Douglas PARTNERS

GROUNDED EXPERTISE

Volume 2 of 2
Appendix C3-K

Report on Preliminary / Detailed Site (Contamination) Investigation

UNSW G25 Education Building

8 High Street, Kensington, NSW, 2033

Prepared for The University of New South Wales

Project 227492.04

17 February 2025

Appendix C3

Historical Title Deed Search

ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

Report

Re: - Chancellery Walk, Kensington

Description: - Part Lot 5 D.P. 1264171
(tinted yellow on the attached Cadastral Records Enquiry Report)

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
02.09.1903	Randwick Park dedicated for Public Recreation	Gazette 02.09.1903
13.11.1959	Appropriated for the purposes of the University of New South Wales	
20.11.1959	Vested in the University of New South Wales	Gazette 20.11.1959
26.08.1964	Minister for Education	Vol 9787 Fol 109
18.12.1984 (1984 to date)	# The University of New South Wales	Vol 9787 Fol 109 Then 1/510271 Now 5/1264171

 # Denotes current registered proprietor

Easements: - NIL Affecting

Leases: -

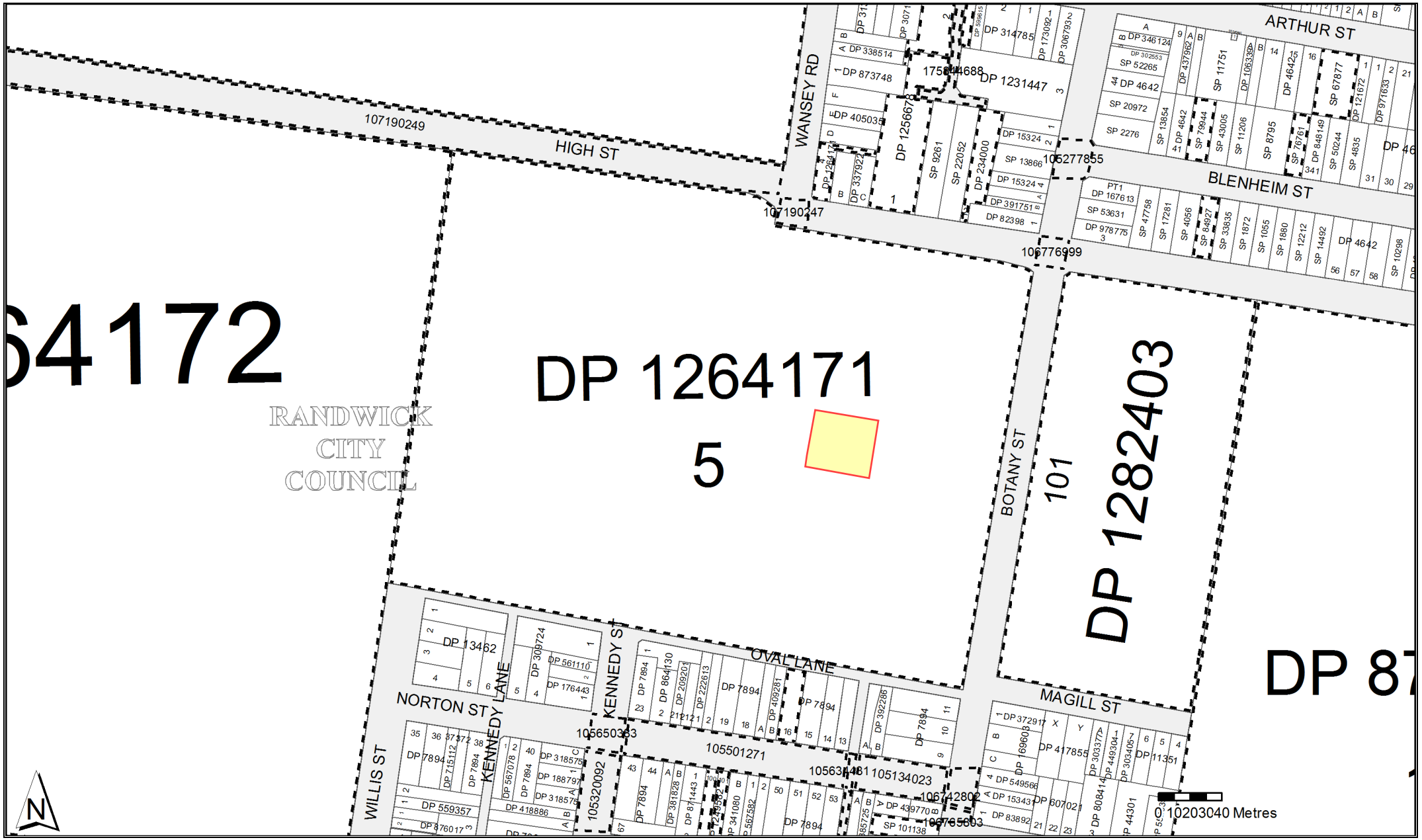
- Numerous leases were found from 04.08.1992 onwards that have since expired due to effluxion of time or have been surrendered – These have not been investigated.
- Refer to current title for current leases.

Yours Sincerely
Mark Groll
15 July 2024

Cadastral Records Enquiry Report : Lot 5 DP 1264171

Ref : Chancellery Walk

Locality : RANDWICK
Parish : ALEXANDRIA
LGA : RANDWICK
County : CUMBERLAND



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This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps

Site Address – **Chancellery Walk, Kensington (Lot 5, DP 1264171)**. Site is located in the blue bordered area.



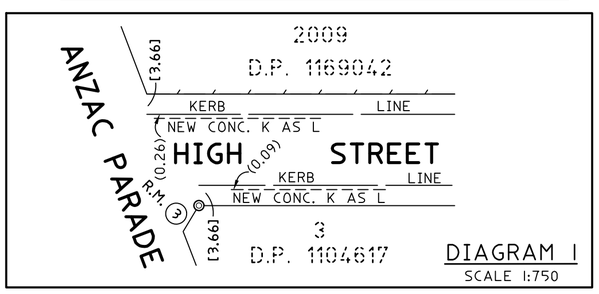
Req:R736273 /Doc:DP 1264171 P /Rev:21-Apr-2023 /NSW LRS /Prt:15-Jul-2024 13:23 /Seq:1 of 9
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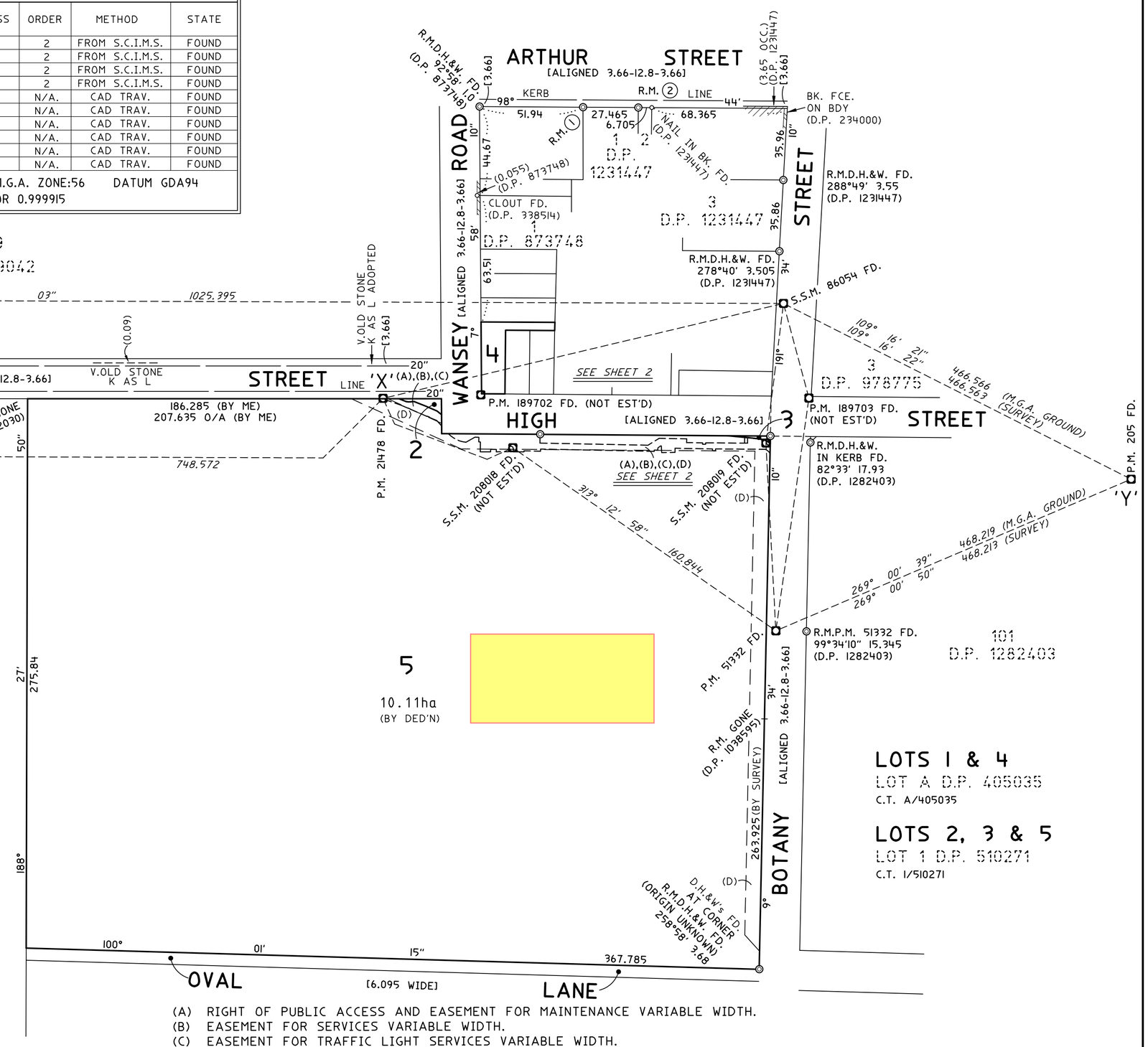
CO-ORDINATE SCHEDULE						
MARK	M.G.A. CO-ORDINATES		CLASS	ORDER	METHOD	STATE
	EASTING	NORTHING				
P.M. 205	337 424.076	6 245 601.170	B	2	FROM S.C.I.M.S.	FOUND
P.M. 21478	336 777.964	6 245 737.288	B	2	FROM S.C.I.M.S.	FOUND
S.S.M. 86054	336 983.695	6 245 755.153	B	2	FROM S.C.I.M.S.	FOUND
P.M. 51332	336 955.967	6 245 593.087	B	2	FROM S.C.I.M.S.	FOUND
P.M. 189702	336 826.756	6 245 731.873	C	N/A.	CAD TRAV.	FOUND
S.S.M. 198002	336 037.615	6 245 847.501	C	N/A.	CAD TRAV.	FOUND
S.S.M. 208018	336 838.779	6 245 703.237	C	N/A.	CAD TRAV.	FOUND
S.S.M. 208028	335 965.638	6 245 876.864	C	N/A.	CAD TRAV.	FOUND
S.S.M. 208019	336 964.762	6 245 687.099	C	N/A.	CAD TRAV.	FOUND
P.M. 189703	336 989.419	6 245 706.276	C	N/A.	CAD TRAV.	FOUND

DATE OF S.C.I.M.S COORDINATES 15/11/2019 M.G.A. ZONE:56 DATUM GDA94
COMBINED SCALE FACTOR 0.999915

PERMANENT MARK CONNECTIONS	
P.M. 21478 - P.M. 205 'X'-'Y'	281°53'48" 660.351 (M.G.A. GROUND) 281°53'48" 660.362 (SURVEY)
P.M. 21478 - S.S.M. 208018	299°14'41" 69.699
P.M. 21478 - S.S.M. 86054	85°02'13" 206.523 (M.G.A. GROUND) 85°02'17" 206.536 (SURVEY)
P.M. 21478 - P.M. 189702	96°19'59" 49.092
P.M. 189702 - S.S.M. 86054	81°33'52" 158.686
S.S.M. 86054 - P.M. 189703	173°20'09" 49.211
P.M. 189703 - P.M. 51332	196°27'36" 118.011
P.M. 51332 - S.S.M. 208019	5°20'41" 94.407
S.S.M. 208019 - S.S.M. 86054	15°32'48" 70.641

SCHEDULE OF REFERENCE MARKS				
No.	TYPE	BEARING	DISTANCE	ORIGIN
1	R.M.D.H.&W. IN KERB FD.	188°57'	3.535	D.P. 1231447
2	R.M.D.H.&W. FD. R.M.D.H.&W. FD.	188°55' 170°15'	0.915 17.41	D.P. 599615 D.P. 1231447
3	S.S.M. 208028 FOUND	155°54'	23.73	D.P. 1264172





LOTS 1 & 4
LOT A D.P. 405035
C.T. A/405035

LOTS 2, 3 & 5
LOT 1 D.P. 510271
C.T. 1/510271

(A) RIGHT OF PUBLIC ACCESS AND EASEMENT FOR MAINTENANCE VARIABLE WIDTH.
(B) EASEMENT FOR SERVICES VARIABLE WIDTH.
(C) EASEMENT FOR TRAFFIC LIGHT SERVICES VARIABLE WIDTH.
(D) EASEMENT FOR DRAINAGE 7.62 WIDE. (VIDE L852165)

Surveyor: MATTHEW AARON POWER
DEGOTARDI, SMITH AND PARTNERS
1/9-11 BRIDGE STREET, PYMBLE NSW 2073
Date of Survey: 10 DECEMBER 2019
Surveyor's Ref: 35352DP-5
2019 M7100 (1500) PARTIAL SURVEY

