bromomethane	µg/m3	19.4	*	*	*	*	*	*	*	220	52		<1.9	<45	<43	<1.9	<45	<48	<1.9	<45	<49	<1.9	<45	<45	<1.9	<43	<43	<48	<48	<44	<47	<46	<45	<43	<43	<44	<46	<43	<45
Dichlorodifluoromethane	µg/m3	2.5	*	*	*	*	*	*	*	4,400	1,000		<2.5	<6	<5	<2.5	<6	<6	<2.5	<6	<6	<2.5	<6	<6	2	<6	<6	<6	<6	<6	<6	<6	<6	<6	<5	<6	<6	<6	<6
Trichlorofluoromethane	µg/m3	2.8	*	*	*	*	*	*	*	*	*		<2.8	<6	<6	<2.8	<6	<7	<2.8	<7	<7	<2.8	<7	<7	<2.8	<6	<6	<7	<7	<6	<7	<7	<7	<6	<6	<6	<7	<6	<7
Organic																																					
Ethane	MOL %		*	*	*	*	*	*	*	*	*		-	<0.1	<0.09	-	<0.09	<0.1	-	<0.09	<0.1	-	<0.09	<0.09	-	<0.09	<0.09	<0.1	<0.1	<0.09	<0.1	<0.09	<0.09	<0.09	<0.09	<0.09	<0.1	<0.09	<0.09
Ethene	MOL %		*	*	*	*	*	*	*	*	*		-	<0.05	<0.04	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.04	<0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.05	<0.05	<0.04	<0.05
Methane	MOL %		*	*	*	*	*	*	*	*	*		<0.01	<0.12	<0.11	<0.01	<0.12	<0.12	<0.01	<0.12	<0.13	**0.3**	<0.12	<0.12	<0.01	<0.11	<0.11	**6.6**	**9.5**	<0.11	<0.12	<0.12	<0.12	<0.11	<0.11	<0.11	<0.12	**0.13**	<0.12

Notes
LOR = Limit of Reporting
<## Result is less than the LOR
* No Relevant Criteria
- Analysis not performed
1 - NEPM 2013 - Interim Health Investigation Levels: Residential A (Low density), Residential B (Medium/High Density) and Commercial/Industrial D (Table 1A(2)).
2 - NEPM 2013 - Health Screening Levels: Residential A (Low density), Residential B (Medium/High Density) and Commercial/Industrial D (Table 1A(5)).
3 - EnRIskS Criteria - From Site specific risk assessment by EnRIskS (see Edge report ***20170561-R-03***)
4 - USEPA May 2018 - Regional Screening Levels: Resident Air THQ=0.1. *Carcinogenic screening levels in italics.*

