

Property Report from www.land.vic.gov.au on 20 November 2019 08:44 AM

Address: SUTTONS LANE GLENLYON 3461

Lot and Plan Number: This property has 4 parcels. See table below.

Standard Parcel Identifier (SPI): See table below.

Local Government (Council): HEPBURN **Council Property Number:** 200140

Directory Reference: VicRoads 59 F6

This property is in a designated bushfire prone area.

Special bushfire construction requirements apply. Planning provisions may apply.

Further information about the building control system and building in bushfire prone areas can be found in the Building Commission section of the Victorian Building Authority website www.vba.vic.gov.au

Site Dimensions

All dimensions and areas are approximate. They may not agree with the values shown on a title or plan.



Area: 216886 sq. m

(21.7 ha)

Perimeter: 2852 m

For this property:

— Site boundaries

— Road frontages

Dimensions for individual parcels require a separate search, but dimensions for individual units are generally not available.

66 dimensions shorter than 22m not displayed

Calculating the area from the dimensions shown may give a different value to the area shown above - which has been calculated using all the dimensions.

For more accurate dimensions get copy of plan at [Title and Property Certificates](#)

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Parcel Details

Letter in first column identifies parcel in diagram above

	Lot/Plan or Crown Description	SPI		Lot/Plan or Crown Description	SPI
A	TOWNSHIP OF GLENLYON Allot. 5 Sec. 48	5~48\PP5324	B	TOWNSHIP OF GLENLYON Allot. 6 Sec. 48	6~48\PP5324
			C	Allot. 7 Sec. 48	7~48\PP5324
			D	Allot. 2D Sec. 49	2D~49\PP5324

State Electorates

Legislative Council: NORTHERN VICTORIA

Legislative Assembly: MACEDON

Utilities

Rural Water Corporation: Goulburn-Murray Water

Urban Water Corporation: Central Highlands Water

Melbourne Water: outside drainage boundary

Power Distributor: POWERCOR (Information about [choosing an electricity retailer](#))

Planning Zone Summary

Planning Zone: PUBLIC PARK AND RECREATION ZONE (PPRZ)
SCHEDULE TO THE PUBLIC PARK AND RECREATION ZONE (PPRZ)

Planning Overlays: BUSHFIRE MANAGEMENT OVERLAY (BMO)
ENVIRONMENTAL SIGNIFICANCE OVERLAY (ESO)
ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 1 (ESO1)
ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 2 (ESO2)
HERITAGE OVERLAY (HO)
HERITAGE OVERLAY SCHEDULE (HO891)

Areas of Aboriginal Cultural Heritage Sensitivity:

All or part of this property is an 'area of cultural heritage sensitivity'.

Planning information continued on next page

Planning scheme data last updated on 14 November 2019.

A **planning scheme** sets out policies and requirements for the use, development and protection of land.

This report provides information about the zone and overlay provisions that apply to the selected land.

Information about the State and local policy, particular, general and operational provisions of the local planning scheme that may affect the use of this land can be obtained by contacting the local council or by visiting [Planning Schemes Online](#)

This report is NOT a **Planning Certificate** issued pursuant to Section 199 of the *Planning and Environment Act 1987*.

It does not include information about exhibited planning scheme amendments, or zonings that may affect the land.

To obtain a Planning Certificate go to [Titles and Property Certificates](#)

The Planning Property Report includes separate maps of zones and overlays

For details of surrounding properties, use this service to get the Reports for properties of interest

To view planning zones, overlay and heritage information in an interactive format visit [Planning Maps Online](#)

For other information about planning in Victoria visit www.planning.vic.gov.au

Heritage Register data last updated on 30 October 2019.

This report is NOT a **Heritage Certificate** issued pursuant to Section 50 of the Heritage Act 1995.

It does not show places which may be under consideration for inclusion in the Victorian Heritage Register.

For more information on the **Victorian Heritage Register** go to [Victorian Heritage Database](#)

Other information about the heritage status of this property, how to obtain a Heritage Certificate, and any heritage approvals that may be required, may be obtained from [Heritage Victoria](#)

Areas of Aboriginal Cultural Heritage Sensitivity

'Areas of cultural heritage sensitivity' are defined under the Aboriginal Heritage Regulations 2018, and include registered Aboriginal cultural heritage places and land form types that are generally regarded as more likely to contain Aboriginal cultural heritage.

Under the Aboriginal Heritage Regulations 2018, 'areas of cultural heritage sensitivity' are one part of a two part trigger which require a 'cultural heritage management plan' be prepared where a listed 'high impact activity' is proposed.

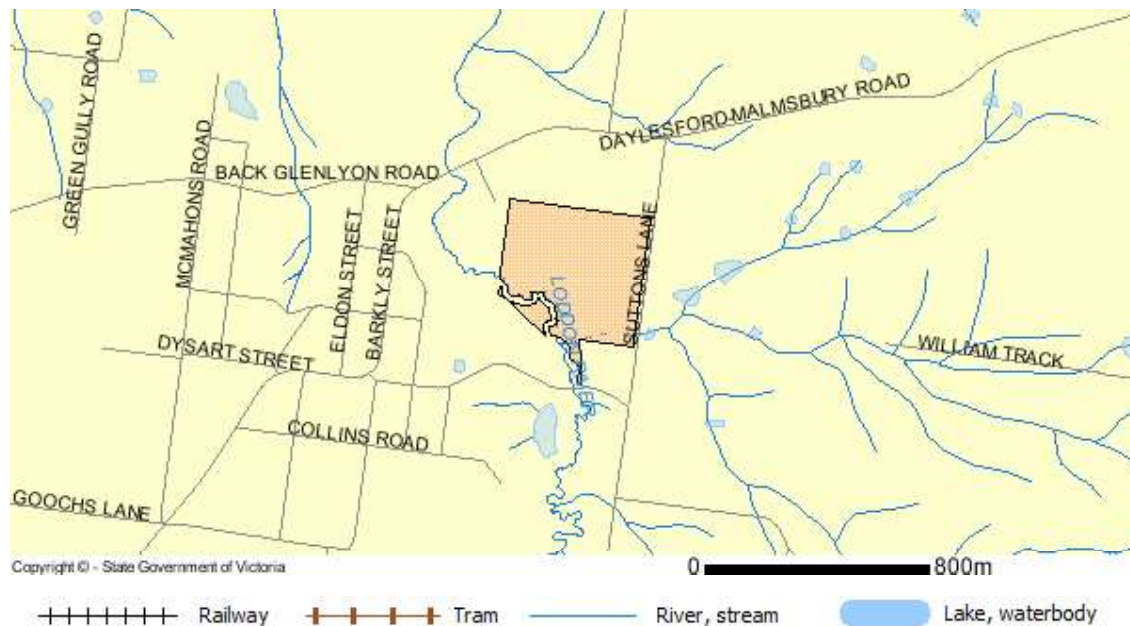
If a significant land use change is proposed (for example, a subdivision into 3 or more lots), a cultural heritage management plan may be triggered. One or two dwellings, works ancillary to a dwelling, services to a dwelling, alteration of buildings and minor works are examples of works exempt from this requirement.

Under the Aboriginal Heritage Act 2006, where a cultural heritage management plan is required, planning permits, licences and work authorities cannot be issued unless the cultural heritage management plan has been approved for the activity.

For further information about whether a Cultural Heritage Management Plan is required go to <http://www.aav.nrms.net.au/aavQuestion1.aspx>

More information, including links to both the Aboriginal Heritage Act 2006 and the Aboriginal Heritage Regulations 2018, can also be found here - <https://www.vic.gov.au/aboriginalvictoria/heritage/planning-and-heritage-management-processes.html>

Area Map



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APPENDIX B

AERIAL PHOTOGRAPHS



2005



2010



2016



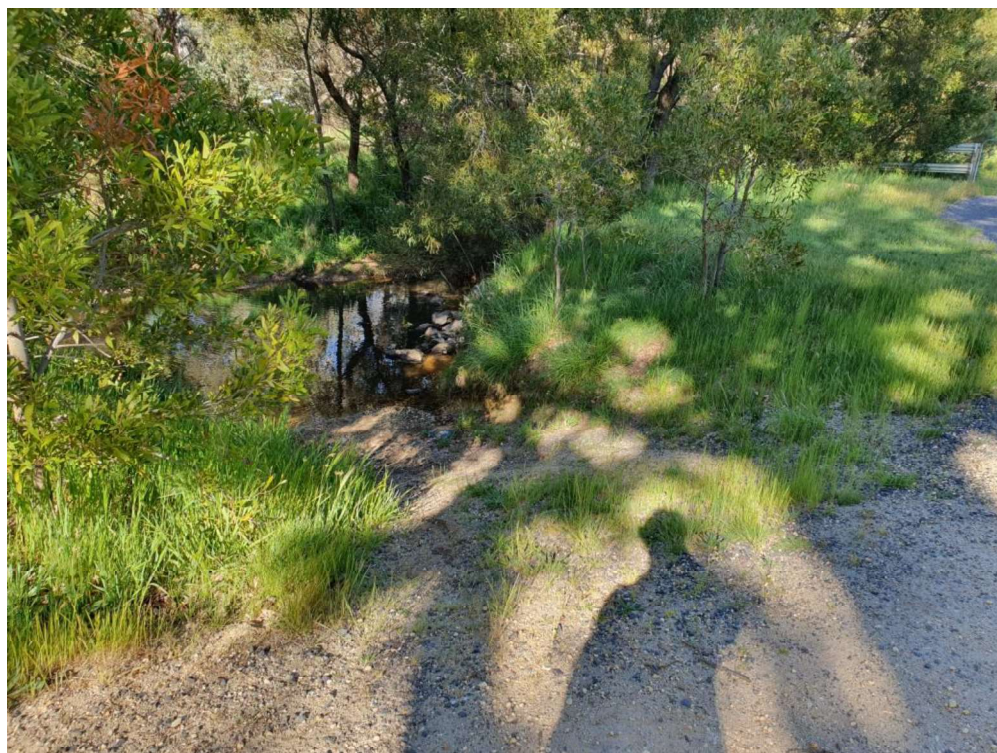
2018

APPENDIX C

SITE PHOTOGRAPHS



Photograph 1: northerly view of the site from near the club house/hall. The training track was observed to traverse the majority of the site with the primary shot fall areas of concern located within the central portion of the site.