PLAN OF SUBDIVISION OF LOT 1 D.P. 510271 AND LOT A D.P. 405035

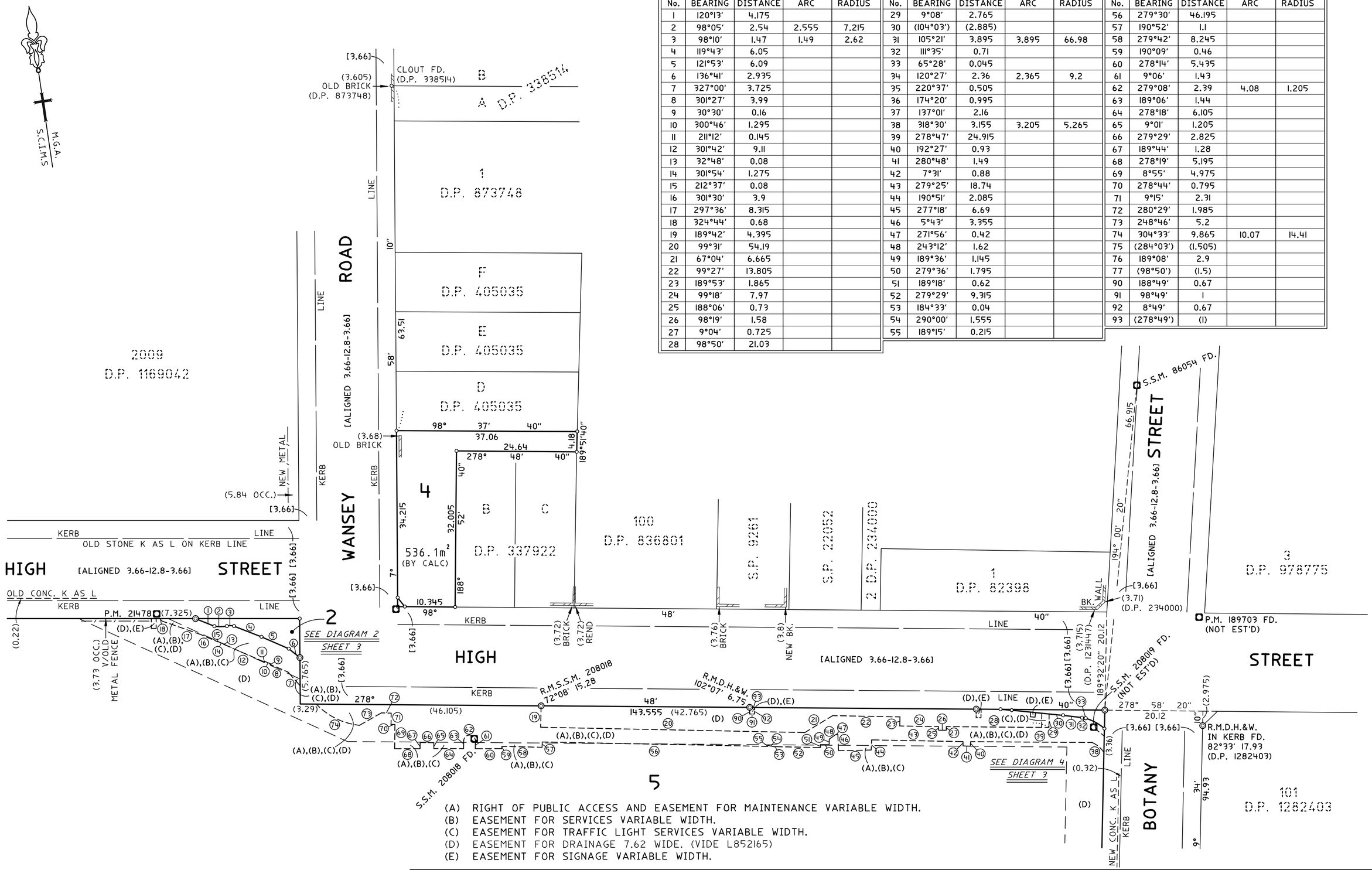
LGA: RANDWICK
Locality: RANDWICK / KENSINGTON
Subdivision No:
Lengths are in metres. Reduction Ratio 1:1500

Registered 21/04/2023

DP1264171

10 20 30 40 50 60 Table of mm 90 100 110 120 130 140 150

Req:R736273 /Doc:DP 1264171 P /Rev:21-Apr-2023 /NSW LRS /Prt:15-Jul-2024 13:23 /Seq:2 of 9
© Office of the Registrar-General /Src:InfoTrack /Ref:Chancellery Walk



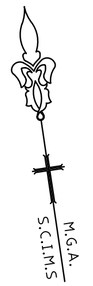
(A) RIGHT OF PUBLIC ACCESS AND EASEMENT FOR MAINTENANCE VARIABLE WIDTH.
(B) EASEMENT FOR SERVICES VARIABLE WIDTH.
(C) EASEMENT FOR TRAFFIC LIGHT SERVICES VARIABLE WIDTH.
(D) EASEMENT FOR DRAINAGE 7.62 WIDE. (VIDE L852165)
(E) EASEMENT FOR SIGNAGE VARIABLE WIDTH.

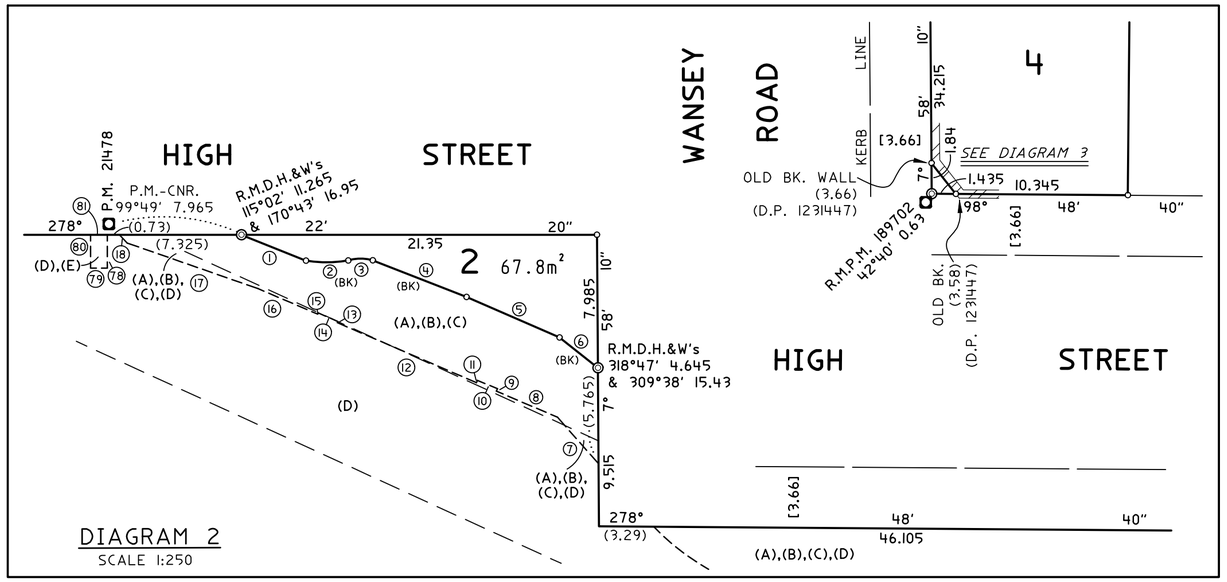
SCHEDULE OF SHORT AND CURVED LINES

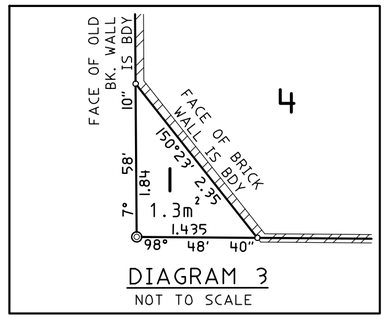
No.	BEARING	DISTANCE	ARC	RADIUS
1	120°13'	4.175		
2	98°05'	2.54	2.555	7.215
3	98°10'	1.47	1.49	2.62
4	119°43'	6.05		
5	121°53'	6.09		
6	136°41'	2.935		
7	327°00'	3.725		
8	301°27'	3.99		
9	30°30'	0.16		
10	300°46'	1.295		
11	211°12'	0.145		
12	301°42'	9.11		
13	32°48'	0.08		
14	301°54'	1.275		
15	212°37'	0.08		
16	301°30'	3.9		
17	297°36'	8.315		
18	324°44'	0.68		
19	189°42'	4.395		
20	99°31'	54.19		
21	67°04'	6.665		
22	99°27'	13.805		
23	189°53'	1.865		
24	99°18'	7.97		
25	188°06'	0.73		
26	98°19'	1.58		
27	9°04'	0.725		
28	98°50'	21.03		
29	9°08'	2.765		
30	(104°03')	(2.885)		
31	105°21'	3.895	3.895	66.98
32	111°35'	0.71		
33	65°28'	0.045		
34	120°27'	2.36	2.365	9.2
35	220°37'	0.505		
36	174°20'	0.995		
37	137°01'	2.16		
38	318°30'	3.155	3.205	5.265
39	278°47'	24.915		
40	192°27'	0.93		
41	280°48'	1.49		
42	7°31'	0.88		
43	279°25'	18.74		
44	190°51'	2.085		
45	277°18'	6.69		
46	5°43'	3.355		
47	271°56'	0.42		
48	243°12'	1.62		
49	189°36'	1.145		
50	279°36'	1.795		
51	189°18'	0.62		
52	279°29'	9.315		
53	184°33'	0.04		
54	290°00'	1.555		
55	189°15'	0.215		
56	279°30'	46.195		
57	190°52'	1.1		
58	279°42'	8.245		
59	190°09'	0.46		
60	278°14'	5.435		
61	9°06'	1.43		
62	279°08'	2.39	4.08	1.205
63	189°06'	1.44		
64	278°18'	6.105		
65	9°01'	1.205		
66	279°29'	2.825		
67	189°44'	1.28		
68	278°19'	5.195		
69	8°55'	4.975		
70	278°44'	0.795		
71	9°15'	2.31		
72	280°29'	1.985		
73	248°46'	5.2		
74	304°33'	9.865	10.07	14.41
75	(284°03')	(1.505)		
76	189°08'	2.9		
77	(98°50')	(1.5)		
90	188°49'	0.67		
91	98°49'	1		
92	8°49'	0.67		
93	(278°49')	(1)		

Surveyor: MATTHEW AARON POWER DEGOTARDI, SMITH AND PARTNERS 1/9-11 BRIDGE STREET, PYMBLE NSW 2073 Date of Survey: 10 DECEMBER 2019 Surveyor's Ref: 35352DP-5 2019 M7100 (1500) PARTIAL SURVEY	PLAN OF SUBDIVISION OF LOT 1 D.P. 510271 AND LOT A D.P. 405035	LGA: RANDWICK Locality: RANDWICK / KENSINGTON Subdivision No: Lengths are in metres. Reduction Ratio 1:500	Registered 21/04/2023	DP1264171

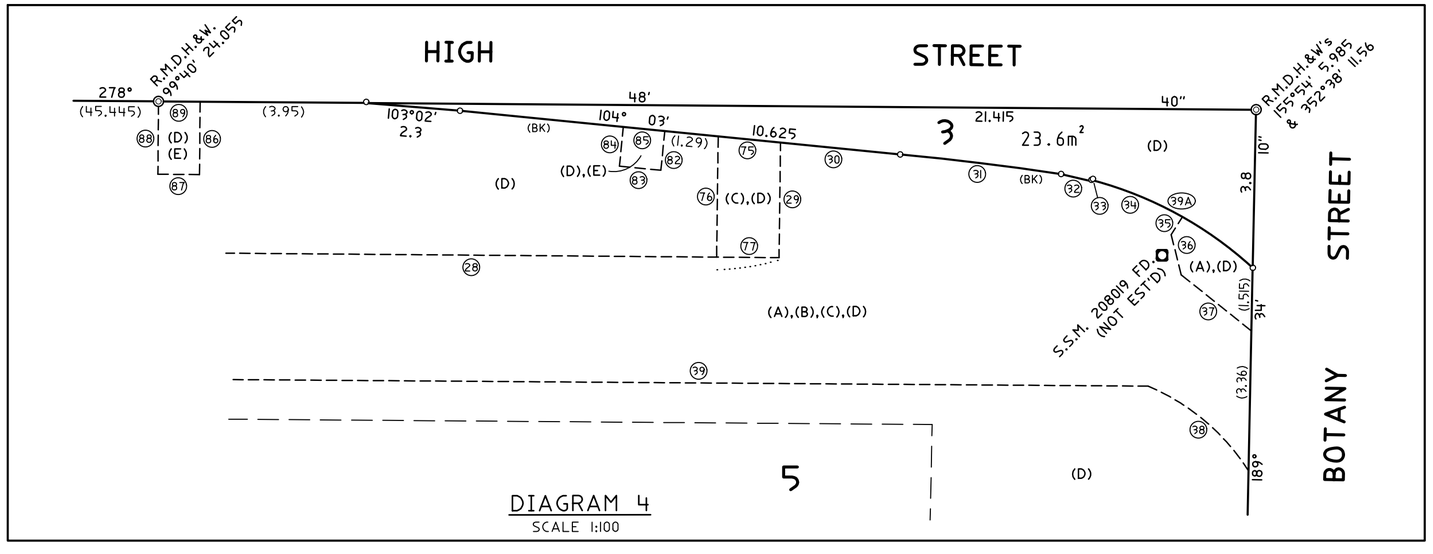
10 20 30 40 50 60 Table of mm 90 100 110 120 130 140 150







SCHEDULE OF SHORT AND CURVED LINES				
No.	BEARING	DISTANCE	ARC	RADIUS
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2	98°05'	2.54	2.555	7.215
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12	301°42'	9.11		
13	32°48'	0.08		
14	301°54'	1.275		
15	212°37'	0.08		
16	301°30'	3.9		
17	297°36'	8.315		
18	324°44'	0.68		
28	98°50'	21.03		
29	9°08'	2.765		
30	(104°03')	(2.885)		
31	105°21'	3.895	3.895	66.98
32	111°35'	0.71		
33	65°28'	0.045		
34	(120°27')	(2.36)	(2.365)	9.2
35	220°37'	0.505		
36	174°20'	0.995		
37	137°01'	2.16		
38	318°30'	3.155	3.205	5.265
39	278°47'	24.915		
39A	126°58'	4.415	4.455	9.2
75	(284°03')	(1.505)		
76	189°08'	2.9		
77	(98°50')	(1.5)		
78	188°22'	2		
79	278°22'	1		
80	8°22'	2		
81	(98°22')	(1)		
82	194°03'	0.95		
83	283°59'	1		
84	14°03'	0.95		
85	(103°59')	(1)		
86	188°49'	1.75		
87	278°49'	1		
88	8°49'	1.75		
89	(98°49')	(1)		
90	188°49'	0.67		
91	98°49'	1		
92	8°49'	0.67		
93	(278°49')	(1)		