			Intra-Laboratory Duplicate						Inter-Laboratory Duplicate					
	Lab Report No.		748889	748889	RPD	764336	764336	RPD	748889	ME316787	RPD	764336	EN2008513	RPD
	Field ID		SVB01	FD01		SVP03	FD01		SVB09	FS01		SVP02	FS01	
	Date		6/10/20	6/10/20		15/12/20	15/12/20		6/10/20	6/10/20		15/12/20	15/12/20	
	Matrix Type		gas	gas		gas	gas		gas	gas		gas	gas	
Analyte	**Unit**	**LOR**												
TRH NEPM 2013 Fractions														
>C_6-C_{10}	mg/m^3	0.115	<0.115	<0.115	0	**1.5**	<0.125	**169**	<0.115	**0.47**	**121**	<0.125	<20.0	0
F1 (>C_6-C_{10} minus BTEX)	mg/m^3	0.115	<0.115	<0.115	0	**1.3**	<0.125	**165**	<0.115	**0.46**	**120**	<0.125	<20.0	0
>C_{10}-C_{12} minus Naphthalene	µg/m^3	0.115	<115	<115	0	**790**	**750**	5	<115	<110	0	**1,300**	<40,000	0
>C_{10}-C_{12}	µg/m^3	0.115	<115	<115	0	**790**	**750**	5	<115	<110	0	**1,300**	-	-
BTEX														
Benzene	µg/m^3	4	<4	<4	0	**120**	**12**	**164**	<4	**4.9**	20	<4	<100	0
Toluene	µg/m^3	8	<7.5	<7.5	0	**68**	**67**	1	<7.5	**4.1**	0	**450**	**426**	5
Ethylbenzene	µg/m^3	5	<5	**5.8**	15	**10**	<5	67	<5	<3.2	0	**6**	<220	0
Xylene (m & p)	µg/m^3	10	<10	**29**	**97**	<11	<11	0	<10	<7	0	**20**	<430	0
Xylene (o)	µg/m^3	5	<5	**11**	**75**	<5	<5	0	<5	<3.2	0	**8.2**	<220	0
Xylene Total	µg/m^3	15.0	<15	**40**	**91**	<16	<16	0	<15	-	-	**28**	<650	0
PAH														
Naphthalene	µg/m^3	25	<25	<25	0	-	-	-	<24	<11	0	-	<100	-
Solvents														
1,4-Dioxane	µg/m^3	0	<17	<17	0	<18	<18	0	<16	<3.2	0	<18	<180	0
Methyl Ethyl Ketone	µg/m^3	0	<14	<14	0	<15	<15	0	<13	<2.7	0	<15	<150	0
2-hexanone (MBK)	µg/m^3	0	<19	<19	0	<21	<20	0	<19	<3.2	0	<20	<200	0
4-Methyl-2-pentanone	µg/m^3	0	<5	<5	0	<5	<5	0	<5	<3.2	0	<5	<200	0
Acetone	µg/m^3	11.9	<28	<27	0	<30	<30	0	**130**	-	-	<29	<120	0
Allyl chloride	µg/m^3	0	<15	<14	0	<16	<16	0	<14	<3.8	0	<15	<160	0
Carbon disulfide	µg/m^3	6.2	<14	<14	0	<16	<16	0	<14	-	-	<15	<160	0
Cyclohexane	µg/m^3	0	<4	<4	0	<4	<4	0	<4	<2.1	0	<4	<170	0
Ethanol	µg/m^3	3.8	<9	<9	0	<10	<9	0	<9	-	-	<9	-	-
Heptane	µg/m^3	0	<5	<5	0	<5	<5	0	<5	<3.8	0	<5	<200	0
Hexane	µg/m^3	0	<4	<4	0	<4	<4	0	<4	<3.2	0	<4	<180	0
MTBE	µg/m^3	0	<17	<17	0	<18	<18	0	<16	<3.2	0	<18	<180	0
2-Propanol	µg/m^3	0	**610**	**550**	10	**24,000**	**24,000**	0	<112	<54	0	**40,000**	**77,100**	**63**
Tetrahydrofuran	µg/m^3	0	<3	<3	0	<4	<4	0	<3	<2.1	0	<4	<150	0
Vinyl acetate	µg/m^3	0	<16	<16	0	<18	<18	0	<16	<3.8	0	<17	<180	0
Chlorinated Hydrocarbons														
Tetrachloroethene	µg/m^3	8	<8	<8	0	<9	<8	0	<8	<5.9	0	<8	<340	0
Trichloroethene	µg/m^3	6	<6	<6	0	<7	<7	0	<6	<4.8	0	<7	<25.0	0
1,1-dichloroethene	µg/m^3	5	<5	<5	0	<5	<5	0	<4	<3.2	0	<5	<200	0
cis-1,2-dichloroethene	µg/m^3	5	<5	<5	0	<5	<5	0	<4	<4.3	0	<5	<20.0	0
trans-1,2-dichloroethene	µg/m^3	5	<5	<5	0	<5	<5	0	<4	<3.2	0	<5	<200	0
Vinyl chloride	µg/m^3	3	<3	<3	0	<3	<3	0	<3	<2.1	0	<3	<12.8	0
1,1,1-trichloroethane	µg/m^3	6	<6	<6	0	<7	<7	0	<6	<4.3	0	<7	<270	0
1,1,2,2-tetrachloroethane	µg/m^3	8	<8	<8	0	<9	<9	0	<8	<3.8	0	<8	<340	0
1,1,2-trichloroethane	µg/m^3	6	<6	<6	0	<7	<7	0	<6	<4.3	0	<7	<270	0
1,1-dichloroethane	µg/m^3	5	<5	<5	0	<5	<5	0	<5	<3.8	0	<5	<200	0
1,2-dichloroethane	µg/m^3	5	<5	<5	0	<5	<5	0	<5	<5.4	0	<5	<200	0
1,2-dichloropropane	µg/m^3	5	<5	<5	0	<6	<6	0	<5	<9.7	0	<6	<230	0
Benzyl chloride	µg/m^3	6	<6	<6	0	<7	<6	0	<6	<3.8	0	<6	<260	0
Bromodichloromethane	µg/m^3	8	<8	<8	0	<8	<8	0	<8	<5.4	0	<8	<340	0
Bromoform	µg/m^3	12	<12	<12	0	<13	<13	0	<12	<6.4	0	<13	<520	0
Carbon tetrachloride	µg/m^3	7	<7	<7	0	<8	<8	0	<7	<5.4	0	<8	<310	0
Chlorodibromomethane	µg/m^3	10	<10	<10	0	<11	<11	0	<10	<6.4	0	<10	<430	0
Chloroethane	µg/m^3	12	<12	<12	0	<13	<13	0	<12	<3.2	0	<13	<130	0
Chloroform	µg/m^3	6	<6	<6	0	<6	<6	0	**32**	**35**	9	<6	<240	0
Chloromethane	µg/m^3	24	<24	<24	0	<26	<26	0	<23	<3.8	0	<25	<100	0
cis-1,3-dichloropropene	µg/m^3	5	<5	<5	0	<6	<6	0	<5	<3.2	0	<6	<230	0
Dichloromethane	µg/m^3	17.4	<40	<40	0	<44	<43	0	<39	-	-	<43	<170	0
Hexachlorobutadiene	µg/m^3	49	<49	<49	0	-	-	-	<48	<11	0	-	<530	-
trans-1,3-dichloropropene	µg/m^3	5	<5	<5	0	<6	<6	0	<5	<3.8	0	<6	<230	0
Inorganics														
Nitrogen (Total)	MOL %		**86**	**86**	0	**78**	**78**	0	**84**	-	-	**80**	-	-
MAH														
1,2,4-trimethylbenzene	µg/m^3	6	<6	**23**	**117**	**7.8**	<6	26	<6	<4.3	0	<6	<240	0
1,3,5-trimethylbenzene	µg/m^3	6	<6	**6.3**	5	<6	<6	0	<6	<3.2	0	<6	<240	0
1-methyl-4 ethyl benzene	µg/m^3	6	<6	**7.4**	21	<6	<6	0	<6	<3.2	0	<6	<240	0
Styrene	µg/m^3	5	<5	<5	0	<5	<5	0	<5	<3.2	0	<5	<210	0
VOCs														
1,3-Butadiene	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
	µg/m^3	3	<3	<3	0	<3	<3	0	<3	<1.6	0	<3	<110	0
NA														
1, 2-Propadiene	%	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
1-Butene	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
1-Pentene	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
2,2,4-Trimethylpentane	µg/m^3	22	<22	<21	0	**330**	**24**	**173**	<21	<4.8	0	<23	<230	0
2-methyl-2-butene	%	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
2-Methylbutane	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
2-Methylpropane	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
Acetylene	%	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
cis-2-Pentene	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
Freon 114	µg/m^3	8	<8	<8	0	<9	<9	0	<8	-	-	<9	-	-
i-butylene	%	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
Methyl Acetylene	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
trans-2-Butene	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
trans-2-Pentene	MOL %	0.02	<0.02	<0.02	0	<0.03	<0.02	0	<0.02	-	-	<0.02	-	-
Butane	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
Freon 113	µg/m^3	9	<9	<9	0	<10	<10	0	<9	<5.4	0	<9	<380	0
Propane	MOL %	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	-	-	<0.05	-	-
Propene	µg/m^3	8	<8	<8	0	<9	<9	0	<8	<5.4	0	<8	<90.0	0
Halogenated Benzenes														
1,2,4-trichlorobenzene	µg/m^3	34	<34	<34	0	-	-	-	<34	<19	0	-	<370	-
1,2-dichlorobenzene	µg/m^3	7	<7	<7	0	<7	<7	0	<7	<7	0	<7	<300	0
1,3-dichlorobenzene	µg/m^3	7	<7	<7	0	<8	<8	0	<7	<7	0	<7	<300	0
1,4-dichlorobenzene	µg/m^3	7	<7	<7	0	<8	<8	0	<7	<7	0	<7	<300	0
Chlorobenzene	µg/m^3	5	<5	<5	0	<6	<6	0	<5	<3.2	0	<6	<230	0
Halogenated Hydrocarbons														
1,2-dibromoethane	µg/m^3	8	<8	<8	0	<9	<9	0	<8	<6.4	0	<9	<380	0
Bromomethane	µg/m^3	45	<45	<45	0	<49	<49	0	<44	<4.8	0	<48	<190	0
Dichlorodifluoromethane	µg/m^3	6	<6	<6	0	<6	<6	0	<6	<2.1	0	<6	<250	0
Trichlorofluoromethane	µg/m^3	7	<7	<6	0	<7	<7	0	<6	<1.6	0	<7	<280	0
Organic														
Ethane	MOL %	0.09	<0.09	<0.09	0	<0.1	<0.1	0	<0.09	-	-	<0.1	-	-
Ethene	MOL %	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	-	-	<0.05	-	-
Methane	MOL %	0.12	<0.12	<0.12	0	<0.13	<0.12	0	<0.11	-	-	<0.12	<0.010	0
Other														
Helium	MOL %	0.12	<0.12	<0.12	0	**0.76**	**0.77**	1	<0.11	-	-	**0.21**	**0.23**	9
Carbon Dioxide	MOL %	0.07	**7.6**	**7.6**	0	**0.86**	**0.87**	1	<0.07	-	-	<0.07	**0.714**	**164**
Carbon Monoxide	MOL %	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	-	-	<0.05	-	-
Hydrogen	MOL %	0.07	<0.07	<0.07	0	<0.08	<0.08	0	<0.07	-	-	<0.07	-	-
Oxygen	MOL %		**6.7**	**6.7**	0	**20**	**20**	0	**16**	**17**	6	**20**	**20**	0

