

# Preliminary Site Investigation and Limited Scope Detailed Site Investigation

39 The Avenue, Balaclava, Victoria  
3183

Prepared for:

City of Port Phillip  
St Kilda Town Hall,  
99a Carlisle Street,  
St Kilda, Victoria 3182

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# Abbreviations

BTEX	Benzene, Toluene, Ethyl benzene and Xylenes
COPC	Contaminants of potential concern
DELWP	Department of Environment, Land, Water and Planning
EPA Victoria	Victorian Environment Protection Authority
ERS	Environment Reference Standard
MAH	Monoaromatic hydrocarbon
mbgl	Metres below ground level
mg/L	milligrams per litre
MMBW	Melbourne Metropolitan Board of Works
OCP	Organochlorine Pesticide
OPP	Organophosphorus Pesticide
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
Peraco	Peraco Environmental Services Pty Ltd
PSI	Preliminary Site Investigation
SEPP	State Environment Protection Policy
SVOC	Semi-Volatile Organic Compound
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbon
VCH	Volatile Chlorinated Hydrocarbon
VOC	Volatile Organic Compound

# 1 Introduction

Peraco Pty Ltd (Peraco) was commissioned by City of Port Phillip to undertake a preliminary site investigation (PSI) comprising a site history review and identification of potentially contaminating historical land uses and a limited scope detailed site investigation (DSI) comprising of an intrusive soil investigation for the site located at 39 The Avenue, Balaclava, Victoria 3183 (the site) (Refer to Figure 1 for site location). Council has advised that the purpose of the DSI is to support the potential divestment/development process of the site. This report presents the findings of the site investigation conducted by Peraco.

## 1.1 Objectives

The City of Port Phillip has specified that the DSI is required to provide sufficient information about site conditions to enable an understanding of the following:

- ✓ To determine the thickness of fill at the site,
- ✓ The suitability of fill for the current land use and alternative land uses,
- ✓ Likely waste disposal category of the fill if required to be removed from site,
- ✓ Likely waste disposal category of the natural material if required to be removed from site,
- ✓ The potential for groundwater to be contaminated from on or offsite activities

## 1.2 Scope of Work

To address the above objectives, a PSI was undertaken to assess, based on a desktop review, the potential for soil, groundwater and/or vapour contamination to be present at the site which may be associated with current and historical site uses and activities which have occurred on-site and/or surrounding sites. In addition, a limited scope DSI, with a limited soil assessment was undertaken to assess the potential for soil contamination to be present at the site which may be associated with current and historical site uses and to address the objectives specified by The City of Port Philip, as outlined in Section 1.1 above. The following works were undertaken by Peraco:

- ✓ Desktop review of the site and surrounds history and regional background information may include some or all of the items listed below as considered relevant and available for the site:
  - Site Details
    - ✓ Site Description
    - ✓ Site Inspection
    - ✓ Surrounding Land Use
  - Environmental Setting
    - ✓ Topography
    - ✓ Regional Geology
    - ✓ Regional Hydrogeology
    - ✓ Registered Groundwater Bores
  - Site History Review
    - ✓ Previous Environmental Site Assessments
    - ✓ Surrounding PFAS Investigations
    - ✓ Historical Certificates of Titles
    - ✓ Historical Aerial Photographs
    - ✓ Sands and McDougall Directories
    - ✓ Historical Maps
    - ✓ Energy Safe Victoria Cathodic Protection System Database
    - ✓ Worksafe Victoria Dangerous Good search



- ✓ Trade Waste Agreement
  - ✓ Nearby Landfills and Backfilled Quarries
  - ✓ EPA Victoria Records
  - ✓ Priority Site Register
  - ✓ Nearby Completed Environmental Audits
  - ✓ Groundwater Quality Restricted Use Zones
  - ✓ Contaminants of Potential Concern
  - ✓ Conclusion
- ✓ Undertake a small number of targeted soil sampling locations due to restricted site access and due to much of the site being covered by existing buildings and hardstand which was not permitted to be penetrated by investigations.
  - ✓ Field screening of soil samples for volatile contaminants using a photo-ionisation detector (PID).
  - ✓ Logging of all locations including lithology, sample collection and any observations (e.g., staining or odour).
  - ✓ Laboratory analysis of selected soil samples at NATA accredited laboratories for selected contaminants of potential concern.
  - ✓ Preparation of this report presenting the investigations, findings and conclusions.

The LotSearch report, included in Appendix B, provides the majority of the desktop review information for the site with supplementary information for the site history including in Appendix I.

## 2 Site Details

### 2.1 Site Description

The site currently comprises of one parcel of land of approximately 685m<sup>2</sup>, identified as Lot 7 on Plan of Subdivision 001833. The location of the site is shown on Figure 1, and a site plan is shown in Figure 2.

A summary of the site details is provided in Table 2.1 below.

Table 2.1 Site Details

Detail	Description
Site Address	39 The Avenue, Balaclava, Victoria 3183
Certificates of Title	Lot 7 on PS 001833 Volume 08438 Folio 217
Site Area	685 m <sup>2</sup>
Site Owners	Port Phillip City Council
Planning Zone	General Residential Zone (GRZ)
Planning Overlays	Special Building
Local Council	City of Port Phillip
Current Use	The site is currently an operational childcare centre

Appendix A provides copies of the current Certificates of Title and Planning Property Reports.

### 2.2 Site Inspection

On 22 August 2021, Peraco conducted an inspection of the site, photographs from this inspection are located in Appendix D. The following observations were made:

- ✓ The site consisted of a single storey brick property with open space to the front and rear. Front access was from a pedestrian entry from The Avenue and rear access from the unnamed laneway to the south.
- ✓ Open spaces at the front and rear of the property were used as play areas with a mixture of surface coverings including Astro turf, woodchip and decking.
- ✓ Access to the rear was via the pathway along the western boundary or through the building.
- ✓ Bin storage was noted in the western pathway and a rainwater tank was noted at the rear of the property.
- ✓ The building contained rooms utilised for the childcare centre including a kitchen, laundry, toilets and offices.

### 2.3 Surrounding Land Uses

The areas surrounding the site to the north, south, east and west are currently zoned General Residential (GRZ).

A summary of the current surrounding site uses is provided in Table 2.2 below.

Table 2.2 Surrounding Land Uses

Direction	Land Use
North	The Avenue with residential beyond.
South	Unnamed laneway with residential beyond.
East	Residential
West	Residential

## 3 Environmental Setting

### 3.1 Topography

Regional topography of the area consists of undulating plains and local low ridges; dissected coastal plain; palaeo-strand lines. The site is situated approximately 12 mAHD and the topography is generally flat. Regional topography generally slopes downwards from northeast to southwest towards Port Phillip Bay. A topographical map is provided in the LotSearch Report located in Appendix B.

### 3.2 Regional Geology

The Brighton Group sediments (including the Baxter Formation in Westernport) form part of an extensive sand sheet that was deposited by a retreating sea during the Pliocene. The relatively thin veneer of gravels, sands, silts and clays layer is exposed in the south eastern Melbourne suburbs, the Mornington Peninsula and French Island. The Brighton Group also occurs beneath the basalts plain to the west of Melbourne with limited outcrop. The onsite geology is expected to be Alluvium consisting of gravel, sand, silt (variably sorted and rounded); generally unconsolidated and includes deposits of low terraces; alluvial flood plain deposits. The soil salinity rating is moderately to highly saline.

According to Australian Soil Resource Information System (ASRIS) Atlas of Australian Sulfate Soil the probability of occurrence of Acid Sulfate Soils at the site is noted to be extremely low with a 1-5% chance of occurrence with occurrences in small localised areas.

### 3.3 Regional Hydrogeology

The site is located within the West Port Phillip Bay groundwater catchment and the Port Philip and Westernport CMA with regional and intermediate flow systems in the Brighton Group Sediments. The local flow systems occur where the sand forms isolated caps on dissected ridges, especially on the Mornington Peninsula. Intermediate flow systems may develop where the Brighton Group occurs as more extensive sheet-like deposits, such in the south eastern suburbs of Melbourne and parts of the Westernport Basin. Where the unit has been extensively ferruginised or silicified, the groundwater flow pattern can be locally distorted, resulting in shorter flow paths. In places, salinity and shallow water tables are natural features of this landscape. The aquifer is unconfined to semi-confined. Hydraulic conductivity is variable and largely unknown, probably from 10-2 m/d to 10 m/d, with clayey facies less than 1 m/d and sandy facies 5-10 m/d.

Aquifer transmissivity is variable, but generally in the moderate range, estimated to be generally less than 20 m<sup>2</sup>/d. Hydraulic gradient is Estimated to be low (0.001) in intermediate systems to moderate or steep (0.01) in local systems. Could be locally steep at the edges of the Pliocene sand caps on dissected ridges.

Flow length is unknown but possibly up to 25km in intermediate systems to a few metres in local systems. Recharge is highly variable depending on location and aquifer position. Recharge has been reduced by urbanisation in the south eastern suburbs. The water salinity hazard is moderate and management options may need to be considered for agricultural land, conservation areas, urban and engineering infrastructure.

Based on a review of the Groundwater Resource Reports for the site, depth to groundwater at the site is expected to be less than 5 mbgl. The upper aquifer across the site is expected to be within the Upper Tertiary Aquifer (fluvial) sand, gravel and clays. Groundwater total dissolved solids (TDS) concentration is expected to be 1,001 to 3,500 mg/L.

According to Table 5.2 of Environment Reference Standards 2021 (ERS (2021)), a TDS between 1,001 and 3,500 mg/L classifies groundwater at the site within Segments A2, B or C with Segment A2 conservatively adopted as per the lowest expected TDS concentration. Beneficial uses of groundwater to be protected relevant to Segment A2 include:

- ✓ Water dependent ecosystems and species;
- ✓ Potable Water Supply (acceptable);
- ✓ Potable mineral water supply;

- ✓ Agriculture and irrigation (Irrigation);
- ✓ Agriculture and irrigation (stock watering);
- ✓ Industrial and commercial;
- ✓ Water-based recreation (primary contact recreation);
- ✓ Traditional Owner cultural values;
- ✓ Cultural and spiritual values;
- ✓ Buildings and structures; and
- ✓ Geothermal properties.

### 3.3.1 Registered Groundwater Bores

A search of the DELWP groundwater sites (LotSearch Report, Appendix B) was completed to identify groundwater users within the vicinity of the site. The search identified 294 registered groundwater bores within a 2 km radius of the site. The closest groundwater bore with an unknown use is located 185m south west of the site (bore ID. 326124), bores with an unknown use must be assumed to be used for extractive purposes. The closest bore with a registered extractive use is located 338m south of the site and is registered for domestic stock (bore ID. 88706). Table 3.1 summarises uses of the registered bores identified.

Table 3.1 Summary of Registered Groundwater Bores within 2km

Registered Use	No. of Bores
Commercial	1
Domestic	38
Domestic & Stock	43
Groundwater Investigation/Investigation	40
Observation	43
Irrigation	6
Unknown	123

## 4 Site History Review

### 4.1 Previous Environmental Site Assessments

To Peraco's knowledge, no previous environmental site assessments have been undertaken at the site.

### 4.2 PFAS Site Investigations

Per- and poly-fluoroalkyl substances (PFAS) were historically used extensively in legacy firefighting foams (as well as other industrial and consumer products). These substances are known to persist in the environment and have properties which allow them to move easily through the environment and bioaccumulate, potentially causing a risk to human health and the environment.

EPA Victoria is managing a number of industrial sites across Victoria that may have PFAS contamination issues. Given the widespread use of PFAS in firefighting foams EPA Victoria is continuing to regulate environmental impacts caused by historical training activities and use of firefighting chemicals at Country Fire Authority's (CFA) regional training centres across Victoria with investigations having been conducted at several of CFA's regional training centres across Victoria.

From a review of available information from Department of Defence, Airservices National PFAS Management Program and CFA Training Facilities, no PFAS site investigations were identified as having been undertaken within 2km radius of the site.

### 4.3 Historical Certificates of Titles

Peraco conducted a review of historical Certificates of Titles for the site from 1890 to the present day in order to gain an understanding of previous site owners and occupiers, and to identify potentially contaminating historical land uses.

Table 4.1 below summarises historical Certificates of Title details and historical site proprietors.

Copies of the historical Certificates of Titles are presented in Appendix C and the current Certificate of Title is presented in Appendix A.

Table 4.1 Summary of Historical Certificates of Title

Title Details	Date	Owner & Occupation (where noted)
Volume 2305 Folio 936	16 October 1890	Johanna Elizabeth McQueen (Spinster)
	17 February 1938	Robert McClelland (Railway Civil Servant) Charles Waddel (Merchant)
Volume 6239 Folio 613	7 October 1938	Mary McKenzie McQueen & Johanna Campbell McQueen (Spinsters)
	31 May 1960	James Wilfred Kirkpatrick (Carpenter)
Volume 8407 Folio 032 Volume 8407 Folio 033	1 March 1962	Thelma May Kirkpatrick (Married woman) Noel Samuel Black (Seaman)
		Alexander Gordon Pollard
		Franciscus Deeelman
	15 June 1962	Dorothy Sybil Kerkham
Volume 08438 Folio 217	2 April 1963	Thelma May Kirkpatrick (Married woman)
	7 December 1970	John Harold McCracken & Harold Milton Butler
	18 December 1975	The Mayor, Councillors and Citizens of the City of St Kilda
	09 October 2013	Port Phillip City Council (current owners)

The review of the historical Certificates of Title indicated that the site was owned by individuals and most likely used for residential purposes from at least 1890 until 1975 when it was transferred to the City of St Kilda. In 2013 the site was transferred to Port Phillip City Council who remain the current owners.

#### 4.4 Historical Maps

A review of available historical maps dated from 1895 to 2009 was undertaken and indicated that from at least 1895 the area was predominantly residential in nature. In the 1895-1902 map a single dwelling is present onsite with the layout appears similar to the current building. Surrounding the site the land appears to be subdivided into residential plots with individual dwellings. A copy of the historical maps is provided in the LotSearch report in Appendix B.

## 4.5 Historical Aerial Photographs

A review of historical aerial photographs and images dated between 1931 and 2021 was undertaken in order to develop an understanding of any development or layout changes which have occurred over time on-site and in the surrounding area. Copies of the aerial photographs are provided in the LotSearch Report located in Appendix B.

A summary of the historical aerial photograph review is provided in Table 4.2.

**Table 4.2 Summary of Aerial Photographs**

Photograph Date	Observations
1931	On-site: A single dwelling fronting The Avenue is present with a rear yard and laneway beyond. Off-site: The surrounding area is sub-divided into residential plots.
1942, 1945, 1951	On-site: The site appears unchanged from the previous aerial. Off-site: The surrounding area appears unchanged from the previous aerial
1963	On-site: No noticeable changed since the previous aerial photograph. Off-site: The surrounding area is still residential. Development is noted north east of the site with the demolition and construction of a larger building, possibly the current flats.
1968	On-site: The site appears unchanged from the previous aerial. Off-site: The adjacent property to the east and properties to the south have been replaced with larger buildings, again possibly the present-day flats.
1975	On-site: The site appears unchanged from the previous aerial. Off-site: The properties to the north east and east have been replaced with larger buildings, again possibly the present day flats.
1978, 1984	On-site: The site appears unchanged from the previous aerial. Off-site: The surrounding area appears unchanged from the previous aerial.
1987	On-site: The roofline appears altered with an extension to the rear of the building. Off-site: The surrounding area appears unchanged from the previous aerial.
2001	On-site: The present-day roofline is present. Off-site: Further development of surrounding properties.
2009	On-site: The present-day roofline is present, shade sails can be seen in the front and rear of the property. Off-site: Further development of surrounding properties.
2016	On-site: The site appears unchanged from the previous aerial. Off-site: Further development of surrounding properties.
2021	On-site: No noticeable changed since the previous aerial photograph. Off-site: Further development of surrounding properties.



The review of the aerial photographs indicates the site layout has changed little since 1931 apart from the addition of a rear extension to the roofline sometime between 1984 and 1987. The surrounding area has remained residential although with continued developments changing from single dwellings to medium/high density type dwellings.

## 4.6 Historical Business Directories

A review of the Sands and McDougall Directories (1860-1974) and Universal Business Directory (1948-1992) was undertaken in order to provide information regarding occupants of the site and surrounding properties. The review of the historical directories did not identify any business for the site. Surrounding businesses were identified and included fruiterers, greengrocers, builders and contractors and a carpet planner, layer and renovator.

Two dry cleaning businesses and a service station were noted within 500m of the site, details of these businesses are provided in Table 4.3 below.

Table 4.3 Summary of Historical Business Directories Review

Business Activity	Address	Year	Distance (m)	Direction
Dry Cleaners &/Or Pressers	Eddy's Laundrette & Dry Cleaning, 287a Carlisle St., Balaclava. 3183.	1989, 1988	246	North West
Dry Cleaners, Dyers & Pressers	Hatcher's Laundry Pty. Ltd., 285 Carlisle St., St. Kilda	1948-1949, 1950	246	North West
Motor Garages & Service Stations	Mobil Balaclava Service Station, Hotham St., Balaclava. 3183. (building number not provided, location mapped to road)	1984, 1986, 1988, 1989	87	East

## 4.7 Dangerous Goods Search

Worksafe were contacted regarding a Dangerous Goods Search for the site. A search of their database did not identify any records of a notification of dangerous goods stored or handled at that premises. A copy of the email response from Worksafe is presented in Appendix I.

## 4.8 Cathodic Protection System Database

Energy Safe Victoria is responsible for the protection of underground and underwater structures from the corrosive effects of stray electrical currents – electrolysis. Energy Safe Victoria keep a register of cathodic protection systems and monitor protection and electrolysis mitigation systems, a search of the Energy Safe Victoria public search database for Cathodic Protection Systems was conducted on 25 August 2021. The search did not identify any cathodic protection systems registered for the site address, and as such it is considered unlikely that any registered underground storage tanks are present at the site. A copy of the cathodic protection systems search findings is provided in Appendix I.

## 4.9 Nearby Landfills and Backfilled Quarries

A buffer distance of 500m is used by EPA to assess if there is potential for any landfill gases to impact on a nearby site (based on information contained in Victorian EPA Publication 788.3 - Siting, Design, Operation and Rehabilitation of Landfills).

A review of the historical aerial photographs and historical maps did not identify any potential landfills, backfilled quarries or any other potential areas of deep filling at or within 500 m of the site. In addition, a review of the EPA Victorian Landfill Register did not identify any current or historical landfill within 500 m of site.

The LotSearch report identified one former waste disposal site located 383 m north west of the site. This site operated from 1859-1888 for municipal waste. The source of the information is understood to be originally from the EPA and location of the disposal site was the St Kilda Town Hall.

Supporting information from 'The History of St. Kilda 1840-1930', Volume 2 (Cooper, May 2009) confirmed the town hall site as previously been used for municipal waste disposal, an extract from this volume is presented in Appendix I. The town hall is located approximately 900 meters north west of the subject site it is therefore considered unlikely that the site has been, or is being, impacted by landfill gas.

## 4.10 National Liquid Fuel Facilities

A search of nearby fuel facilities indicated that there are two located within 1km of the site. Details of these facilities is provided in Table 4.4 below.

Table 4.4 Summary of Nearby Fuel Facilities

Name	Address	Class	Operational Status	Distance (m)	Direction
BP Balaclava	308 Carlisle Street	Petrol Station	Operational	404	North West
Safeway Caltex St Kilda	97 Chapel Street	Petrol Station	Operational	902	North West

## 4.11 Trade Waste Agreements

South East Water were contacted on 26 August 2021 regarding trade waste agreements for the site and confirmed that there is currently a trade waste agreement for the property. There is no grease trap at the property, but an installation agreement is in place whereby a trap will be installed if blockages occur or prior to sale of the property. A copy of the email response from South East Water is provided in Appendix I.

## 4.12 EPA Victoria Records

### 4.12.1 Priority Site Register

A site is listed on the Priority Sites Register when EPA issues a Clean Up Notice or a Pollution Abatement Notice (relevant to land and/or groundwater). Generally, Priority Sites are sites where pollution of land and/or groundwater presents a potential risk to human health or to the environment, and the condition of these sites are not compatible with the current or approved use of the site without active management to reduce the risk to human health and the environment.

A search of the Victorian EPA Priority Sites Register (LotSearch Report, Appendix B) indicated that the site is not currently listed on the Register and there are no current Priority sites located within 500m of the site.

### 4.12.2 Nearby Completed Environmental Audits

A search of the Victorian EPA list of Issued Certificates and Statements of Environmental Audit was undertaken on 22 July 2021 which indicated that no Certificates or Statements of Environmental Audit have been issued for the site. A search of Environmental Audits completed in the vicinity of the site identified 15 environmental audits within 1 km of the site. A summary of pertinent findings from the review of the three closest audits, located within 500m of the site is provided in Table 4.5.

Table 4.5 Summary of Nearest Environmental Audit

Audit Details	Address	Distance from site	Audit Summary
CARMS No. 70168-1 Date Completed: 13/09/2012	65-69 Grosvenor St, Balaclava	313m south west	<p>The site is a former motor engineers and panel beaters with two USTs removed in 2010. Shallow fill (&lt;1m) remaining on and off site contains residual concentrations slightly above EILs and HILs.</p> <p>Average depth to groundwater was 4.2 to 4.5 mbgl and flow direction was west/south west. Groundwater concentrations were considered to be naturally occurring background chemicals based on typical ranges of groundwater in the audit area.</p> <p>A statement of environmental audit was issued for the site.</p>
CARMS No. 73636-1 Date Completed: 05/08/2016	308 Carlisle Street, Balaclava	404m north west	<p>The site operated as a BP (formerly AMOCO) service station since circa 1962 until it was recently closed and decommissioned (April 2016). Prior to 1962 the site was listed as two separate titles. The site was used for residential purposes, a dentist (1915 – 1962) and as a fruit shop (1951 – 1962).</p> <p>Soil impacts (metals, PAH and TRH) at the site preclude the relevant beneficial uses for the proposed development of Maintenance of Ecosystems, Human Health and/or Aesthetics.</p> <p>Average depth to groundwater was 3.3 to 4.86 mbgl and flow direction was west/south west. Perched water was also found 0.2-0.52 mbgl. Groundwater pollution remains on-site (delineated within site boundaries). An auditor determined CUTEF has been determined and a GQRUZ has been identified for the site.</p>

Audit Details	Address	Distance from site	Audit Summary
			A statement of environmental audit was issued for the site.
CARMS No. 70169-1 Date Completed: 05/03/2014	160 Hotham St, St Kilda East	462m south	<p>The site is a former service station and car dealership which was also historically used by a painter, an ironmonger and a motor engineers. In 1926 the site became a service.</p> <p>Remnant soil impacts remain at the Site which are managed via the CEHSP and EMP.</p> <p>Groundwater flow direction was general westerly to south westerly component of local flow. Average depth to groundwater was 5.5-6.5mbgl. Groundwater at the site is polluted with benzene, ethyl benzene, xylene, TRHs, PAHs and phenol and currently precludes the beneficial uses Potable Water, Stock Watering and Primary Contact Recreation. EPA determined CUTEF for the site. Groundwater pollution exists at the site which requires ongoing groundwater monitoring and designation of a Groundwater Quality Restricted Use Zone (GQRUZ) at and immediately adjacent to the site</p> <p>A statement of environmental audit was issued for the site.</p>

#### 4.12.3 Groundwater Quality Restricted Use Zones

The site is not affected by a GQRUZ, there are four GQRUZs located within 1km of the site. A summary of these four identified GQRUZs is provided in Table 4.6.