(A) RIGHT OF PUBLIC ACCESS AND EASEMENT FOR MAINTENANCE VARIABLE WIDTH.
(B) EASEMENT FOR SERVICES VARIABLE WIDTH.
(C) EASEMENT FOR TRAFFIC LIGHT SERVICES VARIABLE WIDTH.
(D) EASEMENT FOR DRAINAGE 7.62 WIDE. (VIDE L852165)
(E) EASEMENT FOR SIGNAGE VARIABLE WIDTH.
(BK) DENOTES BACK OF KERB IS BOUNDARY

Surveyor: MATTHEW AARON POWER DEGOTARDI, SMITH AND PARTNERS 1/9-11 BRIDGE STREET, PYMBLE NSW 2073 Date of Survey: 10 DECEMBER 2019 Surveyor's Ref: 35352DP-5 2019 M7100 (1500) PARTIAL SURVEY	PLAN OF SUBDIVISION OF LOT 1 D.P. 510271 AND LOT A D.P. 405035	LGA: RANDWICK Locality: RANDWICK / KENSINGTON Subdivision No: Lengths are in metres. Reduction Ratio 1:500	Registered 21/04/2023	DP1264171

10 20 30 40 50 60 Table of mm 90 100 110 120 130 140 150

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Req:R736273 /Doc:DP 1264171 P /Rev:21-Apr-2023 /NSW LRS /Prt:15-Jul-2
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PLAN FORM 6 (2017)	DEPOSITED PLAN ADMINISTRATION SHEET	Sheet 1 of 6 sheets

Office Use Only

Registered: 21/04/2023

Title System: TORRENS

Office Use Only

DP1264171

PLAN OF SUBDIVISION OF LOT 1 D.P. 510271 AND LOT A D.P. 405035

LGA: RANDWICK
Locality: RANDWICK / KENSINGTON
Parish: ALEXANDRIA
County: CUMBERLAND

Survey Certificate

I, MATTHEW AARON POWER
DEGOTARDI, SMITH AND PARTNERS
of 1/9-11 BRIDGE STREET, PYMBLE NSW 2073

a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

~~*(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2017*, is accurate and the survey was completed on .....~~

*(b) The part of the land shown in the plan (*being/~~*excluding **~~ ..... LOTS 1 TO 3 INCLUSIVE .....) was surveyed in accordance with the *Surveying and Spatial Information Regulation 2017*, the part not surveyed is accurate and the survey was completed on, 10/12/19 the part not surveyed was compiled in accordance with that Regulation, or

~~*(c) The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2017*.~~

Datum Line: 'X'-'Y'

Type: *Urban/~~*Rural~~

The terrain is *Level-Undulating / ~~*Steep-Mountainous.~~

Signature: ..... Dated: 10/12/2019

Surveyor Identification No: SU000181

Surveyor registered under
the Surveying and Spatial Information Act 2002

*Strike out inappropriate words.
**Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.

Crown Lands NSW/Western Lands Office Approval

I .....(Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given.

Signature: .....

Date: .....

File Number: .....

Office: .....

Subdivision Certificate

I, ...
*Authorised Person/*General Manager/*Accredited Certifier, certify that the provisions of s.109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: .....
Accreditation number: .....
Consent Authority: .....
Date of endorsement: .....
Subdivision Certificate number: .....
File number: .....

*Strike through if inapplicable. SEE EXEMPTION

Plans used in the preparation of survey/~~compilation.~~

D.P. 405035
D.P. 510271
D.P. 1038595
D.P. 1231447
D.P. 1264172
D.P. 1282403
C.P. 18-1928

Statements of intention to dedicate public roads, create public reserves and drainage reserves, acquire/resume land.

IT IS INTENDED TO DEDICATE LOTS 1 TO 3 INCLUSIVE TO THE PUBLIC AS ROAD. LOT 3 IS SUBJECT TO EASEMENT FOR DRAINAGE 7.62 WIDE. (VIDE L852165)

THE PLAN IS EXEMPT FROM SUBDIVISION CERTIFICATE UNDER SECTION 104Q TRANSPORT ADMINISTRATION ACT 1988

Surveyor's Reference: 35352DP-5
2019 M7100 (1500) PARTIAL SURVEY

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

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Registered: 21/04/2023

Office Use Only

DP1264171

PLAN OF SUBDIVISION OF
LOT 1 D.P. 510271 AND LOT A D.P. 405035

Subdivision Certificate number: .....

Date of endorsement: .....

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

SCHEDULE OF STREET ADDRESSES				
LOT NUMBER	ADDRESS NUMBER	ROAD NAME	ROAD TYPE	LOCALITY NAME
1	-	HIGH	STREET	RANDWICK, NSW, 2031
2	-	HIGH	STREET	RANDWICK, NSW, 2031
3	-	HIGH	STREET	RANDWICK, NSW, 2031
4	30	HIGH	STREET	RANDWICK, NSW, 2031
5	356	ANZAC	PARADE	KENSINGTON, NSW, 2033

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT, 1919,
IT IS INTENDED TO CREATE:-

1. RIGHT OF PUBLIC ACCESS AND EASEMENT FOR MAINTENANCE VARIABLE WIDTH. (A)
2. EASEMENT FOR SERVICES VARIABLE WIDTH. (B)
3. EASEMENT FOR TRAFFIC LIGHT SERVICES VARIABLE WIDTH. (C)
3. EASEMENT FOR SIGNAGE VARIABLE WIDTH. (E)

If space is insufficient use additional annexure sheet

Surveyor's Reference: 35352DP-5
2019 M7100 (1500) PARTIAL SURVEY

Req:R736273 /Doc:DP 1264171 P /Rev:21-Apr-2023 /NSW LRS /Prt:15-Jul-2
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Office Use Only

Registered: 21/04/2023

Office Use Only

DP1264171

PLAN OF SUBDIVISION OF LOT 1 D.P. 510271 AND LOT A D.P. 405035

Subdivision Certificate number: .....

Date of Endorsement: .....

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Signed for and on behalf of Transport for NSW ABN 18 804 239 602by its authorised delegate in the presence of:



.....
Signature of the authorised delegate



.....
Signature of witness

Ben Condren

.....
Name of witness in full

Vernon Stanton

.....
Name of the authorised delegate in full

Level 43, 680 George Street, Sydney, 2000

.....
Address of witness

*s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documents.

Electronic Signature Declarations

Witness declaration:

Audio Visual Link - Witness attestation in accordance with the COVID-19 Witnessing Regulation

Electronic signature of me, Ben Condren,

affixed by me on

14 December 2022

Authorised Officer declaration:

Signed in accordance with the Electronic Transactions Act 2000

Electronic signature of me, Vernon Stanton,

affixed by me on

14 December 2022

If space is insufficient use additional annexure sheet

Surveyor's Reference: 35352DP-5

Req:R736273 /Doc:DP 1264171 P /Rev:21-Apr-2023 /NSW LRS /Prt:15-Jul-2
© Office of the Registrar-General /Src:InfoTrack /Ref:Chancellery Wal

PLAN FORM 6A (2019) **DEPOSITED PLAN ADMINISTRATION**

Office Use Only

Registered: 21/04/2023

Office Use Only

DP1264171

PLAN OF SUBDIVISION OF LOT 1 D.P. 510271 AND LOT A D.P. 405035

Subdivision Certificate number: .....

Date of Endorsement: .....

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

SIGNED by RANDWICK CITY COUNCIL (ABN 77 362 844 121)
In acceptance of the Public Road being Lots 1, 2 and 3 in this Plan
By its duly authorised delegate under s377 of the Local Government Act 1993

I certify that I am an eligible witness and that the authorised officer of Randwick City Council signed this dealing in my presence. [See note* below]

Signature of Witness

JOE INGEGNERI

Name of Witness (BLOCK LETTERS)

30 Frances Street
Randwick NSW 2031

Address of Witness

Certified correct for the purpose of the Real Property Act 1900 by the Authorised Officer named below

Signature of Authorised Officer

KERRY KYRIACOU

Name of Authorised Officer (BLOCK LETTERS)

ACTING GENERAL MANAGER

Position of Authorised Officer

*s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documents.

Electronic Signature Declarations
Witness declaration:

Audio Visual Link - Witness attestation in accordance with the COVID-19 Witnessing Regulation

"Electronic signature of me, Joe Ingegneri

Affixed by me, or at my direction on *17 November 2022*

Authorised Officer declaration:

Signed in accordance with the Electronic Transactions Act 2000

"Electronic signature of me, *Kerry Kyriacou*

Affixed by me, or at my direction on *17 November 2022*

If space is insufficient use additional annexure sheet

Surveyor's Reference: 35352DP-5

Req:R736273 /Doc:DP 1264171 P /Rev:21-Apr-2023 /NSW LRS /Prt:15-Jul-2
© Office of the Registrar-General /Src:InfoTrack /Ref:Chancellery Wal

PLAN FORM 6A (2019) **DEPOSITED PLAN ADMINISTRATION**

Office Use Only

Registered: 21/04/2023

Office Use Only

DP1264171

PLAN OF SUBDIVISION OF LOT 1 D.P. 510271 AND LOT A D.P. 405035

Subdivision Certificate number: .....

Date of Endorsement: .....

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

SIGNATURES
Landowner

EXECUTED by THE UNIVERSITY OF NEW SOUTH WALES (ABN 57 195 873 179)
by its duly authorised delegate

Certified correct for the purpose of the *Real Property Act 1900* by the delegate named below:

Signature of delegate
Electronic signature of me, Prof. Attila Brungs, affixed by me, or at my direction, on 30 November 2022

I certify that I am an eligible witness and that the delegate signed this document in my presence

Signature of witness
Electronic signature of me, Beth Heiniger, affixed by me, or at my direction, on 30 November 2022

Professor Attila Brungs
Name of delegate

Vice-Chancellor and President
Position of delegate

Beth Heiniger
Name of witness

3A Joseph Street Rydalmere NSW 2116
Address of witness

If space is insufficient use additional annexure sheet

Surveyor's Reference: 35352DP-5

Req:R736273 /Doc:DP 1264171 P /Rev:21-Apr-2023 /NSW LRS /Prt:15-Jul-2
© Office of the Registrar-General /Src:InfoTrack /Ref:Chancellery Wal

PLAN FORM 6A (2017) DEPOSITED PLAN ADMINISTRATION SHEET Sheet 6 of 6 sheets

Office Use Only

Registered: 21/04/2023

Office Use Only

DP1264171

PLAN OF SUBDIVISION OF LOT 1 D.P. 510271 AND LOT A D.P. 405035

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Subdivision Certificate number: .....

Date of endorsement: .....

Certificate of Currency

I, MATTHEW AARON POWER

of DEGOTARDI, SMITH AND PARTNERS 1/9-11 BRIDGE STREET, PYMBLE NSW 2073

a surveyor registered under the *Surveying and Spatial Information Act 2002,* certify that, from the date of the completion of the survey shown on the survey certificate:

(a) there are no changes to the boundaries of the land to which the survey relates (the *subject land),* and the definition of those boundaries in the plan of survey remains consisitent with surrounding plans, or if not. the plan of survey has been updated;

(b) 2 or more of the permanent survey marks used in the survey remain in place,or if not. the plan of survey has been updated;

(c) all reference marks placed in respect of the survey remain in place, or if not, the reference marks have been replaced and the plan of survey has been updated; and

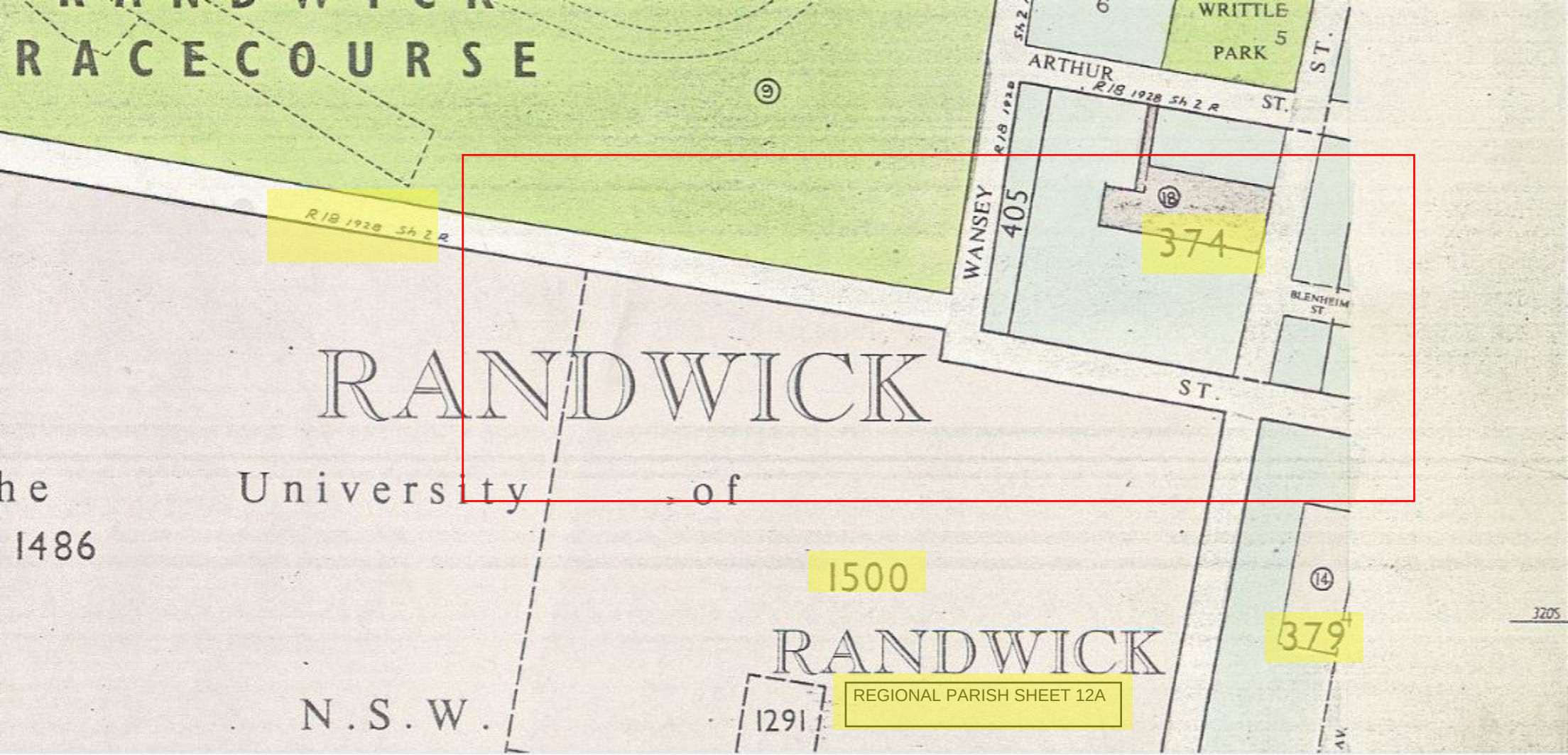
(d) there has been no change to the occupations and other improvements relevant to the boundaries of the subject land since the completion of the survey, or if not, the plan of survey has been updated.