Notes:
Grey shading indicates RPD exceeds 50%
- Analysis not completed

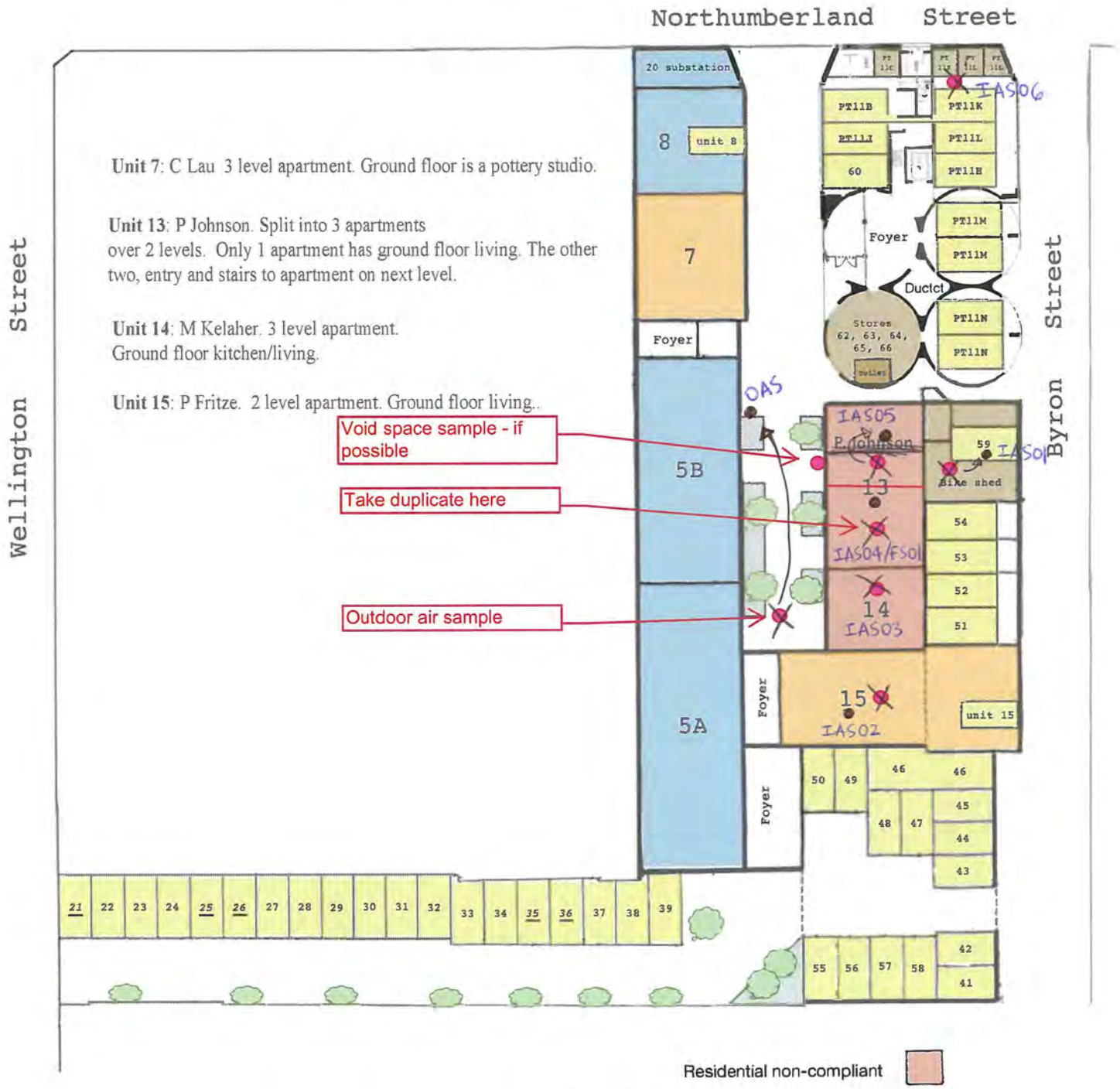
Appendix B Indoor air data

Project Name	Vic Distillery – Indoor Air Sampling	Notes/Comments	
Project number	2020047	Baro. press:	1017 hPa @ 08:28
Field Staff	Mikki & Scott	Wind speed/dire:	12 kph NW @ 08:28
Date	26/5/21	Rainfall, past 24hrs	5 mm
Site Location	21 Northumberland St, Collingwood		
Weather Conditions	Cool, windy		
Temperature/Humidity	Day Start: 13.4°C / 60%	Day End: 13.7°C / 56%	