Photograph 2: Southerly view of south boundary and the water course (Loddon River). Concern remains present regarding the potential for storm water runoff from the central portion of the site may impact the waterway in heavy rainfall events.



Photograph 3: View of indicative clay target fragments. Fragments of various colors (black, white and orange) were observed across the site.



Photograph 4: stormwater drain located in the central portion of the site. The drainage channels are anticipated to be a collection point for lead and PAH contamination with sediment runoff during heavy rainfall events.



Photograph 5: Equestrian event jumps were observed across the central and north portions of the site. Visible clay target fragments were observed through the surface sands adjacent to the jump.



Photograph 6: Northerly view of the north portion the site from Shooting area 3 (refer to Figure 3), event jumps were observed across the north portion. Visible clay target fragments and empty ammunition shells were observed across the surface in the north portion of the site.

APPENDIX D

SURFACE SAMPLE XRF FIELD SCREENING SAMPLE LOGS

Soil Sample Descriptions	
Job no:	1901215

Client:	Hepburn Shire Council	Logged by:	A. Hayes
Project:	Preliminary Soil Contamination Assessment	Prepared by:	N. Lowe
Location:	Glenlyon Recreation Reserve, Suttons Lane, Glenlyon	Checked by:	A. Hayes

Sample ID	Date	Duplicate/spit	Depth (m)	PID (ppm)	CR	Sample description	Sample Analysed
191030-SS01	30/10/2019	191030-SS01A, 191030-S-001	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; no odour; moist	▲
191030-SS02	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; no odour; moist	▲
191030-SS03	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; clay target fragments; no odour; moist	▲
191030-SS04	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; clay target fragments; no odour; moist	▲
191030-SS05	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; clay target fragments; no odour; moist	▲
191030-SS06	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; clay target fragments; no odour; moist	▲
191030-SS07	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; no odour; moist	▲
191030-SS08	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; clay target fragments; no odour; moist	▲
191030-SS09	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; clay target fragments; no odour; moist	▲
191030-SS10	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; no odour; moist	▲
191030-SS11	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; no odour; moist	▲
191030-SS12	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; no odour; moist	▲
191030-SS13	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; no odour; moist	▲
191030-SS14	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; no odour; moist	▲
191030-SS15	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; shotgun shell at surface; no odour; moist	▲
191030-SS16	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; shotgun shell at surface; no odour; moist	▲
191030-SS17	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; clay target fragments; shotgun shell at surface; no odour; moist	▲
191030-SS18	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; clay target fragments; no odour; moist	▲
191030-SS19	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; clay target fragments; no odour; moist	▲
191030-SS20	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; traces of clay target fragments; no odour; moist	▲
191030-SS21	30/10/2019	191030-SS21A, 191030-S-002	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; with rootlets; traces of clay target fragments; no odour; moist	▲
191030-SS22	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; no odour; moist	▲
191030-SS23	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; dark brown; no odour; moist	▲
191030-SS24	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; light brown; trace gravel (fine grained, sub rounded); with rootlets; no odour; moist	▲
191030-SS25	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; no odour; moist	▲
191030-SS26	30/10/2019	-	0.0 - 0.1	0.0	0	ML - sandy SILT; brown; trace gravel (fine grained, sub rounded); with rootlets; no odour; moist	▲

Client:	Hepburn Shire Council	Logged by:	A. Hayes
Project:	Preliminary Soil Contamination Assessment	Prepared by:	N. Lowe
Location:	Glenlyon Recreation Reserve, Suttons Lane, Glenlyon	Checked by:	A. Hayes

[illegible]



XRF Sample Descriptions	
Job no:	1901215

Client:	Hepburn Shire Council	Logged by:	J. Tillig
Project:	Preliminary Soil Contamination Assessment	Prepared by:	J. Tillig
Location:	Glenlyon Recreation Reserve, Suttons Lane, Glenlyon	Checked by:	A. Hayes

Sample ID	Date	Depth	XRF Reading (Lead, ppm)	Sample description	Gunshot or Clay Disc Fragments Identified?
191030-XRF01	30.10.19	0.0-0.01	277 +/- 7	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF02	30.10.19	0.0-0.01	319 +/- 6	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF03	30.10.19	0.0-0.01	390 +/- 7	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF04	30.10.19	0.0-0.01	68 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF05	30.10.19	0.0-0.01	342 +/- 8	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF06	30.10.19	0.0-0.01	21 +/- 3	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF07	30.10.19	0.0-0.01	553 +/- 8	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF08	30.10.19	0.0-0.01	294 +/- 6	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments & plastic shogun shell wads
191030-XRF09	30.10.19	0.0-0.01	231 +/- 5	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments & plastic shogun shell wads
191030-XRF10	30.10.19	0.0-0.01	88 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF11	30.10.19	0.0-0.01	31 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; wet	Clay disc fragments
191030-XRF12	30.10.19	0.0-0.01	43 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF13	30.10.19	0.0-0.01	21 +/- 3	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	Clay disc fragments
191030-XRF14	30.10.19	0.0-0.01	77 +/- 4	FILL (SP) - gravelly sand; fine to coarse grained, sub-angular, gap-graded; gravel: fine grained, sub-rounded; orange; no odour; dry	Clay disc fragments
191030-XRF15	30.10.19	0.0-0.01	796 +/- 9	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	Clay disc fragments
191030-XRF16	30.10.19	0.0-0.01	876 +/- 11	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	Clay disc fragments & plastic shogun shell wads
191030-XRF17	30.10.19	0.0-0.01	147 +/- 5	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	Clay disc fragments & plastic shogun shell wads
191030-XRF18	30.10.19	0.0-0.01	54 +/- 4	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF19	30.10.19	0.0-0.01	24 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF20	30.10.19	0.0-0.01	22 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF21	30.10.19	0.0-0.01	514 +/- 9	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF22	30.10.19	0.0-0.01	1074 +/- 12	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments
191030-XRF23	30.10.19	0.0-0.01	1391 +/- 15	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments
191030-XRF24	30.10.19	0.0-0.01	608 +/- 8	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF25	30.10.19	0.0-0.01	44 +/- 4	FILL (SP) - gravelly sand; fine to coarse grained, sub-angular, gap-graded; gravel: fine grained, sub-rounded; orange; no odour; dry	Clay disc fragments
191030-XRF26	30.10.19	0.0-0.01	271 +/- 6	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	Clay disc fragments

Version: 1.0

Approved by: Manager Environment

Reviewed: 15/01/2018



XRF Sample Descriptions	
Job no:	1901215

Client:	Hepburn Shire Council	Logged by:	J. Tillig
Project:	Preliminary Soil Contamination Assessment	Prepared by:	J. Tillig
Location:	Glenlyon Recreation Reserve, Suttons Lane, Glenlyon	Checked by:	A. Hayes

Sample ID	Date	Depth	XRF Reading (Lead, ppm)	Sample description	Gunshot or Clay Disc Fragments Identified?
191030-XRF27	30.10.19	0.0-0.01	31 +/- 3	FILL (SP) - gravelly sand; fine to coarse grained, sub-angular, gap graded; gravel: fine grained, sub-rounded; orange; no odour; dry	NO
191030-XRF28	30.10.19	0.0-0.01	18 +/- 2	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	NO
191030-XRF29	30.10.19	0.0-0.01	55 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; with mulch; no odour; moist	NO
191030-XRF30	30.10.19	0.0-0.01	1196 +/- 13	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	NO
191030-XRF31	30.10.19	0.0-0.01	1722 +/- 18	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF32	30.10.19	0.0-0.01	1394 +/- 15	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	NO
191030-XRF33	30.10.19	0.0-0.01	365 +/- 7	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments & plastic shotgun shell wads
191030-XRF34	30.10.19	0.0-0.01	472 +/- 8	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF35	30.10.19	0.0-0.01	135 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF36	30.10.19	0.0-0.01	21 +/- 2	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	NO
191030-XRF37	30.10.19	0.0-0.01	251 +/- 7	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	NO
191030-XRF38	30.10.19	0.0-0.01	170 +/- 5	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments & plastic shotgun shell wads
191030-XRF39	30.10.19	0.0-0.01	1322 +/- 15	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF40	30.10.19	0.0-0.01	657 +/- 10	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	NO
191030-XRF41	30.10.19	0.0-0.01	1964 +/- 21	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF42	30.10.19	0.0-0.01	533 +/- 8	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF43	30.10.19	0.0-0.01	885 +/- 12	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF44	30.10.19	0.0-0.01	32 +/- 3	FILL (SP) - gravelly sand; fine to coarse grained, sub-angular, gap graded; gravel: fine grained, sub-rounded; orange; no odour; dry	NO
191030-XRF45	30.10.19	0.0-0.01	<LOD +/- 6	FILL (GP) - sand; gravel; fine to medium grained, sub-angular; sand: fine to coarse grained, sub-angular, gap graded; grey; no odour; moist	NO
191030-XRF46	30.10.19	0.0-0.01	27 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	NO
191030-XRF47	30.10.19	0.0-0.01	62 +/- 4	FILL (SP) - gravelly sand; fine to coarse grained, sub-angular, gap graded; gravel: fine grained, sub-rounded; orange; no odour; dry	Clay disc fragments
191030-XRF48	30.10.19	0.0-0.01	1328 +/- 19	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments & plastic shotgun shell wads
191030-XRF49	30.10.19	0.0-0.01	1263 +/- 15	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF50	30.10.19	0.0-0.01	2195 +/- 22	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF51	30.10.19	0.0-0.01	577 +/- 10	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments
191030-XRF52	30.10.19	0.0-0.01	91 +/- 5	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap graded; no odour; moist	Clay disc fragments

Version: 1.0

Approved by: Manager Environment

Reviewed: 15/01/2018

Page 2 of 4

Date: 06/04/2017

Next Review: 30/01/2019



XRF Sample Descriptions	
Job no:	1901215

Client:	Hepburn Shire Council	Logged by:	J. Tillig
Project:	Preliminary Soil Contamination Assessment	Prepared by:	J. Tillig
Location:	Glenlyon Recreation Reserve, Suttons Lane, Glenlyon	Checked by:	A. Hayes