Table 4.6 Summary of GQRUZs within 1km of Site

CARMS No.	Address	Site History	Restricted Uses	Distance from site
73636-1	308 Carlisle St, Balaclava, Vic 3183	Service station/fuel storage	Drinking water, Irrigation of crops (including domestic gardens) and parks Livestock water supply, Water used for industrial purposes, Water used for recreational purposes (e.g. swimming)	404m north west
70169-1	160 Hotham St, St Kilda East, Vic 3183	Service station/fuel storage	Drinking water, Livestock water supply Water used for recreational purposes (e.g. swimming)	444m south
54245-1	168-176 Hotham St & 2 Acacia St, Elsternwick, Vic 3185	Service station/fuel storage	Drinking water, Irrigation of crops (including domestic gardens) and parks Livestock water supply, Water used for recreational purposes (e.g. swimming)	530m south
62611-3	433 Inkerman St, St Kilda, Vic 3182	Service station/fuel storage	Drinking water, Irrigation of crops (including domestic gardens) and parks Livestock water supply, Water used for recreational purposes (e.g. swimming)	593m north east

#### 4.12.4 EPA Licence Holders

An EPA licence is required for all scheduled premises, unless the premises are exempted in the Environment Protection (Scheduled Premises) Regulations 2017, no EPA licenced activities are located within 1km of the site.

#### 4.12.5 EPA Prescribed Industrial Waste & Waste Disposal Sites

A search of EPA registered Prescribed Industrial Waste treaters, disposers and permitted transporters identified two transporters located within 1km of the site. A summary of findings is provided in Table 4.7.

Table 4.7 Summary of EPA Prescribed Industrial Waste &amp; Waste Disposal Sites

Company Name	Address	Activity	EPA List Status	Distance (m)
Imajika Pty Ltd	2 Bothwell St	Transporter	Previous EPA List	563m west
Imajika Pty Ltd	2a Bothwell St	Transporter	Current EPA List	588m west

## 5 Contaminants of Potential Concern

This section of the report draws on all information presented within the report and provides a summary of the contaminants of potential concern (COPC) identified for the site, associated with identified historical and current uses on-site and off-site.

In reference to Appendix J of Australian Standard AS4482.1 (2005) and Peraco's experience, COPCs associated with current and historical on and nearby off-site uses are provided in Table 5.1 below.

Table 5.1 Contaminants of Potential Concern

Use	Contaminant of Potential Concern
<i>On-Site</i>	
Imported Fill	Metals, polycyclic aromatic hydrocarbons (PAHs), total recoverable hydrocarbons (TRH), organochlorine pesticides (OCPs), asbestos containing material
<i>Off-Site</i>	
Service stations and dry cleaners	Metals, polycyclic aromatic hydrocarbons (PAHs), total recoverable hydrocarbons (TRH) and BTEXN, chlorinated hydrocarbons
Regional groundwater	Nitrogen compounds, pH, TDS

## 6 Soil Investigation

### 6.1 Regulatory Framework and Adopted Assessment Criteria

#### 6.1.1 Legislation

In preparing this report the below listed legislation has been considered. It is noted that at the time of preparation of this report that the Victorian EPA was in the process of implementing a new EP Act (2017) with associated new guidelines, to replace the former EP Act 1970. The status of some new EPA guidance documents has not been finalised at this time and as such reference herein has been made to both old and new guidance. Although a change in environmental legislation occurred on 1 July 2021 (from 1970 to 2017 EP Act) the technical manner in which the risk to human health and the environment from site contamination is assessed and evaluated has remained essentially the same utilising the guidance prepared by the 2013 National Environment Protection Measure (Assessment of Site Contamination) or 2013 NEPM (ASC). The new 2017 EP Act imposes a range of general duties with regard to the management and notification of contamination, but such considerations are beyond the scope of this limited DSI report.

- ✓ Environment Protection Act 1970.
- ✓ Environment Protection Act 2017.
- ✓ Environment Reference Standards 2021 (ERS (2021))
- ✓ Environment Protection Regulations 2021 (EPR (2021))
- ✓ EPA Publication 1828.2 (March 2021) – “Waste Disposal Categories and Thresholds”
- ✓ State Environment Protection Policy (Prevention and Management of Contamination of Land), June 2002. (Variation No. G39 Victorian Government Gazette, 26 September 2013) (SEPP (PMCL)).

#### 6.1.2 Guidelines, Standards and Codes of Practice

In preparing this report the following guidelines, standards and codes of practice have been considered (again as above due to the transitional nature of the new EP Act 2017 both old and new guideline documents are referenced below):

- ✓ National Environment Protection (Assessment of site Contamination) Measure 1999, Amendment Measure 2013 (No. 1)
- ✓ EPA Victoria (June 2009) Industrial Waste Resource Guidelines (IWRG) 701 – Sampling and Analysis of Waters, Waste Waters, Soils and Wastes (IWRG701).
- ✓ EPA Victoria (June 2009) Industrial Waste Resource Guidelines (IWRG) 621 – Solid Hazard Categorisation and Management (IWRG621).
- ✓ Environment Protection (Industrial Waste Resource) Regulations 2009
- ✓ EPA Victoria (March 2021) Waste Classification Assessment Protocol (1827.2).
- ✓ EPA Publication 1992 (June 2021) – “Guide to the Environment Reference Standard”
- ✓ Standards Australia (2005) Australian Standard AS 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).
- ✓ Standards Australia (1999) Australian Standard AS 4482.2-1999 Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances (AS4482.2)

#### 6.1.3 Adopted Assessment Criteria for Soil

“Section 10 of Part 4 – Land” of the ERS (2021) sets out the environmental values of the land environment that are applicable to different land use categories. Table 4.1 of the ERS (2021) provides descriptions of the environmental values and it is reproduced below as Table 6.1:



Table 6.1: Environmental Values of the Land Environment

Environmental Value	Description of Environmental Value
Land dependent ecosystems and species	Land quality that is suitable to protect soil health and the integrity and biodiversity of natural ecosystems, modified ecosystems and highly modified ecosystems
Human health	Land quality that is suitable for the specific land use and safe for the human use of that land
Buildings and structures	Land quality that is not corrosive to buildings, structures, property and materials
Aesthetics	Aesthetic issues do not adversely impact the use of land. Aesthetic issues include the quantity, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity
Production of food, flora and fibre	Land quality that is suitable for the safe human consumption of food, flora and fibre and that does not adversely affect produce quality or yield

“Section 11 of Part 4 – Land” of the ERS sets out the land use categories that are defined under the ERS. Table 6.2 below provides a description of the six land use categories listed:

Table 6.2: Land Use Categories

Land Use Category	Definition
Parks and Reserves	National parks, state parks, state forests, nature conservation reserves and wildlife reserves;
Agriculture	Rural areas involved in agricultural or horticultural practices;
Sensitive Use:	Land used for residential use, a childcare centre, pre-school, or primary school, being either:
(i) High Density	(i) high density, where development makes maximum use of available land space and there is minimal access to soil; or
(ii) Other (lower density)	(ii) other (lower density), where there is generally substantial access to soil;
Recreation/Open Space	General open space and public recreation areas;
Commercial	Land used for commercial and business activities, other than land within the Industrial category
Industrial	Land used for utilities and industrial activities

Table 4.2 from the ERS (2021) specifies which environmental values are relevant for which land use and this table is reproduced as Table 6.3 below.



Table 6.3: Environmental Values That Apply to Land Use Categories

		Parks and Reserves	Agricultural	Sensitive Use		Recreation /Open Space	Commercial	Industrial
				High Density	Other (lower density)			
Land depended ecosystems and species	Natural ecosystems	✓						
	Modified ecosystems	✓	✓		✓	✓		
	Highly modified ecosystems		✓	✓	✓	✓	✓	✓
Human health		✓	✓	✓	✓	✓	✓	✓
Buildings and Structures		✓	✓	✓	✓	✓	✓	✓
Aesthetics		✓		✓	✓	✓	✓	
Production of food, flora and fibre		✓	✓		✓			

Part 4 – Land of the ERS (2021) sets out in Section 12 the indicators and objectives that are to be met for the land environment. The indicators and objectives set out in Section 12 are primarily those detailed in the NEPM (ASC) where available and where not available alternative ones are proposed or suggested. It is noted that the NEPM (ASC) considers land uses slightly differently to the ERS (2021) and below is a correlation between the two (despite the correlation there are some differences between these that at specific sites may require further evaluation and especially when Tier 2 risk assessments are undertaken).

- Setting “A” is taken to be equivalent to “Sensitive Use Other (lower density)”
- Setting “B” is taken to be equivalent to “Sensitive Use High Density”
- Setting “C” is taken to be equivalent to “Recreation / Open Space”
- Setting “D” is taken to be equivalent to “Commercial and Industrial”

Parks and Reserves or Agricultural land use are not directly addressed in the NEPM and where such uses are to be considered an equivalent NEPM setting may need to be chosen for Tier 1 screening purposes or site-specific indicators and objectives may need to be determined from a Tier 2 risk assessment.

EPA Publication 1992 states “*while SEPP (PMCL) is superseded by the ERS, it remains a ‘state of knowledge’ document for contaminated land management for the time being*”. As such where relevant elements of the SEPP (PMCL) have been referenced within this report.

EPA (Section 35 of EP Act) defines land to be contaminated when:

- *a waste, a chemical substance or a prescribed substance is present on or under the surface of the land, and the waste, chemical substance or prescribed substance —*
  - (a) *is present in a concentration above the background level; and*

(b) *creates a risk of harm to human health or the environment.*

A risk of harm to human health and/or the environment is present when an objective of an indicator is exceeded. Background levels, or processes for determining them, are defined by EPA in Publication 1936 *“Proposed Methodology for Deriving Background Level Concentration when Assessing Potentially Contaminated Land”*. Importantly EPA Victoria has not adopted the NEPM (ASC) definition of background or naturally occurring concentrations. The NEPM (ASC) includes as natural the sum of concentrations occurring naturally and concentrations introduced from diffuse or non-point sources while EPA Victoria takes it to be only the naturally occurring component.

Based on Table 6.3 and with specific consideration to the ERS (2021) and the SEPP (PMCL), the following beneficial uses would need to be protected for the current land use as a childcare centre, taken to be equivalent to “sensitive use (other)” land use:

- ✓ Maintenance of Modified Ecosystems.
- ✓ Human Health.
- ✓ Buildings and Structures.
- ✓ Aesthetics.
- ✓ Production of Food, Flora and Fibre

When considering suitable indicators and objectives of contamination soil criteria were adopted from the guidelines listed in sections a) to e) below to assess if the Site potentially precludes any of the beneficial uses requiring protection as per Table 4.2 of ERS (2021) (Table 6.3 above). The guidelines were adopted from the objectives listed in the ERS (2021), which are mainly from the NEPM (2013), and where an objective is not detailed in these guidelines alternative criteria (e.g., the USEPA Regional Screening Levels [RSLs] or CCME Soil Quality Guidelines) have been adopted for completeness. It is noted herein that the indicators and objectives taken from published literature are Tier 1 screening criteria. Exceedance of these criteria should not be automatically taken to mean that a risk exists but rather that a potential risk exists, and Tier 2 risk assessments may be necessary to further evaluate whether such risk is likely or not based on site specific conditions.

#### a) Maintenance of Ecosystems

The protection of the beneficial use Maintenance of Ecosystems is assessed with reference to the EILs and ESLs. EILs are available for selected metals and organic substances and ESLs are available for selected petroleum hydrocarbon compounds and total petroleum/recoverable hydrocarbon fractions. Both EILs and ESLs are applicable for assessing risk to terrestrial ecosystems, depending on land use scenarios and generally apply to the top 2.0 m of soil.

Table 6.1 of EPA Publication 1992 provides a guide to the relevant standards and guidelines for deriving Environmental Value indicator criteria. The NEPM (ASC) is provided as the relevant guideline for deriving Environmental Value indicator criteria for the Environmental Value ‘Land Dependent Ecosystems and Species’. Generic EILs are provided in the NEPM (2013 amendment) for DDT, naphthalene, arsenic and lead and site-specific EILs can be calculated for copper, zinc, chromium III and nickel based on soil physicochemical properties comprising pH (1:5 soil:CaCl<sub>2</sub> extract), cation exchange capacity (CEC), % iron content, total organic content, and % clay. Where EIL/ESLs are not defined in the NEPM 2013, ecological investigation levels from international authorities including the USEPA and Canada have been referenced, or the most conservative EIL chosen using the NEPM EIL Calculation Spreadsheet (which has general ambient background concentrations already included)<sup>1</sup>.

ESLs are provided in the NEPM (2013 amendment) for both coarse- and fine-grained soils. Conservatively, ESLs for coarse soils have been adopted for the purpose of this assessment with the exception of the ESL for xylenes where the fine-grained soil criteria are the more conservative value.

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<sup>1</sup> <http://www.nepc.gov.au/nepms/assessment-Site-contamination/toolbox>

## b) Human Health

The protection of the beneficial use 'Human Health' is assessed with reference to the NEPM 2013 guidelines comprising HIL and HSL. HILs are provided for a broad range of metals and organic substances and are applicable for assessing human health risk via all relevant pathways of exposure. The HILs are generic to all soil types and apply generally to a depth of 3.0 m below the surface for residential use.

HSLs are available for selected petroleum compounds and fractions and are applicable to assessing human health risk via the inhalation and direct contact pathways. The HSLs depend on specific soil physicochemical properties, land use scenarios, and the characteristics of building structures. They apply to different soil types, and depths below surface to > 4.0 m.

Both HILs and HSLs are provided for a range of Site uses including standard residential (exposure setting A), residential with minimal soil access (exposure setting B), public open space (exposure setting C) and commercial / industrial (exposure setting D). HIL Level 'A' criteria are used to evaluate the potential impact to the protection of human health in the context of unrestricted site use. The HSLs are applicable to ground floor land use conditions.

## c) Buildings and Structures

The ERS (2021) states that the objective for protection of buildings and structures should be such that "*land that is not corrosive to or otherwise adversely affecting the integrity of structures or building materials*". Where structures are likely to come into contact with contaminated soils the ERS (2021) advocates that the indicators should include "*pH, sulfate, chloride, redox potential, salinity or any chemical substance or waste that may have a detrimental impact on the structural integrity of buildings or other structures*". EPA Publication 1992 (June 2021) indicates that the appropriate reference for deriving objectives for the protection of buildings and structures is the Standards Australia (2009) AS2159-2009 Piling – Design and Installation (AS2159) and the Standards Australia (2009) Australian Standard 3600 Concrete Structures (AS3600) has also been referenced where indicators are not addressed in AS2159-2009.

## d) Aesthetics

The ERS (2021) states that the indicator of aesthetics should be "*any chemical substance or waste that may be offensive to the senses*". The ERS (2021) states that the indicator should be achieved through the objective of ensuring that "*land that is not offensive to the senses of human beings*". EPA Publication 1992 (June 2021) suggest that the provisions of Section 3.6 of Schedule B1 of the NEPM should be considered when assessing aesthetics. Section 3.6 of Schedule B1 indicates that in the absence of concentration criteria for aesthetics may be compromised when there is discernible soil discolouration, noticeable odour from the soil or if there are obvious substantial components of waste, such as rubble, slag, bagged waste or similar. The NEPM advocates that consideration needs to be given to the sensitivity of the site, the degree of impact and the depth of the aesthetic impact.

## e) Production of Food, Flora and Fibre

The ERS (2021) states that the objectives for the production of food, flora and fibre are "*levels that do not adversely affect produce quality and yield and at levels specified in the Food Standards Code detected in any food, flora or fibre produced at the site*". EPA Publication 1992 (June 2021) suggest that the appropriate objectives for production of food, flora and fibre is the Australian New Zealand Food Authority, Food Standards Code. The Food Standards Code sets out the maximum level of specified metal and non-metal and natural toxicants in nominated foods, maximum residue limits for a chemical to be present in a food, extraneous residue limits for a pesticide residue to be on a food and provides details with regard to permissible articles and materials.

In consideration of the above, the beneficial use 'Food, Flora and Fibre' has primarily been assessed with reference to the phytotoxicity-based EILs. However, as the potential for a specific soil contaminant to adversely affect the beneficial use 'Production of Food, Flora and Fibre' is also a function of the bioavailability of the contaminant, where appropriate, the protection of the beneficial use 'Production of Food, Flora and

Fibre' has also been assessed with consideration to Site-specific and/or published lines of evidence (such as the physical characteristics and mobility of the contaminant(s) of concern).

## 6.2 Sampling Methodology and Collection

The majority of the site was covered by buildings and hardstand which could not be drilled through. Given these constraints a limited number of targeted soil sampling locations (5) were agreed with the Council to be the scope of work for the DSI and these were advanced in areas where soil was accessible. Soil assessment works were undertaken at the site on 22 August 2021 and comprised the following:

- All locations were cleared for underground services by an underground services location specialist prior to commencement of works.
- Advancement five targeted sampling locations (SB01-SB05) across the site by hand auger, and collection of samples from fill and natural domains (preferred grid sampling was not possible due to the presence of buildings and other hardstand across the site).
- All soil samples were screened for the presence of volatile organic compounds using a Photo-ionisation Detector (PID). Copies of the PID calibration certificates are included in Appendix F.
- All samples were submitted to a NATA accredited laboratory for analysis for the designated list of contaminants of potential concern (COPC). Eurofins Australia (Eurofins) was used as the Primary laboratory and ALS Group (ALS) used as the secondary laboratory. Copies of the Chain of Custody documents and laboratory certificates of analysis are presented in Appendix E.
- Soil cuttings were returned to each borehole location.

Soil sampling locations are presented on Figures 2. A copy of the bore logs and PID readings is presented in Appendix F.

## 6.3 Sample Analysis

Based on the PSI and site history assessment as documented previously the COPC Suite included:

- ✓ Total recoverable hydrocarbons (TRH),
- ✓ Volatile organic compounds (VOCs)
- ✓ polycyclic aromatic hydrocarbons (PAHs),
- ✓ metals (arsenic, cadmium, mercury, copper, chromium, lead, nickel, silver, tin, molybdenum, selenium and zinc).
- ✓ phenols,
- ✓ organochlorine pesticides (OCP),
- ✓ Polychlorinated Biphenyls (PCB),
- ✓ Vinyl chloride,
- ✓ Hexavalent chromium,
- ✓ Total cyanide,
- ✓ Total fluoride,
- ✓ pH
- ✓ Soil characteristics of selected samples were analysed to determine the added contaminant limit (ACL) and site specific EILs.

Following initial soil testing, elevated heavy metals were identified in several samples and leachate testing was requested on selected samples to resolve metal leachate levels. Low level detectable concentrations of TRH were also identified in some samples and silica gel clean-up was requested to identify the likely origin of the TRH.

## 6.4 Soil Investigation Observations

Two distinct fill domains were encountered at each soil bore location. Olfactory indicators (odours or staining) of contamination were not noted at any of the investigation areas. All PID readings were below 1.0 ppm. The

generalised geology is summarised in Table 6.4 (refer to Photographs 3, 10, 15, 16 and 20 in Appendix D of this report).

Table 6.4 Generalised Stratigraphy

Depth Interval (mbgs)	Soil lithology
0.0 – 0.5	FILL: Sandy clay, loose, fine grained, dry, brown.
0.5 – 0.7	FILL: Sandy clayey gravel, loose, dry, light brown.
0.7 – 1.3	NATURAL: Silty clay, loose, medium plasticity, dry, brown, mottled orange.

## 6.5 Soil Analysis Results and Discussion

Soil analytical results and comparison to relevant soil quality guidelines are presented in Table 1 and Table 2, laboratory certificates of analysis are presented in Appendix E. It is noted that assessment of contamination levels at the site are to be made against “sensitive land use” (or NEPM “Setting A”) for possible ongoing use as a childcare centre or for redevelopment into low density residential as well as against possible high density residential land use (or NEPM “Setting B”). Soil exceedance summaries against current land use (Setting “A”) and alternative land use settings are presented in Figures 3 and 4. A summary of the identified exceedances against a range of possible future land uses is provided in Table 6.5 below.

Table 6.5 Soil Exceedances Summary

Analyte	Maximum Reported Concentration (mg/kg)	Adopted Criteria Exceeded	Locations Exceeding Adopted Criteria (sampling domain)
Benzo(a)pyrene	1.9	ESL-urban residential & public open space (0.7 mg/kg)	SB01_0.5 (Fill 1) SB04_0.2 (Fill 1) SB05_0.2 (Fill 1)
		ESL-commercial industrial (1.4 mg/kg)	SB04_0.2 (Fill 1) SB05_0.2 (Fill 1)
Benzo(a)pyrene TEQ	3.3	HIL-A & HIL-C (3 mg/kg)	SB05_0.2 (Fill 1)
Arsenic	510	EIL-urban residential & public open space (100 mg/kg)	SB02_0.9 (Fill 2) SB03_0.8 (natural) SB05_0.6 (Fill 2)
		EIL-commercial industrial (160 mg/kg)	SB02_0.9 (Fill 2) SB05_0.6 (Fill 2)
		HIL-A (100 mg/kg)	SB02_0.9 (Fill 2) SB03_0.8 (natural) SB05_0.6 (Fill 2)
		HIL-B (500 mg/kg) HIL-C (300 mg/kg)	SB05_0.6 (Fill 2)



Analyte	Maximum Reported Concentration (mg/kg)	Adopted Criteria Exceeded	Locations Exceeding Adopted Criteria (sampling domain)
Lead	1,100	EIL-urban residential & public open space (1,100 mg/kg)	SB01_0.5 (Fill 1)
		HIL-A (300 mg/kg)	SB01_0.5 (Fill 1) SB03_0.2 (Fill 1)
		HIL-C (600 mg/kg)	SB01_0.5 (Fill 1)
pH	9.1	All HIL and EIL land use scenarios (pH 6-8)	SB03_0.2 (Fill 1) SB04_0.6 (Fill 2)

### 6.5.1 Maintenance of Highly Modified Ecosystems

The pH was reported to vary from pH 6.8 to pH 9.1 and exceeded the adopted ecological screening criteria (pH 6-8) in one sample from the Fill 1 domain and one sample from the Fill 2 domain.