Location ID	Location Description	Canister Serial No.	Flow Control Serial No.	PRE-SAMPLE			SAMPLING			POST-SAMPLE	
				Canister Vacuum ~~(mm Hg)~~ in Hg	Flow Control Vacuum ~~(mm Hg)~~ in Hg	OK to use? (Y/N)	Start Time 26/05/2021	Finish Time 27/05/2021	Duration (mins)	Canister Vacuum ~~(mm Hg)~~ in Hg	Comments
OAS	Outside 5 BDF The Germinating Warehouse	6L0069	1019 ~~mm~~	-30	-30	Y	08:42	11:45	1623	-11	
IAS01	Garage (Parking 59)	6L0011	215	-30	-30	Y	09:03	11:17	1574	0	
IAS02	Unit 15 (Ground floor)	6L0040	88	-30	-30	Y	09:33	11:34	1561	-6	
IAS03	Unit 14 (Ground floor)	6L0032	150	-30	-30	Y	10:06	11:38	1532	-5	
IAS04	} Unit 13 (Second	6L0029	155	-30	-30	Y	10:20	11:40	1520 HC 27/5	-9	
FS01	} floor)	6L0021	307 ~~170~~	-30	-30	Y	10:20	11:40	1520	-14.5	+ALS
IAS05	Unit 12 (first floor)	6L0009	135	-30	-30	Y	10:50	11:24	1474	-12	
IAS06	Garage (corner of Northumberland & Byron Streets)	6L0042	207	-30	-30	Y	11:05	11:29	1464	0	
							:	:			
							:	:			

Copy for S Davis Edge Group 3rd September 2020

VDAS Site Usage Plan - Ground Level



Residential non-compliant

Residential home business non-compliant

Residential existing use compliant

Caretaker permit compliant

Commercial

Parking (external ownership in italic)

Storage & facilities

Garden

Common property

Indicative site use only. Not to scale.

For more detail refer to Plan of Subdivision PS 404294D & Endorsed Plans for Planning Permits 95/103, 97/828, 97/1114

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Adelaide: +61 8 8154 3100
Darwin:+61 8 8154 3190
Newcastle: +61 2 9900 8490
Perth: +61 8 8925 9600

SUMMA CANISTER ORDER FORM

C01274.

Client Name:	Edge Group	Date Requested:	19/05/2021
Site Name/Job #			
Delivery Address:	423 City Road, South Melbourne 3205	Date Required:	25/05/2021
Contact Name:	Mikki Nada	Sent by:	MY TI 08/7 2021
Phone Number :	0420 415 019	Checked by:	
Eurofins | mgt contact:	Harry Bacalis		
Service required	OVERNIGHT FIRST CLASS*	LOCAL COURIER	
Please circle:	COLLECT SAME DAY*	Eurofins | mgt COURIER	
	INTERNATIONAL	FREIGHT COST TO BE ON-CHARGED?	Y / N

DELIVERY: LOCAL (Melbourne/Sydney/Adelaide/Brisbane/Perth) allow two days. INTERSTATE and REGIONAL allow five days. *For urgent deliveries contact Client Services.

				Laboratory Use Only				
Quantity	Canister Vol	Flow Controller	Comments	Certification Number	Canister ID	Vacuum	Flow Controller ID	Equipment Integrity Check
	1 L	2 hour fill time (6.7mL/min)		792325	6L0029	30" Hg	155	✓
	1 L	1 hour fill time (13.3mL/min)			6L0009		135	✓
	1 L	20 minute fill time (40mL/min)			6L0032		150	✓
	1 L	10 minute fill time (80mL/min)			6L0040		188	✓
	1 L	4.8 minute fill time (167mL/min)			6L0011		215	✓
	6 L	1 hour fill time (83mL/min)			6L0023		170	✓
	6 L	8 hour fill time (11.5mL/min)			6L0042		207	✓
	6 L	'Grab' type controller - fill time approx 3 minutes			6L0007		309	✓
	6 L	Ultra Low Level			6L0069		1014	✓
10	6L	24 Hour Fill Time						

Quantity	Accessories	Notes
	Duplicate T piece	
	1/4" Swagelok nuts + Ferrules	
	Female Quick Connects Fittings	
	Male Quick Connects Fittings	
	Additional pressure gauge	

Appendix K
Indoor Air Analytical Results

Edge Project No.: 20200047
Soil Vapour Risk Assessment
21 Northumberland and
26 Wellington Streets
Collingwood, VIC

			Sample Code	T21-Jn02707	T21-Jn02708	T21-Jn02709	T21-Jn02710	T21-Jn02711	T21-Jn02712	T21-Jn02713
			Field ID	OAS	IAS01	IAS02	IAS03	IAS04	IAS05	IAS06
			Date	26/05/2021	26/05/2021	26/05/2021	26/05/2021	26/05/2021	26/05/2021	26/05/2021
			Ambient Air Guidelines[1]							
Analyte	Unit	LOR	Residential	Commercial						
Solvents										
2-Propanol	µg/m^3	49	210	880	<82	<67	<75	<79	<79	<87	<64

Notes

LOR = Limit of Reporting

1 - USEPA (November 2020) Regional Screening Levels (RSL) for air, based on an incremental cancer risk level of 1×10^{-5} and target threshold risk of 1.

SUMMA CANISTER
CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☐ **Sydney Laboratory** Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1, 21 Smallwood Pl., Murarrie, QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2, 91 Leach Highway, Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☑ **Melbourne Laboratory** 6 Monterey Road, Dandenong South, VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Edge Group	Project №	20200047
Address	423 City Rd, South Melbourne VIC 3205	Project Name	Indoor Air Sampling
Contact Name	Mikki Nada	Project Manager	Scott Davis
Phone №	0420 415 019	EDDs (Circle)	ESdat, EQuIS, pdf
Special Direction	Report only IPA results	Handed over by	Mikki Nada 13:41 27/05/2021
Purchase Order	20200047	Email for Results	scottd@edgegroup.net.au mikki.tan.nada@edgegroup.net.au
Quote ID №	200925EDGV	Turn Around Requirements	☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ 5 Day ☐ Other ( ) * Surcharges apply

№	Client Sample ID	Date	Time	Analysis: 62 VOCs (TO-15) low-level	TRH, F1, mod F2 (TO-15)	VPH aliphatic/aromatic speciation (TO-15)	ASTM Gas List (D1945/1946)	Helium only (D1946)	Canister Vacuum/Pressure: Initial	Final	Canister ID (e.g 1L0020 or 6L0020)	Flow Controller ID (e.g FC0020 or 000020)	Sample Comments / DG Hazard Warning
1	OAS	26/05/2021	08:42	X					-30	-11	6L0069	1019	
2	IAS01	"	09:03	X					-30	0	6L0011	215	
3	IAS02	"	09:33	X					-30	-6	6L0040	88	
4	IAS03	"	10:06	X					-30	-5	6L0032	150	
5	IAS04	"	10:20	X					-30	-9	6L0029	155	
6	IAS05	"	10:50	X					-30	-12	6L0009	135	
7	IAS06	"	11:05	X					-30	0	6L0042	207	
8													
9													
	Total Counts												