Signature: ..... Date: 20/09/2022

Surveyor Identification No.: SU000181

If space is insufficient use additional annexure sheet

Surveyor's Reference: 35352DP-5
2019 M7100 (1500) PARTIAL SURVEY


RACECOURSE
R 18 1928 Sh 2 R
WRITTLE PARK
ARTHUR ST.
WANSEY
405
374
BLENHEIM ST
ST.
RANDWICK
University of
1500
RANDWICK
379
N.S.W.
1291
REGIONAL PARISH SHEET 12A

Req:R736438 /Doc:CT 09787-109 CT /Rev:08-Feb-2011 /NSW LRS /Pgs:ALL /Prt:15-Jul-2024 13:38 /Seq:1 of 2
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09787109

[redacted]TIFICATE OF TITLE

[redacted]PERTY ACT, 1900, as amended.

NEW SOUTH WALES
Application No.43832

Vol. 9787 Fol. 109

MA 1st Edition issued 26-8-1964

Vol. 9787 Fol. 109

(Page 1)

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

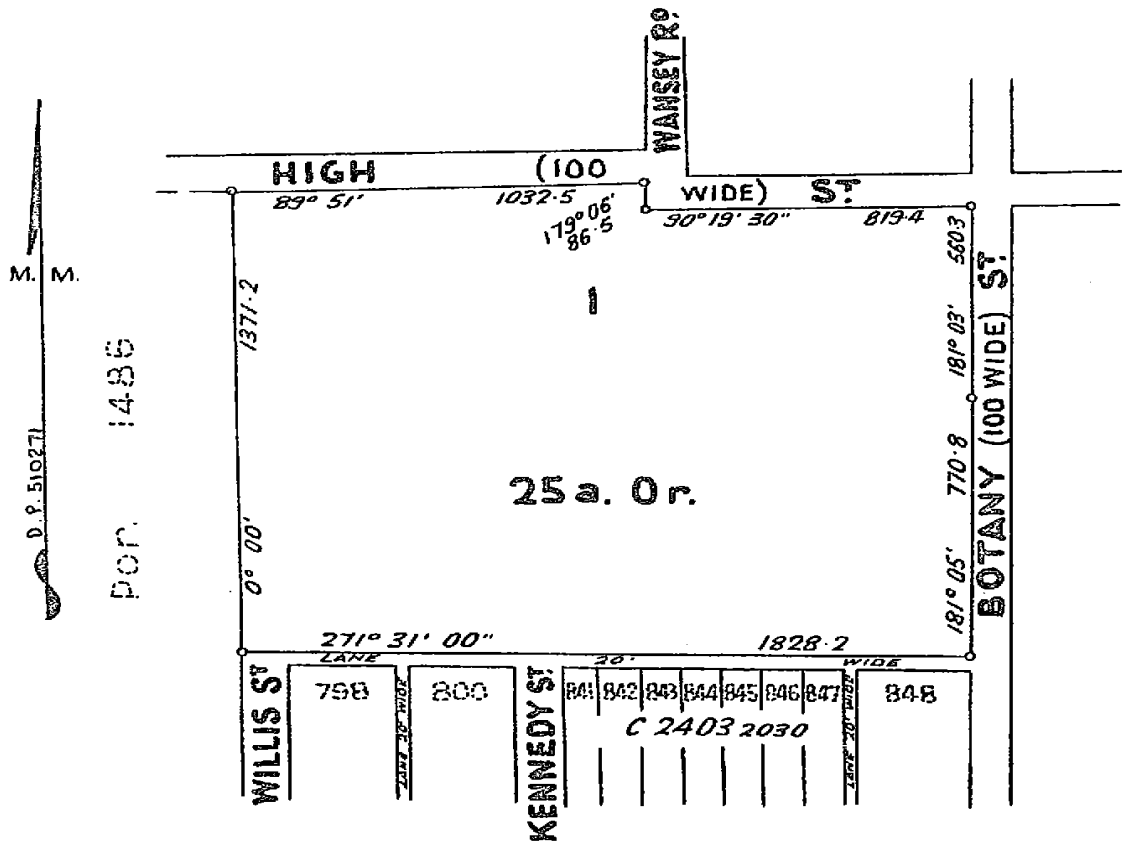
Witness

CANCELLED

Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 510271 at Kensington in the Municipality of Randwick Parish of Alexandria and County of Cumberland being land for which no Crown has issued excepting thereout the mines and deposits specified in Section 141 Public Works Act 1912.

FIRST SCHEDULE (continued overleaf)

~~THE MINISTER FOR EDUCATION.~~

Registrar General.

SECOND SCHEDULE (continued overleaf)

GRN

X

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

Req:R736438 /Doc:CT 09787-109 CT /Rev:08-Feb-2011 /NSW LRS /Pgs:ALL /Prt:15-Jul-2024 13:38 /Seq:2 of 2
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Vol. 9787 Fol 109

57 1008 V. C. N. BLIGHT, GOVERNMENT PRINTER

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
The University of New South Wales.	Application	J699417	7.2.1963	26.8.1964	

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION
Transfer	L852165 P	31.3.1970	Easement for drainage, as more fully set out in the said instrument, affecting that part of the land within described shown as "Site of Proposed Easement 25 feet Wide" in D.P. 217735	5.6.1970		

FORM No. 62

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
15/7/2024 1:38PM

FOLIO: 1/510271

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 9787 FOL 109

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
21/6/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
4/8/1992	E656076	LEASE	EDITION 1
22/4/1997	3003038	LEASE	EDITION 2
5/5/1997	3031770	LEASE	
5/5/1997	3031771	LEASE	EDITION 3
10/11/1997		AMENDMENT: LOCAL GOVT AREA	
14/11/1997	3581605	LEASE	EDITION 4
21/5/1998	3989497	LEASE	
21/5/1998	3989498	LEASE	
21/5/1998	3989499	LEASE	
21/5/1998	3989500	LEASE	EDITION 5
6/8/1998	5164746	LEASE	
6/8/1998	5164747	LEASE	EDITION 6
22/11/2001	8053389	LEASE	EDITION 7
4/3/2002	DP1038595	DEPOSITED PLAN	
3/4/2002	8370616	LEASE	EDITION 8
9/4/2002	8493357	LEASE	EDITION 9
7/6/2002	8601990	LEASE	EDITION 10
11/6/2002	8671231	DEPARTMENTAL DEALING	EDITION 11
16/7/2002	8775153	LEASE	EDITION 12
7/8/2003	9857917	LEASE	EDITION 13

END OF PAGE 1 - CONTINUED OVER

Recorded	Number	Type of Instrument	C.T. Issue
29/3/2004	AA526992	LEASE	EDITION 14
13/4/2005	AB407029	VARIATION OF LEASE	
13/4/2005	AB407030	VARIATION OF LEASE	
13/4/2005	AB407031	VARIATION OF LEASE	EDITION 15
24/10/2006	AC628748	LEASE	EDITION 16
31/10/2006	AC707008	DEPARTMENTAL DEALING	EDITION 17
24/4/2007	AD67887	LEASE	
23/5/2007	AC756988	REJECTED - LEASE	
6/6/2007	AD109072	LEASE	EDITION 18
13/7/2007	AD266134	CAVEAT	
18/9/2007	AD409108	WITHDRAWAL OF CAVEAT	
18/9/2007	AD339232	LEASE	EDITION 19
2/10/2007	AD454822	LEASE	EDITION 20
21/12/2007	AD657627	TRANSFER OF LEASE	EDITION 21
5/8/2008	AE131099	LEASE	EDITION 22
17/10/2008	AE274715	SURRENDER OF LEASE	
17/10/2008	AE274716	SURRENDER OF LEASE	
17/10/2008	AE274717	SURRENDER OF LEASE	
17/10/2008	AE274718	LEASE	
17/10/2008	AE274719	LEASE	
17/10/2008	AE274720	LEASE	
17/10/2008	AE274721	LEASE	EDITION 23
17/3/2009	AE555838	LEASE	EDITION 24
31/3/2009	AE585526	LEASE	EDITION 25
21/4/2009	AE622497	LEASE	EDITION 26
5/5/2009	AE655416	LEASE	EDITION 27

END OF PAGE 2 - CONTINUED OVER

Recorded	Number	Type of Instrument	C.T. Issue
25/9/2009	AF6090	TRANSFER OF LEASE	
25/9/2009	AF6091	VARIATION OF LEASE	
18/11/2009	AF51723	LEASE	EDITION 28
11/2/2010	AF304944	LEASE	EDITION 29
22/6/2010	AF540078	LEASE	
22/6/2010	AF540079	LEASE	
22/6/2010	AF540080	LEASE	
22/6/2010	AF540081	LEASE	EDITION 30
22/7/2010	AF644200	LEASE	
22/7/2010	AF644201	LEASE	EDITION 31
28/1/2011	AF908252	LEASE	EDITION 32
17/2/2011	AG73937	TRANSFER OF LEASE	EDITION 33
23/12/2011	AG711301	LEASE	EDITION 34
19/7/2012	AH123331	LEASE	EDITION 35
30/8/2012	AH166429	LEASE	EDITION 36
11/12/2012	AH423125	LEASE	EDITION 37
19/2/2013	AH561282	LEASE	
19/2/2013	AH561283	LEASE	
19/2/2013	AH561284	LEASE	EDITION 38
13/3/2013	AH607569	SURRENDER OF LEASE	EDITION 39
14/10/2013	AI78005	LEASE	EDITION 40
12/11/2013	AI156022	LEASE	EDITION 41
30/5/2014	AI330423	LEASE	
30/5/2014	AI330424	LEASE	EDITION 42
18/6/2014	AI668431	VARIATION OF LEASE	
10/7/2014	AI695492	LEASE	EDITION 43

END OF PAGE 3 - CONTINUED OVER

Recorded	Number	Type of Instrument	C.T. Issue
1/10/2014	AI803371	LEASE	EDITION 44
11/3/2015	AJ321406	DEPARTMENTAL DEALING	
23/3/2015	AJ71566	CHANGE OF NAME	
31/3/2015	AJ141167	VARIATION OF LEASE	
31/3/2015	AJ301235	CHANGE OF NAME	
29/4/2015	AJ288492	SURRENDER OF LEASE	
29/4/2015	AJ288493	LEASE	
29/4/2015	AJ288494	LEASE	
29/4/2015	AJ288495	LEASE	EDITION 45
18/11/2015	AJ925265	LEASE	EDITION 46
22/12/2015	AK19417	VARIATION OF LEASE	
19/2/2016	AK234590	LEASE	
19/2/2016	AK234676	LEASE	
19/2/2016	AK234677	LEASE	
19/2/2016	AK234678	LEASE	
19/2/2016	AK234679	LEASE	EDITION 47
16/3/2016	AK291349	LEASE	EDITION 48
29/4/2016	AK385575	LEASE	EDITION 49
6/7/2016	AK570523	TRANSFER OF LEASE	
20/7/2016	AK609081	LEASE	EDITION 50
12/8/2016	AK674549	CAVEAT	
21/11/2016	AK942665	LEASE	EDITION 51
28/2/2017	AK971351	LEASE	
28/2/2017	AK971352	SUB-LEASE	
28/2/2017	AK971502	MORTGAGE OF LEASE	
28/2/2017	AK971571	CHANGE OF NAME	
28/2/2017	AM125646	DEPARTMENTAL DEALING	
17/3/2017	AM15961	LEASE	EDITION 52

END OF PAGE 4 - CONTINUED OVER

SEARCH DATE
15/7/2024 1:38PM

FOLIO: 1/510271 PAGE 5

Recorded	Number	Type of Instrument	C.T. Issue
7/8/2017	AM568546	TRANSFER OF LEASE	
7/8/2017	AM568547	VARIATION OF LEASE	
27/9/2017	AM759007	LEASE	EDITION 53
19/10/2017	AM814497	LEASE	EDITION 54
27/10/2017	AM820028	SURRENDER OF LEASE	
27/10/2017	AM820029	LEASE	EDITION 55
13/2/2019	AP58671	LEASE	
13/2/2019	AP58672	LEASE	
13/2/2019	AP58673	LEASE	EDITION 56
19/3/2019	AP93849	LEASE	EDITION 57
12/6/2019	AP240149	CAVEAT	
6/12/2019	DP1227766	DEPOSITED PLAN	
12/12/2019	AP360760	SURRENDER OF LEASE	
12/12/2019	AP360761	LEASE	
12/12/2019	AP360762	LEASE	
12/12/2019	AP360763	LEASE	
12/12/2019	AP682773	LEASE	EDITION 58
3/1/2020	AP810929	LEASE	EDITION 59
17/2/2021	AQ685346	LEASE	EDITION 60
10/8/2022	AS377257	LEASE	EDITION 61
12/8/2022	AS384305	LEASE	EDITION 62
24/8/2022	AS414066	LEASE	EDITION 63
21/4/2023	DP1264171	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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LAND REGISTRY SERVICES

Historical Search

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
15/7/2024 1:37PM

FOLIO: 5/1264171

First Title(s): OLD SYSTEM
Prior Title(s): 1/510271

Recorded	Number	Type of Instrument	C.T. Issue
21/4/2023	DP1264171	DEPOSITED PLAN	FOLIO CREATED EDITION 1
24/6/2023	AT201002	VARIATION OF LEASE	EDITION 2
29/6/2023	AT217736	TRANSFER OF LEASE	EDITION 3
9/4/2024	AT797784	LEASE	EDITION 4