Sample ID	Date	Depth	XRF Reading (Lead, ppm)	Sample description	Gunshot or Clay Disc Fragments Identified?
191030-XRF53	30.10.19	0.0-0.01	40 +/- 4	SM - silty SAND; fine to medium grained, gap-graded, sub-angular; brown; no odour; moist	NO
191030-XRF54	30.10.19	0.0-0.01	11 +/- 2	FILL (SP) - gravelly sand; fine to coarse grained, sub-angular, gap-graded; gravel: fine grained, sub-rounded; orange; no odour; dry	NO
191030-XRF55	30.10.19	0.0-0.01	40 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF56	30.10.19	0.0-0.01	61 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF57	30.10.19	0.0-0.01	317 +/- 7	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF58	30.10.19	0.0-0.01	268 +/- 6	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF59	30.10.19	0.0-0.01	766 +/- 10	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF60	30.10.19	0.0-0.01	149 +/- 4	ML - SILT; low plasticity; dark brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF61	30.10.19	0.0-0.01	208 +/- 5	ML - SILT; low plasticity; dark brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF62	30.10.19	0.0-0.01	22 +/- 3	SM - silty SAND; fine to medium grained, gap-graded, sub-angular; brown; no odour; moist	NO
191030-XRF63	30.10.19	0.0-0.01	23 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF64	30.10.19	0.0-0.01	62 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments & plastic shotgun shell wads
191030-XRF65	30.10.19	0.0-0.01	92 +/- 3	SM - silty SAND; fine to medium grained, gap-graded, sub-angular; brown; with organics (mulch, grass clippings); no odour; moist	Clay disc fragments
191030-XRF66	30.10.19	0.0-0.01	1106 +/- 14	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments
191030-XRF67	30.10.19	0.0-0.01	821 +/- 12	FILL (ML) - sandy silt; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF68	30.10.19	0.0-0.01	959 +/- 12	FILL (ML) - sandy silt; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF69	30.10.19	0.0-0.01	784 +/- 10	FILL (ML) - sandy silt; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF70	30.10.19	0.0-0.01	391 +/- 7	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF71	30.10.19	0.0-0.01	37 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF72	30.10.19	0.0-0.01	26 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF73	30.10.19	0.0-0.01	1999 +/- 23	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF74	30.10.19	0.0-0.01	164 +/- 5	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments
191030-XRF75	30.10.19	0.0-0.01	148 +/- 5	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF76	30.10.19	0.0-0.01	1960 +/- 22	FILL (ML) - sandy silt; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF77	30.10.19	0.0-0.01	620 +/- 10	FILL (ML) - sandy silt; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO
191030-XRF78	30.10.19	0.0-0.01	280 +/- 7	FILL (ML) - sandy silt; brown; sand: fine to medium grained, gap-graded, sub-angular; no odour; moist	NO

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XRF Sample Descriptions	
Job no:	1901215

Client:	Hepburn Shire Council	Logged by:	J.Tilling
Project:	Preliminary Soil Contamination Assessment	Prepared by:	J.Tilling
Location:	Glenlyon Recreation Reserve, Suttons Lane, Glenlyon	Checked by:	A. Hayes

Sample ID	Date	Depth	XRF Reading (Lead, ppm)	Sample description	Gunshot or Clay Disc Fragments Identified?
191030-XRF79	30.10.19	0.0-0.01	228 +/- 6	FILL (ML) - sandy silt; brown, sand: fine to medium grained, gap-graded, sub-angular, no odour; moist	NO
191030-XRF80	30.10.19	0.0-0.01	144 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF81	30.10.19	0.0-0.01	20 +/- 2	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF82	30.10.19	0.0-0.01	64 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments
191030-XRF83	30.10.19	0.0-0.01	156 +/- 5	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments & plastic shotgun shell wads
191030-XRF84	30.10.19	0.0-0.01	178 +/- 5	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF85	30.10.19	0.0-0.01	270 +/- 7	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular, no odour; moist	NO
191030-XRF86	30.10.19	0.0-0.01	432 +/- 8	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular, no odour; moist	NO
191030-XRF87	30.10.19	0.0-0.01	145 +/- 7	ML - sandy SILT; brown; sand: fine to medium grained, gap-graded, sub-angular, no odour; moist	NO
191030-XRF88	30.10.19	0.0-0.01	44 +/- 3	FILL (SP) - gravelly sand; fine to coarse grained, sub-angular, gap-graded; gravel: fine grained, sub-rounded; orange; no odour; dry	NO
191030-XRF89	30.10.19	0.0-0.01	16 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF90	30.10.19	0.0-0.01	150 +/- 5	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF91	30.10.19	0.0-0.01	55 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF92	30.10.19	0.0-0.01	170 +/- 5	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments
191030-XRF93	30.10.19	0.0-0.01	108 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments & plastic shotgun shell wads
191030-XRF94	30.10.19	0.0-0.01	78 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments & plastic shotgun shell wads
191030-XRF95	30.10.19	0.0-0.01	32 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF96	30.10.19	0.0-0.01	43 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF97	30.10.19	0.0-0.01	101 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF98	30.10.19	0.0-0.01	61 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Yes - plastic shotgun casings
191030-XRF99	30.10.19	0.0-0.01	95 +/- 4	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	Clay disc fragments & plastic shotgun shell wads
191030-XRF100	30.10.19	0.0-0.01	51 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF101	30.10.19	0.0-0.01	28 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF102	30.10.19	0.0-0.01	21 +/- 3	ML - SILT; low plasticity; brown; with rootlets; trace sand: fine to medium grained, sub-angular, gap-graded; no odour; moist	NO
191030-XRF103	30.10.19	0.0-0.01	<LOD +/- 5.6	FILL (SP) - gravelly sand, medium to coarse grained, sub-angular, gap-graded; gravel: fine to medium grained, sub-angular, quartz; no odour; dry	NO
191030-XRF104	30.10.19	0.0-0.01	<LOD +/- 6	FILL (SP) - gravelly sand, medium to coarse grained, sub-angular, gap-graded; gravel: fine to medium grained, sub-angular, quartz; no odour; dry	NO