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal Name Signature Date ___/___/___ Time ___:___

Laboratory Use Only

Received By		SYD | BNE | MEL | PER | ADL | NEW | DAR	Signature	Date ___/___/___	Time ___:___	Temperature	
Received By	Ben	SYD | BNE | MEL | PER | ADL | NEW | DAR	Signature	Date ___/___/___	Time ___:___	Report №	749802

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | ingt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | ingt Standard Terms and Conditions is available on request

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Site # 1254 & 14271

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NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

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Mayfield East NSW 2304
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NATA # 1261 Site # 25079

New Zealand

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Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Edge Group P/L
Contact name:	Scott Davis
Project name:	INDOOR AIR SAMPLING
Project ID:	20200047
Turnaround time:	5 Day
Date/Time received	May 27, 2021
Eurofins reference	799802

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Harry Bacalis on phone : or by email: HarryBacalis@eurofins.com

Results will be delivered electronically via email to Scott Davis - ScottD@edgegroup.net.au.

Note: A copy of these results will also be delivered to the general Edge Group P/L email address.

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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: INDOOR AIR SAMPLING
Project ID: 20200047

Order No.:
Report #: 799802
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: May 27, 2021 12:00 AM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Harry Bacalis

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	OAS	May 26, 2021	8:42AM	6L Summa Canister	T21-Jn02707	X	X	X	X
2	IAS01	May 26, 2021	9:03AM	6L Summa Canister	T21-Jn02708	X	X	X	X
3	IAS02	May 26, 2021	9:33AM	6L Summa Canister	T21-Jn02709	X	X	X	X
4	IAS03	May 26, 2021	10:06AM	6L Summa Canister	T21-Jn02710	X	X	X	X
5	IAS04	May 26, 2021	10:20AM	6L Summa Canister	T21-Jn02711	X	X	X	X
6	IAS05	May 26, 2021	10:50AM	6L Summa	T21-Jn02712	X	X	X	X

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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
South Melbourne
VIC 3205

Project Name: INDOOR AIR SAMPLING
Project ID: 20200047

Order No.:
Report #: 799802
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: May 27, 2021 12:00 AM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Harry Bacalis

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
				Canister					
7	IAS06	May 26, 2021	11:05AM	6L Summa Canister	T21-Jn02713	X	X	X	X
Test Counts						7	7	7	7

Edge Group P/L
1st Floor, 423 City Road
South Melbourne
VIC 3205

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Scott Davis**

Report **799802-TO-V2**
Project name INDOOR AIR SAMPLING
Project ID 20200047
Received Date May 27, 2021

Client Sample ID			**OAS**	**IAS01**	**IAS02**	**IAS03**
Sample Matrix			**6L Summa Canister**	**6L Summa Canister**	**6L Summa Canister**	**6L Summa Canister**
Eurofins Sample No.			**T21-Jn02707**	**T21-Jn02708**	**T21-Jn02709**	**T21-Jn02710**
Date Sampled			**May 26, 2021**	**May 26, 2021**	**May 26, 2021**	**May 26, 2021**
Receipt Vac./Pressure (inHg)			**5.8**	**0.8**	**3.7**	**5.1**
Final Pressure (psi)			**5.1**	**5.1**	**5.1**	**5.1**
Test/Reference	LOR	Unit				
Dilution Factor	0.1		1.7	1.4	1.5	1.6
US EPA Compendium Methods TO-14a/TO-15						
Isopropanol	49	ug/m3	< 82	< 67	< 75	< 79

Client Sample ID			**IAS04**	**IAS05**	**IAS06**
Sample Matrix			**6L Summa Canister**	**6L Summa Canister**	**6L Summa Canister**
Eurofins Sample No.			**T21-Jn02711**	**T21-Jn02712**	**T21-Jn02713**
Date Sampled			**May 26, 2021**	**May 26, 2021**	**May 26, 2021**
Receipt Vac./Pressure (inHg)			**5.2**	**7.3**	**0.7**
Final Pressure (psi)			**5.1**	**5.1**	**5.1**
Test/Reference	LOR	Unit			
Dilution Factor	0.1		1.6	1.8	1.3
US EPA Compendium Methods TO-14a/TO-15					
Isopropanol	49	ug/m3	< 79	< 87	< 64

eurofins | Air Toxics

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
US EPA Compendium Methods TO-14a/TO-15	BrisbaneAir	Jun 02, 2021	30 Days

- Method: SOP #6 Analysis of Volatile Organic Compounds in Summa Polished Canisters EPA Method TO-15 And Modified EPA Method TO-14A

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
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16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
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Company Name: Edge Group P/L
Address: 1st Floor, 423 City Road
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VIC 3205

Project Name: INDOOR AIR SAMPLING
Project ID: 20200047

Order No.:
Report #: 799802
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: May 27, 2021 12:00 AM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Harry Bacalis

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	OAS	May 26, 2021	8:42AM	6L Summa Canister	T21-Jn02707	X	X	X	X
2	IAS01	May 26, 2021	9:03AM	6L Summa Canister	T21-Jn02708	X	X	X	X
3	IAS02	May 26, 2021	9:33AM	6L Summa Canister	T21-Jn02709	X	X	X	X
4	IAS03	May 26, 2021	10:06AM	6L Summa Canister	T21-Jn02710	X	X	X	X
5	IAS04	May 26, 2021	10:20AM	6L Summa Canister	T21-Jn02711	X	X	X	X
6	IAS05	May 26, 2021	10:50AM	6L Summa	T21-Jn02712	X	X	X	X

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

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Project Name: INDOOR AIR SAMPLING
Project ID: 20200047

Order No.:
Report #: 799802
Phone: 03 8625 9696
Fax: 03 9682 4398

Received: May 27, 2021 12:00 AM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Scott Davis

Eurofins Analytical Services Manager : Harry Bacalis

Sample Detail						Dilution Factor	Final Pressure (psi)	Receipt Vac./Pressure (in Hg)	US EPA Compendium Methods TO-14a/TO-15
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217									
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Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
				Canister					
7	IAS06	May 26, 2021	11:05AM	6L Summa Canister	T21-Jn02713	X	X	X	X
Test Counts						7	7	7	7

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. Dilutions are performed on samples due to the presence of high level target species or the presence of high level non-target species.
3. Results are uncorrected for surrogate recoveries.
4. All QC limit exceedances and affected sample results are noted by flags. Each qualifying flag is defined below in section entitled 'Definition of Data Qualifying Flags' and additionally on individual sample results (where relevant).
5. "100% certification" is defined as evaluating the sampling system with humid zero air/N2 and humid calibration gases that pass through all active components of the sampling system. The system is "100% certified" if no significant additions or deletions (less than 0.2 ppbv each of target compounds) have occurred when challenged with the test gas stream.
6. The conversion equation from ppbv to g/m3 uses a temperature of 25 °C and an ambient sea level atmospheric pressure of 1 atmosphere (101.325 kPa) is assumed.
7. All canister samples are only analysed once temperature equilibrium with the laboratory has been achieved.
8. Safe Sampling Volume (SSV) - calculated by taking two-thirds of the breakthrough volume (direct method) and Appendix 1 of Method T0-17.
9. Samples were analysed on an 'as received' basis.
10. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
11. This report replaces any interim results previously issued.