*** END OF SEARCH ***

Chancellery Walk PRINTED ON 15/7/2024

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Received: 15/07/2024 13:37:56

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 5/1264171

SEARCH DATE	TIME	EDITION NO	DATE
15/7/2024	1:22 PM	4	9/4/2024

LAND

LOT 5 IN DEPOSITED PLAN 1264171
AT KENSINGTON
LOCAL GOVERNMENT AREA RANDWICK
PARISH OF ALEXANDRIA COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1264171

FIRST SCHEDULE

THE UNIVERSITY OF NEW SOUTH WALES

SECOND SCHEDULE (21 NOTIFICATIONS)

---

1 LAND EXCLUDES MINERALS (S.141 PUBLIC WORKS ACT, 1912)
2 L852165 EASEMENT FOR DRAINAGE 7.62 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
3 AF304944 LEASE TO CHILDRENS CANCER INSTITUTE AUSTRALIA FOR MEDICAL RESEARCH BEING GROUND FLOOR (EXCLUDING COMMON AREAS),LEVEL 1 & 5 OF C25, UNIVERSITY OF NEW SOUTH WALES, UPPER KENSINGTON CAMPUS, KENSINGTON. EXPIRES: 10/11/2044. OPTION OF RENEWAL: FIFTEEN YEARS.
AJ141167 VARIATION OF LEASE AF304944 EXPIRY DATE NOW 22/8/2034.
AJ301235 CHANGE OF NAME AFFECTING LEASE AF304944 LESSEE NOW CHILDRENS CANCER INSTITUTE AUSTRALIA
4 AI156022 LEASE TO EMLA ENTERPRISE PTY LTD BEING THE PREMISES KNOWN AS THE POST OFFICE SHOP, SHOP 100 TO 105 AND 105A, GROUND FLOOR, BANK BUILDING F22, LIBRARY WALK KENSINGTON CAMPUS, UNIVERSITY OF NEW SOUTH WALES. EXPIRES: 18/5/2018.
AM568546 TRANSFER OF LEASE AI156022 LESSEE NOW K & J ENTERPRISES (AUS) PTY LTD
AM568547 VARIATION OF LEASE AI156022 EXPIRY DATE NOW 18/5/2023.
5 AM759007 LEASE TO ONE CAFE RANDWICK PTY LIMITED OF G2 & G2A, GROUND FLOOR, MORVEN BROWN BUILDING (C20) KENSINGTON CAMPUS UNIVERSITY OF NEW SOUTH WALES. EXPIRES: 30/6/2022. OPTION OF RENEWAL: 5 YEARS.
6 AM820029 LEASE TO OPTUS MOBILE PTY LIMITED OF THE LEASE AREA SHOWN HATCHED IN PLAN ANNEXED WITH AM820029. EXPIRES: 8/6/2029.
7 AP58671 LEASE TO ARC @ UNSW LIMITED OF TENANCY LG06 LOWER

END OF PAGE 1 - CONTINUED OVER

SECOND SCHEDULE (21 NOTIFICATIONS) (CONTINUED)

GROUND FLOOR, MORVEN BROWN BUILDING (C20) KENSINGTON CAMPUS, UNIVERSITY OF NEW SOUTH WALES. EXPIRES: 30/6/2023.

AT201002 VARIATION OF LEASE AP58671 EXPIRY DATE NOW 30/6/2024.

8 AP58673 LEASE TO NATIONAL TERTIARY EDUCATION INDUSTRY UNION OF ROOMS 1210, 1211, 1212 & 1213, LEVEL 12, MATHEWS BUILDING (F23) KENSINGTON CAMPUS, UNIVERSITY OF NEW SOUTH WALES. EXPIRES: 31/7/2023.

9 AP93849 LEASE TO SUBWAY REALTY PTY LIMITED OF TENANCY 02, MORVEN BROWN BUILDING, KENSINGTON CAMPUS, UNIVERSITY OF NEW SOUTH WALES. EXPIRES: 7/2/2023. OPTION OF RENEWAL: 5 YEARS.

10 AP360761 LEASE TO ALPHA DISTRIBUTION MINISTERIAL HOLDING CORPORATION OF SUBSTATION PREMISES S.65775 SHOWN IN DP1227766 TOGETHER WITH EASEMENT FOR ELECTRICITY PURPOSES 2, 2.385 & 3 WIDE AFFECTING THE PART DESIGNATED (E) & RIGHT OF WAY DESIGNATED (R) IN DP1227766. EXPIRES: 27/8/2035. OPTION OF RENEWAL: 20 YEARS.

11 AP360762 LEASE TO ALPHA DISTRIBUTION MINISTERIAL HOLDING CORPORATION OF SUBSTATION PREMISES S.64756 TOGETHER WITH EASEMENT FOR ELECTRICITY PURPOSES 2, 2.385 & 3 WIDE AFFECTING THE PART DESIGNATED (E) & RIGHT OF WAY DESIGNATED (R) IN DP1227766. EXPIRES: 27/8/2035. OPTION OF RENEWAL: 20 YEARS.

12 AP682773 LEASE TO AUSTRALIA TOWER NETWORK PTY LIMITED OF THE PART SHOWN HATCHED IN PLAN WITH AP682773. EXPIRES: 23/12/2028. (SEE AT217736)

13 AQ685346 LEASE TO XS ESPRESSO LEASING PTY LTD OF G05 AND G05A, GROUND FLOOR, BIOLOGICAL SCIENCES BUILDING (D26), KENSINGTON CAMPUS, UNIVERSITY OF NEW SOUTH WALES. EXPIRES: 24/2/2027.

14 AS377257 LEASE TO JC KITCHEN PTY LTD OF LG58, LG58A, LG58B AND LG58C, LOWER GROUND FLOOR, MORVEN BROWN BUILDING, KENSINGTON
CAMPUS, UNIVERSITY OF NEW SOUTH WALES.
EXPIRES: 30/11/2027.

15 AS384305 LEASE TO KONICA MINOLTA BUSINESS SOLUTIONS AUSTRALIA PTY LTD OF ROOMS 157, 157A, 157B AND 157E, LEVEL 1, MATHEWS BUILDING, KENSINGTON CAMPUS, UNIVERSITY OF NEW SOUTH WALES. EXPIRES: 27/5/2023. OPTION OF RENEWAL: 1 YEAR AND 2 FURTHER OPTIONS OF 1 YEAR.

16 AS414066 LEASE TO CAFFE BRIOSO PTY LTD OF SHOP T1, MATHEWS ARCADE, MATHEWS BUILDING (E24), UPPER KENSINGTON CAMPUS, UNIVERSITY OF NEW SOUTH WALES. EXPIRES: 31/3/2027. OPTION OF RENEWAL: 3 YEARS.

END OF PAGE 2 - CONTINUED OVER

SECOND SCHEDULE (21 NOTIFICATIONS) (CONTINUED)

17	DP1264171	RIGHT OF PUBLIC ACCESS AND EASEMENT FOR MAINTENANCE VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
18	DP1264171	EASEMENT FOR SERVICES VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
19	DP1264171	EASEMENT FOR TRAFFIC LIGHT SERVICES VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
20	DP1264171	EASEMENT FOR SIGNAGE VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
21	AT797784	LEASE TO WAVECONN PTY LTD OF PART BEING ?VODAFONE BTS SITE NO. 2939G?, JOHN GOODSELL BUILDING (F20), THE UNIVERSITY OF NEW SOUTH WALES, BOTANY ROAD, KENSINGTON. EXPIRES: 17/7/2026. OPTION OF RENEWAL: 5 YEARS.

NOTATIONS

UNREGISTERED DEALINGS: PE DP1289918.

*** END OF SEARCH ***

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register. InfoTrack an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act 1900.

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Appendix C4

SafeWork Search

Michael Le

From: Licensing <licensing@safework.nsw.gov.au>
Sent: Monday, 22 July 2024 2:44 PM
To: Michael Le
Subject: SafeWork NSW: 01002778 –Site Search application – Result not found [thread::MgmtPXdgdf6B6rMaxMNpp3w::]

Security Classification: Sensitive Personal
Please do not amend the subject line of this email

Dear Michael

Re: Site Search for Schedule 11 Hazardous Chemicals on premises Application – Result not found

I refer to your application for a Site Search for Schedule 11 Hazardous Chemicals on premises, received by SafeWork NSW on 18 July 2024 for the following site: 356 Anzac Parade Kensington NSW 2033.

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

If you have any further information or if you have any questions, please use one of the following options, quoting the SafeWork NSW enquiry reference number: 01002778

- Email: licensing@safework.nsw.gov.au
- Phone: 13 10 50

Kind regards

May

May Neill
Licensing Representative| Safework Licensing
Safework NSW
p 13 10 50 |
e may.neill@customerservice.nsw.gov.au | www.customerservice.nsw.gov.au
Level 3, 32 Mann Street, Gosford, NSW 2250

NSW GOVERNMENT SafeWork

356 Anzac Parade Kensington NSW 2033 - TaxInvoice.pdf

thread::MgmtPXdgdf6B6rMaxMNpp3w::

Appendix C5

Planning Certificate Search

Randwick City Council
a sense of community

Randwick City Council
30 Frances Street
Randwick NSW 2031
ABN: 77 362 844 121

Phone 1300 722 542
Fax (02) 9319 1510
council@randwick.nsw.gov.au
www.randwick.nsw.gov.au

Find us on:

PLANNING CERTIFICATE

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

M Le
96 Hermitage Rd
WEST RYDE NSW 2114

Description of land:	**Lot 1 DP 522797, Lot 2 DP 522797, Lot 4 DP 553914, Lot 3 DP 1264172, Lot 5 DP 1264171**
Address:	**330 Anzac Parade, KENSINGTON NSW 2033**
Date of Certificate:	15 July 2024
Certificate No:	70249
Receipt No:	5471096
Amount:	$167.00
Reference:	227492.03:87561

This planning certificate should be read in conjunction with the **Randwick City Council Local Environmental Plan 2012.** This is available on the NSW Legislation website at https://www.legislation.nsw.gov.au/#/view/EPI/2013/36

The land to which this planning certificate relates, being the lot or one of the lots described in the application made for this certificate, is shown in the Council's record as being situated at the "Address" stated above. The legal "description of land" (by lot(s) and DP/SP numbers) is obtained from NSW Land Registry Services. It is the responsibility of the applicant to enquire and confirm with NSW Land Registry Services the accuracy of the lot(s) and DP/SP numbers pertaining to the land for which application is made for the certificate.

There is more information about some property conditions than is included on this property certificate.

If this case, after the condition text, there is a URL and a square bar code or 'QR code' which provides the address of a page on the Randwick City Council website.
You will need internet access and either:

*1. **Download a QR code scanner** app to your phone and scan the QR code*
or
*2. **Type the URL** into your internet browser*

INFORMATION PROVIDED UNDER SECTION 10.7 (2)

In accordance with the requirements of section 10.7 of the Environmental Planning and Assessment Act 1979 and Schedule 2 of the Environmental Planning and Assessment Regulation 2021 (as amended), the following prescribed matters relate to the land as at the date of this certificate. The information provided in reference to the prescribed matters has been obtained from Council's records and/or from other authorities/government department. The absence of any reference to a matter affecting the land shall not imply that the land is not affected by that matter not referred to in this certificate. Council provides the information in good faith but disclaims all liability for any omission or inaccuracy. Please contact Council's Strategic Planning team on 1300 722 542 for further information about this Planning Certificate.

1 Names of relevant planning instruments and development control plans

(1) The name of each environmental planning instrument and development control plan that applies to the carrying out of development on the land.

State Environmental Planning Policies (SEPPs)

- **Biodiversity and Conservation SEPP 2021** - Chapter 2 – Vegetation in non-rural areas
- **Biodiversity and Conservation SEPP 2021** - Chapter 6 – Bushland in urban areas
- **Housing SEPP 2021** - Chapter 2 – Affordable Housing
- **Housing SEPP 2021** - Chapter 2, Part 3 – Retention of affordable rental housing
- **Housing SEPP 2021** - Chapter 3, Part 5 – Housing for seniors and people with a disability
- **Housing SEPP 2021** - Chapter 3, Part 9 – Caravan Parks
- **Industry and Employment SEPP 2021** - Chapter 3 – Advertising and Signage
- **Planning Systems SEPP 2021** - Chapter 2 – State and regional development
- **Planning Systems SEPP 2021** - Chapter 4 – Concurrences and consents
- **Resilience and Hazards SEPP 2021** - Chapter 2 - Coastal management
- **Resilience and Hazards SEPP 2021** - Chapter 3 – Hazardous and Offensive Development
- **Resilience and Hazards SEPP 2021** - Chapter 4 – Remediation of Land
- **Resources and Energy SEPP 2021** - Chapter 2 – Mining, petroleum production and extractive industries
- **Transport and Infrastructure SEPP 2021** - Chapter 2 – Infrastructure
- **Transport and Infrastructure SEPP 2021** - Chapter 3 – Educational establishments and childcare facilities
- **Transport and Infrastructure SEPP 2021** - Chapter 5 – Three Ports – Port Botany, Port Kembla and Newcastle
- **Codes SEPP 2008** - (Exempt and Complying Development Codes) 2008
- **SEPP No. 65** - Design Quality of Residential Flat Development
- **Sustainable Buildings SEPP 2022** - Sustainable Buildings 2022

Note: Any questions regarding State Environmental Planning Policies and Regional Environmental Plans should also be directed to the Department of Planning and Environment 1300 420 596 or www.planning.nsw.gov.au.

Local Environmental Plan (LEP) Gazetted 15 February 2013

- **Randwick LEP 2012 (Amendment No1) - Gazetted 21 November 2014**

Applies to part of Royal Randwick Racecourse (identified as "Area A" on the LEP Additional Permitted Uses Map). Permits additional uses of hotel or motel accommodation, serviced apartments and function centres with development consent.

- **Randwick LEP 2012 (Amendment No2) - Gazetted 2 April 2015**
  Applies to land at Young Street Randwick – Inglis Newmarket Site (shown as Area 1 on the LEP Key Sites Map). Amendment to planning controls, including zoning, height of buildings, heritage items and heritage area, FSR (subject to new Clause 6.16) and inclusion of the site as a Key Site.