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APPENDIX E

TABULATED SOIL RESULTS

Table 01
Soil Chemical Testing Results



		Heavy Metals																																
		Polychlorinated Biphenyls (high risk)	Polychlorinated Biphenyls (low risk)	Aluminium	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Strontium	Thallium	Thorium	Tin	Titanium	Uranium	Vanadium	Zinc				
		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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
ECOL	NEPM Amendment 2013 EIL (urban residential/public open space) - aged			5	5	100			10	0.2	1	130	5	60	1100			0.05	5	30	3	5	5	5	5	5	5	5	5	70				
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh						50					75		30	270						10										25				
NEPM Amendment 2013 ESL (urban residential/public open space) - fine																																		
NEPM Amendment 2013 ESL (urban residential/public open space) - coarse																																		
NEPM Amendment 2013 HIL/HSL A						100		60	4500	20	100		100	6000	300	3800	40	400	200											7400				
GRC CARE 2011 Vapour Intrusion HSL A																																		
GRC CARE 2011 Direct Contact HSL A						500		90	40000	150	500	600	30000	1200	14000	120	1200	1400												60000				
NEPM Amendment 2013 HIL/HSL B																																		
GRC CARE 2011 Vapour Intrusion HSL B																																		
GRC CARE 2011 Direct Contact HSL B																																		
NEPM Amendment 2013 HIL/HSL C																																		
GRC CARE 2011 Vapour Intrusion HSL C																																		
GRC CARE 2011 Direct Contact HSL C																																		
NEPM Amendment 2013 HIL/HSL D																																		
GRC CARE 2011 Vapour Intrusion HSL D																																		
GRC CARE 2011 Direct Contact HSL D																																		
USEPA - Region 3.6.9 - Residential Soil																																		
AS 2.159-2009 Piling - Design and Installation - Soil																																		
EPA IWRC 621 Category B Upper Limit						2000				400	2000			20000		6000		300	4000	12000	200	720								140000				
EPA IWRC 621 Category C Upper Limit						500				100	500			5000		1500					50	180								35000				
EPA IWRC 621 Fill Material Upper Limit						20				3	1			100		300		1	400	60	10	10								200				
Field ID	LocCode	Sample Depth	Range	Sampled Date/Time																														
191030-5501	5501	0-0.1	-	30/10/2019	-	-	16,000	<5	<5	160	<5	<10	<0.2	-	31	8	12	18,000	100	200	<0.05	<5	19	<3	<5	21	<5	8	<5	170	<5	22	41	
191030-5502	5502	0-0.1	-	30/10/2019	-	-	16,000	<5	<5	130	<5	<10	<0.2	-	25	7	10	17,000	80	190	<0.05	<5	17	<3	<5	23	<5	8	<5	54	<5	16	39	
191030-5503	5503	0-0.1	<0.6	30/10/2019	-	-	-	-	-	<5	160	<5	<10	<0.2	<1	19	8	11	-	100	580	<0.05	<5	13	<3	<5	-	-	<5	-	13	46	-	
191030-5504	5504	0-0.1	-	30/10/2019	-	-	19,000	<5	6	120	<5	<10	<0.2	-	56	16	20	32,000	160	420	<0.05	<5	41	<3	<5	28	<5	-	-	730	<5	42	52	
191030-5505	5505	0-0.1	-	30/10/2019	-	-	19,000	<5	<5	200	<5	<10	<0.2	-	28	12	14	19,000	34	590	<0.05	<5	21	<3	<5	39	<5	9	<5	91	<5	22	84	
191030-5506	5506	0-0.1	-	30/10/2019	-	-	10,000	<5	<5	110	<5	<10	<0.2	-	15	8	7	12,000	28	320	<0.05	<5	11	<3	<5	20	<5	5	<5	45	<5	9	39	
191030-5507	5507	0-0.1	-	30/10/2019	-	-	11,000	<5	<5	110	<5	<10	<0.2	-	19	7	9	16,000	31	270	<0.05	<5	14	<3	<5	20	<5	6	<5	55	<5	13	40	
191030-5508	5508	0-0.1	<0.6	30/10/2019	-	-	13,000	<5	<5	130	<5	<10	<0.2	-	25	9	10	16,000	33	320	<0.05	<5	15	<3	<5	23	<5	7	<5	95	<5	15	50	
191030-5509	5509	0-0.1	-	30/10/2019	-	-	25,000	<5	<5	89	<5	<10	<0.2	<1	20	6	9	-	53	230	<0.05	<5	15	<3	<5	-	-	-	<5	-	18	30	-	
191030-5510	5510	0-0.1	-	30/10/2019	-	-	-	-	-	220	<5	<10	<0.2	-	30	8	13	22,000	73	320	0.05	<5	20	<3	<5	32	<5	11	<5	47	<5	28	62	
191030-5511	5511	0-0.1	<0.6	30/10/2019	-	-	-	-	-	95	<5	<10	<0.2	<1	12	<5	9	-	320	170	0.05	<5	6	<3	<5	-	-	-	<5	-	11	24	-	
191030-5512	5512	0-0.1	-	30/10/2019	-	-	9100	<5	<5	90	<5	<10	<0.2	-	20	<5	7	26,000	84	160	<0.05	<5	6	<3	<5	17	<5	<5	32	<5	12	23	-	
191030-5513	5513	0-0.1	-	30/10/2019	-	-	14,000	<5	9	130	<5	<10	<0.2	-	28	<5	12	23,000	69	240	<0.05	<5	11	<3	<5	20	<5	6	<5	70	<5	21	28	-
191030-5514	5514	0-0.1	-	30/10/2019	-	-	27,000	<5	<5	210	<5	<10	<0.2	-	54	10	17	29,000	150	400	0.05	<5	25	<3	<5	30	<5	8	<5	180	<5	44	36	-
191030-5515	5515	0-0.1	<6	30/10/2019	-	-	-	-	-	140	<5	<10	<0.2	<1	44	11	9	-	270	460	<0.05	<5	18	<3	<5	-	-	-	<5	-	35	25	-	
191030-5516	5516	0-0.1	-	30/10/2019	-	-	20,000	<5	<5	130	<5	<10	<0.2	-	53	9	12	38,000	40	140	<0.05	<5	17	<3	<5	13	<5	9	<5	290	<5	41	19	-
191030-5517	5517	0-0.1	-	30/10/2019	-	-	9200	<5	53	81	<5	<10	<0.2	-	30	10	11	19,000	32	240	0.09	<5	17	<3	<5	19	<5	7	<5	180	<5	20	29	-
191030-5518	5518	0-0.1	-	30/10/2019	-	-	9100	<5	<5	79	<5	<10	<0.2	-	27	6	6	8700	100	140	<0.05	<5	10	<3	<5	15	<5	6	<5	160	<5	15	15	-
191030-5519	5519	0-0.1	-	30/10/2019	-	-	17,000	<5	<5	130	<5	<10	<0.2	-	110	28	13	40,000	31	590	<0.05	<5	26	<3	<5	25	<5	11	<5	570	<5	74	32	-
191030-5520	5520	0-0.1	-	30/10/2019	-	-	26,000	<5	<5	230	<5	<10	<0.2	-	130	18	21	42,000	90	460	<0.05	<5	49	<3	<5	30	<5	8	<5	1300	<5	82	60	-
191030-5521	5521	0-0.1	-	30/10/2019	-	-	8400	<5	<5	65	<5	<10	<0.2	-	46	<5	<5	29,000	27	84	<0.05	<5	9	<3	<5	7	<5	<5	230	<5	30	14	-	
191030-5522	5522	0-0.1	<0.6	30/10/2019	-	-	-	-	-	98	<5	<10	<0.2	<1	61	15	9	-	54	290	<0.05	<5	17	<3	<5	-	-	-	<5	-	38	29	-	
191030-5523	5523	0-0.1	-	30/10/2019	-	-	17,000	<5	<5	140	<5	<10	<0.2	-	76	11	13	22,000	330	160	<0.05	<5	28	4	<5	26	<5	5	<5	620	<5	52	41	-
191030-5524	5524	0-0.1	-	30/10/2019	-	-	7800	<5	83	57	<5	<10	<0.2	-	21	<5	19	24,000	170	180	<0.05	<5	7	<3	<5	12	<5	9	<5	76	<5	19	25	-
191030-5525	5525	0-0.1	-	30/10/2019	-	-	13,000	<5	6	130	<5	<10	<0.2	-	28	<5	13	20,000	190	300	<0.05	<5	9	<3	<5	15	<5	6	<5	100	<5	27	18	-
191030-5526	5526	0-0.1	-	30/10/2019	-	-	21,000	<5	9	220	<5	<10	<0.2	-	35	7	13	19,000	590	310	<0.05	<5	15	4	<5	31	<5	7	<5	140	<5	36	34	-
191030-5527	5527	0-0.1	-	30/10/2019	-	-	27,000	<5	150	230	<5	<10	<0.2	-	30	6	16	29,000	580	340	0.24	<5	22	5	<5	69	<5	10	<5	120	<5	38	58	-
191030-5528	5528	0-0.1	<0.6	30/10/2019	-	-	-	-	-	49	<5	<10	<0.2	<1	6	<5	<5	-	1100	39	<0.05	<5	<5	<3	<5	-	-	-	<5	-	7	10	-	
191030-5529	5529	0-0.1	-	30/10/2019	-	-	24,000	<5	5	220	<5	<10	<0.2	-	76	11	16	32,000	710	230	<0.05	<5	35	8	<5	58	<5	9	<5	270	<5	65	42	-
191030-5530	5530	0-0.1	-	30/10/2019	-	-	8100	<5	<5	72	<5	<10	<0.2	-	15	<5	<5	6900	390	24	<0.05	<5	6	<3	<5	9	<5	<5	53	<5	15	16	-	

Table 01
Soil Chemical Testing Results



	PAH																			PAHs (sum of total)
	Acenaphthene mg/kg	Acenaphthylene mg/kg	Anthracene mg/kg	Benz(a)anthracene mg/kg	Benz(a)pyrene mg/kg	Benz(b)fluoranthene mg/kg	Benzofluoranthene mg/kg	Chrysene mg/kg	Dibenz(a,h)anthracene mg/kg	Fluorene mg/kg	Indeno(1,2,3-c,d)pyrene mg/kg	Naphthalene mg/kg	Phenanthrene mg/kg	Pyrene mg/kg	Benzo(a)pyrene (half IOR) mg/kg	Benzo(a)pyrene (as BaP) TEQ mg/kg				
EOI	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
NEPM Amendment 2013 ELI (urban residential/public open space) - aged												170								
NEPM Amendment 2013 ELI (urban residential/public open space) - fresh												170								
NEPM Amendment 2013 ESL (urban residential/public open space) - fine			0.7																	
NEPM Amendment 2013 ESL (urban residential/public open space) - coarse			0.7													3	300			
NEPM Amendment 2013 HIU/HSL A												3								
CRC CARE 2011 Vapour Intrusion HSL A												1400								
NEPM Amendment 2013 HIU/HSL B												3				4	400			
CRC CARE 2011 Vapour Intrusion HSL B												3								
CRC CARE 2011 Direct Contact HSL B												2200								
NEPM Amendment 2013 HIU/HSL C																3	300			
CRC CARE 2011 Direct Contact HSL C												1900				40	4000			
NEPM Amendment 2013 HIU/HSL D																				
CRC CARE 2011 Vapour Intrusion HSL D																				
CRC CARE 2011 Direct Contact HSL D																				
USEPA - Region 3.6.9 - Residential Soil																				
AS 2199-2009, Piling - Design and Installation - Soil	3400	17000	0.15	0.015	0.15	1.5	15	0.015	2300	2300	0.15					1700				
EPA IWRC 621 Category 8 Upper Limit																	400			
EPA IWRC 621 Category C Upper Limit																	100			
EPA IWRC 621 Fill Material Upper Limit																	20			

Field ID	LocCode	Sample Depth	Range	Sample Date	Time
191.030-S501	S501	0-0.1	0.2	30/10/2019	
191.030-S502	S502	0-0.1	<0.1	30/10/2019	
191.030-S503	S503	0-0.1	0.2	30/10/2019	
191.030-S504	S504	0-0.1	0.1	30/10/2019	
191.030-S505	S505	0-0.1	<0.1	30/10/2019	
191.030-S506	S506	0-0.1	<0.1	30/10/2019	
191.030-S507	S507	0-0.1	<0.1	30/10/2019	
191.030-S508	S508	0-0.1	<0.1	30/10/2019	
191.030-S509	S509	0-0.1	<0.1	30/10/2019	
191.030-S510	S510	0-0.1	<0.1	30/10/2019	
191.030-S511	S511	0-0.1	1	30/10/2019	
191.030-S512	S512	0-0.1	<0.1	30/10/2019	
191.030-S513	S513	0-0.1	0.4	30/10/2019	
191.030-S514	S514	0-0.1	<0.1	30/10/2019	
191.030-S515	S515	0-0.1	8.6	30/10/2019	
191.030-S516	S516	0-0.1	<0.1	30/10/2019	
191.030-S517	S517	0-0.1	1.5	30/10/2019	
191.030-S518	S518	0-0.1	<0.1	30/10/2019	
191.030-S519	S519	0-0.1	<0.1	30/10/2019	
191.030-S520	S520	0-0.1	0.1	30/10/2019	
191.030-S521	S521	0-0.1	<0.1	30/10/2019	
191.030-S522	S522	0-0.1	<0.1	30/10/2019	
191.030-S523	S523	0-0.1	<0.1	30/10/2019	
191.030-S524	S524	0-0.1	<0.1	30/10/2019	
191.030-S525	S525	0-0.1	<0.1	30/10/2019	
191.030-S526	S526	0-0.1	<0.1	30/10/2019	
191.030-S527	S527	0-0.1	1.5	30/10/2019	
191.030-S528	S528	0-0.1	<0.1	30/10/2019	
191.030-S529	S529	0-0.1	2.5	30/10/2019	
191.030-S530	S530	0-0.1	<0.1	30/10/2019	

Table 01
Soil Chemical Testing Results

[illegible]