Definition of Data Qualifying Flags

Qualifiers may have been used on the data analysis sheets and indicates as follows:

A01 Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

A02 Estimated value.

A03 Exceeds instrument calibration range.

A04 Saturated peak.

A05 Exceeds quality control limits.

A06 Compound analysed for but not detected above the Limit of Reporting (LOR). See data page for project specific U-flag definition.

A07 Non-detected compound associated with low bias in the CCV.

A08 The identification is based on presumptive evidence.

A09 SSV has been exceeded for this compound. It is likely that this compound has been underestimated.

A10 LORs cited do not take into account sample dilution due to canister pressurisation.

A11 Naphthalene elutes outside the >C10-C12 range on the system used for sample analysis. As a result, >C10-C12 TRH value is equivalent to the modified F2 value.

Holding Times

Under conditions of normal usage for sampling ambient air, most Volatile Organic Compounds (VOCs) can be recovered from canisters near their original concentrations after storage times of up to thirty days. For thermal desorption tubes (TDT) samples should be refrigerated at <4°C in a clean environment during storage and analysed within 30 days of sample collection (within one week for limonene, carene, bis-chloromethyl ether and labile sulfur or nitrogen containing volatiles).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

ppbv: parts per billion by volume

ug/m3: micrograms per cubic metre

kPa: kilopascal

psig: pounds per square inch gauge

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
US EPA Compendium Methods TO-14a/TO-15							
Isopropanol	ug/m3	< 49			49	Pass	
LCS - % Recovery							
US EPA Compendium Methods TO-14a/TO-15							
Isopropanol	%	71			70-130	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Harry Bacalis	Analytical Services Manager
Laurence Hearn	Senior Analyst-Air (QLD)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

ALS Melbourne: 4 Westall Rd, Springvale, VIC 3171 Phone (03) 8549 9600; Facsimile (03) 8549 9601. Email Samples.Melbourne@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd
2-4 Westall Road, Springvale, VIC 3171

CLIENT: EDGE GROUP
ADDRESS / OFFICE: 423 CITY RD SOUTH MELBOURNE
PROJECT MANAGER (PM): Scott Davis
PROJECT ID: 20200047
SITE: Collingwood P.O. NO.: 20200047
RESULTS REQUIRED (**Date**): QUOTE NO.:

SAMPLER: Mikki Nada, Humaira Cadekiwala
MOBILE: 0420 415 019
PHONE
EMAIL REPORT TO: ScottD@edgegroup.net.au mikki.tan@edgegroup.net.au
EMAIL INVOICE TO: accounts@edgegroup.net.au

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DIPOSAL:
Report only IPA results

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		62 VOCs (TO-15) (low level)	TRH, F1, mod F2 (TO-15)	ASTM Gas List (D1945/1946) O_2, CH_4, CO_2, Helium										HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Canister #	Controller #													
	FS01	ndoor Ai	26-May	10:20	6L0021	307	X												

Environmental Division
Newcastle
Work Order Reference
EN2104608
Telephone : +61 2 4014 2500

Notes: e.g. Highly contaminated samples
e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.

FS01 Canister (6L0021) is a Eurofins Canister.
Please return the cansiter to Eurofins (6 Monterey Road, Dandenong South, VIC 3175).

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Humaira Cadekiwala	Date: 27/05/2021	Name: Scott	Date: 27/5/21	Con' Note No: MTTI147044
Of: Edge Group	Time: : 13:33	Of: ALS	Time: ~~1630~~ 1630	
Name: M.S	Date: 31/5/21	Name:	Date: 1/6/21	Transport Co: Toll
Of: ALS	Time:	Of: ALS	Time: 11:15	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

AUSTRALIAN LABORATORY SERVICES P/L

ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EN2104608**

Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Contact	: Hannah White
Address	: 423 City Rd South Melbourne	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
E-mail	: scottd@edgegroup.net.au	E-mail	: Hannah.White@alsglobal.com
Telephone	: +61 03 8625 9696	Telephone	: +61 2 4014 2500
Facsimile	: ----	Facsimile	: +61 2 4967 7382
Project	: 20200047	Page	: 1 of 2
Order number	: 20200047	Quote number	: EM2017EDGGRO0001 (MEBQ/108/20 Primary Work Only)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Collingwood		
Sampler	: Humaira Cadekiwali, Mikki Nada		

Dates

Date Samples Received	: 01-Jun-2021 11:15	Issue Date	: 01-Jun-2021
Client Requested Due Date	: 08-Jun-2021	Scheduled Reporting Date	: **08-Jun-2021**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **AIR**

Laboratory sample ID	Sampling date / time	Sample ID	AIR - EP101-IPA Isopropyl Alcohol - Ambient Air
EN2104608-001	26-May-2021 10:20	FS01 6L0021_307	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ALL INVOICES

- A4 - AU Tax Invoice (INV)	Email	accounts@edgegroup.net.au

MIKKI TAN

- *AU Certificate of Analysis - NATA (COA)	Email	mikki.tan@edgegroup.net.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mikki.tan@edgegroup.net.au
- *AU QC Report - DEFAULT (Anon QC Rep) - USEPA (QC-USEPA)	Email	mikki.tan@edgegroup.net.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mikki.tan@edgegroup.net.au
- Chain of Custody (CoC) (COC)	Email	mikki.tan@edgegroup.net.au
- EDI Format - ENMRG (ENMRG)	Email	mikki.tan@edgegroup.net.au
- EDI Format - ESDAT (ESDAT)	Email	mikki.tan@edgegroup.net.au
- EDI Format - XTab (XTAB)	Email	mikki.tan@edgegroup.net.au