Ecological exceedances were identified in both Fill 1 and Fill 2 with concentrations of benzo(a)pyrene, arsenic, lead and pH equal to or above the adopted criteria. Depending on exactly what type of vegetation is proposed the fill material may be proven to be suitable (and this would require a complex long-term Tier 2 risk assessment) but to sustain a wide variety of vegetation the default is that they are not suitable for the current or alternative urban residential and public open spaces. The fill materials in their current form can therefore be expected to represent some potential degradation to some more sensitive species of plants.

### 6.5.2 Human Health

The pH was reported to vary from pH 6.8 to pH 9.1 and exceeded the default adopted human health screening criteria (pH 6-8) in one sample from the Fill 1 domain and one sample from the Fill 2 domain. In relation to human health, the issue of concern relates to direct contact with soil and the potential for skin irritation. The natural pH of the surface of normal skin (the stratum corneum) is in the range 4.1 – 5.8 (95% interval with an arithmetic mean of 4.9) (Proksch 2018). The pH of skin is more neutral in newborns, decreasing significantly in the first 2 months of life (Panther & Jacob 2015; Proksch 2018). Given this is the natural pH of skin, direct contact with soil that has a similar pH (or is not too dissimilar) would not be expected to cause any adverse effects (related to pH alone). It is also noted that the skin has a very good buffering capacity and hence direct contact with some soil that lies outside this range, such as soil at this site, would also not be of concern (Proksch 2018). As such the slightly higher pH levels in soil are not expected to represent an unduly high risk to human health.

Concentrations of benzo(a)pyrene TEQ and lead in the Fill 1 horizon were reported above the adopted HIL-A and HIL-C criteria. While concentrations of arsenic in the Fill 2 domain and the natural material were reported above the HIL-A criteria with the concentration of arsenic in one sample above the adopted HIL-B criteria.

As per NEPM guidance, statistics can be utilised to assess human health exceedances provided the standard deviation of the results is less than 50% of the relevant investigation or screening level, and no single value exceeds 250% of the relevant investigation or screening level. In this case the lead concentration at SB01\_0.5 (1,100 mg/kg) and the arsenic concentrations at SB05\_0.6 (510 mg/kg) both exceed 250% of the HIL-A criteria, on this basis statistics cannot be used to assess suitability and the highest concentration must be adopted.

It is noted that sampling was not random grid based (due to the presence of hardstand and buildings) and as such statistical outcomes may differ to those obtained, but in any event the presence of the elevated arsenic and lead are likely to stand and as such the Fill 1 and Fill 2 soil horizons are seen as representing a potentially unacceptable human health risk if these soils were accessible to human contact in a normal sensitive land use setting. If these soils were present beneath hardstands (concrete etc) then it would not be dermally accessible to dermal contact by site occupiers (children and workers in the case of the childcare centre) and would not represent a potential unacceptable health risk. Given its easily movable status wood chipping is not considered a suitable barrier to prevent access to these soils.

In terms of an alternative land use, all results were below the HIL B criteria, which is applicable to a high-density residential setting, with the exception of one result for arsenic in the Fill 2 domain. A statistical analysis of the results indicated that the 95% UCL for arsenic in the Fill 2 domain (376.6 mg/kg) was within the HIL B criteria of 500 mg/kg (albeit 10 samples across a grid-based sampling regime would be a better statistical representation but, in this case, only five target samples were available and have been used in the absence of additional data). From a statistical point of view it is likely that the results across the site are within HIL B criteria, see Appendix H for statistical UCL output.

The arsenic concentration in the natural soil is considered to be natural occurring with the reported concentration range in natural soils 78 to 130 mg/kg.

### 6.5.3 Buildings and Structures

An assessment of pH in soil indicates it does not pose a risk to concrete structures. In addition, the Site history or the field investigations did not indicate corrosive conditions were present. On this basis, it is considered that the beneficial use of land "Buildings and Structures" is not precluded in any land use scenario. This is by no means an indication of the structural integrity and soundness of any proposed buildings or structures and professional advice should be sought to confirm the suitability of any designs.

### 6.5.4 Aesthetics

Aesthetically the material appeared suitable for current and alternative land uses with no odours or staining noted during the soil investigation. One piece of metal was noted at the rear of the property, refer to Photograph 21 in Appendix D, but no other inert items were observed. On this basis it is considered that the beneficial use of land "Aesthetics" is protected.

### 6.5.5 Production of Food, Flora and Fibre

Metals (arsenic and lead), benzo(a)pyrene and pH are present at levels that preclude the protected beneficial use of land "Production of Food, Flora and Fibre". Further assessment would be required to assess whether these contaminants would limit food, flora and fibre production. Based on the limited assessment only, the beneficial use of land "Production of Food, Flora and Fibre" is considered precluded and in its current condition the site is not considered suitable for the production of food and vegetables for human consumption.

## 6.6 Detectable Concentrations

Detectable concentrations of hydrocarbons were reported in three samples from Fill 1 horizon and one sample from Fill 2 horizon. Silica-gel clean-up was requested for these samples to determine the source of these hydrocarbons. All results reported below the laboratory limit of reporting suggesting the source of the hydrocarbons from biogenic rather than petrogenic in nature.

Detectable concentrations of organochlorine pesticides 4,4-DDE, DDD and DDT were reported in one or more samples. NEPM Schedule B1 Table 1A (1) does not present individual health investigation levels for these analytes but rather criteria for the sum of these organochlorine pesticides. All results were below this adopted Tier 1 criteria.

## 6.7 Waste Disposal Category

Waste must be managed to meet waste duties under Part 6.4 (Duties relating to industrial waste) and 6.5 (Duties and controls relating to priority waste) of the Environment Protection Act 2017 and Part 4.2 (Industrial Waste and Priority Waste) of the Environment Protection Regulations (2021).

EPA Waste Disposal Categories-Characteristics and Thresholds (Publication 1828.2, March 2021) establishes the characteristics and thresholds necessary for complying with the Regulations, specifically, classification of wastes to determine the relevant waste disposal category in accordance with Schedule 6 of the Regulations.

Soil results were assessed against the EPA Waste Disposal Categories (1828.2) to assess the likely category for offsite disposal, see Table 3 in the tables section of this report. It is noted that for the purposes of off-site disposal of soils and wastes in general the sampling regime needs to be relevant and representative. EPA Soil Sampling guidelines as described within IWRG702 (relevant to the previous EP Act 1970 and used until such time as new guidelines may be issued) are generally required in order to provide adequate, representative and reliable sample numbers for categorisation purposes. Due to the presence of buildings and other hardstand only five target sample locations were obtained during this assessment which does not represent a site wide nor a statistically sufficient number of grid-based samples to meet IWRG702 standards. Nonetheless, the samples obtained have been assessed against Publication 1828.2 to provide a likely indication of off-site disposal category. If actual off-site disposal was required, then representative sampling and testing from across the entire site should be undertaken.

If excavated and disposed offsite the following are the likely categories for each domain identified, based on the maximum reported concentrations.

- ✓ Fill 1 - Category C - due to benzo(a)pyrene, PAHs (sum of total), arsenic, lead, tin and zinc concentrations
- ✓ Fill 2 – Category B - due to arsenic concentrations
- ✓ Natural Soil – Category C - due to arsenic concentrations

The above categories based on maximum results would need to be adopted if no further testing was undertaken. However, Publication IWRG702 indicates that if 10 random samples were to be taken from the fill horizons then statistical 95% UCL average concentrations could be used to categorise the fill rather than adopting the maximum reported concentration. Such statistical analysis of 10 samples would be applicable to volumes of up to 2,500 cubic metres – given there are 2 fill horizons with an average thickness of about 0.7 to 1.0 metres over a site area of about 685 square metres there will be between about 480 and 680 cubic metres of fill present at the site.

Despite not having 10 random samples across the entire site to conduct relevant statistical analysis such analysis has been completed to gain an understating if a change in category is likely if additional testing was to be undertaken.

Statistical analysis of the limited 5 results from each horizon indicated that the 95% UCL for the Fill 1 horizon and natural soil are likely to remain as Category C material – see Table 6.6 below for results. However, the 95% for the Fill 2 horizon suggests that statistically this material could be classified as Category C rather than Category B if additional testing was undertaken. As the dataset for each domain consisted of less than ten samples this statistical review should be considered as an indication only in the absence of additional data. For a better statistical representation ten or more samples across a grid-based sampling regime would be more appropriate. Table 6.6 below summarises the waste categories based on both maximum reported concentrations and 95% UCLs, see Appendix H for statistical UCL outputs.

The likely categories for each domain identified as follows, based on the calculated 95% UCLs:

- ✓ Fill 1 - Category C - due to benzo(a)pyrene, PAHs (sum of total), arsenic, lead, tin and zinc concentrations
- ✓ Fill 2 – Category C - due to arsenic concentrations
- ✓ Natural Soil – Category C - due to arsenic concentrations



Table 6.6 Review of Waste Categories

Analyte	Maximum Reported Concentration (mg/kg)	Calculated 95% UCL	Waste Disposal Category based on Maximum Reported Concentration	Waste Disposal Category based on Calculated 95% UCL
<b>Fill 1</b>				
Benzo(a)pyrene	1.9	2.007	Category C	Category C
PAHs (sum of total)	21.9	16.45	Category C	Fill Material
Arsenic	65	49.45	Category C	Category C
Lead	1,100	802	Category C	Category C
Tin	68	73.3	Category C	Category C
Zinc	580	449.1	Category C	Category C
<b>Fill 2</b>				
Arsenic	510	376.6	Category B	Category C
<b>Natural</b>				
Arsenic	130	114.9	Category C	Category C

As is advocated by Publication 1828.2 when concentrations of contaminants are above Fill Material leachate testing should be undertaken to confirm the waste category. Therefore, selected highest concentration samples of metals and benzo(a)pyrene that exceeded the Fill Material upper limit were submitted for leachate testing. Table 6.7 below details the results of this leachate testing. Results of this testing indicated that these analytes were not leachable and leachability concentrations did not exceed the upper limits for Category C and as such the previously documented categories apply (either based on maximum concentrations or possible categories if statistical analysis was confirmed).

Table 6.7 Leachable Concentrations Summary

Analyte	Samples	Leachable Concentration (µg/L)	Category C Leachable Concentration Upper Limit (µg/L)
Benzo(a)pyrene	SB05_0.2	<1	<1
Arsenic	SB05_0.2 SB03_0.8 SB05_0.6	<10 <10 60	1,000
Lead	SB01_0.5	20	1,000
Zinc	SB01_0.5	170	300,000

Leachate analysis results are presented in laboratory report 821963-L (Appendix E) and in Table 3 expressed as micrograms per litre ( $\mu\text{g/L}$ ). All results reported leachable concentrations below the allowable leachable concentrations for the applicable waste category.

It should be noted that this is a preliminary classification, in the event that substantial soil material is to be stripped from the site and disposed off-site then confirmation of site wide conditions should be undertaken to confirm that conditions beneath the buildings and other hard stand are consistent with the test results obtained.

## 7 Groundwater

As stipulated in Section 1.1 one of the objectives of this assessments was to assess the potential for groundwater to be contaminated from on or offsite activities. In considering the potential for groundwater contamination the following points were noted:

- 1) The sensitivity of the site to groundwater contamination is considered to be medium due to a combination of the expected shallow depth to groundwater (<5m) combined with the presence of clayey subsurface soil profile.
- 2) The potential for contamination from site activities is considered low due to the historic use of the site as a childcare centre and residential.
- 3) The potential from off-site sources is considered low as all immediately neighbouring sites were all residential. The LotSearch report (Appendix B) did identify a service station located on Hotham Road (87m east). No street number was given and a further review of aerial photographs and surrounding audit sites suggest this location was not within the 150m buffer of the site and is likely associated with the historical service station which was located at 160 Hotham Street (462m south).

Based on the site-specific geology, hydrogeology and the low contamination risk from on-site and neighbouring activities the potential for contamination in groundwater is expected to be low and on the basis of the brief for the DSI investigation of groundwater is not necessary.

## 8 Quality Assurance

This section of the report focuses on the fieldwork and analysis undertaken as part of the environmental site assessment and the quality assurance programmes implemented by Peraco to ensure the reliability and traceability of samples collected. It is noted that key features were:

- ✓ Sampling procedures were undertaken using the guidance of AS4482.1-2005, AS4482.2-1999, EPA Victoria Publications IWRG701 - Sampling and Analysis of Waters, Wastewaters, Soils and Wastes. Albeit, given the constraints presented by buildings and hardstand a limited number of targeted soil sampling locations (five) were investigated.
- ✓ grid sampling was not possible due to buildings etc so targeted sampling only was done in available areas which is not in accordance with IWRG702 but was practically all that could be done
- ✓ Samples were collected in clean vessels provided by the assessor's primary analytical laboratory and unique sample identification (and other information relevant to the sample) was recorded on sample jars prior to them being placed in insulated containers for transport to the laboratory.
- ✓ Chain of custody sheets were used to track transport and analysis of the collected samples.
- ✓ During the course of fieldworks, quality control samples were collected, including trip blank and replicate (intra- and inter laboratory) samples. The trip blank samples were intended to indicate if cross-contamination of samples had occurred. The replicate samples were intended to assess the precision of the sample collection, transport, storage and analysis process.

A detailed review of the field and laboratory quality control and assurance assessment were undertaken and presented in Appendix G, Soil quality control RPD results are present in Table 4 and Trip Blank results are presented in Table 5 attached.

A number of RPD results were reported outside the acceptable RPD range. The high RPD results are likely attributed to the heterogeneity of the soil samples, where the concentration of the contamination is unevenly distributed throughout the matrix. For the purposes of the soil assessment, the highest concentrations have been adopted and compared against the adopted assessment criteria.

Overall, the QA/QC programs implemented are considered acceptable for the purpose of this assessment.

## 9 Conclusions

Peraco Pty Ltd was engaged by the City of Port Phillip to undertake a Preliminary Site Investigation (PSI) and limited scope Detailed Site Investigation (DSI) for the site located at 39 The Avenue, Balaclava (the site) to support the potential divestment/development process of the site.

The City of Port Phillip specified that the DSI was required to provide sufficient information about site conditions to enable an understanding of the following:

- ✓ To determine the thickness of fill at the site,
- ✓ The suitability of fill for the current land use and alternative land uses,
- ✓ Likely waste disposal category of the fill if required to be removed from site,
- ✓ Likely waste disposal category of the natural material if required to be removed from site,
- ✓ The potential for groundwater to be contaminated from on or offsite activities

The site history review undertaken indicated that the site layout has changed little since 1931 apart from the addition of a rear extension to the roofline sometime between 1984 and 1987. The site and surrounding area has remained residential although with continued developments changing from single dwellings to medium/high density type dwellings. The site ownership suggested the property was used for residential purposes until transferred to the City of St. Kilda in 1975.

Applying the July 2021 DELWP “Planning Practice Note 30 – Potentially Contaminated Land” (referred to as Practice Note 30 or PN30) framework and using Table 2 of PN30 suggests that due to the presence of “contaminated imported fill” the site classifies as a “medium potential for contamination”.

For a site with a “medium potential for contamination” Table 3 from PN30 indicates that the site falls into Level B, meaning a Preliminary Risk Screen Assessment (PRSA) to determine the need for an audit is recommended for any planning scheme amendments or planning permit applications for sensitive site use.

The results of the limited soil investigation identified lead concentration in the Fill 1 horizon and arsenic concentration in the Fill 2 horizon that may not be suitable to be present in accessible soils at sensitive sites (HIL A criteria for childcare centres). If the soil is present beneath hardstands (concrete etc) or beneath typically 0.5 metres of “clean soil” (meeting the HIL “A” criteria) then it would not be dermally accessible to site occupiers (children and workers) and would not represent a potential unacceptable health risk. Wood chipping is not considered a suitable barrier to prevent access to these soils as it is easily moved or altered. It is noted that these outcomes are based on Tier 1 screening which are usually associated with the most conservative of assumptions regarding exposures to contamination. A Tier 2 risk assessment could be undertaken to gain better insight and understanding of the actual site-specific conditions and hence site-specific risk. A Tier 2 risk assessment would typically include considerations of the site-specific site layout, the pattern of use of the site by children and other occupiers/visitors, additional sampling and testing among other factors.

In terms of an alternative land use, all results were below the HIL B criteria, which is applicable to a high-density residential setting, with the exception of one result for arsenic in the Fill 2 domain. A statistical analysis of the limited target sample results indicated that the 95% UCL for arsenic in the Fill 2 domain was within the HIL B criteria, so from a statistical point of view the results are likely to be within HIL B criteria, see Appendix H for statistical UCL output. As noted in the report the statistical outcome would need to be confirmed as being applicable to the whole site given that large parts of the site were covered by buildings and hardstand and as such grid-based site wide sampling was not possible.

Based on the results obtained if the site were to be redeveloped then the current soil conditions suggest that in order to protect human health the Fill horizon at the site (both Fill 1 and Fill 2) would most likely need to be stripped and removed for “sensitive use other”, eg low density or childcare centre developments. If high density residential development was proposed for the site, then the current soil results indicate that removal of the fill is not required in order to meet health criteria.

The current soil results indicate that the Fill horizon does not meet ecological criteria if a comprehensive range of ecological systems was to be protected, although if garden planting was to include more tolerant

species then the presence of the elevated heavy metals and PAHs in fills may not represent an unacceptable ecological risk.

If soils were to be removed from the site the data gathered indicates that classification of fill horizon Fill 1 and the natural soils would be classed as 'Category C' while the Fill 2 horizon would be classed as 'Category B' – these classification are based on the maximum reported concentrations. A review of the classification based on the calculated 95% UCLs of the limited dataset suggested the classification of 'Category C' is likely to hold for Fill 1 and the natural soil while the Fill 2 horizon could be classified also as 'Category C' instead of 'Category B'. Again, as noted, the statistical outcome would need to be confirmed as being applicable to the whole site. In the event that substantial soil material is to be stripped from the site and disposed off-site then the consistency of soil conditions beneath the buildings and hardstands would need to be confirmed.

The soil results, based on the deeper natural soil results, suggest that groundwater contamination from site activities is unlikely (arsenic is likely to be natural). Our preliminary site investigation did not identify any offsite activities within the immediate area (100m radius) to indicate that groundwater is likely to be contaminated from offsite sources. The likelihood of groundwater being contaminated is therefore considered to be low and based on the project brief groundwater investigation is not required.

## 10 References

Environment Reference Standards 2021 (ERS (2021)

EPA Publication 1828.2 (March 2021) – “Waste Disposal Categories and Thresholds”

EPA Publication 1992 (June 2021) – “Guide to the Environment Reference Standard”

EPA Publication 1936 (February 2021) - “Proposed Methodology for Deriving Background Level Concentration when Assessing Potentially Contaminated Land”.

EPA Publication 788.3 (August 2015) – “Siting, Design, Operation and Rehabilitation of Landfills”

DELWP (July 2021) - “Planning Practice Note 30 – Potentially Contaminated Land”

EPA Victoria (June 2009) Industrial Waste Resource Guidelines (IWRG) 701 – Sampling and Analysis of Waters, Waste Waters, Soils and Wastes (IWRG701).

EPA Victoria (June 2009) Industrial Waste Resource Guidelines (IWRG) 621 – Solid Hazard Categorisation and Management (IWRG621).

EPA Victoria (March 2021) Waste Classification Assessment Protocol (1827.2).

National Environment Protection (Assessment of site Contamination) Measure 1999, Amendment Measure 2013 (No. 1)

Panther, DJ & Jacob, SE 2015, 'The Importance of Acidification in Atopic Eczema: An Underexplored Avenue for Treatment', Journal of clinical medicine, vol. 4, no. 5, pp. 970-78.

Proksch, E 2018, 'pH in nature, humans and skin', The Journal of Dermatology, vol. 45, no. 9, pp. 1044-52.

Standards Australia (1999) Australian Standard AS 4482.2-1999 Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances (AS4482.2)

Standards Australia (2005) Australian Standard AS 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).

State Environment Protection Policy (Prevention and Management of Contamination of Land), June 2002. (Variation No. G39 Victorian Government Gazette, 26 September 2013) (SEPP (PMCL)).

The History Of St. Kilda From Its First Settlement To A City: 1840 - 1930 (Volume 2) John Butler Cooper (May 2009)

## 11 Statement of Limitations

Peraco Pty Ltd (Peraco) has conducted investigations and prepared this report solely for the use of the party that has commissioned these services (the “Customer”) and for the purpose for which the investigations were undertaken.

In deriving at a Service Specification or Scope of Work for the investigations Peraco and the Customer agreed on a final scope of work acknowledging that a scope of work that guarantees the identification, documentation and quantification of all relevant matters and conditions at the subject property is not possible or practicable.

It needs to be acknowledged that site conditions can vary with distance and time. Therefore, the information obtained and samples taken at any one location can only be representative of the conditions at that specific location and at that specific time. Conditions can vary between locations and over time. The investigations undertaken and the information obtained have been used to “infer” the nature of conditions across the entire site. Such inference is fraught with inherent risk and uncertainty as conditions between sampling locations may not be reflective of those found at the sampling locations and at the time of sampling. This report can therefore not be used to provide guarantees of the conditions for the whole of the site.

Peraco has received some information and data from various third party sources, some of which may be noted in the report. This information has not been independently verified by Peraco and if the information were to be proven to be wrong, erroneous or misleading then the conclusions made by Peraco may also be wrong, erroneous or misleading. Peraco has not identified any obvious omission or inconsistency that may question the validity of the information.