- **Randwick LEP 2012 (Amendment No3) - Gazetted 15 July 2016**
  Amends Schedule 1 to include 'childcare centre' as an additional permitted use (with development consent) at 270 Malabar Road, Maroubra (Lot 3821, DP 752015).

- **Randwick LEP 2012 (Amendment No4) - Gazetted 25 January 2018**
  Applies to part of the land at 1T Romani Way, MATRAVILLE (Lot 1 DP 107189). Amendment to planning controls, including zoning, height of buildings and FSR.

- **Randwick LEP 2012 (Amendment No5) - Gazetted 17 August 2018**
  Applies to subdivision of dual occupancies (attached) in the Zone R2 Low Density Residential for which development consent was granted before 6 July 2018. Permits development consent to be granted for the Torrens Title or Strata subdivision of a dual occupancy if the development meets certain standards specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

- **Randwick LEP 2012 (Amendment No 6) – Gazetted 22 February 2019**
  Applies to the following land in Coogee, 38 Dudley Street (Lot 17 DP 6489), 40 Dudley Street (Lot 18 DP 6489), 42 Dudley Street (Lot 19 DP 6489), 44 Dudley Street (Lot 20 DP 6489 & Lot 1 DP 952229), 46 Dudley Street (Lot 2 in DP 952229) and 122 Mount Street (Lot 22 DP 6489) by incorporating these properties into the Dudley Street Heritage Conservation Area. Further, 38 Dudley Street (Lot 17 DP 6489), 42 Dudley Street (Lot 19 DP 6489), 44 Dudley Street (Lot 20 DP 6489 & Lot 1 DP 952229) and 122 Mount Street (Lot 22 DP 6489) have been listed as local heritage items in Schedule 5 the Randwick LEP 2012.

- **Randwick LEP 2012 (Amendment No 7) – Gazetted 10 July 2020**
  Applies to the following land in Coogee, 39 Dudley Street (Lot B DP 301192), 41 Dudley Street (Lot C DP 301192) and 148 Brook Street (Lot B DP 305284) which have now been listed as Local Heritage Items in Schedule 5 the Randwick LEP 2012.

- **Randwick LEP 2012 (Amendment No. 8) - Gazetted 14 August 2020**
  Applies to all land located within the Kensington and Kingsford town centres. Amendment to planning controls to include maximum height of buildings, FSR, Non-residential FSR, active street frontages, affordable housing inclusionary zoning, a Community Infrastructure Contribution, design excellence and architectural competition requirements and inclusion of the following land in the B2 Local Centre zone: 7 Addison Street KENSINGTON NSW 2033 (SP 11800), 157 Todman Avenue KENSINGTON NSW 2033 (SP 45348), 16,18 & 20 Barker Street, KENSINGTON NSW 2033 (Lot 1 DP 950767, Lot 1 DP 954209 & SP 65941), 582-584 Anzac Parade KINGSFORD NSW 2032 (Lot 1 DP 516025), 586-592 Anzac Parade KINGSFORD NSW 2033 (Lot 1 DP 942606, Pt Lot 1 DP 949009), 63 Harbourne Road, KINGSFORD NSW 2032 (SP 39850) and 12,14,16 & 18 Rainbow Street KINGSFORD NSW 2032 (Lot 13 DP 6134, SP 45197, Lot 15 DP 6134 & Lot 16 DP 6134).

- **Randwick LEP 2012 (Amendment No 9) – Gazetted 18 August 2023**
  Amends and applies key changes including revisions to Minimum Lot Size for Subdivision, new and expanded Heritage Conservation Areas (HCAs) and Heritage Items, new medium density housing areas, numerous Zone alignments along with LEP changes comprising Open Space and Recreation Environmental Resilience and Housekeeping changes:

  - New planning controls (zoning, height of building and FSR) in five identified Housing Investigation Areas (HIAs) proximate to the light rail alignment or town and strategic centres
  - Application of an Affordable Housing Contribution Scheme in the five Housing Investigation Areas

- Changes to controls for the construction and subdivision of attached dual occupancies in the R2 Low Density Residential zone
- New Heritage Items, a new HCA, a new archaeological site, and a boundary adjustment to an HCA
- Controls to promote environmental resilience
- Strengthening of open space requirements and creation of new open space zones
- Changes to zone objectives and new exempt development provisions to support a diverse, safe and inclusive night time economy
- New planning controls including changes to zoning and density of 5 neighbourhood clusters zoned residential to protect existing shops and businesses
- A new E1 employment zone inside the Kingsford South HIA
- Updating land zoning and development control maps to reflect the Randwick Hospital Expansion area and the Randwick Racecourse (Light Rail Stabling Yard)
- Rezoning and increased development standards for several sites based on owner-initiated rezoning requests; and
- Housekeeping amendments to correct zoning and boundary anomalies.

- **Randwick LEP 2012 (Amendment No 10) – Gazetted 28 April 2023**
  Applies to 11A Marcel Avenue Coogee (Lot 51 DP 318884) which has been listed as a Local Heritage Item in Schedule 5 of the Randwick LEP 2012. Further, the boundary of the adjacent Moira Crescent Heritage Conservation Area is extended to incorporate the property at 11A Marcel Avenue Coogee.

- **Randwick LEP 2012 (Amendment No 11) – Gazetted 08 December 2023**
  Applies to the following land in Coogee, 1 Berwick Street (Lot A, DP 313214) and 3 Berwick Street (Lot B, DP 313214) which have now been listed as Local Heritage Items in Schedule 5 of the Randwick LEP 2012.

Development control plans that apply to the carrying out of development on the land

- **Randwick DCP adopted by Council on the 28 May 2013 and came into effect on the 14th of June 2013**
  Provides detailed planning controls and guidance for development applications

- **Randwick DCP Stage 1 update adopted by Council on the 27 June 2023 and came into effect on 1st September 2023**
  Replaces DCP 2013 Parts B2 Heritage, C1 Low Density Residential and E2 Randwick Education and Health Specialised Centre with updated Parts and introduces new Part E7 Housing Investigation Areas

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(2) The name of each proposed environmental planning instrument and draft development control plan, which is or has been subject to community consultation or public exhibition under the Act, that will apply to the carrying out of development on the land.

- **None**

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(3) Subsection (2) does not apply in relation to a proposed environmental planning instrument or draft development control plan if—

(a) it has been more than 3 years since the end of the public exhibition period for the proposed instrument or draft plan, or

(b) for a proposed environmental planning instrument—the Planning Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved.

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(4) In this section—

***proposed environmental planning instrument** means a draft environmental planning instrument and includes a planning proposal for a local environmental plan.*

2 Zoning and land use under relevant LEPs

The following matters for each environmental planning instrument or draft environmental planning instrument that includes the land in a zone, however described

(a) The identity of the zone, whether by reference to —
(i) a name, such as "Residential Zone" or "Heritage Area", or
(ii) a number, such as "Zone No 2 (a)",

(b) the purposes for which development in the zone—
(i) may be carried out without development consent, and
(ii) may not be carried out except with development consent, and
(iii) is prohibited,

Zone SP2 (Infrastructure) in Randwick LEP 2012**.**

1. Objectives of zone

- To provide for infrastructure and related uses.
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.
- To facilitate development that will not adversely affect the amenity of nearby and adjoining development.
- To protect and provide for land used for community purposes.

2. Permitted without consent

Recreation areas

3. Permitted with consent

Aquaculture; Environmental protection works; Flood mitigation works; Roads; The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose

4. Prohibited

Any development not specified in item 2 or 3.

(c) whether additional permitted uses apply to the land,

The land IS NOT subject to any additional permitted uses.

(d) whether development standards applying to the land fix minimum land dimensions for the erection of a dwelling house on the land and, if so, the fixed minimum land dimensions,

The land IS NOT subject to any development standards that fix minimum land dimensions for the erection of a dwelling house.

(e) whether the land is in an area of outstanding biodiversity value under the Biodiversity Conservation Act 2016,

The land DOES NOT include or comprise a critical habitat area under the Biodiversity Conservation Act 2016.

(f) Whether the land is in a conservation area, however described

Part of the land **IS** within a heritage conservation area under the Randwick LEP 2012.

(g) whether an item of environmental heritage, however described, is located on the land.

The land IS NOT listed as a heritage item under the Randwick LEP 2012.

The land IS NOT listed on the State Heritage Register under Heritage Act 1977.

3 Contributions plans

(1) The name of each contributions plan under the Act, Division 7.1 applying to the land, including draft contributions plans.

(2) If the land is in a special contributions area under the Act, Division 7.1, the name of the area.

Randwick City Council Section 7.12 (previously Section 94A) Development Contributions Plan (effective 21 April 2015).

4 Complying Development

(1) If the land is land on which complying development may be carried out under each of the complying development codes under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, because of that Policy, clause 1.17A(1)(c)–(e), (2), (3) or (4), 1.18(1)(c3) or 1.19.

(2) If complying development may not be carried out on the land because of 1 of those clauses, the reasons why it may not be carried out under the clause.

(3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that—
(a) a restriction applies to the land, but it may not apply to all of the land, and
(b) the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

(4) If the complying development codes are varied, under that Policy, clause 1.12, in relation to the land.

Housing Code

Complying development under the Housing Code **MAY NOT** be carried out on that part of the land, that is:

- Part of the land **IS** within a heritage conservation area, unless the development is a detached outbuilding, detached development (other than a detached studio) or swimming pool.

Low Rise Housing Diversity Code

Complying development under the Low Rise Housing Diversity Code **MAY NOT** be carried out on that part of the land, that is:

- Part of the land **IS** within a heritage conservation area, unless the development is a detached outbuilding, detached development (other than a detached studio) or swimming pool.

Rural Housing Code

Complying development under the Rural Housing Code **MAY NOT** be carried out on that part of the land, that is:

- Part of the land **IS** within a heritage conservation area, unless the development is a detached outbuilding, detached development (other than a detached studio) or swimming pool.

Housing Alterations Code

Complying development under the Housing Alterations Code **MAY** be carried out on the land.

General Development Code

Complying development under the General Development Code **MAY** be carried out on the land.

Industrial and Business Alterations Code

Complying development under the Commercial and Industrial Alteration Code **MAY** be carried out on the land.

Industrial and Business Buildings Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code **MAY NOT** be carried out on that part of the land, that is:

- Part of the land **IS** within a heritage conservation area.

Container Recycling Facilities Code

Complying Development under the Container Recycling Facilities Code **MAY** be carried out on the land.

Subdivisions Code

Complying development under the Subdivisions Code **MAY** be carried out on the land.

Demolition Code

Complying development under the Demolition Code **MAY** be carried out on the land.

Fire Safety Code

Complying development under the Fire Safety Code **MAY** be carried out on the land.

A copy of the Codes SEPP is available at www.planning.nsw.gov.au. For further information please call the Department of Planning and Environment Centre on Free call 1300 305 695.

Note: To be complying development, the development must meet the General requirements set out in clause 1.18 of the Codes SEPP. Development must also meet all development standards set out in the relevant code.

Note: This information needs to be read in conjunction with the whole of the State Environment Planning Policy. If an identification, restriction or characteristic of land referred to above is not located on or does not comprise, the whole of the relevant land, complying development may be carried out on any part of the land not so identified, restricted or characterised.

Note: Information regarding whether the property is affected by flood related development controls or is bushfire prone land is identified in other sections of this certificate. If your property is identified as being impacted by bushfire or flooding, a specific technical assessment of these issues will be required as part of any Complying Development Certificate application under the State Environment Planning Policy, or a development application for any other type of development requiring consent from Council.

Note: Despite any references above advising that Complying Development may be undertaken on the land, certain Complying Development may be precluded from occurring on the land due to requirements contained in the remainder of State Environment Planning Policy (Exempt and Complying Development Codes) 2008. It is necessary to review the State Environment Planning Policy in detail to ensure that specific types of complying development may be undertaken on the land.

5 Exempt Development

(1) If the land is land on which exempt development may be carried out under each of the exempt development codes under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, because of that Policy, clause 1.16(1)(b1)–(d) or 1.16A.

(2) If exempt development may not be carried out on the land because of 1 of those clauses, the reasons why it may not be carried out under the clause.

(3) If the council does not have sufficient information to ascertain the extent to which exempt development may or may not be carried out on the land, a statement that—
- *(a) a restriction applies to the land, but it may not apply to all of the land, and*
- *(b) the council does not have sufficient information to ascertain the extent to which exempt development may or may not be carried out on the land.*

(4) If the exempt development codes are varied, under that Policy, clause 1.12, in relation to the land.

Division 1 General Code

Exempt development under the Code **MAY** be carried out on the land.

Division 2 Advertising and Signage Code

Exempt development under the Code **MAY** be carried out on the land.

Division 3 Temporary Uses and Structures Code

Exempt development under the Code **MAY** be carried out on the land.

Division 4 Special Provisions – COVID 19

Repealed

Note: Despite any references above advising that Exempt Development may be undertaken on the land, certain Exempt Development may be precluded from occurring on the land due to requirements contained in the remainder of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008. It is necessary to review the State Environmental Planning Policy in detail to ensure that specific types of exempt development may be undertaken on the land.

Note: Under the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, demolition of a heritage item, draft heritage item, in a heritage conservation area, or a draft conservation area is not permitted.

Note: In heritage conservation areas and draft heritage conservation areas, some exempt development types may be restricted to the rear yard only.

6 Affected building notices and building product rectification orders

(1) Whether the council is aware that—
- *(a) an affected building notice is in force in relation to the land, or*
- *(b) a building product rectification order is in force in relation to the land that has not been fully complied with, or*
- *(c) a notice of intention to make a building product rectification order given in relation to the land is outstanding.*

(2) In this section—

***affected building notice** has the same meaning as in the Building Products (Safety) Act 2017, Part 4.*

building product rectification order *has the same meaning as in the Building Products (Safety) Act 2017.*

The land IS NOT affected by any notice or order within the meaning of the Building Products (Safety) Act 2017.

7 Land reserved for acquisition

Whether an environmental planning instrument or proposed environmental planning instrument referred to in section 1 makes provision in relation to the acquisition of the land by an authority of the State, as referred to in the Act, section 3.15.