Table 01
Soil Chemical Testing Results



	TPH				TRH				BTX				MAH											
	66- C9	C10 - C14	C15 - C28	C29 - C36	C10 - C36 (sum of total)	66- C10	66- C10 less BTX (F1)	C10 - C16	C10 - C16 less Naphthalene (F2)	C16 - C34	C34 - C40	C10 - C40 (sum of total)	Benzene	Ethylbenzene	Toluene	Total BTX	Xylene (m & p)	Xylene (o)	Xylene Total	1,2,4-trimethylbenzene	Isopropylbenzene	Styrene	MAH (sum of total)	
EQUL	20	20	50	50	mg/kg	20	20	20	20	50	50	50	mg/kg	mg/kg	mg/kg	0.5	1	1	0.5	1	0.5	0.5	0.5	mg/kg
NEPM Amendment 2013 EIL (urban residential/public open space) - aged																								
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh						180		120		1300	5600		65	125	105									
NEPM Amendment 2013 EIL (urban residential/public open space) - fine						180		120		300	2800		50	70	85									
NEPM Amendment 2013 EIL (urban residential/public open space) - coarse							45	110	110				0.5	55	160									
CRC CARE 2011 Vapour intrusion HSL A						41	41	110					0.5	57	160									
CRC CARE 2011 Direct Contact HSL A						4400	3300		4500	6300			100	4500	14000									
NEPM Amendment 2013 HL/HSL B						45	240	110					0.5	55	160									
CRC CARE 2011 Vapour intrusion HSL B						41	41	110					0.5	57	160									
CRC CARE 2011 Direct Contact HSL B						5600	4200		5800	8100			140	5900	21000									
NEPM Amendment 2013 HL/HSL C								440		5300	7400		NL	NL	18000									
CRC CARE 2011 Direct Contact HSL C						5100		3800					3	NL										
NEPM Amendment 2013 HL/HSL D						2500	2500																	
CRC CARE 2011 Vapour intrusion HSL D						26000		20000		27000	38000		430	27000	99000									
CRC CARE 2011 Direct Contact HSL D													1.1	5.4	5000									
USEPA - Region 3.6.9 - Residential Soil																								
AS 2159-2009 Piling - Design and Installation - Soil																								
EPA IWRS 621 Category B Upper Limit	2500				40000								16										240	
EPA IWRS 621 Category C Upper Limit	650				10000							4											70	
EPA IWRS 621 Fill Material Upper Limit	100				1000							1											7	

Field ID	LocCode	Sample Depth Range	Sampled Date/Time	C6 - C9	C10 - C14	C15 - C28	C29 - C36	C10 - C36 (sum of total)	C6 - C10	C6 - C10 less BTX (F1)	C10 - C16	C10 - C16 less Naphthalene (F2)	C16 - C34	C34 - C40	C10 - C40 (sum of total)	Benzene	Ethylbenzene	Toluene	Total BTX	Xylene (m & p)	Xylene (o)	Xylene Total	1,2,4-trimethylbenzene	Isopropylbenzene	Styrene	MAH (sum of total)
191030-S501	S501	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S502	S502	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S503	S503	0-0.1	30/10/2019	<20	<20	55	91	156	<20	<20	<20	<20	120	<50	120	<0.5	<0.5	<0.5	<1	<1	<0.5	<1	<0.5	<0.5	<0.5	<4.5
191030-S504	S504	0-0.1	30/10/2019	<20	<20	65	76	151	<20	<20	<20	<20	120	<50	120	-	-	-	-	-	-	-	-	-	-	-
191030-S505	S505	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S506	S506	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S507	S507	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S508	S508	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S509	S509	0-0.1	30/10/2019	<20	<20	<50	<50	<120	<20	<20	<20	<20	56	<50	56	-	-	-	<1	<1	<0.5	<1	<0.5	<0.5	<0.5	<4.5
191030-S510	S510	0-0.1	30/10/2019	<20	<20	340	380	747	<20	<20	51	51	580	170	800	<0.5	<0.5	<0.5	<1	<1	<0.5	<1	<0.5	<0.5	<0.5	<4.5
191030-S511	S511	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S512	S512	0-0.1	30/10/2019	<20	<20	150	150	310	<20	<20	<20	<20	280	<50	280	-	-	-	<1	<1	<0.5	<1	<0.5	<0.5	<0.5	<4.5
191030-S513	S513	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S514	S514	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S515	S515	0-0.1	30/10/2019	<20	<20	1900	800	2310	<20	<20	32	32	2200	160	2400	<0.5	<0.5	<0.5	<1	<1	<0.5	<1	<0.5	<0.5	<0.5	<4.5
191030-S516	S516	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S517	S517	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S518	S518	0-0.1	30/10/2019	<20	<20	<50	86	121	<20	<20	<20	<20	90	75	160	-	-	-	-	-	-	-	-	-	-	-
191030-S519	S519	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S520	S520	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S521	S521	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S522	S522	0-0.1	30/10/2019	<20	<20	<50	60	95	<20	<20	<20	<20	63	<50	63	<0.5	<0.5	<0.5	<1	<1	<0.5	<1	<0.5	<0.5	<0.5	<4.5
191030-S523	S523	0-0.1	30/10/2019	<20	<20	67	140	217	<20	<20	<20	<20	150	74	220	-	-	-	-	-	-	-	-	-	-	-
191030-S524	S524	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S525	S525	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S526	S526	0-0.1	30/10/2019	<20	<20	<50	83	118	<20	<20	<20	<20	87	67	150	-	-	-	-	-	-	-	-	-	-	-
191030-S527	S527	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S528	S528	0-0.1	30/10/2019	<20	<20	120	130	260	<20	<20	20	20	240	<50	260	<0.5	<0.5	<0.5	<1	<1	<0.5	<1	<0.5	<0.5	<0.5	<4.5
191030-S529	S529	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S530	S530	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 01
Soil Chemical Testing Results



Halogenated Volatile Organics																					
	1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane (1,2-DCA)	1,2-dichloroethene [cis]	1,2-dichloroethene [trans]	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	1,3-dichloropropene [cis]	1,3-dichloropropene [trans]			
	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		
EQUL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5			
NEMP Amendment 2013 ELI (urban residential/public open space) - aged																					
NEMP Amendment 2013 ELI (urban residential/public open space) - fresh																					
NEMP Amendment 2013 ESL (urban residential/public open space) - fine																					
NEMP Amendment 2013 ESL (urban residential/public open space) - coarse																					
NEMP Amendment 2013 HIU/HSL A																					
CRC CARE 2011 Vapour Intrusion HSL A																					
CRC CARE 2011 Direct Contact HSL A																					
NEMP Amendment 2013 HIU/HSL B																					
CRC CARE 2011 Vapour Intrusion HSL B																					
CRC CARE 2011 Direct Contact HSL B																					
NEMP Amendment 2013 HIU/HSL C																					
CRC CARE 2011 Direct Contact HSL C																					
NEMP Amendment 2013 HIU/HSL D																					
CRC CARE 2011 Direct Contact HSL D																					
CRC CARE 2011 Direct Contact HSL D																					
USEPA - Region 3.6.9 - Residential Soil																					
AS 2159-2009, Piling - Design and Installation - Soil																					
EPA IWRC 621 Category 8 Upper Limit																					
EPA IWRC 621 Category 8 Upper Limit																					
EPA IWRC 621 FI Material Upper Limit																					

Field ID	LocCode	Sample Depth	Depth Range	Sampled Date/Time	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloropropene	1,1,2-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane (1,2-DCA)	1,2-dichloroethene (cis)	1,2-dichloroethene [trans]	1,2-dichloropropane	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	1,3-dichloropropene (cis)	1,3-dichloropropene [trans]
191030-SS01	S501	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS02	S502	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS03	S503	0-0.1	0-0.1	30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
191030-SS04	S504	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS05	S505	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS06	S506	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS07	S507	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS08	S508	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS09	S509	0-0.1	0-0.1	30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
191030-SS10	S510	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS11	S511	0-0.1	0-0.1	30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
191030-SS12	S512	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS13	S513	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS14	S514	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS15	S515	0-0.1	0-0.1	30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
191030-SS16	S516	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS17	S517	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS18	S518	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS19	S519	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS20	S520	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS21	S521	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS22	S522	0-0.1	0-0.1	30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
191030-SS23	S523	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS24	S524	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS25	S525	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS26	S526	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS27	S527	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS28	S528	0-0.1	0-0.1	30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
191030-SS29	S529	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
191030-SS30	S530	0-0.1	0-0.1	30/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 01
Soil Chemical Testing Results

Halogenated Volatile Organics2													
	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroform	Dibromomethane	Dichloromethane	Trichloroethene (TCE)	Tetrachloroethene (PCE)	Trihalomethanes
	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
EOIL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1
NEPM Amendment 2013 EIL (urban residential/public open space) - aged													
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh													
NEPM Amendment 2013 ESI (urban residential/public open space) - fine													
NEPM Amendment 2013 ESI (urban residential/public open space) - coarse													
NEPM Amendment 2013 HIU/HSL A													
CRC CARE 2011 Vapour Intrusion HSL A													
CRC CARE 2011 Direct Contact HSL A													
NEPM Amendment 2013 HIU/HSL B													
CRC CARE 2011 Vapour Intrusion HSL B													
CRC CARE 2011 Direct Contact HSL B													
NEPM Amendment 2013 HIU/HSL C													
CRC CARE 2011 Direct Contact HSL C													
NEPM Amendment 2013 HIU/HSL D													
CRC CARE 2011 Vapour Intrusion HSL D													
CRC CARE 2011 Direct Contact HSL D													
USEPA - Region 3.6.9 - Residential Soil													
AS 2159-2009, Piling - Design and Installation - Soil													
300	160	0.27	62	0.61	290	0.68	0.29	25	11	0.91	0.55	790	0.06
EPA IWGG 621 Category B Upper Limit													4.8
EPA IWGG 621 Category C Upper Limit													1.2
EPA IWGG 621 Fill Material Upper Limit													

Field ID	LocCode	Sample Depth	Range	Sampled Date/Time	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
191030-S501	S501	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S502	S502	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S503	S503	0-0.1		30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1
191030-S504	S504	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S505	S505	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S506	S506	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S507	S507	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S508	S508	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S509	S509	0-0.1		30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1
191030-S510	S510	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S511	S511	0-0.1		30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1
191030-S512	S512	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S513	S513	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S514	S514	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S515	S515	0-0.1		30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1
191030-S516	S516	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S517	S517	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S518	S518	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S519	S519	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S520	S520	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S521	S521	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S522	S522	0-0.1		30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1
191030-S523	S523	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S524	S524	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S525	S525	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S526	S526	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S527	S527	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S528	S528	0-0.1		30/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1
191030-S529	S529	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-
191030-S530	S530	0-0.1		30/10/2019	-	-	-	-	-	-	-	-	-