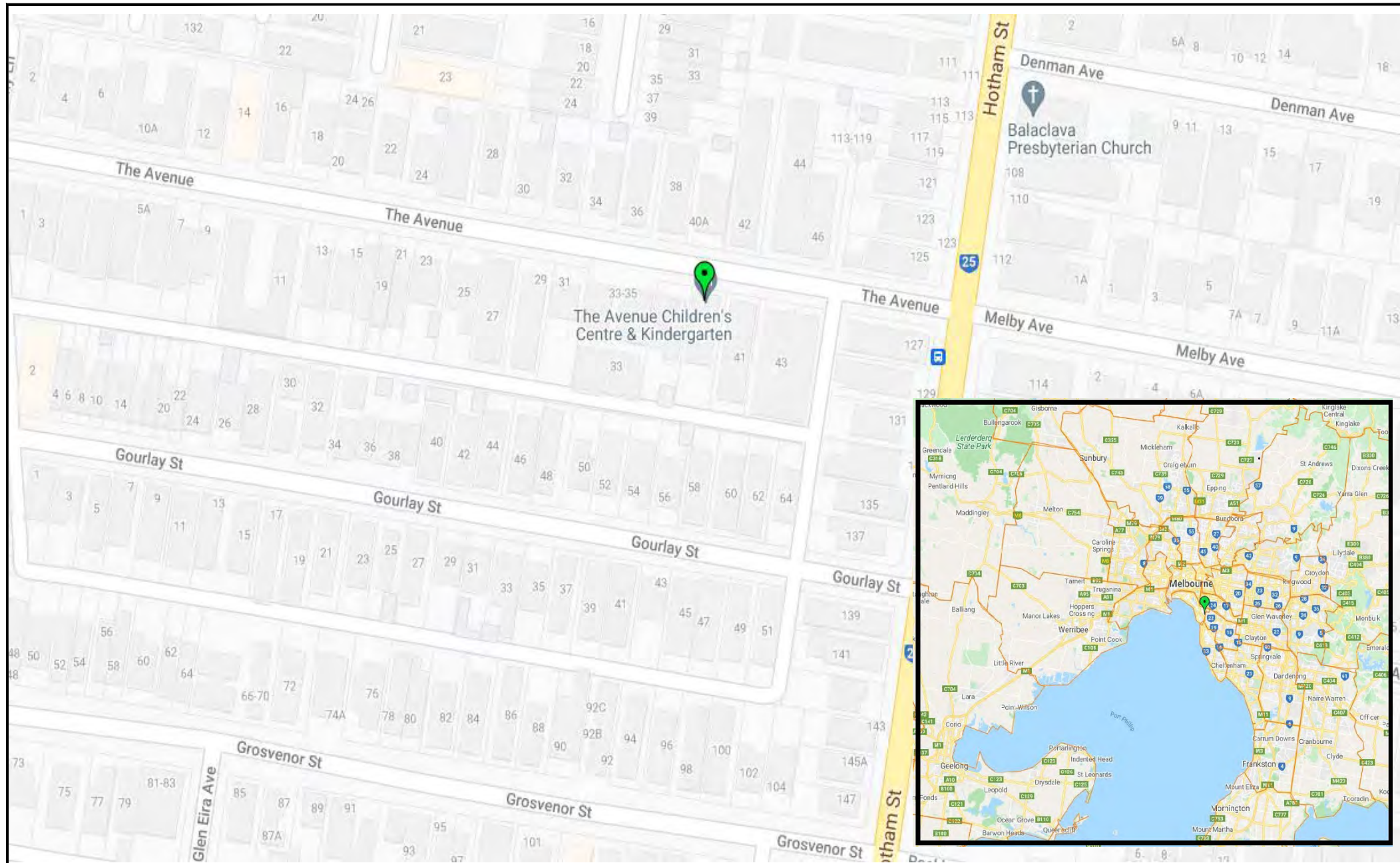
Within these Limitations and based on the agreed Service Specification, this assessment has been undertaken and performed in a professional manner, in accordance with generally accepted practices commonly used at the time of the work, using usual care and thoroughness of the consulting profession. No other warranty, expressed or implied, is made.



# Figures

Preliminary Site Investigation and Limited Scope Detailed Site  
Investigation

39 The Avenue, Balaclava, Victoria 3183



Drawing Number: J8619

Revision: A

Date: 02/09/2021

Author: SG

Checked by: MH

Data Source:  
NearMap accessed 02/09/2021

Client City of Port Phillip

Site 39 The Avenue, Balaclava

Title Figure 1 - Site Location





SB04	0.2	Fill 1	BaP	1.8	ESL Comm/Ind
	0.6	Fill 2	pH	9.1	EILS

SB04

SB03	0.2	Fill 1	pH	8.3	EILs
	0.8	Natural	Arsenic	130	EIL Urban Res.

SB03

SB05	0.2	Fill 1	BaP	1.9	ESL Comm/Ind
	0.6	Fill 2	Arsenic	510	EIL Comm/Ind

SB05

SB02	0.9	Fill 2	Arsenic	240	EIL Comm/Ind
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SB02

SB01

SB01	0.5	Fill 1	BaP	1	ESL Urban Res.
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Location	Depth (mbgl)	Domain	Analyte	Conc mg/kg	Exceeds
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Drawing Number: J8619

Revision: A

Date: 102/09/2021

Author: SG

Checked by: MH

Data Source:  
NearMap accessed 02/09/2021

Client City of Port Phillip

Site 39 The Avenue, Balacava

Title Figure 4 - Soil  
Exceedances-Ecological

# Tables

Preliminary Site Investigation and Limited Scope Detailed Site  
Investigation

39 The Avenue, Balaclava, Victoria 3183





Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

	TPH																		
	C6-C9	C10-C14	C15-C28	C29-C36	TPH C10-C14 Fraction after Silica Cleanup	TPH C15-C28 Fraction after Silica Cleanup	TPH C29-C36 Fraction after Silica Cleanup	TRH >C10-C16 (after silica gel clean-up)	TRH >C16-C34 (after silica gel clean-up)	TRH >C34-C40 (after silica gel clean-up)	TRH C10-C36 (Total) (after silica gel clean- up)	>C10 - C40 Fraction (sum) (after silica gel clean-up)	C10-C36 (Sum of total)	TRH C6-C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL	10	20	50	50	20	50	50	50	100	100	100	100	50	10	50	100	100		
Peraco Adopted Criteria-Res A HIL																			
Peraco Adopted Criteria-Res B HIL																			
Peraco Adopted Criteria-Rec C HIL																			
Peraco Adopted Criteria-Comm/Ind D HIL																			

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
QC3	22/08/2021	0.2	Fill 1	<10	<50	<100	<100	-	-	-	-	-	-	-	<50	<10	<50	<100	<100
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<20	<20	82	75	-	-	-	-	-	-	-	157	<20	<50	130	<100
SB01_0.9	22/08/2021	0.9	Fill 2	<20	<20	<50	54	-	-	-	-	-	-	-	54	<20	<50	<100	<100
SB01_1.1	22/08/2021	1.1	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB02_0.5	22/08/2021	0.5	Fill 1	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB02_0.9	22/08/2021	0.9	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB02_1.1	22/08/2021	1.1	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB03_0.2	22/08/2021	0.2	Fill 1	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB03_0.4	22/08/2021	0.4	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB04_0.2	22/08/2021	0.2		-	-	-	-	<20	<50	<50	<50	<100	<100	<50	<100	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<20	<20	99	81	-	-	-	-	-	-	-	180	<20	<50	150	<100
SB04_0.6	22/08/2021	0.6	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB04_0.9	22/08/2021	0.9	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB05_0.2	22/08/2021	0.2		-	-	-	-	<20	<50	<50	<50	<100	<100	<50	<100	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<20	<20	96	84	-	-	-	-	-	-	-	180	<20	<50	150	<100
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100
SB05_1.1	22/08/2021	1.1	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100

Statistics																			
Number of Results	17	17	17	17	2	2	2	2	2	2	2	2	2	17	17	17	17	17	
Number of Detects	0	0	3	4	0	0	0	0	0	0	0	0	0	4	0	0	3	0	
Minimum Concentration	<10	<20	<50	<50	<20	<50	<50	<50	<100	<100	<50	<100	<50	<50	<10	<50	<100	<100	
Minimum Detect	ND	ND	82	54	ND	ND	ND	ND	ND	ND	ND	ND	ND	54	ND	ND	130	ND	
Maximum Concentration	<20	<50	<100	<100	<20	<50	<50	<50	<100	<100	<50	<100	180	<20	<50	150	<100	<100	
Maximum Detect	ND	ND	99	84	ND	ND	ND	ND	ND	ND	ND	ND	180	ND	ND	150	ND	ND	
Average Concentration *	9.7	11	38	38	10	25	25	25	50	50	25	50	53	9.7	25	66	50	50	
Median Concentration *	10	10	25	25	10	25	25	25	50	50	25	50	25	10	25	50	50	50	
Standard Deviation *	1.2	3.6	27	22	0	0	0	0	0	0	0	0	58	1.2	0	37	0	0	
95% UCL (Student's-t) *	10.22	12.42	49.64	47.21	10	25	25	25	50	50	25	50	77.14	10.22	25	82.1	50	50	
% of Detects	0	0	18	24	0	0	0	0	0	0	0	0	24	0	0	18	0	0	
% of Non-Detects	100	100	82	76	100	100	100	100	100	100	100	100	76	100	100	82	100	100	

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

	TRH F1 (C6-C10 minus BTEX)	TRH F2 (>C10-C16 minus Naphthalene)	TRH >C10-C40 (Sum of total)	BTEX						MAH							
				Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Monocyclic aromatic hydrocarbons EPAVic	Total MAH	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	Styrene	Benzo(b+i+j)fluoranthene	Acenaphthene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	50	50	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.5	0.5	0.5	0.5	1	0.5
Peraco Adopted Criteria-Res A HIL																	
Peraco Adopted Criteria-Res B HIL																	
Peraco Adopted Criteria-Rec C HIL																	
Peraco Adopted Criteria-Comm/Ind D HIL																	

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
QC3	22/08/2021	0.2	Fill 1	<10	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	-	-	<0.5	<1.0	<0.5
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<20	<50	130	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB01_0.9	22/08/2021	0.9	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB01_1.1	22/08/2021	1.1	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB02_0.5	22/08/2021	0.5	Fill 1	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB02_0.9	22/08/2021	0.9	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB02_1.1	22/08/2021	1.1	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB03_0.2	22/08/2021	0.2	Fill 1	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB03_0.4	22/08/2021	0.4	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<20	<50	150	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB04_0.6	22/08/2021	0.6	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB04_0.9	22/08/2021	0.9	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<20	<50	150	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB05_1.1	22/08/2021	1.1	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	-	<0.5

Statistics																		
Number of Results	17	17	17	17	17	17	17	17	17	17	1	16	16	16	16	17	1	17
Number of Detects	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<10	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
Minimum Detect	ND	ND	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<20	<50	150	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
Maximum Detect	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *	9.7	25	65	0.053	0.062	0.062	0.11	0.062	0.16		0.25	0.25	0.25	0.25	0.25	0.25		0.25
Median Concentration *	10	25	50	0.05	0.05	0.05	0.1	0.05	0.15	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.25
Standard Deviation *	1.2	0	38	0.012	0.049	0.049	0.036	0.049	0.024		0	0	0	0	0	0		0
95% UCL (Student's-t) *	10.22	25	81.12	0.0581	0.0823	0.0823	0.124	0.0823	0.166		0.25	0.25	0.25	0.25	0.25	0.25		0.25
% of Detects	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Non-Detects	100	100	82	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL





Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

	PAH																
	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene		Benzo(b+)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(e)pyrene TEQ (LOR)
	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Peraco Adopted Criteria-Res A HIL																3	3
Peraco Adopted Criteria-Res B HIL																4	4
Peraco Adopted Criteria-Rec C HIL																3	3
Peraco Adopted Criteria-Comm/Ind D HIL																40	40

Field ID	Date	Depth	Matrix Description																	
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
QC3	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	0.6	1.0	-	0.8	0.6	0.7	0.7	<0.5	1.5	<0.5	0.6	<0.5	<0.5	1.5	1.8
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	1.1	1.8	-	1.8	1.5	1.8	1.0	<0.5	3.7	<0.5	1.3	<0.5	1.0	2.7	2.9
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	1.4	1.9	-	1.9	2.0	1.8	1.5	0.5	4.1	<0.5	1.6	<0.5	1.4	3.1	3.1
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2

Statistics																			
Number of Results	17	17	17	17	1	16	17	16	17	17	17	17	17	17	17	17	17	17	17
Number of Detects	0	0	3	3	0	3	3	3	3	1	6	0	3	0	2	17	17	17	17
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	1.2	1.2
Minimum Detect	ND	ND	0.6	1	ND	0.8	0.6	0.7	0.7	0.5	0.5	ND	0.6	ND	1	0.6	1.2	1.2	1.2
Maximum Concentration	<0.5	<0.5	1.4	1.9	<1	1.9	2	1.8	1.5	0.5	4.1	<0.5	1.6	<0.5	1.4	3.1	3.1	3.1	3.1
Maximum Detect	ND	ND	1.4	1.9	ND	1.9	2	1.8	1.5	0.5	4.1	ND	1.6	ND	1.4	3.1	3.1	3.1	3.1
Average Concentration *	0.25	0.25	0.39	0.48		0.48	0.45	0.47	0.39	0.26	0.83	0.25	0.41	0.25	0.36	0.92	1.4	1.4	1.4
Median Concentration *	0.25	0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	1.2	1.2
Standard Deviation *	0	0	0.34	0.55		0.55	0.51	0.53	0.35	0.061	1.2	0	0.4	0	0.32	0.78	0.6	0.6	0.6
95% UCL (Student's-t) *	0.25	0.25	0.532	0.714		0.726	0.661	0.704	0.543	0.29	1.337	0.25	0.583	0.25	0.499	1.253	1.702	1.702	1.702
% of Detects	0	0	18	18	0	19	18	19	18	6	35	0	18	0	12	100	100	100	100
% of Non-Detects	100	100	82	82	100	81	82	81	82	94	65	100	82	100	88	0	0	0	0

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

					Metals												
	Benzo(a)pyrene TEQ calc (Zero)	Pyrene	PAHs (Vic EPA List)	PAHs (Sum of total)	Arsenic		Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Iron	Lead		Mercury	Molybdenum	Nickel	Selenium
					mg/kg	µg/L						mg/kg	µg/L				
EQL	0.5	0.5	0.5	0.5	2	10	0.4	0.5	5	5	20	5	10	0.1	2	2	2
Peraco Adopted Criteria-Res A HIL	3			300	100		20	100		6,000		300		40	390	400	200
Peraco Adopted Criteria-Res B HIL	4			400	500		150	500		30,000		1,200		120	390	1,200	1,400
Peraco Adopted Criteria-Rec C HIL	3			300	300		90	300		17,000		600		80	390	1,200	700
Peraco Adopted Criteria-Comm/Ind D HIL	40			4,000	3,000		900	3,600		240,000		1,500		730	5,800	6,000	10,000

Field ID	Date	Depth	Matrix Description																	
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	-	<0.5	13	-	<0.4	<1	25	28	-	270	-	0.1	<5	48	<2
QC3	22/08/2021	0.2	Fill 1	<0.5	0.6	1.2	-	6	-	<1	<0.5	-	20	-	236	-	<0.1	<2	35	<5
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	1.3	1.5	-	8	34	-	0.9	<1	19	66	19,000	1,100	-	0.3	<5	12	<2
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	-	<0.5	83	-	<0.4	<1	28	6.5	-	99	-	<0.1	<5	<5	<2
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	-	<0.5	80	-	<0.4	<1	79	7.4	-	72	-	0.1	<5	27	<2
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	0.6	-	1.1	8.7	-	<0.4	<1	12	22	-	140	-	0.1	<5	13	<2
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	-	<0.5	240	-	<0.4	<1	100	<5	-	28	-	<0.1	<5	15	<2
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	-	<0.5	100	-	<0.4	<1	90	8.5	-	21	-	<0.1	<5	30	<2
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	1.0	-	1.9	32	-	<0.4	<1	25	19	-	440	-	0.2	<5	21	<2
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	-	<0.5	88	-	<0.4	<1	32	<5	26,000	36	-	<0.1	<5	9.7	<2
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	-	<0.5	130	-	<0.4	<1	95	6.7	-	21	-	<0.1	<5	33	<2
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	2.4	3.7	-	18.7	62	-	<0.4	<1	29	13	-	240	-	0.1	<5	11	<2
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	-	<0.5	54	-	<0.4	<1	21	6.2	-	48	-	<0.1	<5	<5	<2
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	-	<0.5	78	-	<0.4	<1	75	7.3	36,000	19	-	<0.1	<5	30	<2
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	3.1	3.8	-	21.9	65	-	<0.4	<1	38	17	-	250	-	0.1	<5	8.7	<2
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	-	<0.5	510	-	<0.4	<1	140	<5	-	52	-	<0.1	<5	12	<2
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	-	<0.5	82	-	<0.4	<1	110	8.1	-	25	-	<0.1	<5	31	<2

Statistics																			
Number of Results	17	17	1	16	17	3	17	17	16	17	3	17	1	17	17	17	17	17	17
Number of Detects	3	6	1	5	17	1	1	0	16	14	3	17	1	7	0	15	0		
Minimum Concentration	<0.5	<0.5	1.2	<0.5	6	<10	<0.4	<0.5	12	<5	19,000	19	20	0.1	<2	<5	<2		
Minimum Detect	1.3	0.6	1.2	1.1	6	60	0.9	ND	12	6.2	19,000	19	20	0.1	ND	8.7	ND		
Maximum Concentration	3.1	3.8	1.2	21.9	510	60	<1	<1	140	66	36,000	1,100	20	0.3	<5	48	<5		
Maximum Detect	3.1	3.8	1.2	21.9	510	60	0.9	ND	140	66	36,000	1,100	20	0.3	ND	48	ND		
Average Concentration *	0.61	0.82		3.4	98	23	0.26	0.49	57	14	27,000	182		0.088	2.4	20	1.1		
Median Concentration *	0.25	0.25	1.2	0.25	78	5	0.2	0.5	35	8.1	26,000	72	20	0.05	2.5	15	1		
Standard Deviation *	0.85	1.2		6.9	120	32	0.18	0.061	40	15	8,544	266		0.067	0.36	13	0.36		
95% UCL (Student's-t) *	0.968	1.31		6.421	148.6	76.87	0.335	0.511	75.02	20.79	41,404	294.8		0.117	2.566	25.56	1.242		
% of Detects	18	35	100	31	100	33	6	0	100	82	100	100	100	41	0	88	0		
% of Non-Detects	82	65	0	69	0	67	94	100	0	18	0	0	0	59	100	12	100		

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

						Inorganics											3&4-Methylphenol (m&p-cresol)
	Silver	Tin		Zinc		pH of Leaching Fluid	Conductivity (1:5 aqueous extract)	CEC	Cyanide Total	pH (Final)	Fluoride	pH (Initial)	Moisture Content (dried @ 103°C)	pH (aqueous extract)	pH (Lab)	TOC	
	mg/kg	mg/kg	µg/L	mg/kg	µg/L	-	µS/cm	meq/100g	mg/kg	-	mg/kg	-	%	-	-	%	mg/kg
EQL	2	5	500	5	10	0.1	10	0.05	1	0.1	40	0.1	1	0.1	0.1		0.4
Peraco Adopted Criteria-Res A HIL				7,400							3,100			6-8			
Peraco Adopted Criteria-Res B HIL				60,000							3,100			6-8			
Peraco Adopted Criteria-Rec C HIL				30,000							3,100			6-8			
Peraco Adopted Criteria-Comm/Ind D HIL				400,000							47,000			6-8			

Field ID	Date	Depth	Matrix Description															
QC2	22/08/2021	0.2	Fill 1	<2	<10	-	220	-	-	-	-	<5	-	<100	-	7.9	7.9	-
QC3	22/08/2021	0.2	Fill 1	<2	<5	-	173	-	-	-	<1	-	100	-	-	-	-	<1
SB01_0.5	22/08/2021	0.5		-	-	<500	-	170	5.0	-	-	5.2	-	5.1	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<2	68	-	580	-	-	61	14	<5	-	<100	-	20	7.0	6.6
SB01_0.9	22/08/2021	0.9	Fill 2	<2	<10	-	75	-	-	-	-	<5	-	<100	-	9.8	7.9	-
SB01_1.1	22/08/2021	1.1	Natural	<2	<10	-	37	-	-	-	-	<5	-	280	-	20	7.9	-
SB02_0.5	22/08/2021	0.5	Fill 1	<2	34	-	140	-	-	-	-	<5	-	<100	-	12	7.5	-
SB02_0.9	22/08/2021	0.9	Fill 2	<2	<10	-	10	-	-	-	-	<5	-	<100	-	7.6	7.9	-
SB02_1.1	22/08/2021	1.1	Natural	<2	<10	-	23	-	-	-	-	<5	-	200	-	21	6.9	-
SB03_0.2	22/08/2021	0.2	Fill 1	<2	<10	-	260	-	-	-	-	<5	-	<100	-	11	8.3	-
SB03_0.4	22/08/2021	0.4	Fill 2	<2	<10	-	20	-	-	340	3.4	<5	-	<100	-	10	6.9	6.7
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	5.0	-	-	5.2	-	5.2	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<2	<10	-	22	-	-	-	-	<5	-	250	-	18	6.8	-
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	13	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<2	<10	-	130	-	-	-	-	<5	-	<100	-	16	7.5	-
SB04_0.6	22/08/2021	0.6	Fill 2	<2	<10	-	89	-	-	-	-	<5	-	<100	-	19	9.1	-
SB04_0.9	22/08/2021	0.9	Natural	<2	<10	-	19	-	-	420	36	<5	-	150	-	23	7.1	7.0
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	14	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	5.0	-	-	5.0	-	5.1	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<2	<10	-	250	-	-	-	-	<5	-	<100	-	15	7.8	-
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	5.0	-	-	4.9	-	5.3	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<2	<10	-	43	-	-	-	-	<5	-	<100	-	7.4	7.2	-
SB05_1.1	22/08/2021	1.1	Natural	<2	<10	-	47	-	-	-	-	<5	-	240	-	23	7.6	-