SCOTT DAVIS

- *AU Certificate of Analysis - NATA (COA)	Email	scottd@edgegroup.net.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	scottd@edgegroup.net.au
- *AU QC Report - DEFAULT (Anon QC Rep) - USEPA (QC-USEPA)	Email	scottd@edgegroup.net.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	scottd@edgegroup.net.au
- Chain of Custody (CoC) (COC)	Email	scottd@edgegroup.net.au
- EDI Format - ENMRG (ENMRG)	Email	scottd@edgegroup.net.au
- EDI Format - ESDAT (ESDAT)	Email	scottd@edgegroup.net.au
- EDI Format - XTab (XTAB)	Email	scottd@edgegroup.net.au

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EN2104608**	Page	: 1 of 3
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Contact	: Hannah White
Address	: 423 City Rd South Melbourne	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 03 8625 9696	Telephone	: +61 2 4014 2500
Project	: 20200047	Date Samples Received	: 01-Jun-2021 11:15
Order number	: 20200047	Date Analysis Commenced	: 02-Jun-2021
C-O-C number	: ----	Issue Date	: 03-Jun-2021 15:20
Sampler	: Humaira Cadekiwali, Mikki Nada		
Site	: Collingwood		
Quote number	: MEBQ/108/20 Primary Work Only		
No. of samples received	: 1		
No. of samples analysed	: 1		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dale Semple	Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP101: Results reported in µg/m³ are calculated from PPBV results based on a temperature of 25°C and atmospheric pressure of 101.3 kPa.
- CAN-001: Results for Pressure - As Received are measured under controlled conditions using calibrated laboratory gauges. These results are expressed as an Absolute Pressure. Equivalent gauge pressures may be calculated by subtracting the Pressure - Laboratory Atmosphere taken at the time of measurement.
- CAN-001: Results for Pressure - Gauge as Received are obtained from uncalibrated field gauges and are indicative only. These results may not precisely match calibrated gauge readings and may vary from field measurements due to changes in temperature and pressure

Analytical Results

Sub-Matrix: **AIR** (Matrix: **AIR**)			Sample ID	**FS01 6L0021_307**	**----**	**----**	**----**	**----**
			Sampling date / time	26-May-2021 10:20	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**EN2104608-001**	**--------**	**--------**	**--------**	**--------**
				Result	----	----	----	----
EP101: VOCs by USEPA Method TO15 (Calculated Concentration)								
Isopropyl Alcohol	67-63-0	1.2	µg/m³	**58.9**	**----**	**----**	**----**	**----**
EP101: VOCs by USEPA Method TO15r								
Isopropyl Alcohol	67-63-0	0.5	ppbv	**24.0**	**----**	**----**	**----**	**----**
Sampling Quality Assurance								
Pressure - As received	PRESSURE	0.1	kPaa	**64.5**	**----**	**----**	**----**	**----**
Pressure - Laboratory Atmosphere	----	0.1	kPaa	**102**	**----**	**----**	**----**	**----**
Temperature as Received	----	0.1	°C	**20.0**	**----**	**----**	**----**	**----**
Vacuum - As received	----	0.03	Inches Hg	**11.1**	**----**	**----**	**----**	**----**
USEPA Air Toxics Method TO15r Surrogates								
4-Bromofluorobenzene	460-00-4	0.5	%	**94.9**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **AIR**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
USEPA Air Toxics Method TO15r Surrogates			
4-Bromofluorobenzene	460-00-4	60	140

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EN2104608**	Page	: 1 of 3
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Contact	: Hannah White
Address	: 423 City Rd South Melbourne	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: +61 03 8625 9696	Telephone	: +61 2 4014 2500
Project	: 20200047	Date Samples Received	: 01-Jun-2021
Order number	: 20200047	Date Analysis Commenced	: 02-Jun-2021
C-O-C number	: ----	Issue Date	: 03-Jun-2021
Sampler	: Humaira Cadekiwali, Mikki Nada		
Site	: Collingwood		
Quote number	: MEBQ/108/20 Primary Work Only		
No. of samples received	: 1		
No. of samples analysed	: 1		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report ; Recovery and Acceptance Limits
- Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dale Semple	Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Air Analyst	Newcastle, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **AIR**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP101: VOCs by USEPA Method TO15r (QC Lot: 3713463)									
EN2104494-001	Anonymous	EP101-15X: Isopropyl Alcohol	67-63-0	0.5	ppbv	4.1	3.4	19.3	No Limit

Method Blank (MB), Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (DCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control terms Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (DCS) refers to certified reference materials, or known interference free matrices spiked with target analytes. The purpose of these QC parameters are to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS and DCS.

Sub-Matrix: **AIR**

		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EP101: VOCs by USEPA Method TO15r (QCLot: 3713463)											
EP101-15X: Isopropyl Alcohol	67-63-0	0.5	ppbv	<0.5	10 ppbv	79.6	83.9	70.0	126	20	----

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EN2104608**	Page	: 1 of 4
Client	: **EDGE GROUP PTY LTD**	Laboratory	: Environmental Division Newcastle
Contact	: SCOTT DAVIS	Telephone	: +61 2 4014 2500
Project	: 20200047	Date Samples Received	: 01-Jun-2021
Site	: Collingwood	Issue Date	: 03-Jun-2021
Sampler	: Humaira Cadekiwali, Mikki Nada	No. of samples received	: 1
Order number	: 20200047	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **AIR**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	***Date analysed***	Due for analysis	Evaluation
EP101: VOCs by USEPA Method TO15r							
Gas Canister - Non-ALS (Other) (EP101-15X)							
FS01 - 6L0021_307	**26-May-2021**	**----**	----	----	**02-Jun-2021**	25-Jun-2021	✓
Sampling Quality Assurance							
Gas Canister - Non-ALS (Other) (CAN-001)							
FS01 - 6L0021_307	**26-May-2021**	**----**	----	----	**02-Jun-2021**	26-May-2022	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **AIR**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Duplicate Control Samples (DCS)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Duplicates (DUP)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Canister Sampling - Field Data	CAN-001	AIR	In house: Referenced to USEPA TO14 / TO15
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	AIR	In house: Referenced to USEPA TO15r Volatile Organic Compounds in Air by USEPA TO15. Extended Suite
VOCs in Air by USEPA TO15r - Extended Suite (mass/volume)	EP101-15X-MV	AIR	In house: Referenced to USEPA TO15r Volatile Organic Compounds in Air by USEPA TO15. Extended Suite (Calculated Concentration)