Table 01
Soil Chemical Testing Results



Chlorinated Hydrocarbons																			
	1,2,3,4-tetrachlorobenzene	1,2,3,5-tetrachlorobenzene	1,2,3-trichlorobenzene	1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3,5-Trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chloronaphthalene	Benzal Chloride	Benzotrifluoride	Benzyl chloride	hexachlorobutadiene	hexachlorocyclopentadiene	hexachloroethane	pentachlorobenzene	Chlorinated hydrocarbons	Other chlorinated hydrocarbons
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
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
EQCL																			
NEPM Amendment 2013 EIL (urban residential/public open space) - aged																			
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh																			
NEPM Amendment 2013 EIL (urban residential/public open space) - fine																			
NEPM Amendment 2013 EIL (urban residential/public open space) - coarse																			
NEPM Amendment 2013 HIU/HSI A																			
CRC CARE 2011 Vapour Intrusion HSL A																			
CRC CARE 2011 Direct Contact HSL A																			
NEPM Amendment 2013 HIU/HSI B																			
CRC CARE 2011 Vapour Intrusion HSL B																			
CRC CARE 2011 Direct Contact HSL B																			
NEPM Amendment 2013 HIU/HSI C																			
CRC CARE 2011 Direct Contact HSL C																			
NEPM Amendment 2013 HIU/HSI D																			
CRC CARE 2011 Vapour Intrusion HSL D																			
CRC CARE 2011 Direct Contact HSL D																			
USEPA - Region 3.6.9 - Residential Soil																			
AS 2159-2009, Piling - Design and Installation - Soil																			
EPA IWRC 621 Category B Upper Limit																			
EPA IWRC 621 Category C Upper Limit																			
EPA IWRC 621 FI Material Upper Limit																			
									2.4	6300		0.049	1	6.2	370	12	49		46
																			11
																			2.8
																			10
																		1	

191030-S501	S501	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S502	S502	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S503	S503	0-0.1		30/10/2019		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<3.1	<3
191030-S504	S504	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S505	S505	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S506	S506	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S507	S507	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S508	S508	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S509	S509	0-0.1		30/10/2019		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<3.1	<3
191030-S510	S510	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S511	S511	0-0.1		30/10/2019		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<3.1	<3
191030-S512	S512	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S513	S513	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S514	S514	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S515	S515	0-0.1		30/10/2019		<0.1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<3.1	<3
191030-S516	S516	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S517	S517	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S518	S518	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S519	S519	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S520	S520	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S521	S521	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S522	S522	0-0.1		30/10/2019		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<3.1	<3
191030-S523	S523	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S524	S524	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S525	S525	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S526	S526	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S527	S527	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S528	S528	0-0.1		30/10/2019		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<3.1	<3
191030-S529	S529	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-
191030-S530	S530	0-0.1		30/10/2019		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 01
Soil Chemical Testing Results

[illegible][illegible]

Table 01
Soil Chemical Testing Results

[illegible]

Table 02
XRF Field Screening Results



Antimony	Arsenic	Barium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Strontium	Tin	Titanium	Zinc					
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					
5	5	5	0.2	5	5	5	10	5	5	0.05	5	5	3	5	5	5	5	5					
NEPM Amendment 2013 EIL (urban residential/public open space) - aged																							
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh																							
NEPM Amendment 2013 ESL (urban residential/public open space) - fine																							
NEPM Amendment 2013 ESL (urban residential/public open space) - coarse																							
NEPM Amendment 2013 HIL/HSL A																							
100			20	100	6000	300	300	3800	40	200		400	200					7400					
CRC CARE 2011 Vapour Intrusion HSL A																							
CRC CARE 2011 Direct Contact HSL A																							
NEPM Amendment 2013 HIL/HSL B																							
500			150	600	30000		1200	14000	120	1400		1200	1400					60000					
CRC CARE 2011 Vapour Intrusion HSL B																							
CRC CARE 2011 Direct Contact HSL B																							
NEPM Amendment 2013 HIL/HSL C																							
300			90	300	17000		600	19000	80	700		1200	700					30000					
CRC CARE 2011 Direct Contact HSL C																							
NEPM Amendment 2013 HIL/HSL D																							
3000			900	4000	240000		1500	60000	730	10000		6000	10000					400000					
CRC CARE 2011 Vapour Intrusion HSL D																							
CRC CARE 2011 Direct Contact HSL D																							
31	0.39	15000	70	23	3100	55000	400	1800	10	390	390	1500	390	390	47000	47000		23000					
USEPA - Region 3.6.9 - Residential Soil																							
AS 2159-2009, Piling - Design and Installation - Soil																							
EPA IWRG 621 Category B Upper Limit																							
	2000		400		20000		6000		300	4000	12000	200	200	720				140000					
	500		100		5000		1500		75	1000	3000	50	50	180		500		35000					
	20		3		100		300		1	40	60	10	10	10		50		200					
EPA IWRG 621 Fill Material Upper Limit																							
Field ID	LocCode	Sample Depth Range	Sampled Date/Time																				
191030-XRF01	XRF01	0-0.05	30/10/2019	<LOD	<LOD	538	<LOD	<LOD	<LOD	<LOD	11,660	277	379	<LOD	<LOD	<LOD	<LOD	2852					
191030-XRF02	XRF02	0-0.05	30/10/2019	<LOD	<LOD	387	<LOD	<LOD	<LOD	<LOD	13,941	319	799	<LOD	<LOD	<LOD	<LOD	3918					
191030-XRF03	XRF03	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13,706	390	745	<LOD	<LOD	<LOD	<LOD	3987					
191030-XRF04	XRF04	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	10,961	68	712	<LOD	<LOD	<LOD	<LOD	3329					
191030-XRF05	XRF05	0-0.05	30/10/2019	<LOD	<LOD	564	<LOD	106	<LOD	16	27,167	342	707	<LOD	<LOD	<LOD	<LOD	8146					
191030-XRF06	XRF06	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13,139	21	214	<LOD	<LOD	<LOD	<LOD	3125					
191030-XRF07	XRF07	0-0.05	30/10/2019	<LOD	28	<LOD	<LOD	<LOD	<LOD	<LOD	9,565	553	692	<LOD	<LOD	<LOD	<LOD	2199					
191030-XRF08	XRF08	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	10,115	294	146	<LOD	<LOD	<LOD	<LOD	3282					
191030-XRF09	XRF09	0-0.05	30/10/2019	<LOD	<LOD	399	<LOD	<LOD	<LOD	<LOD	13,182	231	111	<LOD	<LOD	<LOD	<LOD	4249					
191030-XRF10	XRF10	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	10,637	88	61	<LOD	<LOD	<LOD	<LOD	1929					
191030-XRF11	XRF11	0-0.05	30/10/2019	<LOD	7	470	<LOD	<LOD	<LOD	<LOD	23,435	31	254	<LOD	<LOD	<LOD	<LOD	4153					
191030-XRF12	XRF12	0-0.05	30/10/2019	<LOD	<LOD	506	<LOD	<LOD	<LOD	<LOD	14,165	43	272	<LOD	<LOD	<LOD	<LOD	3548					

Table 02
XRF Field Screening Results



	Antimony	Arsenic	Barium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Strontium	Tin	Titanium	Zinc
	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
EOL	5	5	5	0.2	5	5	5	10	5	5	0.05	5	5	3	5	5	5	5	5
NEPM Amendment 2013 EIL (urban residential/public open space) - aged	100			190			60	1100					30						70
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh	50			75			30	270					10						25
NEPM Amendment 2013 ESL (urban residential/public open space) - fine																			
NEPM Amendment 2013 ESL (urban residential/public open space) - coarse																			
NEPM Amendment 2013 HIL/HSL A	100			20		100	6000		300	3800	40		400	200					7400
CRC CARE 2011 Vapour Intrusion HSL A																			
CRC CARE 2011 Direct Contact HSL A																			
NEPM Amendment 2013 HIL/HSL B	500			150		600	30000		1200	14000	120		1200	1400					60000
CRC CARE 2011 Vapour Intrusion HSL B																			
CRC CARE 2011 Direct Contact HSL B	300			90		300	17000		600	19000	80		1200	700					30000
NEPM Amendment 2013 HIL/HSL C																			
NEPM Amendment 2013 HIL/HSL D	3000			900		4000	240000		1500	60000	730		6000	10000					400000
CRC CARE 2011 Vapour Intrusion HSL D																			
CRC CARE 2011 Direct Contact HSL D																			
USEPA - Region 3/6/9 - Residential Soil	31	0.39	15000	70		23	3100	55000	400	1800	10	390	1500	390	47000	47000			23000
AS 2159-2009, Piling - Design and Installation - Soil																			
EPA IW/RG 621 Category B Upper Limit		2000		400			20000				300	4000	12000	200	720				140000
EPA IW/RG 621 Category C Upper Limit		500		100			5000				75	1000	3000	50	180				35000
EPA IW/RG 621 Fill Material Upper Limit		20		3			100		300		1	40	60	10	10				200

Field ID	LocCode	Sample Depth_Range	Sampled Date/Time	Antimony	Arsenic	Barium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Strontium	Tin	Titanium	Zinc
191030-XRF13	XRF13	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	9,486	21	228	<LOD	<LOD	<LOD	<LOD	<LOD	36.1	<LOD	2627	25
191030-XRF14	XRF14	0-0.05	30/10/2019	<LOD	<LOD	421	<LOD	<LOD	<LOD	<LOD	9,372	77	192	<LOD	<LOD	<LOD	<LOD	<LOD	39.9	<LOD	2966	12
191030-XRF15	XRF15	0-0.05	30/10/2019	<LOD	36	<LOD	<LOD	<LOD	<LOD	<LOD	10,335	736	705	<LOD	<LOD	<LOD	<LOD	<LOD	37.4	<LOD	2487	39
191030-XRF16	XRF16	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	11,724	876	156	<LOD	<LOD	25	<LOD	<LOD	33.7	<LOD	3639	31
191030-XRF17	XRF17	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	7,934	147	281	<LOD	<LOD	<LOD	<LOD	<LOD	21.9	<LOD	3711	21
191030-XRF18	XRF18	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	9,700	54	243	<LOD	<LOD	<LOD	<LOD	<LOD	27.7	<LOD	2646	42
191030-XRF19	XRF19	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	9,709	24	243	<LOD	<LOD	<LOD	<LOD	<LOD	28.7	<LOD	2412	43
191030-XRF20	XRF20	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	12,105	22	173	<LOD	<LOD	<LOD	<LOD	<LOD	28.8	<LOD	3859	40
191030-XRF21	XRF21	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	17,566	514	658	<LOD	<LOD	<LOD	<LOD	<LOD	75	<LOD	5089	28
191030-XRF22	XRF22	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	21,077	1074	296	<LOD	<LOD	21	<LOD	<LOD	25.7	<LOD	2123	19
191030-XRF23	XRF23	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	31,612	1391	308	<LOD	<LOD	38	<LOD	<LOD	35.5	<LOD	4596	38
191030-XRF24	XRF24	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	8,669	608	139	<LOD	<LOD	<LOD	<LOD	<LOD	37.5	<LOD	3736	29
191030-XRF25	XRF25	0-0.05	30/10/2019	<LOD	<LOD	401	<LOD	<LOD	<LOD	<LOD	10,080	44	200	<LOD	<LOD	<LOD	<LOD	<LOD	94	<LOD	2262	16
191030-XRF26	XRF26	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13,761	271	798	<LOD	<LOD	<LOD	<LOD	<LOD	88	<LOD	2615	81
191030-XRF27	XRF27	0-0.05	30/10/2019	<LOD	<LOD	507	<LOD	<LOD	<LOD	<LOD	20,221	31	248	<LOD	<LOD	<LOD	<LOD	<LOD	47.3	<LOD	4498	28
191030-XRF28	XRF28	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13,222	18	293	<LOD	<LOD	<LOD	<LOD	<LOD	60.4	<LOD	3236	56
191030-XRF29	XRF29	0-0.05	30/10/2019	<LOD	<LOD	<LOD	36	<LOD	<LOD	<LOD	4,316	55	438	<LOD	<LOD	<LOD	<LOD	<LOD	86	<LOD	1247	35
191030-XRF30	XRF30	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	15,038	1196	653	<LOD	<LOD	<LOD	<LOD	<LOD	34.9	<LOD	5135	32