Statistics																		
Number of Results	17	17	1	17	1	4	3	3	17	4	17	4	18	16	3	3	17	
Number of Detects	0	2	0	17	1	4	3	3	0	4	6	4	18	16	3	3	0	
Minimum Concentration	<2	<5	<500	10	170	5	61	3.4	<1	4.9	100	5.1	7.4	6.8	6.6	0.1	<0.4	
Minimum Detect	ND	34	ND	10	170	5	61	3.4	ND	4.9	100	5.1	7.4	6.8	6.6	0.1	ND	
Maximum Concentration	<2	68	<500	580	170	5	420	36	<5	5.2	280	5.3	23	9.1	7	4.5	<1	
Maximum Detect	ND	68	ND	580	170	5	420	36	ND	5.2	280	5.3	23	9.1	7	4.5	ND	
Average Concentration *	1	10		126		5	274	18	2.4	5.1	104	5.2	15	7.6	6.8	1.7	0.22	
Median Concentration *	1	5	250	75	170	5	340	14	2.5	5.1	50	5.15	14.5	7.55	6.7	0.4	0.2	
Standard Deviation *	0	16		144		0	188	17	0.49	0.15	84	0.096	5.3	0.61	0.21	2.5	0.073	
95% UCL (Student's-t) *	1	17.24		186.9		5	591.4	45.83	2.588	5.252	139.9	5.288	17.06	7.848	7.118	5.811	0.248	
% of Detects	0	12	0	100	100	100	100	100	0	100	35	100	100	100	100	100	0	
% of Non-Detects	100	88	100	0	0	0	0	0	100	0	65	0	0	0	0	0	100	

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

	Phenols																
	2,3,5,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,3,4,5 & 2,3,4,6-Tetrachlorophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	Cresol Total	4-Nitrophenol	Pentachlorophenol
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.03	0.05	0.05	0.03	0.5	5	0.05	0.03	0.03	0.2	1	5	5	0.03	0.5	5	0.2
Peraco Adopted Criteria-Res A HIL															400		100
Peraco Adopted Criteria-Res B HIL															4,700		130
Peraco Adopted Criteria-Rec C HIL															4,000		120
Peraco Adopted Criteria-Comm/Ind D HIL															25,000		660

Field ID	Date	Depth	Matrix Description																	
QC2	22/08/2021	0.2	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
QC3	22/08/2021	0.2	Fill 1	<0.03	<0.05	<0.05	<0.03	<1	<5	<0.05	<0.03	<0.03	<1	<1	<5	<5	<0.03	-	<5	<0.2
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB01_0.9	22/08/2021	0.9	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB01_1.1	22/08/2021	1.1	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB02_0.5	22/08/2021	0.5	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB02_0.9	22/08/2021	0.9	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB02_1.1	22/08/2021	1.1	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB03_0.2	22/08/2021	0.2	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB03_0.4	22/08/2021	0.4	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB04_0.6	22/08/2021	0.6	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB04_0.9	22/08/2021	0.9	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1
SB05_1.1	22/08/2021	1.1	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1

Statistics																			
Number of Results	1	17	17	17	17	17	1	17	17	17	17	17	17	17	17	16	17	17	
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Minimum Concentration	<0.03	<0.05	<0.05	<0.03	<0.5	<5	<0.05	<0.03	<0.03	<0.2	<1	<5	<5	<0.03	<0.5	<5	<5	<0.2	
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Maximum Concentration	<0.03	<1	<1	<0.5	<1	<5	<0.05	<0.5	<0.5	<1	<1	<5	<20	<1	<0.5	<5	<5	<1	
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Average Concentration *		0.47	0.47	0.24	0.26	2.5		0.24	0.24	0.12	0.5	2.5	9.6	0.47	0.25	2.5	0.48		
Median Concentration *	0.015	0.5	0.5	0.25	0.25	2.5	0.025	0.25	0.25	0.1	0.5	2.5	10	0.5	0.25	2.5	0.5		
Standard Deviation *		0.12	0.12	0.057	0.061	0		0.057	0.057	0.097	0	0	1.8	0.12	0	0	0.097		
95% UCL (Student's-t) *		0.521	0.521	0.26	0.29	2.5		0.26	0.26	0.165	0.5	2.5	10.33	0.521	0.25	2.5	0.518		
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

	Tetrachlorophenols	Phenol	Phenols (halogenated) EPAVic	Phenols (non- halogenated) EPAVic	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons EPAVic	1,1,1,2- tetrachloroethane	1,1,1-trichloroethane	1,1,2,2- tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,3-trichloropropane	1,2-dichloroethane	1,2-dichloropropane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	0.5	0.03	1	1	20	0.01	0.5	0.01	0.01	0.02	0.04	0.5	0.01	0.5	0.02	0.5
Peraco Adopted Criteria-Res A HIL		3,000															
Peraco Adopted Criteria-Res B HIL		45,000															
Peraco Adopted Criteria-Rec C HIL		40,000															
Peraco Adopted Criteria-Comm/Ind D HIL		240,000															

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC3	22/08/2021	0.2	Fill 1	-	<1	<0.03	<1	-	-	<0.01	-	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	<0.02
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB01_0.9	22/08/2021	0.9	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB01_1.1	22/08/2021	1.1	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB02_0.5	22/08/2021	0.5	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB02_0.9	22/08/2021	0.9	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB02_1.1	22/08/2021	1.1	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB03_0.2	22/08/2021	0.2	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB03_0.4	22/08/2021	0.4	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB04_0.6	22/08/2021	0.6	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB04_0.9	22/08/2021	0.9	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB05_1.1	22/08/2021	1.1	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Statistics																		
Number of Results	16	17	1	1	16	16	17	16	17	17	17	17	16	17	16	17	16	
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Minimum Concentration	<10	<0.5	<0.03	<1	<1	<20	<0.01	<0.5	<0.01	<0.01	<0.02	<0.04	<0.5	<0.01	<0.5	<0.02	<0.5	
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Maximum Concentration	<10	<1	<0.03	<1	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Average Concentration *	5	0.26			0.5	10	0.24	0.25	0.24	0.24	0.24	0.24	0.25	0.24	0.25	0.24	0.25	
Median Concentration *	5	0.25	0.015	0.5	0.5	10	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
Standard Deviation *	0	0.061			0	0	0.059	0	0.059	0.059	0.058	0.056	0	0.059	0	0.058	0	
95% UCL (Student's-t) *	5	0.29			0.5	10	0.261	0.25	0.261	0.261	0.261	0.26	0.25	0.261	0.25	0.261	0.25	
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

[illegible][illegible]

## Statistics

[illegible]

\* A Non Detect Multiplier of 0.5 has been applied.

## Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

			Halogenated Hydrocarbons					Halogenated Benzenes							NA		
	trans-1,3-dichloropropene	Vinyl chloride	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Iron (%)	Moisture Content
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL	0.5	0.02	0.5	0.5	0.5	0.5	0.5	0.01	0.02	0.5	0.02	0.5	0.5	0.02	0.03	0.01	1
Peraco Adopted Criteria-Res A HIL															10		
Peraco Adopted Criteria-Res B HIL																	
Peraco Adopted Criteria-Rec C HIL																	
Peraco Adopted Criteria-Comm/Ind D HIL																	

Field ID	Date	Depth	Matrix Description																	
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
QC3	22/08/2021	0.2	Fill 1	-	<0.02	-	-	-	-	-	<0.01	<0.02	-	<0.02	-	-	<0.02	<0.03	-	9.3
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	1.9	-
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	2.6	-
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	3.6	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-

Statistics																	
Number of Results	16	17	16	16	16	16	16	17	17	16	17	16	16	17	17	3	1
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Minimum Concentration	<0.5	<0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.02	<0.5	<0.02	<0.5	<0.5	<0.02	<0.03	1.9	9.3
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	9.3
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	3.6	9.3
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6	9.3
Average Concentration *	0.25	0.24	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.25	0.24	0.25	0.25	0.24	0.024	2.7	
Median Concentration *	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.025	2.6	9.3
Standard Deviation *	0	0.058	0	0	0	0	0	0.059	0.058	0	0.058	0	0	0.058	0.0024	0.85	
95% UCL (Student's-t) *	0.25	0.261	0.25	0.25	0.25	0.25	0.25	0.261	0.261	0.25	0.261	0.25	0.25	0.261	0.0254	4.14	
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	0

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL





Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

	Herbicides	Organochlorine Pesticides															
	Dinoseb	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	5	0.03	0.1	0.05	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.03	0.05	0.05	0.05	0.03	0.03
Peraco Adopted Criteria-Res A HIL							6		50						240		
Peraco Adopted Criteria-Res B HIL							10								600		
Peraco Adopted Criteria-Rec C HIL							10								400		
Peraco Adopted Criteria-Comm/Ind D HIL							45								3,600		

Field ID	Date	Depth	Matrix Description																	
QC2	22/08/2021	0.2	Fill 1	<20	0.13	<0.1	0.13	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	0.13	<0.05	<0.05
QC3	22/08/2021	0.2	Fill 1	<5	0.09	-	0.09	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.05	<0.05	-	<0.03	<0.03
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<20	0.74	<0.1	0.50	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	0.24	0.74	<0.05	<0.05
SB01_0.9	22/08/2021	0.9	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB01_1.1	22/08/2021	1.1	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB02_0.5	22/08/2021	0.5	Fill 1	<20	0.12	<0.1	0.12	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	0.12	<0.05	<0.05
SB02_0.9	22/08/2021	0.9	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB02_1.1	22/08/2021	1.1	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB03_0.2	22/08/2021	0.2	Fill 1	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	0.07	<0.05	0.07	<0.05	<0.05
SB03_0.4	22/08/2021	0.4	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<20	0.2	<0.1	0.13	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	0.07	0.2	<0.05	<0.05
SB04_0.6	22/08/2021	0.6	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB04_0.9	22/08/2021	0.9	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<20	0.44	<0.1	0.21	<0.05	<0.05	0.07	<0.05	<0.1	-	-	<0.05	<0.05	0.16	0.37	0.07	<0.05
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB05_1.1	22/08/2021	1.1	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Statistics																	
Number of Results	17	17	16	17	17	17	16	17	17	1	1	17	17	17	16	17	17
Number of Detects	0	6	0	6	0	0	1	0	0	0	0	0	1	3	6	1	0
Minimum Concentration	<5	0.09	<0.1	<0.05	<0.03	<0.03	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.05	<0.05	<0.05	<0.03	<0.03
Minimum Detect	ND	0.09	ND	0.09	ND	ND	0.07	ND	ND	ND	ND	ND	0.07	0.07	0.07	0.07	ND
Maximum Concentration	<20	0.74	<0.1	0.5	<0.05	<0.05	0.07	<0.05	<0.1	<0.03	<0.03	<0.05	0.07	0.24	0.74	0.07	<0.05
Maximum Detect	ND	0.74	ND	0.5	ND	ND	0.07	ND	ND	ND	ND	ND	0.07	0.24	0.74	0.07	ND
Average Concentration *	9.6	0.13	0.05	0.086	0.024	0.024	0.028	0.024	0.048			0.024	0.028	0.048	0.12	0.027	0.024
Median Concentration *	10	0.05	0.05	0.025	0.025	0.025	0.025	0.025	0.05	0.015	0.015	0.025	0.025	0.025	0.025	0.025	0.025
Standard Deviation *	1.8	0.18	0	0.12	0.0024	0.0024	0.011	0.0024	0.0085			0.0024	0.011	0.06	0.19	0.011	0.0024
95% UCL (Student's-t) *	10.33	0.212	0.05	0.137	0.0254	0.0254	0.0327	0.0254	0.0515			0.0254	0.0323	0.0736	0.201	0.0319	0.0254
% of Detects	0	35	0	35	0	0	6	0	0	0	0	0	6	18	38	6	0
% of Non-Detects	100	65	100	65	100	100	94	100	100	100	100	100	94	82	62	94	100

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Particle Size	PCBs					
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	% Clay*	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254
EQL	0.03	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.5	1	0.1	0.1	0.1	0.1	0.1	0.1
Peraco Adopted Criteria-Res A HIL			10				6		300	20							
Peraco Adopted Criteria-Res B HIL																	
Peraco Adopted Criteria-Rec C HIL																	
Peraco Adopted Criteria-Comm/Ind D HIL																	

Field ID	Date	Depth	Matrix Description															
QC2	22/08/2021	0.2	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
QC3	22/08/2021	0.2	Fill 1	<0.03	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	5.0	<0.1	<0.1	<0.1	<0.1
SB01_0.9	22/08/2021	0.9	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB01_1.1	22/08/2021	1.1	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB02_0.5	22/08/2021	0.5	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB02_0.9	22/08/2021	0.9	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB02_1.1	22/08/2021	1.1	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB03_0.2	22/08/2021	0.2	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB03_0.4	22/08/2021	0.4	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	7.0	<0.1	<0.1	<0.1	<0.1
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB04_0.6	22/08/2021	0.6	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB04_0.9	22/08/2021	0.9	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	39	<0.1	<0.1	<0.1	<0.1
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1
SB05_1.1	22/08/2021	1.1	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1

Statistics																		
Number of Results	17	17	17	17	16	17	17	17	17	16	3	16	16	16	16	16	16	16
Number of Detects	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Minimum Concentration	<0.03	<0.03	<0.03	<0.03	<0.05	<0.03	<0.03	<0.03	<0.03	<0.5	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	39	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39	ND	ND	ND	ND	ND	ND	ND
Average Concentration *	0.024	0.024	0.024	0.024	0.025	0.024	0.024	0.024	0.024	0.25	17	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Median Concentration *	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.25	7	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Standard Deviation *	0.0024	0.0024	0.0024	0.0024	0	0.0024	0.0024	0.0024	0.0024	0	19	0	0	0	0	0	0	0
95% UCL (Student's-t) *	0.0254	0.0254	0.0254	0.0254	0.025	0.0254	0.0254	0.0254	0.0254	0.25	49.16	0.05	0.05	0.05	0.05	0.05	0.05	0.05
% of Detects	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	0	100	100	100	100	100	100	100

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 1  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Human Health

			Solvents					SPOCAS
	Arochlor 1260	PCBs (Sum of total)	Methyl Ethyl ketone	4-Methyl-2-pentanone	Acetone	Allyl chloride	Carbon disulfide	pH (CaCl2)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
EQL	0.1	0.1	0.5	0.5	0.5	0.5	0.5	0.1
Peraco Adopted Criteria-Res A HIL		1						
Peraco Adopted Criteria-Res B HIL		1						
Peraco Adopted Criteria-Rec C HIL		1						
Peraco Adopted Criteria-Comm/Ind D HIL		7						

Field ID	Date	Depth	Matrix Description								
QC2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC3	22/08/2021	0.2	Fill 1	-	<0.1	-	-	-	-	-	7.6
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB01_0.9	22/08/2021	0.9	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB01_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_0.5	22/08/2021	0.5	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_0.9	22/08/2021	0.9	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.4	22/08/2021	0.4	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.6	22/08/2021	0.6	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.9	22/08/2021	0.9	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-

#### Statistics

Number of Results	16	17	16	16	16	16	16	1
Number of Detects	0	0	0	0	0	0	0	1
Minimum Concentration	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	7.6
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	7.6
Maximum Concentration	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	7.6
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	7.6
Average Concentration *	0.05	0.05	0.25	0.25	0.25	0.25	0.25	
Median Concentration *	0.05	0.05	0.25	0.25	0.25	0.25	0.25	7.6
Standard Deviation *	0	0	0	0	0	0	0	
95% UCL (Student's-t) *	0.05	0.05	0.25	0.25	0.25	0.25	0.25	
% of Detects	0	0	0	0	0	0	0	100
% of Non-Detects	100	100	100	100	100	100	100	0

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Res A HIL

Peraco SG, 14/4/20, Peraco Adopted Criteria-Rec C HIL



Table 2  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Ecological

	TPH																
	C6-C9	C10-C14	C15-C28	C29-C36	TPH C10-C14 Fraction after Silica Cleanup	TPH C15-C28 Fraction after Silica Cleanup	TPH C29-C36 Fraction after Silica Cleanup	TRH >C10-C16 (after silica gel clean-up)	TRH >C16-C34 (after silica gel clean-up)	TRH >C34-C40 (after silica gel clean-up)	TRH C10-C36 (Total) (after silica gel clean- up)	>C10 - C40 Fraction (sum) (after silica gel clean-up)	C10-C36 (Sum of total)	TRH C6-C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	20	50	50	20	50	50	50	100	100	100	100	50	10	50	100	100
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL																	
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space																	
Peraco Adopted Criteria-Urban residential and public open space ESL															120	300	2,800
Peraco Adopted Criteria-Commercial & Industrial EIL																	
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial																	
Peraco Adopted Criteria-Comm/Ind-ESL															170	1,700	3,300
Peraco Adopted Soil Criteria-Buildings and Structures																	

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
QC3	22/08/2021	0.2	Fill 1	<10	<50	<100	<100	-	-	-	-	-	-	-	-	<50	<10	<50	<100
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<20	<20	82	75	-	-	-	-	-	-	-	-	157	<20	<50	130
SB01_0.9	22/08/2021	0.9	Fill 2	<20	<20	<50	54	-	-	-	-	-	-	-	-	54	<20	<50	<100
SB01_1.1	22/08/2021	1.1	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB02_0.5	22/08/2021	0.5	Fill 1	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB02_0.9	22/08/2021	0.9	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB02_1.1	22/08/2021	1.1	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB03_0.2	22/08/2021	0.2	Fill 1	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB03_0.4	22/08/2021	0.4	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB04_0.2	22/08/2021	0.2		-	-	-	-	<20	<50	<50	<50	<100	<100	<50	<100	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<20	<20	99	81	-	-	-	-	-	-	-	-	180	<20	<50	150
SB04_0.6	22/08/2021	0.6	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB04_0.9	22/08/2021	0.9	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB05_0.2	22/08/2021	0.2		-	-	-	-	<20	<50	<50	<50	<100	<100	<50	<100	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<20	<20	96	84	-	-	-	-	-	-	-	-	180	<20	<50	150
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100
SB05_1.1	22/08/2021	1.1	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	-	<50	<20	<50	<100

Statistics																			
Number of Results	17	17	17	17	2	2	2	2	2	2	2	2	2	17	17	17	17	17	17
Number of Detects	0	0	3	4	0	0	0	0	0	0	0	0	0	4	0	0	3	0	0
Minimum Concentration	<10	<20	<50	<50	<20	<50	<50	<50	<100	<100	<50	<100	<50	<10	<50	<100	<100	<100	<100
Minimum Detect	ND	ND	82	54	ND	ND	ND	ND	ND	ND	ND	ND	54	ND	ND	130	ND	ND	ND
Maximum Concentration	<20	<50	<100	<100	<20	<50	<50	<50	<100	<100	<50	<100	180	<20	<50	150	<100	<100	<100
Maximum Detect	ND	ND	99	84	ND	ND	ND	ND	ND	ND	ND	ND	180	ND	ND	150	ND	ND	ND
Average Concentration *	9.7	11	38	38	10	25	25	25	50	50	25	50	53	9.7	25	66	50	50	50
Median Concentration *	10	10	25	25	10	25	25	25	50	50	25	50	25	10	25	50	50	50	50
Standard Deviation *	1.2	3.6	27	22	0	0	0	0	0	0	0	0	58	1.2	0	37	0	0	0
95% UCL (Student's-t) *	10.22	12.42	49.64	47.21	10	25	25	25	50	50	25	50	77.14	10.22	25	82.1	50	50	50
% of Detects	0	0	18	24	0	0	0	0	0	0	0	0	24	0	0	18	0	0	0
% of Non-Detects	100	100	82	76	100	100	100	100	100	100	100	100	76	100	100	82	100	100	100

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures



Table 2  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Ecological

	TRH F1 (C6-C10 minus BTEX)	TRH F2 (>C10-C16 minus Naphthalene)	TRH >C10-C40 (Sum of total)	BTEX						MAH						Benzo(b+j-k)fluoranthene	Acenaphthene
				Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Monocyclic aromatic hydrocarbons EPAVic	Total MAH	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	Styrene		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	50	50	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.5	0.5	0.5	0.5	1	0.5
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL																	
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space																	
Peraco Adopted Criteria-Urban residential and public open space ESL	180			50	85	70			45								
Peraco Adopted Criteria-Commercial & Industrial EIL																	
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial																	
Peraco Adopted Criteria-Comm/Ind-ESL	215			75	135	165			95								
Peraco Adopted Soil Criteria-Buildings and Structures																	

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC3	22/08/2021	0.2	Fill 1	<10	<50	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	-	-	-	<0.5	<1.0
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<20	<50	130	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB01_0.9	22/08/2021	0.9	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB01_1.1	22/08/2021	1.1	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_0.5	22/08/2021	0.5	Fill 1	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_0.9	22/08/2021	0.9	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_1.1	22/08/2021	1.1	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.2	22/08/2021	0.2	Fill 1	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.4	22/08/2021	0.4	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<20	<50	150	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.6	22/08/2021	0.6	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.9	22/08/2021	0.9	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<20	<50	150	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_1.1	22/08/2021	1.1	Natural	<20	<50	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-

Statistics																		
Number of Results	17	17	17	17	17	17	17	17	17	17	17	17	1	16	16	16	16	17
Number of Detects	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<10	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
Minimum Detect	ND	ND	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<20	<50	150	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
Maximum Detect	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *	9.7	25	65	0.053	0.062	0.062	0.11	0.062	0.16		0.25	0.25	0.25	0.25	0.25	0.25		0.25
Median Concentration *	10	25	50	0.05	0.05	0.05	0.1	0.05	0.15	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.25
Standard Deviation *	1.2	0	38	0.012	0.049	0.049	0.036	0.049	0.024		0	0	0	0	0	0		0
95% UCL (Student's-t) *	10.22	25	81.12	0.0581	0.0823	0.0823	0.124	0.0823	0.166		0.25	0.25	0.25	0.25	0.25	0.25		0.25
% of Detects	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Non-Detects	100	100	82	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures

	PAH																
	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene		Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)
	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL														170			
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space																	
Peraco Adopted Criteria-Urban residential and public open space ESL				0.7													
Peraco Adopted Criteria-Commercial & Industrial EIL														370			
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial																	
Peraco Adopted Criteria-Comm/Ind-ESL				1.4													
Peraco Adopted Soil Criteria-Buildings and Structures																	

Field ID	Date	Depth	Matrix Description																	
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
QC3	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	0.6	1.0	-	0.8	0.6	0.7	0.7	<0.5	1.5	<0.5	0.6	<0.5	<0.5	1.5	1.8
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	1.1	1.8	-	1.8	1.5	1.8	1.0	<0.5	3.7	<0.5	1.3	<0.5	1.0	2.7	2.9
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	1.4	1.9	-	1.9	2.0	1.8	1.5	0.5	4.1	<0.5	1.6	<0.5	1.4	3.1	3.1
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2