Appendix C Vapour modelling and risk calculations for TCE

VAPOUR PARTITIONING, EMISSION AND AIR DISPERSION MODEL FOR CONTAMINATED SOIL AND GROUNDWATER SOURCE
Using Johnson & Ettinger Model (USEPA 2004) for VI and ASTM (2002) for Outdoors and Excavations

Site Specific Physical Input Parameters	Units	Abbrev.	Value	Comments
General Parameters				
Depth to soil vapour impacts	[m]	svg1	0.1	Depth from soil vapour measurement to slab
Top Layer (unsaturated zone)				***Sand***
Depth of top layer (soil vapour source)	[m]	vd1sv	**0.1**	Site-specific
Moisture Content	[ml/g]	mocon	**0.08**	Default for sand, sandy clay and fill (CRC CARE 2011)
Fraction of Organic Carbon	-	foc1	**0.003**	Default (CRC CARE 2011)
Soil Bulk Density	[g/ml]	rhob	**1.625**	Default for sand, sandy clay and fill (CRC CARE 2011)
Density of Solids	[g/ml]	sd	2.65	Default
Total Soil Porosity	[ml/ml]	theta	0.39	Calculated (1 - (rhob/sd))
Volumetric Water Content	[ml/ml]	wacon	0.130	Calculated (mocon*rhob)
Volumetric Air Content	[ml/ml]	acon	0.257	Calculated (theta-wacon)

Receptor Specific Input Parameters	Units	Abbrev.	Value	Comments
Building Characteristics				
Width of Building	[m]	bwidth	**10**	Average size of residential home as per enHealth (2012)
Length of Building	[m]	blength	**15**	Average size of residential home as per enHealth (2012)
Area of Emission - Building Area	[m^2]	emarea	150.0	Calculated based on building dimensions
Proportion of site above contaminated soil vapour	--		1.0	Maximum possible
Foundation/wall thickness	[m]	fthick	0.10	Minimum default from BCA
Height of Room	[m]	boxh	**2.4**	Minimum ceiling height for residential homes (CRC CARE 2011)
Hourly Volume Exchange of Fresh Air	[exch/hr]	exchanges	**0.6**	Default for residential homes (enHealth 2012)
Fraction of Cracks in Walls and foundation	-	cracks	**0.001**	Default Value for type of building, USEPA 2004
Qbuilding	[cm^3/s]	Qb	60000.0	Calculated, USEPA 2004
Is advective vapour flow significant?	-	Adv	yes	Based on building type/assumptions adopted
Qsoil	[cm^3/s]	Qs	300.0	Qbuilding x 0.005 for residential (CRC CARE 2011)
Acrack	[cm^2]	Ac	1500	Calculated from building area and crack ratio, USEPA 2004
Volumetric Water Content in foundation/wall cracks	[ml/ml]	fwacon	0.12	Default Value
Volumetric Air Content in foundation/wall cracks	[ml/ml]	facon	0.260	Default Value

Chemical Specific Parameters	Water Solubility (mg/L)	Koc (cm^3/g)	MW (g/mol)	Air Diffusion Coefficient (cm^2/s)	Water Diffusion Coefficient (cm^2/s)	Vapour Pressure (mmHg)	Henry's Law Constant (unitless)
Trichloroethene			1.31E+02	7.90E-02	9.10E-06	6.90E+01	4.03E-01

Note: Physical/chemical properties sourced from RAIS website (March 2021) (Default/SSL values and then EPI Exp. values adopted where available)

Vapour Transport Calculations	Deff Layer 1 (cm^2/s)	Deff Layer 2 (cm^2/s)	Deff Layer 3 (cm^2/s)	Deff Foundations and Cracks (cm^2/s)	Deff Capillary Fringe (cm^2/s)
Trichloroethene	5.68E-3	1.18E-3	1.51E-3	5.92E-3	2.77E-6

Vapour Transport Calculations	Total Effective Diffusion (Soil to Foundation) (cm^2/s)	Total Effective Diffusion (Soil to excavation) (cm^2/s)	Total Effective Diffusion (GW to foundation) (cm^2/s)	Total Effective Diffusion (GW to excavation) (cm^2/s)	Total Effective Diffusion (SV to foundation) (cm^2/s)	Total Effective Diffusion (SV to excavation) (cm^2/s)
Trichloroethene	#DIV/0!	5.68E-3	2.77E-6	2.77E-6	0.005683874	5.68E-3

Modelled Air Concentrations from Soil Vapour Source

Intermediate Calculations	A	B	C	Pe	Key VI Mechanism
Trichloroethene	0.014209686	3.4E+02	5.0E-03	4.20E+146	advection dominated

Calculated Air Concentrations	Soil Vapour Concentration (mg/m^3)	JE Attenuation Coefficient (unitless)	Ground Floor Air Concentration (mg/m^3)		
Trichloroethene	**0.025**	3.7E-03	**9.2E-05**		

Inhalation of Volatiles on Ground Floor

$$InhalationExposureConc_V = C_a \bullet \frac{ET \bullet FI \bullet EF \bullet ED}{AT} \quad (mg/m^3)$$

Parameters Relevant to Quantification of Exposures by Residents		
Exposure Time Indoors (ET, hr/day)	20	As per NEPM (1999 amended 2013)
Fraction Inhaled from Contaminated Source (FI, unitless)	1	Assume all of building above source
Exposure Frequency (EF, days/yr)	365	Days at home, as per NEPM (1999 amended 2013)
Exposure Duration (ED, years)	35	As per NEPM (1999 amended 2013)
Averaging Time - NonThreshold (Atc, hours)	613200	US EPA 2009
Averaging Time - Threshold (Atn, hours)	306600	US EPA 2009

Key Chemical	Toxicity Data				Concentration	Daily Exposure		Calculated Risk			
	Inhalation Unit Risk	Chronic TC Air	Background Intake (% Chronic TC)	Chronic TC Allowable for Assessment (TC-Background)	Estimated Concentration in Air (Ca)	Inhalation Exposure Concentration - NonThreshold	Inhalation Exposure Concentration - Threshold	Non-Threshold Risk	% Total Risk	Chronic Hazard Quotient	% Total HI
	$(mg/m^3)^{-1}$	(mg/m^3)		(mg/m^3)	(mg/m^3)	(mg/m^3)	(mg/m^3)	(unitless)		(unitless)	
Trichloroethene	4.0E-03	2.0E-03	10%	1.8E-03	9.2E-05	3.9E-05	7.7E-05	1.5E-7	100%	0.04281	100%
						TOTAL		**1.54E-07**		**0.04281**	