Table 02
XRF Field Screening Results



	Antimony	Arsenic	Barium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Strontium	Tin	Titanium	Zinc
	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
EOL	5	5	5	0.2	5	5	5	10	1100	5	0.05	5	5	3	5	5	5	5	5
NEPM Amendment 2013 EIL (urban residential/public open space) - aged	100			190			60	60	1100				30						70
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh	50			75			30		270				10						25
NEPM Amendment 2013 ESL (urban residential/public open space) - fine																			
NEPM Amendment 2013 ESL (urban residential/public open space) - coarse																			
NEPM Amendment 2013 HIL/HSL A	100			20		100	6000		300	3800	40		400	200					7400
CRC CARE 2011 Vapour Intrusion HSL A																			
CRC CARE 2011 Direct Contact HSL A																			
NEPM Amendment 2013 HIL/HSL B	500			150		600	30000		1200	14000	120		1200	1400					60000
CRC CARE 2011 Vapour Intrusion HSL B																			
CRC CARE 2011 Direct Contact HSL B																			
NEPM Amendment 2013 HIL/HSL C	300			90		300	17000		600	19000	80		1200	700					30000
CRC CARE 2011 Direct Contact HSL C																			
NEPM Amendment 2013 HIL/HSL D	3000			900		4000	240000		1500	60000	730		6000	10000					400000
CRC CARE 2011 Vapour Intrusion HSL D																			
CRC CARE 2011 Direct Contact HSL D																			
USEPA - Region 3 6.9 - Residential Soil	31	0.39	15000	70		23	3100	55000	400	1800	10	390	1500	390	47000	47000			23000
AS 2159-2009, Piling - Design and Installation - Soil																			
EPA IWRG 621 Category B Upper Limit		2000		400			20000		5000		300	4000	12000	200	720				140000
EPA IWRG 621 Category C Upper Limit		500		100			5000		1500		75	1000	3000	50	180				35000
EPA IWRG 621 Fill Material Upper Limit		20		3			100		300		1	40	60	10	10				200

Field ID	LocCode	Sample Depth_Range	Sampled Date/Time
191030-XRF31	XRF31	0-0.05	30/10/2019
191030-XRF32	XRF32	0-0.05	30/10/2019
191030-XRF33	XRF33	0-0.05	30/10/2019
191030-XRF34	XRF34	0-0.05	30/10/2019
191030-XRF35	XRF35	0-0.05	30/10/2019
191030-XRF36	XRF36	0-0.05	30/10/2019
191030-XRF37	XRF37	0-0.05	30/10/2019
191030-XRF38	XRF38	0-0.05	30/10/2019
191030-XRF39	XRF39	0-0.05	30/10/2019
191030-XRF40	XRF40	0-0.05	30/10/2019
191030-XRF41	XRF41	0-0.05	30/10/2019
191030-XRF42	XRF42	0-0.05	30/10/2019
191030-XRF43	XRF43	0-0.05	30/10/2019
191030-XRF44	XRF44	0-0.05	30/10/2019
191030-XRF45	XRF45	0-0.05	30/10/2019
191030-XRF46	XRF46	0-0.05	30/10/2019
191030-XRF47	XRF47	0-0.05	30/10/2019
191030-XRF48	XRF48	0-0.05	30/10/2019

Table 02
XRF Field Screening Results



EQL	Antimony	Arsenic	Barium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Strontium	Tin	Titanium	Zinc
	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
	5	5	5	0.2	190	5	60	10	5	5	0.05	5	30	3	5	5	5	5	5
NEPM Amendment 2013 EIL (urban residential/public open space) - aged																			
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh		50		75		30		270					10						25
NEPM Amendment 2013 ESL (urban residential/public open space) - fine																			70
NEPM Amendment 2013 ESL (urban residential/public open space) - coarse																			
NEPM Amendment 2013 HIL/HSL A		100																	
CRC CARE 2011 Vapour Intrusion HSL A				20		100	6000	300	3800	40	200		400	200					7400
CRC CARE 2011 Direct Contact HSL A																			
NEPM Amendment 2013 HIL/HSL B		500		150		600	30000	1200	14000	120			1200	1400					60000
CRC CARE 2011 Vapour Intrusion HSL B																			
CRC CARE 2011 Direct Contact HSL B																			
NEPM Amendment 2013 HIL/HSL C		300		90		300	17000	600	19000	80			1200	700					30000
CRC CARE 2011 Direct Contact HSL C																			
NEPM Amendment 2013 HIL/HSL D		3000		900		4000	240000	1500	60000	730			6000	10000					400000
CRC CARE 2011 Vapour Intrusion HSL D																			
CRC CARE 2011 Direct Contact HSL D																			
USEPA - Region 3,6,9 - Residential Soil	31	0.39	15000	70		23	3100	55000	400	1800	10	390	1500	390		47000	47000		23000
AS 2159-2009, Piling - Design and Installation - Soil		2000		400			20000		6000		300	4000	12000	200	720				140000
EPA IWRG 621 Category B Upper Limit		500		100			5000		1500		75	1000	3000	50	180		500		35000
EPA IWRG 621 Category C Upper Limit		20		3			100		300		1	40	60	10	10		50		200

Field ID	LocCode	Sample Depth	Range	Sampled Date-Time	
191030-XRF49	XRF49	0-0.05		30/10/2019	
191030-XRF50	XRF50	0-0.05		30/10/2019	
191030-XRF51	XRF51	0-0.05		30/10/2019	
191030-XRF52	XRF52	0-0.05		30/10/2019	
191030-XRF53	XRF53	0-0.05		30/10/2019	
191030-XRF54	XRF54	0-0.05		30/10/2019	
191030-XRF55	XRF55	0-0.05		30/10/2019	
191030-XRF56	XRF56	0-0.05		30/10/2019	
191030-XRF57	XRF57	0-0.05		30/10/2019	
191030-XRF58	XRF58	0-0.05		30/10/2019	
191030-XRF59	XRF59	0-0.05		30/10/2019	
191030-XRF60	XRF60	0-0.05		30/10/2019	
191030-XRF61	XRF61	0-0.05		30/10/2019	
191030-XRF62	XRF62	0-0.05		30/10/2019	
191030-XRF63	XRF63	0-0.05		30/10/2019	
191030-XRF64	XRF64	0-0.05		30/10/2019	
191030-XRF65	XRF65	0-0.05		30/10/2019	
191030-XRF66	XRF66	0-0.05		30/10/2019	
191030-XRF67	XRF67	0-0.05		30/10/2019	
191030-XRF68	XRF68	0-0.05		30/10/2019	

Table 02
XRF Field Screening Results



Field ID	LocCode	Sample Depth Range	Sampled Date-Time	Antimony	Arsenic	Barium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Strontium	Tin	Titanium	Zinc
				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
EOL				5	5	5	0.2	190	5	60	10	5	5	0.05	5	5	3	5	5	5	5	5
NEPM Amendment 2013 EIL (urban residential/public open space) - aged				100	50	50	75	75	30	30	270	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh				50	50	50	75	75	30	30	270	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
NEPM Amendment 2013 ESL (urban residential/public open space) - fine				50	50	50	75	75	30	30	270	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
NEPM Amendment 2013 ESL (urban residential/public open space) - coarse				50	50	50	75	75	30	30	270	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
NEPM Amendment 2013 HIL/HSL A				100	100	100	20	100	100	6000	300	3800	40	200	200	400	200	200	200	200	200	200
CRC CARE 2011 Vapour Intrusion HSL A				100	100	100	20	100	100	6000	300	3800	40	200	200	400	200	200	200	200	200	200
CRC CARE 2011 Direct Contact HSL A				100	100	100	20	100	100	6000	300	3800	40	200	200	400	200	200	200	200	200	200
NEPM Amendment 2013 HIL/HSL B				500	500	500	150	600	600	30000	1200	14000	120	1400	1400	1200	1400	1400	1400	1400	1400	1400
CRC CARE 2011 Vapour Intrusion HSL B				500	500	500	150	600	600	30000	1200	14000	120	1400	1400	1200	1400	1400	1400	1400	1400	1400
CRC CARE 2011 Direct Contact HSL B				500	500	500	150	600	600	30000	1200	14000	120	1400	1400	1200	1400	1400	1400	1400	1400	1400
NEPM Amendment 2013 HIL/HSL C				300	300	300	90	300	300	17000	600	19000	80	700	700	1200	700	700	700	700	700	700
CRC CARE 2011 Direct Contact HSL C				300	300	300	90	300	300	17000	600	19000	80	700	700	1200	700	700	700	700	700	700
NEPM Amendment 2013 HIL/HSL D				3000	3000	3000	900	4000	4000	240000	1500	60000	730	10000	10000	6000	10000	10000	10000	10000	10000	10000
CRC CARE 2011 Vapour Intrusion HSL D				3000	3000	3000	900	4000	4000	240000	1500	60000	730	10000	10000	6000	10000	10000	10000	10000	10000	10000
CRC CARE 2011 Direct Contact HSL D				3000	3000	3000	900	4000	4000	240000	1500	60000	730	10000	10000	6000	10000	10000	10000	10000	10000	10000
USEPA - Region 3,6,9 - Residential Soil				31	0.39	15000	70	23	3100	55000	400	1800	10	390	1500	390	47000	47000	47000	47000	47000	47000
AS 2159-2009, Piling - Design and Installation - Soil				31	0.39	15000	70	23	3100	55000	400	1800	10	390	1500	390	47000	47000	47000	47000	47000	47000
EPA IWRG 621 Category B Upper Limit				2000	2000	2000	400	1500	2000	20000	6000	6000	300	4000	12000	200	200	720	720	720	720	140000
EPA IWRG 621 Category C Upper Limit				500	500	500	100	1000	5000	5000	1500	1500	75	1000	3000	50	50	180	180	500	500	35000
EPA IWRG 621 Fill Material Upper Limit				20	20	20	3	3	100	100	300	300	1	40	60	10	10	10	10	50	50	200