Statistics																			
Number of Results	17	17	17	17	1	16	17	16	17	17	17	17	17	17	17	17	17	17	17
Number of Detects	0	0	3	3	0	3	3	3	3	1	6	0	3	0	2	17	17	17	17
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	1.2
Minimum Detect	ND	ND	0.6	1	ND	0.8	0.6	0.7	0.7	0.5	0.5	ND	0.6	ND	1	0.6	1.2	1.2	1.2
Maximum Concentration	<0.5	<0.5	1.4	1.9	<1	1.9	2	1.8	1.5	0.5	4.1	<0.5	1.6	<0.5	1.4	3.1	3.1	3.1	3.1
Maximum Detect	ND	ND	1.4	1.9	ND	1.9	2	1.8	1.5	0.5	4.1	ND	1.6	ND	1.4	3.1	3.1	3.1	3.1
Average Concentration *	0.25	0.25	0.39	0.48		0.48	0.45	0.47	0.39	0.26	0.83	0.25	0.41	0.25	0.36	0.92	1.4	1.4	1.4
Median Concentration *	0.25	0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	1.2	1.2
Standard Deviation *	0	0	0.34	0.55		0.55	0.51	0.53	0.35	0.061	1.2	0	0.4	0	0.32	0.78	0.6	0.6	0.6
95% UCL (Student's-t) *	0.25	0.25	0.532	0.714		0.726	0.661	0.704	0.543	0.29	1.337	0.25	0.583	0.25	0.499	1.253	1.702	1.702	1.702
% of Detects	0	0	18	18	0	19	18	19	18	6	35	0	18	0	12	100	100	100	100
% of Non-Detects	100	100	82	82	100	81	82	81	82	94	65	100	82	100	88	0	0	0	0

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures



Table 2  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Ecological

					Metals												
	Benzo(a)pyrene TEQ calc (Zero)	Pyrene	PAHs (Vic EPA List)	PAHs (Sum of total)	Arsenic		Cadmium	Chromium (hexavalent)	Chromium (II+VI)	Copper	Iron	Lead		Mercury	Molybdenum	Nickel	Selenium
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	2	10	0.4	0.5	5	5	20	5	10	0.1	2	2	2
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL				40	100		10	0.4				1,100		6.6	10		1
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space										210   40   160						220   25   410	
Peraco Adopted Criteria-Urban residential and public open space ESL																	
Peraco Adopted Criteria-Commercial & Industrial EIL					160		22	1.4				1,800		24	40		2.9
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial										300   50   230						370   30   690	
Peraco Adopted Criteria-Comm/Ind-ESL																	
Peraco Adopted Soil Criteria-Buildings and Structures																	

Field ID	Date	Depth	Matrix Description																	
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	-	<0.5	13	-	<0.4	<1	25	28	-	270	-	0.1	<5	48	<2
QC3	22/08/2021	0.2	Fill 1	<0.5	0.6	1.2	-	6	-	<1	<0.5	-	20	-	236	-	<0.1	<2	35	<5
SB01_0.5	22/08/2021	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	1.3	1.5	-	8	34	-	0.9	<1	19	66	19,000	1,100	-	0.3	<5	12	<2
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	-	<0.5	83	-	<0.4	<1	28	6.5	-	99	-	<0.1	<5	<5	<2
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	-	<0.5	80	-	<0.4	<1	79	7.4	-	72	-	0.1	<5	27	<2
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	0.6	-	1.1	8.7	-	<0.4	<1	12	22	-	140	-	0.1	<5	13	<2
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	-	<0.5	240	-	<0.4	<1	100	<5	-	28	-	<0.1	<5	15	<2
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	-	<0.5	100	-	<0.4	<1	90	8.5	-	21	-	<0.1	<5	30	<2
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	1.0	-	1.9	32	-	<0.4	<1	25	19	-	440	-	0.2	<5	21	<2
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	-	<0.5	88	-	<0.4	<1	32	<5	26,000	36	-	<0.1	<5	9.7	<2
SB03_0.8	22/08/2021	0.8	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	-	<0.5	130	-	<0.4	<1	95	6.7	-	21	-	<0.1	<5	33	<2
SB04_0.2	22/08/2021	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	2.4	3.7	-	18.7	62	-	<0.4	<1	29	13	-	240	-	0.1	<5	11	<2
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	-	<0.5	54	-	<0.4	<1	21	6.2	-	48	-	<0.1	<5	<5	<2
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	-	<0.5	78	-	<0.4	<1	75	7.3	36,000	19	-	<0.1	<5	30	<2
SB05_0.2	22/08/2021	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	3.1	3.8	-	21.9	65	-	<0.4	<1	38	17	-	250	-	0.1	<5	8.7	<2
SB05_0.6	22/08/2021	0.6	-	-	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	-	<0.5	510	-	<0.4	<1	140	<5	-	52	-	<0.1	<5	12	<2
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	-	<0.5	82	-	<0.4	<1	110	8.1	-	25	-	<0.1	<5	31	<2

Statistics																			
Number of Results	17	17	1	16	17	3	17	17	16	17	3	17	1	17	17	17	17	17	17
Number of Detects	3	6	1	5	17	1	1	0	16	14	3	17	1	7	0	15	0		
Minimum Concentration	<0.5	<0.5	1.2	<0.5	6	<10	<0.4	<0.5	12	<5	19,000	19	20	0.1	<2	<5	<2		
Minimum Detect	1.3	0.6	1.2	1.1	6	60	0.9	ND	12	6.2	19,000	19	20	0.1	ND	8.7	ND		
Maximum Concentration	3.1	3.8	1.2	21.9	510	60	<1	<1	140	66	36,000	1,100	20	0.3	<5	48	<5		
Maximum Detect	3.1	3.8	1.2	21.9	510	60	0.9	ND	140	66	36,000	1,100	20	0.3	ND	48	ND		
Average Concentration *	0.61	0.82		3.4	98	23	0.26	0.49	57	14	27,000	182		0.088	2.4	20	1.1		
Median Concentration *	0.25	0.25	1.2	0.25	78	5	0.2	0.5	35	8.1	26,000	72	20	0.05	2.5	15	1		
Standard Deviation *	0.85	1.2		6.9	120	32	0.18	0.061	40	15	8,544	266		0.067	0.36	13	0.36		
95% UCL (Student's-t) *	0.968	1.31		6.421	148.6	76.87	0.335	0.511	75.02	20.79	41,404	294.8		0.117	2.566	25.56	1.242		
% of Detects	18	35	100	31	100	33	6	0	100	82	100	100	100	41	0	88	0		
% of Non-Detects	82	65	0	69	0	67	94	100	0	18	0	0	0	59	100	12	100		

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures





Table 2  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Ecological

						Inorganics												3&4-Methylphenol (m&p-cresol)
	Silver	Tin		Zinc		pH of Leaching Fluid	Conductivity (1:5 aqueous extract)	CEC	Cyanide Total	pH (Final)	Fluoride	pH (Initial)	Moisture Content (dried @ 103°C)	pH (aqueous extract)	pH (Lab)	TOC		
		mg/kg	mg/kg	µg/L	mg/kg												µg/L	
EQL	2	5	500	5	10	0.1	10	0.05	1	0.1	40	0.1	1	0.1	0.1	%	mg/kg	
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL											400			6-8				
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space				580   220   930														
Peraco Adopted Criteria-Urban residential and public open space ESL																		
Peraco Adopted Criteria-Commercial & Industrial EIL											2,000			6-8				
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial				870   320   1,400														
Peraco Adopted Criteria-Comm/Ind-ESL																		
Peraco Adopted Soil Criteria-Buildings and Structures															5.5			

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	<2	<10	-	220	-	-	-	-	<5	-	<100	-	7.9	7.9	-	<0.4
QC3	22/08/2021	0.2	Fill 1	<2	<5	-	173	-	-	-	-	<1	-	100	-	-	-	-	<1
SB01_0.5	22/08/2021	0.5		-	-	<500	-	170	5.0	-	-	5.2	-	-	5.1	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<2	68	-	580	-	-	61	14	<5	-	<100	-	20	7.0	6.6	4.5
SB01_0.9	22/08/2021	0.9	Fill 2	<2	<10	-	75	-	-	-	-	<5	-	<100	-	9.8	7.9	-	<0.4
SB01_1.1	22/08/2021	1.1	Natural	<2	<10	-	37	-	-	-	-	<5	-	280	-	20	7.9	-	<0.4
SB02_0.5	22/08/2021	0.5	Fill 1	<2	34	-	140	-	-	-	-	<5	-	<100	-	12	7.5	-	<0.4
SB02_0.9	22/08/2021	0.9	Fill 2	<2	<10	-	10	-	-	-	-	<5	-	<100	-	7.6	7.9	-	<0.4
SB02_1.1	22/08/2021	1.1	Natural	<2	<10	-	23	-	-	-	-	<5	-	200	-	21	6.9	-	<0.4
SB03_0.2	22/08/2021	0.2	Fill 1	<2	<10	-	260	-	-	-	-	<5	-	<100	-	11	8.3	-	<0.4
SB03_0.4	22/08/2021	0.4	Fill 2	<2	<10	-	20	-	-	340	3.4	<5	-	<100	-	10	6.9	6.7	0.1
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	5.0	-	-	-	5.2	-	5.2	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<2	<10	-	22	-	-	-	-	<5	-	250	-	18	6.8	-	<0.4
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<2	<10	-	130	-	-	-	-	<5	-	<100	-	16	7.5	-	<0.4
SB04_0.6	22/08/2021	0.6	Fill 2	<2	<10	-	89	-	-	-	-	<5	-	<100	-	19	9.1	-	<0.4
SB04_0.9	22/08/2021	0.9	Natural	<2	<10	-	19	-	-	420	36	<5	-	150	-	23	7.1	7.0	0.4
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	5.0	-	-	-	5.0	-	5.1	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<2	<10	-	250	-	-	-	-	<5	-	<100	-	15	7.8	-	<0.4
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	5.0	-	-	-	4.9	-	5.3	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<2	<10	-	43	-	-	-	-	<5	-	<100	-	7.4	7.2	-	<0.4
SB05_1.1	22/08/2021	1.1	Natural	<2	<10	-	47	-	-	-	-	<5	-	240	-	23	7.6	-	<0.4

Statistics																			
Number of Results	17	17	1	17	1	4	3	3	17	4	17	4	18	16	3	3	17		
Number of Detects	0	2	0	17	1	4	3	3	0	4	6	4	18	16	3	3	0		
Minimum Concentration	<2	<5	<500	10	170	5	61	3.4	<1	4.9	100	5.1	7.4	6.8	6.6	0.1	<0.4		
Minimum Detect	ND	34	ND	10	170	5	61	3.4	ND	4.9	100	5.1	7.4	6.8	6.6	0.1	ND		
Maximum Concentration	<2	68	<500	580	170	5	420	36	<5	5.2	280	5.3	23	9.1	7	4.5	<1		
Maximum Detect	ND	68	ND	580	170	5	420	36	ND	5.2	280	5.3	23	9.1	7	4.5	ND		
Average Concentration *	1	10		126		5	274	18	2.4	5.1	104	5.2	15	7.6	6.8	1.7	0.22		
Median Concentration *	1	5	250	75	170	5	340	14	2.5	5.1	50	5.15	14.5	7.55	6.7	0.4	0.2		
Standard Deviation *	0	16		144		0	188	17	0.49	0.15	84	0.096	5.3	0.61	0.21	2.5	0.073		
95% UCL (Student's-t) *	1	17.24		186.9		5	591.4	45.83	2.588	5.252	139.9	5.288	17.06	7.848	7.118	5.811	0.248		
% of Detects	0	12	0	100	100	100	100	100	0	100	35	100	100	100	100	100	0		
% of Non-Detects	100	88	100	0	0	0	0	0	100	0	65	0	0	0	0	0	100		

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL  
Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures

	Phenols																
	2,3,5,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,3,4,5 & 2,3,4,6-Tetrachlorophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	Cresol Total	4-Nitrophenol	Pentachlorophenol
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.03	0.05	0.05	0.03	0.5	5	0.05	0.03	0.03	0.2	1	5	5	0.03	0.5	5	0.2
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL																	7.6
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space																	
Peraco Adopted Criteria-Urban residential and public open space ESL																	
Peraco Adopted Criteria-Commercial & Industrial EIL																	7.6
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial																	
Peraco Adopted Criteria-Comm/Ind-ESL																	
Peraco Adopted Soil Criteria-Buildings and Structures																	

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
QC3	22/08/2021	0.2	Fill 1	<0.03	<0.05	<0.05	<0.03	<1	<5	<0.05	<0.03	<0.03	<1	<1	<5	<5	<0.03	-	<5
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB01_0.9	22/08/2021	0.9	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB01_1.1	22/08/2021	1.1	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB02_0.5	22/08/2021	0.5	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB02_0.9	22/08/2021	0.9	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB02_1.1	22/08/2021	1.1	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB03_0.2	22/08/2021	0.2	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB03_0.4	22/08/2021	0.4	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB04_0.6	22/08/2021	0.6	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB04_0.9	22/08/2021	0.9	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5
SB05_1.1	22/08/2021	1.1	Natural	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5

Statistics																			
Number of Results	1	17	17	17	17	17	1	17	17	17	17	17	17	17	17	16	17	17	
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Minimum Concentration	<0.03	<0.05	<0.05	<0.03	<0.5	<5	<0.05	<0.03	<0.03	<0.2	<1	<5	<5	<0.03	<0.5	<5	<5	<0.2	
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Maximum Concentration	<0.03	<1	<1	<0.5	<1	<5	<0.05	<0.5	<0.5	<1	<1	<5	<20	<1	<0.5	<5	<5	<1	
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Average Concentration *		0.47	0.47	0.24	0.26	2.5	0.24	0.24	0.12	0.5	2.5	9.6	0.47	0.25	2.5	0.48			
Median Concentration *	0.015	0.5	0.5	0.25	0.25	2.5	0.025	0.25	0.25	0.1	0.5	2.5	10	0.5	0.25	2.5	0.5		
Standard Deviation *		0.12	0.12	0.057	0.061	0	0.057	0.057	0.097	0	0	1.8	0.12	0	0	0.097			
95% UCL (Student's-t) *		0.521	0.521	0.26	0.29	2.5	0.26	0.26	0.165	0.5	2.5	10.33	0.521	0.25	2.5	0.518			
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL  
Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures



Table 2  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Ecological

	Tetrachlorophenols	Phenol	Phenols (halogenated) EPAVic	Phenols (non-halogenated) EPAVic	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons EPAVic	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,3-trichloropropane	1,2-dichloroethane	1,2-dichloropropane	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL	10	0.5	0.03	1	1	20	0.01	0.5	0.01	0.01	0.02	0.04	0.5	0.01	0.5	0.02	0.5	
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL		3.8																
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space																		
Peraco Adopted Criteria-Urban residential and public open space ESL																		
Peraco Adopted Criteria-Commercial & Industrial EIL		3.8																
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial																		
Peraco Adopted Criteria-Comm/Ind-ESL																		
Peraco Adopted Soil Criteria-Buildings and Structures																		

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC3	22/08/2021	0.2	Fill 1	-	<1	<0.03	<1	-	-	<0.01	-	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	<0.02
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB01_0.9	22/08/2021	0.9	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB01_1.1	22/08/2021	1.1	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB02_0.5	22/08/2021	0.5	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB02_0.9	22/08/2021	0.9	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB02_1.1	22/08/2021	1.1	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB03_0.2	22/08/2021	0.2	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB03_0.4	22/08/2021	0.4	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB04_0.6	22/08/2021	0.6	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB04_0.9	22/08/2021	0.9	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB05_1.1	22/08/2021	1.1	Natural	<10	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Statistics																			
Number of Results	16	17	1	1	16	16	17	16	17	17	17	17	17	16	17	16	17	16	
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Minimum Concentration	<10	<0.5	<0.03	<1	<1	<20	<0.01	<0.5	<0.01	<0.01	<0.02	<0.04	<0.5	<0.01	<0.5	<0.02	<0.5		
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Maximum Concentration	<10	<1	<0.03	<1	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Average Concentration *	5	0.26			0.5	10	0.24	0.25	0.24	0.24	0.24	0.24	0.25	0.24	0.25	0.24	0.25		
Median Concentration *	5	0.25	0.015	0.5	0.5	10	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25		
Standard Deviation *	0	0.061			0	0	0.059	0	0.059	0.059	0.058	0.056	0	0.059	0	0.058	0		
95% UCL (Student's-t) *	5	0.29			0.5	10	0.261	0.25	0.261	0.261	0.261	0.26	0.25	0.261	0.25	0.261	0.25		
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures



Table 2  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Ecological

	Chlorinated Hydrocarbons																
	1,3-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.01	0.5	0.5	0.02	0.5	0.01	0.5	0.5	0.4	0.02	0.02	0.02	0.02
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL																	
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space																	
Peraco Adopted Criteria-Urban residential and public open space ESL																	
Peraco Adopted Criteria-Commercial & Industrial EIL																	
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial																	
Peraco Adopted Criteria-Comm/Ind-ESL																	
Peraco Adopted Soil Criteria-Buildings and Structures																	

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC3	22/08/2021	0.2	Fill 1	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	<0.02	<0.02
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Statistics																			
Number of Results	16	16	16	16	17	16	16	17	16	17	16	16	17	17	17	17	17	17	17
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<0.01	<0.5	<0.5	<0.02	<0.5	<0.01	<0.5	<0.5	<0.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *	0.25	0.25	0.25	0.25	0.24	0.25	0.25	0.24	0.25	0.24	0.25	0.25	0.25	0.25	0.24	0.24	0.24	0.24	0.24
Median Concentration *	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation *	0	0	0	0	0.059	0	0	0.058	0	0.059	0	0	0.012	0.058	0.058	0.058	0.058	0.058	0.058
95% UCL (Student's-t) *	0.25	0.25	0.25	0.25	0.261	0.25	0.25	0.261	0.25	0.261	0.25	0.25	0.252	0.261	0.261	0.261	0.261	0.261	0.261
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures



Table 2  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Ecological

			Halogenated Hydrocarbons					Halogenated Benzenes								NA	
	trans-1,3-dichloropropene	Vinyl chloride	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Iron (%)	Moisture Content
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL	0.5	0.02	0.5	0.5	0.5	0.5	0.5	0.01	0.02	0.5	0.02	0.5	0.5	0.02	0.03	0.01	1
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL																	
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space																	
Peraco Adopted Criteria-Urban residential and public open space ESL																	
Peraco Adopted Criteria-Commercial & Industrial EIL																	
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial																	
Peraco Adopted Criteria-Comm/Ind-ESL																	
Peraco Adopted Soil Criteria-Buildings and Structures																	

Field ID	Date	Depth	Matrix Description																	
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
QC3	22/08/2021	0.2	Fill 1	-	<0.02	-	-	-	-	-	<0.01	<0.02	-	<0.02	-	-	<0.02	<0.03	-	9.3
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	1.9	-
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	2.6	-
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	3.6	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-

Statistics																			
Number of Results	16	17	16	16	16	16	16	16	17	17	16	17	16	16	17	17	3	1	
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	
Minimum Concentration	<0.5	<0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.02	<0.5	<0.02	<0.5	<0.5	<0.02	<0.03	1.9	9.3	
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	9.3	
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	3.6	9.3	
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6	9.3	
Average Concentration *	0.25	0.24	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.25	0.24	0.25	0.25	0.24	0.024	2.7		
Median Concentration *	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.025	2.6	9.3	
Standard Deviation *	0	0.058	0	0	0	0	0	0	0.059	0.058	0	0.058	0	0	0.058	0.0024	0.85		
95% UCL (Student's-t) *	0.25	0.261	0.25	0.25	0.25	0.25	0.25	0.25	0.261	0.261	0.25	0.261	0.25	0.25	0.261	0.0254	4.14		
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	0	

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures



Table 2  
J8619  
39 The Avenue, Balaclava  
Soil Analytical Results-Ecological

	Herbicides																	Organochlorine Pesticides														
	Dinoseb	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I															
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg															
EQL	5	0.03	0.1	0.05	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.03	0.05	0.05	0.05	0.03	0.03															
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL														180																		
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space																																
Peraco Adopted Criteria-Urban residential and public open space ESL																																
Peraco Adopted Criteria-Commercial & Industrial EIL														640																		
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial																																
Peraco Adopted Criteria-Comm/Ind-ESL																																
Peraco Adopted Soil Criteria-Buildings and Structures																																

Field ID	Date	Depth	Matrix Description																	
QC2	22/08/2021	0.2	Fill 1	<20	0.13	<0.1	0.13	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	0.13	<0.05	<0.05
QC3	22/08/2021	0.2	Fill 1	<5	0.09	-	0.09	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.05	<0.05	-	<0.03	<0.03
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<20	0.74	<0.1	0.50	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	0.24	0.74	<0.05	<0.05
SB01_0.9	22/08/2021	0.9	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB01_1.1	22/08/2021	1.1	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB02_0.5	22/08/2021	0.5	Fill 1	<20	0.12	<0.1	0.12	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	0.12	<0.05	<0.05
SB02_0.9	22/08/2021	0.9	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB02_1.1	22/08/2021	1.1	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB03_0.2	22/08/2021	0.2	Fill 1	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	0.07	<0.05	0.07	<0.05	<0.05
SB03_0.4	22/08/2021	0.4	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<20	0.2	<0.1	0.13	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	0.07	0.2	<0.05	<0.05
SB04_0.6	22/08/2021	0.6	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB04_0.9	22/08/2021	0.9	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<20	0.44	<0.1	0.21	<0.05	<0.05	0.07	<0.05	<0.1	-	-	<0.05	<0.05	0.16	0.37	0.07	<0.05
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB05_1.1	22/08/2021	1.1	Natural	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Statistics																	
Number of Results	17	17	16	17	17	17	16	17	17	1	1	17	17	17	16	17	17
Number of Detects	0	6	0	6	0	0	1	0	0	0	0	0	1	3	6	1	0
Minimum Concentration	<5	0.09	<0.1	<0.05	<0.03	<0.03	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.05	<0.05	<0.05	<0.03	<0.03
Minimum Detect	ND	0.09	ND	0.09	ND	ND	0.07	ND	ND	ND	ND	ND	0.07	0.07	0.07	0.07	ND
Maximum Concentration	<20	0.74	<0.1	0.5	<0.05	<0.05	0.07	<0.05	<0.1	<0.03	<0.03	<0.05	0.07	0.24	0.74	0.07	<0.05
Maximum Detect	ND	0.74	ND	0.5	ND	ND	0.07	ND	ND	ND	ND	ND	0.07	0.24	0.74	0.07	ND
Average Concentration *	9.6	0.13	0.05	0.086	0.024	0.024	0.028	0.024	0.048			0.024	0.028	0.048	0.12	0.027	0.024
Median Concentration *	10	0.05	0.05	0.025	0.025	0.025	0.025	0.025	0.05	0.015	0.015	0.025	0.025	0.025	0.025	0.025	0.025
Standard Deviation *	1.8	0.18	0	0.12	0.0024	0.0024	0.011	0.0024	0.0085			0.0024	0.011	0.06	0.19	0.011	0.0024
95% UCL (Student's-t) *	10.33	0.212	0.05	0.137	0.0254	0.0254	0.0327	0.0254	0.0515			0.0254	0.0323	0.0736	0.201	0.0319	0.0254
% of Detects	0	35	0	35	0	0	6	0	0	0	0	0	6	18	38	6	0
% of Non-Detects	100	65	100	65	100	100	94	100	100	100	100	100	94	82	62	94	100