State Environmental Planning Policies
Council is unable to provide any site-specific information on the provisions of any State Environmental Planning Policy regarding the acquisition of land. Information on State Environmental Planning Policies listed in this certificate is available at NSW Legislation – In force legislation. Any enquiries regarding State and Regional Environmental Planning Policies should be directed to the Department of Planning and Environment's website.

Draft State Environmental Planning Policies
Council is unable to provide site-specific information on the provisions of any draft State Environmental Planning Policy regarding the acquisition of land. Information on the draft State Environmental Planning Policies listed in this certificate is available on the Department of Planning and Environment Have Your Say webpage for Draft plans and policies. Any enquiries regarding State and Regional Environmental Planning Policies should be directed to the Department of Planning and Environment's website.

Local Environmental Plan
The land IS NOT affected by any environmental planning instrument or proposed environmental planning instrument referred to in section 1 that makes provision in relation to the acquisition of the land by an authority of the State, as referred to in the Act, section 3.15.

8 Road widening and road realignment

Whether the land is affected by road widening or road realignment under—

(a) the Roads Act 1993, Part 3, Division 2, or

The land IS NOT affected by any road widening or road realignment under the Roads Act 1993, Part 3, Division 2.

(b) an environmental planning instrument, or

The land IS NOT affected by any road widening or road realignment under the provisions of Randwick LEP 2012.

(c) a resolution of the Council.

The land IS NOT affected by any resolution of the Council for any road widening or road realignment.

Note: This item relates to Council's road proposals only. Other authorities, including Transport for NSW may have road widening proposals.

9 Flood related development controls

(1) If the land or part of the land is within the flood planning area and subject to flood related development controls.

Yes.

(2) If the land or part of the land is between the flood planning area and the probable maximum flood and subject to flood related development controls.

Yes.

(3) In this section—
***flood planning area** has the same meaning as in the Floodplain Development Manual.*
***Floodplain Development Manual** means the Floodplain Development Manual (ISBN 0 7347 5476 0) published by the NSW Government in April 2005.*
***probable maximum flood** has the same meaning as in the Floodplain Development Manual.*

Note: The information provided in Item 9 is based on the data and information presently available to the Council and on development controls in force as at the date of this certificate. The identification of land as not being subject to flood related development controls does not mean that the land is not, or may not be, subject to flooding or that the land will not in the future be subject to flood related development controls, as additional data and information regarding the land become available.

Details relating to flood risk and flood planning levels may be provided on a Flood Level Certificate. The application form is available on Council's website.

10 Council and other public authority policies on hazard risk restrictions

(1) Whether any of the land is affected by an adopted policy that restricts the development of the land because of the likelihood of land slip, bush fire, tidal inundation, subsidence, acid sulphate soils, contamination, aircraft noise, salinity, coastal hazards, sea level rise or another risk, other than flooding.

Council HAS NOT adopted a policy or been notified of any adopted policy of another public authority, that restricts development on the land because of the likelihood of land slip, bush fire, tidal inundation, subsidence; salinity, coastal hazards, or sea level rise.

Council DOES HAVE adopted policies or has been notified of adopted policies of another public authority on matters relating to the risk of acid sulphate soils; contamination; low-lying lands; aircraft noise; Malabar Treatment Plant odour; and Former Matraville Incinerator land.

(2) In this section—
***adopted policy** means a policy adopted—*

(a) by the Council, or

Excluding Councils Contaminated Land Policy, the subject land IS NOT affected by any other council policy relating to hazard risk restrictions.

(b) by another public authority, if the public authority has notified the Council that the policy will be included in a planning certificate issued by the Council.

The land IS NOT affected by a policy adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council that restricts the development of the land because of the likelihood of land slip, bushfire, (other than flooding), tidal inundation, subsidence, acid sulphate soils or any other risk.

11 Bush fire prone land

(1) If any of the land is bush fire prone land, designated by the Commissioner of the NSW Rural Fire Service under the Act, section 10.3, a statement that all or some of the land is bush fire prone land.

(2) If none of the land is bush fire prone land, a statement to that effect.

The land IS NOT bush fire prone land (as defined in the Act).

12 Loose-fill asbestos insulation

If the land includes residential premises, within the meaning of the Home Building Act 1989, Part 8, Division 1A, that are listed on the Register kept under that Division, a statement to that effect.

The land DOES NOT include any residential premises (within the meaning of the *Home Building Act 1989*, Part 8, Division 1A) that are listed on the register kept under that Division.

13 Mine subsidence

Whether the land is declared to be a mine subsidence district, within the meaning of the Coal Mine Subsidence Compensation Act 2017.

The land IS NOT declared to be a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017.

14 Paper subdivision information

(1) The name of a development plan adopted by a relevant authority that—

(a) applies to the land, or Page 151 Environmental Planning and Assessment Regulation 2021 [NSW] Schedule 2 Planning certificates Published LW 17 December 2021 (2021 No 759)
(b) is proposed to be subject to a ballot.

(2) The date of a subdivision order that applies to the land.

(3) Words and expressions used in this section have the same meaning as in this Regulation, Part 10 and the Act, Schedule 7.

The land IS NOT land to which a development plan or subdivision order applies.

15 Property vegetation plans

If the land is land in relation to which a property vegetation plan is approved and in force under the Native Vegetation Act 2003, Part 4, a statement to that effect, but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act.

Council HAS NOT been notified of any property vegetation plan under the Native Vegetation Act 2003, Part 4 applying to the land.

16 Biodiversity stewardship sites

If the land is a biodiversity stewardship site under a biodiversity stewardship agreement under the Biodiversity Conservation Act 2016, Part 5, a statement to that effect, but only if the council has been notified of the existence of the agreement by the Biodiversity Conservation Trust.

Council HAS NOT been notified that the land is a biodiversity stewardship site by the Biodiversity Conservation Trust.

Note: Biodiversity stewardship agreements include biobanking agreements under the Threatened Species Conservation Act 1995, Part 7A that are taken to be biodiversity stewardship agreements under the Biodiversity Conservation Act 2016, Part 5.

17 Biodiversity certified land

If the land is biodiversity certified land under the Biodiversity Conservation Act 2016, Part 8, a statement to that effect.

The land IS NOT biodiversity certified land.

Note: Biodiversity certified land includes land certified under the Threatened Species Conservation Act 1995, Part 7AA that is taken to be certified under the Biodiversity Conservation Act 2016, Part 8.

18 Orders under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land, but only if the council has been notified of the order.

The land IS NOT land to which an order under Trees (Disputes Between Neighbours) Act 2006 applies.

19 Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

(1) If the Coastal Management Act 2016 applies to the council, whether the owner, or a previous owner, of the land has given written consent to the land being subject to annual charges under the Local Government Act 1993, section 496B, for coastal protection services that relate to existing coastal protection works.

(2) In this section—
***existing coastal protection works** has the same meaning as in the Local Government Act 1993, section 553B.*

Note: Existing coastal protection works are works to reduce the impact of coastal hazards on land, such as seawalls, revetments, groynes and beach nourishment, that existed before 1 January 2011.

Not applicable.

20 State Environmental Planning Policy (Western Sydney Aerotropolis) 2020

Whether under State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 the land is—

(a) in an ANEF or ANEC contour of 20 or greater, as referred to in that Policy, clause 19, or
(b) shown on the Lighting Intensity and Wind Shear Map, or
(c) shown on the Obstacle Limitation Surface Map, or
(d) in the "public safety area" on the Public Safety Area Map, or
(e) in the "3 kilometre wildlife buffer zone" or the "13 kilometre wildlife buffer zone" on the Wildlife Buffer Zone Map.

Not applicable.

21 Site compatibility certificates and conditions for seniors housing

If State Environmental Planning Policy (Housing) 2021, Chapter 3, Part 5 applies to the land, any conditions of a development consent granted after 11 October 2007 in relation to the land that are of the kind set out in that Policy, clause 88(2).

No.

22 Site compatibility certificates and development consent conditions for affordable rental housing

(1) Whether there is a current site compatibility certificate under State Environmental Planning Policy (Housing) 2021, or a former site compatibility certificate, of which the council is aware, in relation to proposed development on the land and, if there is a certificate—

(a) the period for which the certificate is current, and
(b) that a copy may be obtained from the Department.

(2) If State Environmental Planning Policy (Housing) 2021, Chapter 2, Part 2, Division 1 or 5 applies to the land, any conditions of a development consent in relation to the land that are of a kind referred to in that Policy, clause 21(1) or 40(1).
(3) Any conditions of a development consent in relation to land that are of a kind referred to in State Environmental Planning Policy (Affordable Rental Housing) 2009, clause 17(1) or 38(1).

(4) In this section— former site compatibility certificate means a site compatibility certificate issued under State Environmental Planning Policy (Affordable Rental Housing) 2009.

The land IS NOT subject to a current or former site compatibility certificate (of which the council is aware) for affordable rental housing.

Contaminated Land Management Act 1997

***Note**. The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:*

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act—if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

The land IS NOT significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act—if it is subject to such an order at the date when the certificate is issued,

The land IS NOT subject to a management order within the meaning of the Contaminated Land Management Act 1997.

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act—if it is the subject of such an approved proposal at the date when the certificate is issued,

The land IS NOT the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act—if it is subject to such an order at the date when the certificate is issued,

The land IS NOT the subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act—if a copy of such a statement has been provided at any time to the local authority issuing the certificate,

Council **HAS** received a copy of a statutory site audit statement, within the meaning of the Contaminated Land Management Act 1997, for this land.

Note. Section 53B requires site auditors to furnish local authorities with copies of site audit statements relating to site audits for the purposes of statutory requirements.

INFORMATION PROVIDED UNDER SECTION 10.7(5)

NOTE:
Council has no obligation to provide any advice in this planning certificate in response to a request made under s.10.7 (5) of the Act.

If Council does include advice in this planning certificate in response to a s.10.7 (5) request then, as far as practicable on the information available to Council, the advice shall be current as at 12:noon two(2) working days prior to the date of issue of this planning certificate.

Council draws your attention to the fact that if there is an omission or absence of reference in any advice given in this planning certificate, that is or may be relevant to the subject land, that shall not imply that the land is not affected by any matter not mentioned or referred to in this planning certificate.

Council draws your attention to s.10.7(6) of the Act which provides that Council shall not incur any liability in respect of any advice provided in good faith pursuant to s.10.7(5) of the Act.

Additional Relevant Matters

At the date of this certificate, the following relevant matters affecting the land are provided in good faith in accordance with the requirements of Section 10.7(5) of the Environmental Planning and Assessment Act 1979.

Council resolutions to prepare draft Local Environmental Plans

Name of proposed environmental planning instrument that includes a planning proposal for LEP or a draft environmental planning instrument.

- **None.**

Note: This section applies to Draft Local Environmental Plans that have yet to be placed on Community Consultation under the Environmental Planning and Assessment Act, 1979.

Terrestrial Biodiversity

The land IS NOT identified and mapped as `Biodiversity' in Randwick LEP 2012.

Foreshore Scenic Protection Areas

The land IS NOT identified and mapped within a Foreshore Scenic Protection Area in Randwick LEP 2012.

Licences Under The Water Act 1912

The Property **IS** within the ground water extraction embargo area or the water shortage zone declared under the Water Act 1912.

For more information please see:
www.randwick.nsw.gov.au/149-Groundwater

Flood Studies

Council **IS** in possession of a flood study that covers the catchment in which this property is located. The flood study is available for inspection at the Council if required.

For more information please see:

www.randwick.nsw.gov.au/149-Flooding

Residential Parking Schemes

No resident parking permits will be issued for new development or for significant alterations and additions to residential flat buildings that have been determined under Randwick Local Environmental Plan 2012 and Randwick Development Control Plan 2013.

Stella Agagiotis
Manager Strategic Planning
1300 722 542

Date: 15-Jul-2024

Appendix C6

Lotsearch Report

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 02 May 2018 11:12:39

Reference: LS003302

Address: Upper Campus, University of New South Wales, Sydney, NSW 2052

Disclaimer:
The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.
You should obtain independent advice before you make any decision based on the information within the report.
The detailed terms applicable to use of this report are set out at the end of this report.