Field ID	LocCode	Sample_Depth_Range	Sampled_Date-Time																				
191030-XRF69	XRF69	0-0.05	30/10/2019	<LOD	<LOD	347	<LOD	<LOD	<LOD	16,939	784	135	<LOD	<LOD	<LOD	18	<LOD	<LOD	<LOD	31.3	<LOD	5260	37
	XRF70	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	15,224	391	250	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	55.7	<LOD	3857	52
191030-XRF71	XRF71	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	14,816	37	395	<LOD	<LOD	<LOD	24	<LOD	<LOD	<LOD	53.9	<LOD	2500	38
	XRF72	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	19,766	26	224	<LOD	<LOD	<LOD	34	<LOD	<LOD	<LOD	61	<LOD	3656	51
191030-XRF73	XRF73	0-0.05	30/10/2019	330	<LOD	860	<LOD	159	<LOD	18	53,482	1999	607	<LOD	<LOD	<LOD	100	<LOD	<LOD	93	195	17661	70
	XRF74	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	16	22,882	164	288	<LOD	<LOD	<LOD	32	<LOD	<LOD	58	<LOD	6417	28
191030-XRF75	XRF75	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	14	22,319	148	250	<LOD	<LOD	<LOD	38	<LOD	<LOD	38.8	<LOD	4701	30
	XRF76	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	98	<LOD	<LOD	36,249	1960	272	<LOD	<LOD	<LOD	39	<LOD	<LOD	58	<LOD	7902	41
191030-XRF77	XRF77	0-0.05	30/10/2019	<LOD	<LOD	706	<LOD	<LOD	<LOD	<LOD	54,457	620	502	<LOD	<LOD	<LOD	68	<LOD	<LOD	48.9	<LOD	10656	55
	XRF78	0-0.05	30/10/2019	<LOD	<LOD	882	<LOD	<LOD	<LOD	<LOD	52,075	280	435	<LOD	<LOD	<LOD	63	<LOD	<LOD	53.2	<LOD	10904	54
191030-XRF79	XRF79	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	34,131	228	476	<LOD	<LOD	<LOD	33	<LOD	<LOD	36.3	<LOD	8814	43
	XRF80	0-0.05	30/10/2019	<LOD	<LOD	351	<LOD	<LOD	<LOD	<LOD	16,704	144	165	<LOD	<LOD	<LOD	18	<LOD	<LOD	33.2	<LOD	3441	32
191030-XRF81	XRF81	0-0.05	30/10/2019	<LOD	<LOD	493	<LOD	<LOD	<LOD	<LOD	11,804	20	82	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	32.8	<LOD	2533	35
	XRF82	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	15,236	64	491	<LOD	<LOD	<LOD	33	<LOD	<LOD	44.7	<LOD	8496	26
191030-XRF83	XRF83	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	14,904	156	262	<LOD	<LOD	<LOD	19	<LOD	<LOD	47.2	<LOD	6371	24
	XRF84	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	74	<LOD	<LOD	14,518	178	172	<LOD	<LOD	<LOD	19	<LOD	<LOD	36.7	<LOD	5153	24
191030-XRF85	XRF85	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	16,473	270	198	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	34.9	<LOD	4300	17
	XRF86	0-0.05	30/10/2019	<LOD	23	704	<LOD	<LOD	<LOD	19	61,661	432	469	<LOD	<LOD	<LOD	56	<LOD	<LOD	53	<LOD	11917	67
191030-XRF87	XRF87	0-0.05	30/10/2019	<LOD	<LOD	749	<LOD	<LOD	<LOD	<LOD	47,695	145	749	<LOD	<LOD	<LOD	47	<LOD	<LOD	345	<LOD	7810	82
	XRF88	0-0.05	30/10/2019	<LOD	<LOD	400	<LOD	<LOD	<LOD	<LOD	5,877	44	115	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	48	<LOD	1700	13

Table 02
XRF Field Screening Results



Field ID	LocCode	Sample Depth_Range	Sampled_Date-Time	Antimony mg/kg	Arsenic mg/kg	Barium mg/kg	Cadmium mg/kg	Chromium (III+VI) mg/kg	Cobalt mg/kg	Copper mg/kg	Iron mg/kg	Lead mg/kg	Manganese mg/kg	Mercury mg/kg	Molybdenum mg/kg	Nickel mg/kg	Selenium mg/kg	Silver mg/kg	Strontium mg/kg	Tin mg/kg	Titanium mg/kg	Zinc mg/kg
EQUL				5	5	5	0.2	5	5	5	10	5	5	0.05	5	5	3	5	5	5	5	5
NEPM Amendment 2013 EIL (urban residential/public open space) - aged				100	100			190		60	1100					30						70
NEPM Amendment 2013 EIL (urban residential/public open space) - fresh				50	50			75		30	270					10						25
NEPM Amendment 2013 ESL (urban residential/public open space) - fine																						
NEPM Amendment 2013 ESL (urban residential/public open space) - coarse																						
NEPM Amendment 2013 HIL/HSL A				100	100		20		100	6000		300	3800	40		400	200					7400
CRC CARE 2011 Vapour Intrusion HSL A																						
CRC CARE 2011 Direct Contact HSL A																						
CRC CARE 2011 Direct Contact HSL B																						
NEPM Amendment 2013 HIL/HSL B				500	500		150		600	30000		1200	14000	120		1200	1400					60000
CRC CARE 2011 Vapour Intrusion HSL B																						
CRC CARE 2011 Direct Contact HSL B																						
NEPM Amendment 2013 HIL/HSL C				300	300		90		300	17000		600	19000	80		1200	700					30000
CRC CARE 2011 Direct Contact HSL C																						
NEPM Amendment 2013 HIL/HSL D				3000	3000		900		4000	240000		1500	60000	730		6000	10000					400000
CRC CARE 2011 Vapour Intrusion HSL D																						
CRC CARE 2011 Direct Contact HSL D																						
USEPA - Region 3/6.9 - Residential Soil				31	0.39	15000	70		23	3100	55000	400	1800	10	390	1500	390	47000	47000			23000
AS 2159-2009, Piling - Design and Installation - Soil																						
EPA IWRG 621 Category B Upper Limit				2000	2000		400			20000		6000		300	4000	12000	200	720				140000
EPA IWRG 621 Category C Upper Limit				500	500		100			5000		1500		75	1000	3000	50	180		500		35000
EPA IWRG 621 Fill Material Upper Limit				20	20		3			100		300		1	40	60	10	10		50		200

Field ID	LocCode	Sample Depth_Range	Sampled_Date-Time	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	21,942	16	152	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	28.3	<LOD	9479	20
191030-XRF89	XRF89	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	12,528	150	307	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	52.2	<LOD	3936	22
191030-XRF90	XRF90	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	14,226	55	275	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	35.9	<LOD	4197	23
191030-XRF91	XRF91	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	15,265	170	277	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	44.8	<LOD	4041	25
191030-XRF92	XRF92	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	17,873	108	105	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	33.2	<LOD	4981	30
191030-XRF93	XRF93	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	11,540	78	43	<LOD	2.5	<LOD	<LOD	<LOD	<LOD	32.5	<LOD	3445	25
191030-XRF94	XRF94	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	11,016	32	151	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	43.8	<LOD	3499	28
191030-XRF95	XRF95	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	40,071	43	628	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	49.8	<LOD	10440	63
191030-XRF96	XRF96	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	15	15,542	101	442	<LOD	<LOD	<LOD	<LOD	<LOD	46.5	<LOD	3714	34
191030-XRF97	XRF97	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	13,207	61	50	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	22.9	<LOD	5215	20
191030-XRF98	XRF98	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	32,005	95	137	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	22.3	<LOD	4718	28
191030-XRF99	XRF99	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	9,961	51	249	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	23.6	<LOD	3960	15
191030-XRF100	XRF100	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	17,766	28	488	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	54.4	<LOD	3767	71
191030-XRF101	XRF101	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	28,981	21	82	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	40.8	<LOD	4708	39
191030-XRF102	XRF102	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3,378	<LOD	152	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5.4	<LOD	736	<LOD
191030-XRF103	XRF103	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	4,079	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	5.9	<LOD	1394	<LOD
191030-XRF104	XRF104	0-0.05	30/10/2019	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD													

Table 03

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Table 03
Soil Leachate Chemical Testing Results



			PAH														Inorganics					
Field_ID	LocCode	Sampled_Date-Time	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benz(a)pyrene	Benz(a)pyrene TEQ (upper bound) *	Benz(b)fluoranthene	Benz(g,h,i)perylene	Benz(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Carcinogenic PAHs (as B(a)P TEQ)	PAHs (sum of total)	Lanthanum
EQL			0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.01
EPA IWRG 621 Category B Upper Limit (Leachable Concentrations)							0.004															
EPA IWRG 621 Category C Upper Limit (Leachable Concentrations)							0.001															
191030-SS15	191030-SS15	20/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-
191030-SS28	191030-SS28	20/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01

Table 04
Chemical Testing Results
QAQC Samples
(Duplicate and Split Samples)



Beveridge Williams
development & environment consultants

[illegible]

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (1-10 x EQL); 50 (10-30 x EQL); 50 (> 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.