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures

	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Particle Size	PCBs					
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	% Clay*	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254
EQL	0.03	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.5	1	0.1	0.1	0.1	0.1	0.1	0.1
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL																	
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space																	
Peraco Adopted Criteria-Urban residential and public open space ESL																	
Peraco Adopted Criteria-Commercial & Industrial EIL																	
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial																	
Peraco Adopted Criteria-Comm/Ind-ESL																	
Peraco Adopted Soil Criteria-Buildings and Structures																	

Field ID	Date	Depth	Matrix Description																
QC2	22/08/2021	0.2	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
QC3	22/08/2021	0.2	Fill 1	<0.03	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	5.0	<0.1	<0.1	<0.1	<0.1	<0.1
SB01_0.9	22/08/2021	0.9	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB01_1.1	22/08/2021	1.1	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB02_0.5	22/08/2021	0.5	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB02_0.9	22/08/2021	0.9	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB02_1.1	22/08/2021	1.1	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB03_0.2	22/08/2021	0.2	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB03_0.4	22/08/2021	0.4	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	7.0	<0.1	<0.1	<0.1	<0.1	<0.1
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB04_0.6	22/08/2021	0.6	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB04_0.9	22/08/2021	0.9	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	39	<0.1	<0.1	<0.1	<0.1	<0.1
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB05_1.1	22/08/2021	1.1	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1

Statistics																			
Number of Results				17	17	17	17	16	17	17	17	17	16	3	16	16	16	16	16
Number of Detects				0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
Minimum Concentration				<0.03	<0.03	<0.03	<0.03	<0.05	<0.03	<0.03	<0.03	<0.03	<0.5	5	<0.1	<0.1	<0.1	<0.1	<0.1
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	ND	ND	ND
Maximum Concentration				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	39	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39	ND	ND	ND	ND	ND
Average Concentration *				0.024	0.024	0.024	0.024	0.025	0.024	0.024	0.024	0.024	0.25	17	0.05	0.05	0.05	0.05	0.05
Median Concentration *				0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.25	7	0.05	0.05	0.05	0.05	0.05
Standard Deviation *				0.0024	0.0024	0.0024	0.0024	0	0.0024	0.0024	0.0024	0.0024	0	19	0	0	0	0	0
95% UCL (Student's-t) *				0.0254	0.0254	0.0254	0.0254	0.025	0.0254	0.0254	0.0254	0.0254	0.25	49.16	0.05	0.05	0.05	0.05	0.05
% of Detects				0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
% of Non-Detects				100	100	100	100	100	100	100	100	100	100	0	100	100	100	100	100

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures



			Solvents					SPOCAS
	Arochlor 1260	PCBs (Sum of total)	Methyl Ethyl Ketone	4-Methyl-2-pentanone	Acetone	Allyl chloride	Carbon disulfide	pH (CaCl2)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
EQL	0.1	0.1	0.5	0.5	0.5	0.5	0.5	0.1
Peraco Adopted Criteria-Urban Residential & Public Open Space EIL		1.3						
Peraco Adopted Criteria-site specific EILs-Urban residential & public open space								
Peraco Adopted Criteria-Urban residential and public open space ESL								
Peraco Adopted Criteria-Commercial & Industrial EIL		33						
Peraco Adopted Criteria-site specific EILs-Commercial/Industrial								
Peraco Adopted Criteria-Comm/Ind-ESL								
Peraco Adopted Soil Criteria-Buildings and Structures								

Field ID	Date	Depth	Matrix Description								
QC2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC3	22/08/2021	0.2	Fill 1	-	<0.1	-	-	-	-	-	7.6
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB01_0.9	22/08/2021	0.9	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB01_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_0.5	22/08/2021	0.5	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_0.9	22/08/2021	0.9	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.4	22/08/2021	0.4	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.6	22/08/2021	0.6	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.9	22/08/2021	0.9	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-

Statistics											
Number of Results	16	17	16	16	16	16	16	16	1		
Number of Detects	0	0	0	0	0	0	0	0	1		
Minimum Concentration	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.6		
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	7.6		
Maximum Concentration	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.6		
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	7.6		
Average Concentration *	0.05	0.05	0.25	0.25	0.25	0.25	0.25	0.25			
Median Concentration *	0.05	0.05	0.25	0.25	0.25	0.25	0.25	0.25	7.6		
Standard Deviation *	0	0	0	0	0	0	0	0			
95% UCL (Student's-t) *	0.05	0.05	0.25	0.25	0.25	0.25	0.25	0.25			
% of Detects	0	0	0	0	0	0	0	0	100		
% of Non-Detects	100	100	100	100	100	100	100	100	0		

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

Peraco SG, 30/3/20, Peraco Adopted Criteria-Urban Residential & Public Open Space EIL

Peraco SG, 25/4/20, Peraco Adopted Soil Criteria-Buildings and Structures



Table 3  
J8619  
39 The Avenue, Balaclava  
EPAVic Waste Disposal Category 1828.2

	TPH																				Benzene
	C6-C9	C10-C14	C15-C28	C29-C36	TPH C10-C14 Fraction after Silica Cleanup	TPH C15-C28 Fraction after Silica Cleanup	TPH C29-C36 Fraction after Silica Cleanup	TRH >C10-C16 (after silica gel clean-up)	TRH >C16-C34 (after silica gel clean-up)	TRH >C34-C40 (after silica gel clean-up)	TRH C10-C36 (Total) (after silica gel clean-up)	>C10 - C40 Fraction (sum) (after silica gel clean-up)	C10-C36 (Sum of total)	TRH C6-C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	TRH F1 (C6-C10 minus BTEX)	TRH F2 (>C10-C16 minus Naphthalene)	TRH >C10-C40 (Sum of total)	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	20	50	50	20	50	50	50	100	100	100	100	50	10	50	100	100	10	50	50	0.1
EPA Vic IWRG1828.2 Category B upper limit	2,600												40,000								16
EPA Vic IWRG1828.2 Category C upper limit	650												10,000								4
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit	325												5,000								4
EPA Vic IWRG1828.2 Fill material upper limit	100												1,000								1

Field ID	Date	Depth	Matrix Description																				
QC2	22/08/2021	0.2	Fill 1	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
QC3	22/08/2021	0.2	Fill 1	<10	<50	<100	<100	-	-	-	-	-	-	-	<50	<10	<50	<100	<100	<10	<50	<50	<0.2
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<20	<20	82	75	-	-	-	-	-	-	-	157	<20	<50	130	<100	<20	<50	130	<0.1
SB01_0.9	22/08/2021	0.9	Fill 2	<20	<20	<50	54	-	-	-	-	-	-	-	54	<20	<50	<100	<100	<20	<50	<100	<0.1
SB01_1.1	22/08/2021	1.1	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB02_0.5	22/08/2021	0.5	Fill 1	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB02_0.9	22/08/2021	0.9	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB02_1.1	22/08/2021	1.1	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB03_0.2	22/08/2021	0.2	Fill 1	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB03_0.4	22/08/2021	0.4	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB04_0.2	22/08/2021	0.2		-	-	-	-	<20	<50	<50	<50	<100	<100	<50	<100	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<20	<20	99	81	-	-	-	-	-	-	-	180	<20	<50	150	<100	<20	<50	150	<0.1
SB04_0.6	22/08/2021	0.6	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB04_0.9	22/08/2021	0.9	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB05_0.2	22/08/2021	0.2		-	-	-	-	<20	<50	<50	<50	<100	<100	<50	<100	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<20	<20	96	84	-	-	-	-	-	-	-	180	<20	<50	150	<100	<20	<50	150	<0.1
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1
SB05_1.1	22/08/2021	1.1	Natural	<20	<20	<50	<50	-	-	-	-	-	-	-	<50	<20	<50	<100	<100	<20	<50	<100	<0.1

statistics																					
Number of Results	17	17	17	17	2	2	2	2	2	2	2	2	17	17	17	17	17	17	17	17	
Number of Detects	0	0	3	4	0	0	0	0	0	0	0	0	4	0	0	3	0	0	0	3	0
Minimum Concentration	<10	<20	<50	<50	<20	<50	<50	<50	<100	<100	<50	<100	<50	<10	<50	<100	<100	<10	<50	<50	<0.1
Minimum Detect	ND	ND	82	54	ND	ND	ND	ND	ND	ND	ND	ND	54	ND	ND	130	ND	ND	ND	130	ND
Maximum Concentration	<20	<50	<100	<100	<20	<50	<50	<50	<100	<100	<50	<100	180	<20	<50	150	<100	<20	<50	150	<0.2
Maximum Detect	ND	ND	99	84	ND	ND	ND	ND	ND	ND	ND	ND	180	ND	ND	150	ND	ND	ND	150	ND
Average Concentration *	9.7	11	38	38	10	25	25	25	50	50	25	50	53	9.7	25	66	50	9.7	25	65	0.053
Median Concentration *	10	10	25	25	10	25	25	25	50	50	25	50	25	10	25	50	50	10	25	50	0.05
Standard Deviation *	1.2	3.6	27	22	0	0	0	0	0	0	0	0	58	1.2	0	37	0	1.2	0	38	0.012
95% UCL (Student's-t) *	10.22	12.42	49.64	47.21	10	25	25	25	50	50	25	50	77.14	10.22	25	82.1	50	10.22	25	81.12	0.0581
% of Detects	0	0	18	24	0	0	0	0	0	0	0	0	24	0	0	18	0	0	0	18	0
% of Non-Detects	100	100	82	76	100	100	100	100	100	100	100	100	76	100	100	82	100	100	100	82	100

\* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit



Table 3  
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39 The Avenue, Balaclava  
EPAVic Waste Disposal Category 1828.2

	BTEX					MAH																
	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Monocyclic aromatic hydrocarbons EPAVic	Total MAH	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	Styrene	Benzo(b+h)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene		Benzo(b+h)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Leachable conc. µg/L	mg/kg	mg/kg	mg/kg	
EQL	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	
EPA Vic IWRG1828.2 Category B upper limit	12,800	4,800			9,600						480						160	4				
EPA Vic IWRG1828.2 Category C upper limit	3,200	1,200			2,400						120						40	1				
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit	3,200	1,200			2,400						120						20	0.5				
EPA Vic IWRG1828.2 Fill material upper limit						7											1					

Field ID	Date	Depth	Matrix Description																			
QC2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC3	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	-	-	-	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	0.6	1.0	-	0.8
SB01_0.9	22/08/2021	0.9	Fill 2	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB01_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB02_0.5	22/08/2021	0.5	Fill 1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB02_0.9	22/08/2021	0.9	Fill 2	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB02_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB03_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB03_0.4	22/08/2021	0.4	Fill 2	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	1.1	1.8	-	1.8
SB04_0.6	22/08/2021	0.6	Fill 2	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB04_0.9	22/08/2021	0.9	Natural	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	1.4	1.9	-	1.9
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
SB05_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5

Statistics																						
Number of Results	17	17	17	17	17	1	16	16	16	16	17	1	17	17	17	17	17	1	16	17	16	
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	3	3	3	
Minimum Concentration	<0.1	<0.1	<0.2	<0.1	<0.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	1	ND	0.8	0.6	0.7	
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	1.4	1.9	<1	1.9	2	1.8	
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.9	ND	1.9	2	1.8	
Average Concentration *	0.062	0.062	0.11	0.062	0.16		0.25	0.25	0.25	0.25	0.25		0.25	0.25	0.25	0.39	0.48		0.48	0.45	0.47	
Median Concentration *	0.05	0.05	0.1	0.05	0.15	0.1	0.25	0.25	0.25	0.25	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.5	0.25	0.25	0.25	
Standard Deviation *	0.049	0.049	0.036	0.049	0.024		0	0	0	0	0		0	0	0	0.34	0.55		0.55	0.51	0.53	
95% UCL (Student's-t) *	0.0823	0.0823	0.124	0.0823	0.166		0.25	0.25	0.25	0.25	0.25		0.25	0.25	0.25	0.532	0.714		0.726	0.661	0.704	
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	18	0	19	18	19	
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	82	82	100	81	82	81	

\* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit



Table 3  
J8619  
39 The Avenue, Balaclava  
EPAVic Waste Disposal Category 1828.2

	PAH																			
	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Zero)	Pyrene	PAHs (Vic EPA List)	PAHs (Sum of total)	Arsenic		Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Iron
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Leachable conc. µg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	10	0.4	0.5	5	5	20
EPA Vic IWRG1828.2 Category B upper limit												400	400	2,000	4,000	400	2,000		20,000	
EPA Vic IWRG1828.2 Category C upper limit												100	100	500	1,000	100	500		5,000	
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit												50	50	500	500	100	500		5,000	
EPA Vic IWRG1828.2 Fill material upper limit												20	20	20		3	1		100	

Field ID	Date	Depth	Matrix Description																				
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	13	-	<0.4	<1	25	28	-
QC3	22/08/2021	0.2	Fill 1	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	0.6	1.2	-	6	-	<1	<0.5	-	20	-
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB01_0.5	22/08/2021	0.5	Fill 1	0.7	<0.5	1.5	<0.5	0.6	<0.5	<0.5	1.5	1.8	1.3	1.5	-	8	34	-	0.9	<1	19	66	19,000
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	83	-	<0.4	<1	28	6.5	-
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	80	-	<0.4	<1	79	7.4	-
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	0.6	-	1.1	8.7	-	<0.4	<1	12	22	-
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	240	-	<0.4	<1	100	<5	-
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	100	-	<0.4	<1	90	8.5	-
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	1.0	-	1.9	32	-	<0.4	<1	25	19	-
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	88	-	<0.4	<1	32	<5	26,000
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	130	-	<0.4	<1	95	6.7	-
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	1.0	<0.5	3.7	<0.5	1.3	<0.5	1.0	2.7	2.9	2.4	3.7	-	18.7	62	-	<0.4	<1	29	13	-
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	54	-	<0.4	<1	21	6.2	-
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	78	-	<0.4	<1	75	7.3	36,000
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	1.5	0.5	4.1	<0.5	1.6	<0.5	1.4	3.1	3.1	3.1	3.8	-	21.9	65	-	<0.4	<1	38	17	-
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	510	-	<0.4	<1	140	<5	-
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-	<0.5	82	-	<0.4	<1	110	8.1	-

Statistics																					
Number of Results	17	17	17	17	17	17	17	17	17	17	17	17	1	16	17	3	17	17	16	17	3
Number of Detects	3	1	6	0	3	0	2	17	17	3	6	1	5	17	1	1	0	16	14	3	
Minimum Concentration	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	1.2	<0.5	6	<10	<0.4	<0.5	12	<5	19,000	
Minimum Detect	0.7	0.5	0.5	ND	0.6	ND	1	0.6	1.2	1.3	0.6	1.2	1.1	6	60	0.9	ND	12	6.2	19,000	
Maximum Concentration	1.5	0.5	4.1	<0.5	1.6	<0.5	1.4	3.1	3.1	3.1	3.8	1.2	21.9	510	60	<1	<1	140	66	36,000	
Maximum Detect	1.5	0.5	4.1	ND	1.6	ND	1.4	3.1	3.1	3.1	3.8	1.2	21.9	510	60	0.9	ND	140	66	36,000	
Average Concentration *	0.39	0.26	0.83	0.25	0.41	0.25	0.36	0.92	1.4	0.61	0.82		3.4	98	23	0.26	0.49	57	14	27,000	
Median Concentration *	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	0.25	0.25	1.2	0.25	78	5	0.2	0.5	35	8.1	26,000	
Standard Deviation *	0.35	0.061	1.2	0	0.4	0	0.32	0.78	0.6	0.85	1.2		6.9	120	32	0.18	0.061	40	15	8,544	
95% UCL (Student's-t) *	0.543	0.29	1.337	0.25	0.583	0.25	0.499	1.253	1.702	0.968	1.31		6.421	148.6	76.87	0.335	0.511	75.02	20.79	41,404	
% of Detects	18	6	35	0	18	0	12	100	100	18	35	100	31	100	33	6	0	100	82	100	
% of Non-Detects	82	94	65	100	82	100	88	0	0	82	65	0	69	0	67	94	100	0	18	0	

\* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit



Table 3  
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	Metals											Inorganics								
	Lead		Mercury	Molybdenum	Nickel	Selenium	Silver	Tin		Zinc	Zinc	pH of Leaching Fluid	Conductivity (1:5 aqueous extract)	CEC	Cyanide Total	pH (Final)	Fluoride	pH (Initial)	Moisture Content (dried @ 103°C)	pH (aqueous extract)
	mg/kg	Leachable conc. µg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Leachable conc. µg/L	mg/kg	Leachable conc. µg/L	-	µS/cm	meq/100g	mg/kg	-	mg/kg	-	%	-
EQL	5	10	0.1	2	2	2	2	5	500	5	10	0.1	10	0.05	1	0.1	40	0.1	1	0.1
EPA Vic IWRG1828.2 Category B upper limit	6,000	4,000	300	4,000	12,000	40,000	720			140,000	1,200,000				10,000		40,000			
EPA Vic IWRG1828.2 Category C upper limit	1,500	1,000	75	1,000	3,000	10,000	180			35,000	300,000				2,500		10,000			
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit	1,500	500	75	1,000	3,000	10,000	180			35,000	150,000				2,500		10,000			
EPA Vic IWRG1828.2 Fill material upper limit	300		1	40	60	10	10	50		200					50		450			

Field ID	Date	Depth	Matrix Description																				
QC2	22/08/2021	0.2	Fill 1	270	-	0.1	<5	48	<2	<2	<10	-	220	-	-	-	-	<5	-	<100	-	7.9	7.9
QC3	22/08/2021	0.2	Fill 1	236	-	<0.1	<2	35	<5	<2	<5	-	173	-	-	-	-	<1	-	100	-	-	-
SB01_0.5	22/08/2021	0.5		-	20	-	-	-	-	-	-	<500	-	170	5.0	-	-	-	5.2	-	5.1	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	1,100	-	0.3	<5	12	<2	<2	68	-	580	-	-	61	14	<5	-	<100	-	20	7.0
SB01_0.9	22/08/2021	0.9	Fill 2	99	-	<0.1	<5	<5	<2	<2	<10	-	75	-	-	-	-	<5	-	<100	-	9.8	7.9
SB01_1.1	22/08/2021	1.1	Natural	72	-	0.1	<5	27	<2	<2	<10	-	37	-	-	-	-	<5	-	280	-	20	7.9
SB02_0.5	22/08/2021	0.5	Fill 1	140	-	0.1	<5	13	<2	<2	34	-	140	-	-	-	-	<5	-	<100	-	12	7.5
SB02_0.9	22/08/2021	0.9	Fill 2	28	-	<0.1	<5	15	<2	<2	<10	-	10	-	-	-	-	<5	-	<100	-	7.6	7.9
SB02_1.1	22/08/2021	1.1	Natural	21	-	<0.1	<5	30	<2	<2	<10	-	23	-	-	-	-	<5	-	200	-	21	6.9
SB03_0.2	22/08/2021	0.2	Fill 1	440	-	0.2	<5	21	<2	<2	<10	-	260	-	-	-	-	<5	-	<100	-	11	8.3
SB03_0.4	22/08/2021	0.4	Fill 2	36	-	<0.1	<5	9.7	<2	<2	<10	-	20	-	-	340	3.4	<5	-	<100	-	10	6.9
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	5.0	-	-	-	5.2	-	5.2	-	-
SB03_0.8	22/08/2021	0.8	Natural	21	-	<0.1	<5	33	<2	<2	<10	-	22	-	-	-	-	<5	-	250	-	18	6.8
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-
SB04_0.2	22/08/2021	0.2	Fill 1	240	-	0.1	<5	11	<2	<2	<10	-	130	-	-	-	-	<5	-	<100	-	16	7.5
SB04_0.6	22/08/2021	0.6	Fill 2	48	-	<0.1	<5	<5	<2	<2	<10	-	89	-	-	-	-	<5	-	<100	-	19	9.1
SB04_0.9	22/08/2021	0.9	Natural	19	-	<0.1	<5	30	<2	<2	<10	-	19	-	-	420	36	<5	-	150	-	23	7.1
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	5.0	-	-	-	5.0	-	5.1	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	250	-	0.1	<5	8.7	<2	<2	<10	-	250	-	-	-	-	<5	-	<100	-	15	7.8
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	5.0	-	-	-	4.9	-	5.3	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	52	-	<0.1	<5	12	<2	<2	<10	-	43	-	-	-	-	<5	-	<100	-	7.4	7.2
SB05_1.1	22/08/2021	1.1	Natural	25	-	<0.1	<5	31	<2	<2	<10	-	47	-	-	-	-	<5	-	240	-	23	7.6

Statistics																				
Number of Results	17	1	17	17	17	17	17	17	1	17	1	4	3	3	17	4	17	4	18	16
Number of Detects	17	1	7	0	15	0	0	2	0	17	1	4	3	3	0	4	6	4	18	16
Minimum Concentration	19	20	0.1	<2	<5	<2	<2	<5	<500	10	170	5	61	3.4	<1	4.9	100	5.1	7.4	6.8
Minimum Detect	19	20	0.1	ND	8.7	ND	ND	34	ND	10	170	5	61	3.4	ND	4.9	100	5.1	7.4	6.8
Maximum Concentration	1,100	20	0.3	<5	48	<5	<2	68	<500	580	170	5	420	36	<5	5.2	280	5.3	23	9.1
Maximum Detect	1,100	20	0.3	ND	48	ND	ND	68	ND	580	170	5	420	36	ND	5.2	280	5.3	23	9.1
Average Concentration *	182		0.088	2.4	20	1.1	1	10		126		5	274	18	2.4	5.1	104	5.2	15	7.6
Median Concentration *	72	20	0.05	2.5	15	1	1	5	250	75	170	5	340	14	2.5	5.1	50	5.15	14.5	7.55
Standard Deviation *	266		0.067	0.36	13	0.36	0	16		144		0	188	17	0.49	0.15	84	0.096	5.3	0.61
95% UCL (Student's-t) *	294.8		0.117	2.566	25.56	1.242	1	17.24		186.9		5	591.4	45.83	2.588	5.252	139.9	5.288	17.06	7.848
% of Detects	100	100	41	0	88	0	0	12	0	100	100	100	100	100	0	100	35	100	100	100
% of Non-Detects	0	0	59	100	12	100	100	88	100	0	0	0	0	0	100	0	65	0	0	0

\* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit



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			Phenols																		
	pH (Lab)	TOC	3&4-Methylphenol (m&p-cresol)	2,3,5,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,3,4,5 & 2,3,4,6-Tetrachlorophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	Cresol Total	4-Nitrophenol	Pentachlorophenol	Tetrachlorophenols
	-	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.1		0.4	0.03	0.05	0.05	0.03	0.5	5	0.05	0.03	0.03	0.2	1	5	5	0.03	0.5	5	0.2	10
EPA Vic IWRG1828.2 Category B upper limit	2-12.5				64,000	320	3,200					4,800						32,000			
EPA Vic IWRG1828.2 Category C upper limit					16,000	80	800					1,200						8,000			
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit	4-10				16,000	80	800					1,200						8,000			
EPA Vic IWRG1828.2 Fill material upper limit	4-10																				

Field ID	Date	Depth	Matrix Description																					
QC2	22/08/2021	0.2	Fill 1	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
QC3	22/08/2021	0.2	Fill 1	-	-	<1	<0.03	<0.05	<0.05	<0.03	<1	<5	<0.05	<0.03	<0.03	<1	<1	<5	<5	<0.03	-	<5	<0.2	-
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	6.6	4.5	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB01_0.9	22/08/2021	0.9	Fill 2	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB01_1.1	22/08/2021	1.1	Natural	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB02_0.5	22/08/2021	0.5	Fill 1	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB02_0.9	22/08/2021	0.9	Fill 2	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB02_1.1	22/08/2021	1.1	Natural	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB03_0.2	22/08/2021	0.2	Fill 1	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB03_0.4	22/08/2021	0.4	Fill 2	6.7	0.1	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB04_0.6	22/08/2021	0.6	Fill 2	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB04_0.9	22/08/2021	0.9	Natural	7.0	0.4	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10
SB05_1.1	22/08/2021	1.1	Natural	-	-	<0.4	-	<1	<1	<0.5	<0.5	<5	-	<0.5	<0.5	<0.2	<1	<5	<20	<1	<0.5	<5	<1	<10

statistics																					
Number of Results	3	3	17	1	17	17	17	17	17	1	17	17	17	17	17	17	17	16	17	17	16
Number of Detects	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	6.6	0.1	<0.4	<0.03	<0.05	<0.05	<0.03	<0.5	<5	<0.05	<0.03	<0.03	<0.2	<1	<5	<5	<0.03	<0.5	<5	<0.2	<10
Minimum Detect	6.6	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	7	4.5	<1	<0.03	<1	<1	<0.5	<1	<5	<0.05	<0.5	<0.5	<1	<1	<5	<20	<1	<0.5	<5	<1	<10
Maximum Detect	7	4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *	6.8	1.7	0.22		0.47	0.47	0.24	0.26	2.5		0.24	0.24	0.12	0.5	2.5	9.6	0.47	0.25	2.5	0.48	5
Median Concentration *	6.7	0.4	0.2	0.015	0.5	0.5	0.25	0.25	2.5	0.025	0.25	0.25	0.1	0.5	2.5	10	0.5	0.25	2.5	0.5	5
Standard Deviation *	0.21	2.5	0.073		0.12	0.12	0.057	0.061	0		0.057	0.057	0.097	0	0	1.8	0.12	0	0	0.097	0
95% UCL (Student's-t) *	7.118	5.811	0.248		0.521	0.521	0.26	0.29	2.5		0.26	0.26	0.165	0.5	2.5	10.33	0.521	0.25	2.5	0.518	5
% of Detects	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Non-Detects	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

\* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit



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						Chlorinated Hydrocarbons																
	Phenol	Phenols (halogenated) EPAVic	Phenols (non-halogenated) EPAVic	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons EPAVic	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,3-trichloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL	0.5	0.03	1	1	20	0.01	0.5	0.01	0.01	0.02	0.04	0.5	0.01	0.5	0.02	0.5	0.5	0.5	0.5	0.5	0.01	
EPA Vic IWRG1828.2 Category B upper limit			2,200		2,200			1,600	4,800	210	190		480		48						48	
EPA Vic IWRG1828.2 Category C upper limit			560		560			400	1,200	52	48		120		12						12	
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit			560		560			400	1,200	52	48		120		12						12	
EPA Vic IWRG1828.2 Fill material upper limit		1	60	1	60	1																

Field ID	Date	Depth	Matrix Description																				
QC2	22/08/2021	0.2	Fill 1	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
QC3	22/08/2021	0.2	Fill 1	<1	<0.03	<1	-	-	<0.01	-	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	<0.02	-	-	-	<0.01	
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB01_0.5	22/08/2021	0.5	Fill 1	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB01_1.1	22/08/2021	1.1	Natural	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB02_1.1	22/08/2021	1.1	Natural	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB03_0.8	22/08/2021	0.8	Natural	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB04_0.2	22/08/2021	0.2	Fill 1	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB04_0.9	22/08/2021	0.9	Natural	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB05_0.2	22/08/2021	0.2	Fill 1	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB05_1.1	22/08/2021	1.1	Natural	<0.5	-	-	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	

statistics																						
Number of Results	17	1	1	16	16	17	16	17	17	17	17	16	17	16	17	16	16	16	16	16	17	
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Minimum Concentration	<0.5	<0.03	<1	<1	<20	<0.01	<0.5	<0.01	<0.01	<0.02	<0.04	<0.5	<0.01	<0.5	<0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Maximum Concentration	<1	<0.03	<1	<1	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Average Concentration *	0.26			0.5	10	0.24	0.25	0.24	0.24	0.24	0.24	0.25	0.24	0.25	0.24	0.25	0.25	0.25	0.25	0.25	0.24	
Median Concentration *	0.25	0.015	0.5	0.5	10	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
Standard Deviation *	0.061			0	0	0.059	0	0.059	0.059	0.058	0.056	0	0.059	0	0.058	0	0	0	0	0	0.059	
95% UCL (Student's-t) *	0.29			0.5	10	0.261	0.25	0.261	0.261	0.261	0.26	0.25	0.261	0.25	0.261	0.25	0.25	0.25	0.25	0.25	0.261	
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	

\* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit





Table 3  
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39 The Avenue, Balaclava  
EPAVic Waste Disposal Category 1828.2

	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	Halogenated Hydrocarbons					1,2,4-trichlorobenzene	1,2-dichlorobenzene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.02	0.5	0.01	0.5	0.5	0.4	0.02	0.02	0.02	0.02	0.5	0.02	0.5	0.5	0.5	0.5	0.5	0.01	0.02
EPA Vic IWRG1828.2 Category B upper limit			960					64	11	80	800			4.8							24,000
EPA Vic IWRG1828.2 Category C upper limit			240					16	2.8	20	200			1.2							6,000
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit			240					16	2.8	20	200			1.2							6,000
EPA Vic IWRG1828.2 Fill material upper limit																					

Field ID	Date	Depth	Matrix Description																				
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
QC3	22/08/2021	0.2	Fill 1	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	-	-	<0.01	<0.02	
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB01_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB04_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB05_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	

statistics																					
Number of Results	16	16	17	16	17	16	16	17	17	17	17	17	16	17	16	16	16	16	17	17	
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Minimum Concentration	<0.5	<0.5	<0.02	<0.5	<0.01	<0.5	<0.5	<0.4	<0.02	<0.02	<0.02	<0.02	<0.5	<0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.02
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *	0.25	0.25	0.24	0.25	0.24	0.25	0.25	0.25	0.24	0.24	0.24	0.24	0.25	0.24	0.25	0.25	0.25	0.25	0.25	0.24	0.24
Median Concentration *	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation *	0	0	0.058	0	0.059	0	0	0.012	0.058	0.058	0.058	0.058	0	0.058	0	0	0	0	0	0.059	0.058
95% UCL (Student's-t) *	0.25	0.25	0.261	0.25	0.261	0.25	0.25	0.252	0.261	0.261	0.261	0.261	0.25	0.261	0.25	0.25	0.25	0.25	0.25	0.261	0.261
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

\* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit



Table 3  
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39 The Avenue, Balaclava  
EPAVic Waste Disposal Category 1828.2

	Halogenated Benzenes						NA		Herbicides												
	1,3-dichlorobenzene	1,4-dichlorobenzene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Iron (%)	Moisture Content	Dinoseb	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.02	0.5	0.5	0.02	0.03	0.01	1	5	0.03	0.1	0.05	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.03	0.05
EPA Vic IWRG1828.2 Category B upper limit		640			4,800						50				4.8		16				
EPA Vic IWRG1828.2 Category C upper limit		160			1,200						10				1.2		4				
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit		160			1,200						10				1.2		4				
EPA Vic IWRG1828.2 Fill material upper limit										1											

Field ID	Date	Depth	Matrix Description																					
QC2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	0.13	<0.1	0.13	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
QC3	22/08/2021	0.2	Fill 1	-	<0.02	-	-	<0.02	<0.03	-	9.3	<5	0.09	-	0.09	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.05	
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB01_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	1.9	-	<20	0.74	<0.1	0.50	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB01_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB01_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB02_0.5	22/08/2021	0.5	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	0.12	<0.1	0.12	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB02_0.9	22/08/2021	0.9	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB02_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB03_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	0.07
SB03_0.4	22/08/2021	0.4	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	2.6	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB03_0.8	22/08/2021	0.8	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB04_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	0.2	<0.1	0.13	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB04_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB04_0.9	22/08/2021	0.9	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	3.6	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB05_0.2	22/08/2021	0.2	Fill 1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	0.44	<0.1	0.21	<0.05	<0.05	0.07	<0.05	<0.1	-	-	<0.05	<0.05
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SB05_0.6	22/08/2021	0.6	Fill 2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05
SB05_1.1	22/08/2021	1.1	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	<20	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05

statistics																						
Number of Results	16	17	16	16	17	17	3	1	17	17	16	17	17	17	16	17	17	1	1	17	17	
Number of Detects	0	0	0	0	0	0	3	1	0	6	0	6	0	0	1	0	0	0	0	0	1	
Minimum Concentration	<0.5	<0.02	<0.5	<0.5	<0.02	<0.03	1.9	9.3	<5	0.09	<0.1	<0.05	<0.03	<0.03	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.05	
Minimum Detect	ND	ND	ND	ND	ND	ND	1.9	9.3	ND	0.09	ND	0.09	ND	ND	0.07	ND	ND	ND	ND	ND	0.07	
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	3.6	9.3	<20	0.74	<0.1	0.5	<0.05	<0.05	0.07	<0.05	<0.1	<0.03	<0.03	<0.05	0.07	
Maximum Detect	ND	ND	ND	ND	ND	ND	3.6	9.3	ND	0.74	ND	0.5	ND	ND	0.07	ND	ND	ND	ND	ND	0.07	
Average Concentration *	0.25	0.24	0.25	0.25	0.24	0.024	2.7		9.6	0.13	0.05	0.086	0.024	0.024	0.028	0.024	0.048			0.024	0.028	
Median Concentration *	0.25	0.25	0.25	0.25	0.25	0.025	2.6	9.3	10	0.05	0.05	0.025	0.025	0.025	0.025	0.025	0.05	0.015	0.015	0.025	0.025	
Standard Deviation *	0	0.058	0	0	0.058	0.0024	0.85		1.8	0.18	0	0.12	0.0024	0.0024	0.011	0.0024	0.0085			0.0024	0.011	
95% UCL (Student's-t) *	0.25	0.261	0.25	0.25	0.261	0.0254	4.14		10.33	0.212	0.05	0.137	0.0254	0.0254	0.0327	0.0254	0.0515			0.0254	0.0323	
% of Detects	0	0	0	0	0	0	100	100	0	35	0	35	0	0	6	0	0	0	0	0	6	
% of Non-Detects	100	100	100	100	100	100	0	0	100	65	100	65	100	100	94	100	100	100	100	100	94	

\* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit



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	Organochlorine Pesticides														Particle Size	PCBs					
	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	% Clay*	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.05	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.5	1	0.1	0.1	0.1	0.1	0.1	0.1
EPA Vic IWRG1828.2 Category B upper limit		50									4.8										
EPA Vic IWRG1828.2 Category C upper limit		50									1.2										
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit		50									1.2										
EPA Vic IWRG1828.2 Fill material upper limit																					

Field ID	Date	Depth	Matrix Description																			
QC2	22/08/2021	0.2	Fill 1	<0.05	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
QC3	22/08/2021	0.2	Fill 1	<0.05	-	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	0.24	0.74	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	5.0	<0.1	<0.1	<0.1	<0.1	<0.1
SB01_0.9	22/08/2021	0.9	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB01_1.1	22/08/2021	1.1	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB02_0.5	22/08/2021	0.5	Fill 1	<0.05	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB02_0.9	22/08/2021	0.9	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB02_1.1	22/08/2021	1.1	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB03_0.2	22/08/2021	0.2	Fill 1	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB03_0.4	22/08/2021	0.4	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	7.0	<0.1	<0.1	<0.1	<0.1	<0.1
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	0.07	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB04_0.6	22/08/2021	0.6	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB04_0.9	22/08/2021	0.9	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	39	<0.1	<0.1	<0.1	<0.1	<0.1
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	0.16	0.37	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1
SB05_1.1	22/08/2021	1.1	Natural	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.1

Statistics																					
Number of Results	17	16	17	17	17	17	17	17	16	17	17	17	17	17	16	3	16	16	16	16	16
Number of Detects	3	6	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
Minimum Concentration	<0.05	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.5	5	<0.1	<0.1	<0.1	<0.1	<0.1
Minimum Detect	0.07	0.07	0.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	ND	ND	ND
Maximum Concentration	0.24	0.74	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	39	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Detect	0.24	0.74	0.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39	ND	ND	ND	ND	ND
Average Concentration *	0.048	0.12	0.027	0.024	0.024	0.024	0.024	0.024	0.025	0.024	0.024	0.024	0.024	0.024	0.25	17	0.05	0.05	0.05	0.05	0.05
Median Concentration *	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.25	7	0.05	0.05	0.05	0.05	0.05
Standard Deviation *	0.06	0.19	0.011	0.0024	0.0024	0.0024	0.0024	0.0024	0	0.0024	0.0024	0.0024	0.0024	0.0024	0	19	0	0	0	0	0
95% UCL (Student's-t) *	0.0736	0.201	0.0319	0.0254	0.0254	0.0254	0.0254	0.0254	0.025	0.0254	0.0254	0.0254	0.0254	0.0254	0.25	49.16	0.05	0.05	0.05	0.05	0.05
% of Detects	18	38	6	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
% of Non-Detects	82	62	94	100	100	100	100	100	100	100	100	100	100	100	100	0	100	100	100	100	100

\* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit



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			Solvents					SPOCAS
	Arochlor 1260	PCBs (Sum of total)	Methyl Ethyl Ketone	4-Methyl-2-pentanone	Acetone	Allyl chloride	Carbon disulfide	pH (CaCl2)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
EQL	0.1	0.1	0.5	0.5	0.5	0.5	0.5	0.1
EPA Vic IWRG1828.2 Category B upper limit		6	32,000					
EPA Vic IWRG1828.2 Category C upper limit		50	8,000					
EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit		2	8,000					
EPA Vic IWRG1828.2 Fill material upper limit		2						

Field ID	Date	Depth	Matrix Description								
QC2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC3	22/08/2021	0.2	Fill 1	-	<0.1	-	-	-	-	-	7.6
SB01_0.5	22/08/2021	0.5		-	-	-	-	-	-	-	-
SB01_0.5	22/08/2021	0.5	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB01_0.9	22/08/2021	0.9	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB01_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_0.5	22/08/2021	0.5	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_0.9	22/08/2021	0.9	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB02_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.4	22/08/2021	0.4	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB03_0.8	22/08/2021	0.8		-	-	-	-	-	-	-	-
SB03_0.8	22/08/2021	0.8	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-
SB04_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.6	22/08/2021	0.6	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB04_0.9	22/08/2021	0.9	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2		-	-	-	-	-	-	-	-
SB05_0.2	22/08/2021	0.2	Fill 1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_0.6	22/08/2021	0.6		-	-	-	-	-	-	-	-
SB05_0.6	22/08/2021	0.6	Fill 2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-
SB05_1.1	22/08/2021	1.1	Natural	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	-

Statistics								
Number of Results	16	17	16	16	16	16	16	1
Number of Detects	0	0	0	0	0	0	0	1
Minimum Concentration	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	7.6
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	7.6
Maximum Concentration	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	7.6
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	7.6
Average Concentration *	0.05	0.05	0.25	0.25	0.25	0.25	0.25	
Median Concentration *	0.05	0.05	0.25	0.25	0.25	0.25	0.25	7.6
Standard Deviation *	0	0	0	0	0	0	0	
95% UCL (Student's-t) *	0.05	0.05	0.25	0.25	0.25	0.25	0.25	
% of Detects	0	0	0	0	0	0	0	100
% of Non-Detects	100	100	100	100	100	100	100	0

\* A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category B upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category C upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Category D / Industrial Waste upper limit

EPA Victoria, July 2021, EPA Vic IWRG1828.2 Fill material upper limit



Field ID Lab Report Number Date			SB03_0.2		QC2	RPD	SB03_0.2		QC3	RPD
			819006	819006	819006		EM2116717			
			22/08/2021	22/08/2021	22/08/2021		22/08/2021			
	Unit	EQL								
Chlorinated hydrocarbons EPAVic	mg/kg	0.01	<0.5	<0.5	0	<0.5	<0.01	0		
Other chlorinated hydrocarbons EPAVic	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
1,1,1,2-tetrachloroethane	mg/kg	0.01	<0.5	<0.5	0	<0.5	<0.01	0		
1,1,1-trichloroethane	mg/kg	0.01	<0.5	<0.5	0	<0.5	<0.01	0		
1,1,2,2-tetrachloroethane	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
1,1,2-trichloroethane	mg/kg	0.04	<0.5	<0.5	0	<0.5	<0.04	0		
1,1-dichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
1,1-dichloroethene	mg/kg	0.01	<0.5	<0.5	0	<0.5	<0.01	0		
1,2,3-trichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
1,2-dichloroethane	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
1,2-dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
1,3-dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Bromochloromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Bromodichloromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Bromoform	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Carbon tetrachloride	mg/kg	0.01	<0.5	<0.5	0	<0.5	<0.01	0		
Chlorodibromomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Chloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Chloroform	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
Chloromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
cis-1,2-dichloroethene	mg/kg	0.01	<0.5	<0.5	0	<0.5	<0.01	0		
cis-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Dibromomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Dichloromethane	mg/kg	0.4	<0.5	<0.5	0	<0.5	<0.4	0		
Hexachlorobutadiene	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
Trichloroethene	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
Tetrachloroethene	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
trans-1,2-dichloroethene	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
trans-1,3-dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Vinyl chloride	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
Halogenated Hydrocarbons										
1,2-dibromoethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Bromomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Dichlorodifluoromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Iodomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Trichlorofluoromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Halogenated Benzenes										
1,2,4-trichlorobenzene	mg/kg	0.01	<0.5	<0.5	0	<0.5	<0.01	0		
1,2-dichlorobenzene	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
1,4-dichlorobenzene	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
4-chlorotoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Bromobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Chlorobenzene	mg/kg	0.02	<0.5	<0.5	0	<0.5	<0.02	0		
Hexachlorobenzene	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
NA										
Moisture Content	%	1	-	-	-	-	9.3	-		
Herbicides										
Dinoseb	mg/kg	5	<20	<20	0	<20	<5	0		
Organochlorine Pesticides										
Organochlorine pesticides EPAVic	mg/kg	0.03	<0.1	0.13	26	<0.1	0.09	0		
Other organochlorine pesticides EPAVic	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-		
4,4-DDE	mg/kg	0.05	<0.05	0.13	89	<0.05	0.09	57		
a-BHC	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Aldrin	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	-	-		
b-BHC	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Chlordane	mg/kg	0.03	<0.1	<0.1	0	<0.1	<0.03	0		
Chlordane (cis)	mg/kg	0.03	-	-	-	-	<0.03	-		
Chlordane (trans)	mg/kg	0.03	-	-	-	-	<0.03	-		
d-BHC	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
DDD	mg/kg	0.05	0.07	<0.05	33	0.07	<0.05	33		
DDT	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0		
DDT+DDE+DDD	mg/kg	0.05	0.07	0.13	60	0.07	-	-		
Dieldrin	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Endosulfan I	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Endosulfan II	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Endosulfan sulphate	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Endrin	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Endrin aldehyde	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	-	-		
g-BHC (Lindane)	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Heptachlor	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Heptachlor epoxide	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Methoxychlor	mg/kg	0.03	<0.05	<0.05	0	<0.05	<0.03	0		
Toxaphene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
PCBs										
Arochlor 1016	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-		
Arochlor 1221	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-		
Arochlor 1232	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-		
Arochlor 1242	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-		
Arochlor 1248	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-		
Arochlor 1254	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-		
Arochlor 1260	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-		
PCBs (Sum of total)	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0		
Solvents										
Methyl Ethyl Ketone	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
4-Methyl-2-pentanone	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Acetone	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Allyl chloride	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-		
SPOCAS										
pH (CaCl2)	-	0.1	-	-	-	-	7.6	-		

\*RPDs have only been considered where a concentration is greater than 1 times the EQL.

\*\*Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 20 x EQL); 30 (20 - 30 x EQL); 30 ( > 30 x EQL) )

\*\*\*Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory



Table 5  
J8619  
39 The Avenue Balaclava  
Quality Control Blank Results

			Field ID	QC1
			Date	22/08/2021
			Matrix Type	Water
	Unit	EQL		
TPH				
C6-C9	µg/L	20		<20
TRH C6-C10	µg/L	20		<20
TRH F1 (C6-C10 minus BTEX)	µg/L	20		<20
BTEX				
Benzene	µg/L	1		<1
Toluene	µg/L	1		<1
Ethylbenzene	µg/L	1		<1
Xylene (m & p)	µg/L	2		<2
Xylene (o)	µg/L	1		<1
Xylene Total	µg/L	3		<3
PAH				
Naphthalene	µg/L	10		<10