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Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

LC Code	Location Confidence
1	Georeferenced to the site location / premise or part of site
2	Georeferenced with the confidence of the general/approximate area
3	Georeferenced to the road or rail
4	Georeferenced to the road intersection
5	Feature is a buffered point
6	Land adjacent to Georeferenced Site
7	Georeferenced to a network of features

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

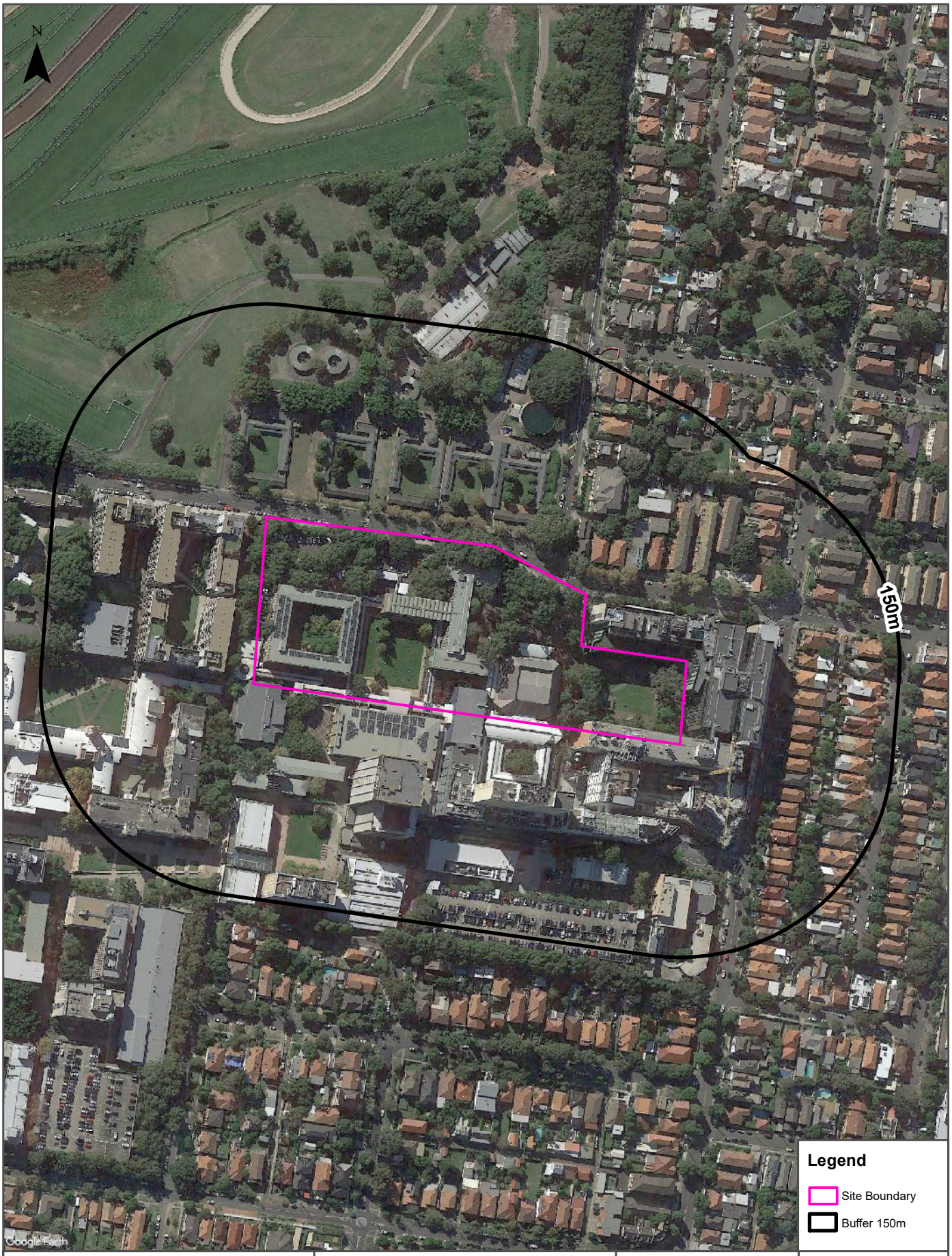
Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	Dept. Finance, Services & Innovation	02/05/2018	02/05/2018	Daily	-	-	-	-
Topographic Data	Dept. Finance, Services & Innovation	09/04/2018	09/04/2018	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	10/04/2018	09/02/2018	Monthly	1000	0	0	3
Contaminated Land: Records of Notice	Environment Protection Authority	10/04/2018	10/04/2018	Monthly	1000	0	0	1
Former Gasworks	Environment Protection Authority	24/04/2018	11/10/2017	Monthly	1000	0	0	0
National Waste Management Site Database	Geoscience Australia	02/02/2018	07/03/2017	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	12/04/2018	12/04/2018	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	11/01/2018	11/01/2018	Quarterly	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	10/04/2018	10/04/2018	Monthly	1000	1	1	1
Delicensed POEO Activities still Regulated by the EPA	Environment Protection Authority	10/04/2018	10/04/2018	Monthly	1000	0	0	2
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	10/04/2018	10/04/2018	Monthly	1000	0	0	0
UPSS Environmentally Sensitive Zones	Environment Protection Authority	14/04/2015	12/01/2010	As required	1000	1	1	1
UBD Business to Business Directory 1991 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1991 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business to Business Directory 1986 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1986 (Road & Area Matches)	Hardie Grant			Not required	150	-	1	1
UBD Business Directory 1982 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1982 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1978 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1978 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory 1975 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	2	2
UBD Business Directory 1975 (Road & Area Matches)	Hardie Grant			Not required	150	-	2	2
UBD Business Directory 1970 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	2	3
UBD Business Directory 1970 (Road & Area Matches)	Hardie Grant			Not required	150	-	2	2
UBD Business Directory 1965 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	2	2
UBD Business Directory 1965 (Road & Area Matches)	Hardie Grant			Not required	150	-	2	2
UBD Business Directory 1961 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1961 (Road & Area Matches)	Hardie Grant			Not required	150	-	3	3
UBD Business Directory 1950 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	1
UBD Business Directory 1950 (Road & Area Matches)	Hardie Grant			Not required	150	-	4	5

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	1000	0	0	219
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	1000	-	2	29
Points of Interest	Dept. Finance, Services & Innovation	09/04/2018	09/04/2018	Annually	1000	0	1	68
Tanks (Areas)	Dept. Finance, Services & Innovation	09/04/2018	09/04/2018	Annually	1000	0	0	0
Tanks (Points)	Dept. Finance, Services & Innovation	09/04/2018	09/04/2018	Annually	1000	0	1	1
Major Easements	Dept. Finance, Services & Innovation	09/04/2018	09/04/2018	As required	1000	0	0	0
State Forest	Dept. Finance, Services & Innovation	18/01/2018	18/01/2018	As required	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	18/01/2018	30/09/2017	Annually	1000	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	1	1	1
Botany Groundwater Management Zones	NSW Department of Primary Industries	15/03/2018	01/10/2005	As required	1000	0	0	0
Groundwater Boreholes	NSW Dept. of Primary Industries - Office of Water / Water Administration Ministerial Corporation; Commonwealth of Australia (Bureau of Meteorology)	21/03/2016	01/12/2015	Annually	2000	0	0	453
Geological Units 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	1	-	2
Geological Structures 1:100,000	NSW Dept. of Industry, Resources & Energy	20/08/2014		None planned	1000	0	-	1
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000	0	0	0
Soil Landscapes	NSW Office of Environment & Heritage	12/08/2014		None planned	1000	1	-	4
Atlas of Australian Soils	CSIRO	19/05/2017	17/02/2011	As required	1000	1	1	2
Standard Local Environmental Plan Acid Sulfate Soils	NSW Planning and Environment	07/10/2016	07/10/2016	As required	500	0	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	1	1	1
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000	0	0	0
Dryland Salinity Potential of Western Sydney	NSW Office of Environment & Heritage	12/05/2017	01/01/2002	None planned	1000	-	-	-
Mining Subsidence Districts	Dept. Finance, Services & Innovation	13/07/2017	01/07/2017	As required	1000	0	0	0
SEPP 14 - Coastal Wetlands	NSW Planning and Environment	17/12/2015	24/10/2008	Annually	1000	0	0	0
SEPP 26 - Littoral Rainforest	NSW Planning and Environment	17/12/2015	05/02/1988	Annually	1000	0	0	0
SEPP 71 - Coastal Protection	NSW Planning and Environment	17/12/2015	01/08/2003	Annually	1000	0	0	0
SEPP Major Developments 2005	NSW Planning and Environment	09/03/2013	25/05/2005	Under Review	1000	0	0	0
SEPP Strategic Land Use Areas	NSW Planning and Environment	01/08/2017	28/01/2014	Annually	1000	0	0	0
LEP - Land Zoning	NSW Planning and Environment	11/04/2018	16/03/2018	Quarterly	1000	2	4	68
LEP - Minimum Subdivision Lot Size	NSW Planning and Environment	04/04/2018	23/03/2018	Quarterly	0	0	-	-
LEP - Height of Building	NSW Planning and Environment	04/04/2018	23/03/2018	Quarterly	0	1	-	-
LEP - Floor Space Ratio	NSW Planning and Environment	04/04/2018	23/03/2018	Quarterly	0	0	-	-
LEP - Land Application	NSW Planning and Environment	04/04/2018	23/03/2018	Quarterly	0	1	-	-
LEP - Land Reservation Acquisition	NSW Planning and Environment	04/04/2018	09/03/2018	Quarterly	0	0	-	-

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
State Heritage Items	NSW Office of Environment & Heritage	04/04/2018	30/09/2016	Quarterly	1000	0	0	10
Local Heritage Items	NSW Planning and Environment	04/04/2018	23/03/2018	Quarterly	1000	0	1	154
Bush Fire Prone Land	NSW Rural Fire Service	05/02/2018	23/01/2018	Quarterly	1000	0	0	0
Native Vegetation of the Sydney Metropolitan Area	NSW Office of Environment & Heritage	01/03/2017	16/12/2016	As required	1000	1	1	1
RAMSAR Wetlands	Commonwealth of Australia Department of the Environment	08/10/2014	24/06/2011	As required	1000	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	0	0
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	0	0	0
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	01/05/2018	01/05/2018	Daily	10000	-	-	-

Aerial Imagery 2016

Upper Campus, University of New South Wales, Sydney, NSW 2052



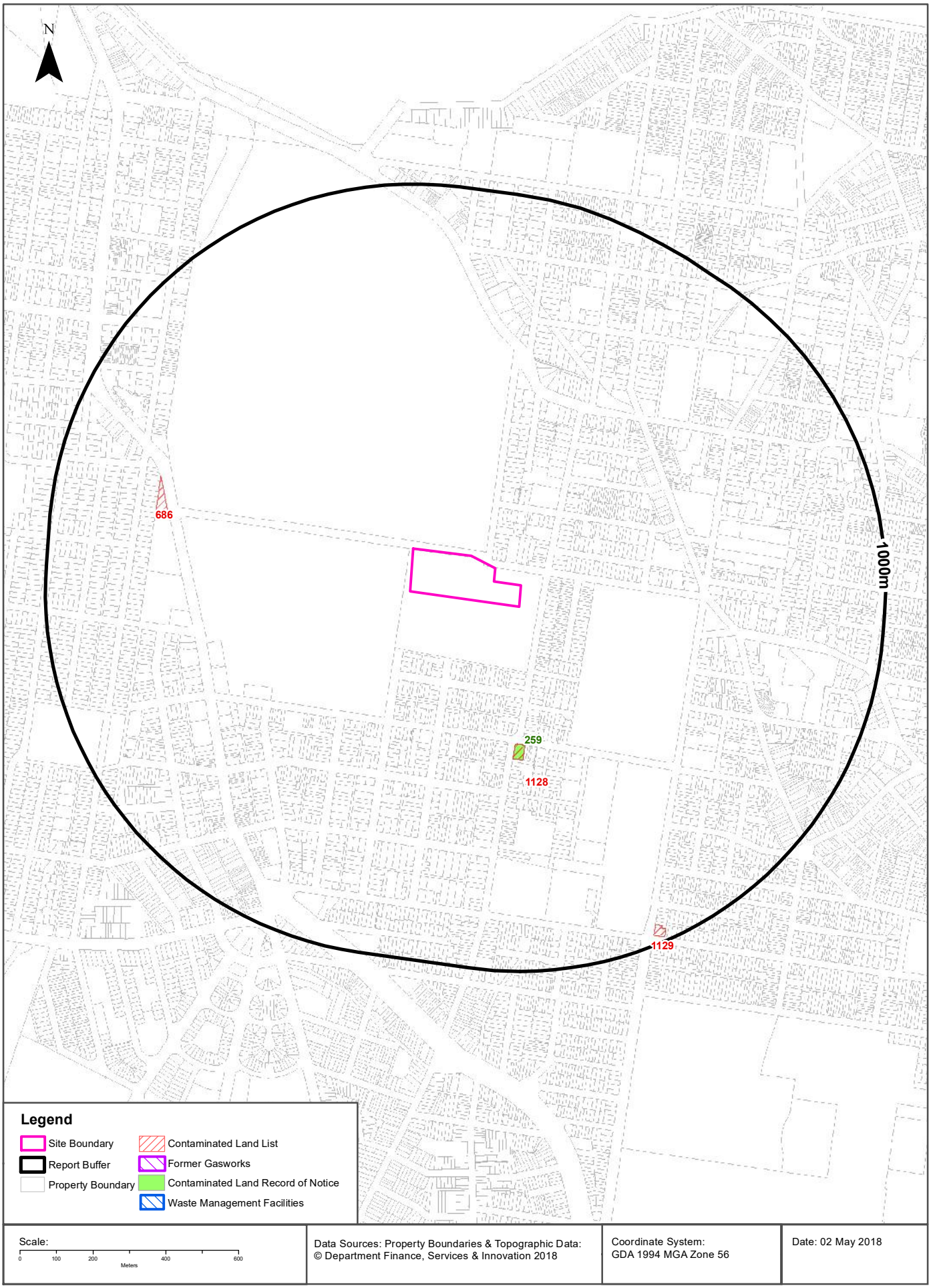
Data Source Aerial Imagery: © 2018 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System: GDA 1994 MGA Zone 56

Date: 30 April, 2018

Contaminated Land & Waste Management Facilities

Upper Campus, University of New South Wales, Sydney, NSW 2052



Contaminated Land & Waste Management Facilities

Upper Campus, University of New South Wales, Sydney, NSW 2052

List of NSW contaminated sites notified to EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer:

Map Id	Site	Address	Suburb	Activity	Management Class	Status	Location Confidence	Dist (m)	Direction
1128	7-Eleven Service Station	126-130 Barker Street	Randwick	Service Station	N/A - Site no longer on EPA Contaminated Land List	Previous EPA List	Premise Match	377m	South
686	Caltex Service Station	211-213 Anzac Parade	Kensington	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	681m	West
1129	Metro Petroleum	345 Avoca Street	Randwick	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	946m	South East

The values within the EPA site management class in the table above, are given more detailed explanations in the table below:

EPA site management class	Explanation
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the Environmental Planning and Assessment Act 1979 (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record of Notices.
Contamination currently regulated under POEO Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register.
Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the Protection of the Environment Operations Act 1997 (POEO Act).
Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record of Notices.
Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997. A regulatory approach is being finalised.
Regulation under the CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the Contaminated Land Management Act 1997 is not required.
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or Protection of the Environment Operations Act 1997. Alternatively, the EPA may require information via a notice issued under s77 of the Contaminated Land Management Act 1997 or issue a Preliminary Investigation Order.

NSW EPA Contaminated Land List Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Contaminated Land & Waste Management Facilities

Upper Campus, University of New South Wales, Sydney, NSW 2052

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

Map Id	Name	Address	Suburb	Notices	Area No	Location Confidence	Distance	Direction
259	7-Eleven Service Station	126-130 Barker Street	Randwick	8 current and 3 former	3257	Premise Match	377m	South

Contaminated Land Records of Notice Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority
Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit
http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm

Former Gasworks

Former Gasworks within the dataset buffer:

Map Id	Location	Council	Further Info	Location Confidence	Distance	Direction
N/A	No records in buffer					

Former Gasworks Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

Site Id	Owner	Name	Address	Suburb	Class	Landfill	Reprocess	Transfer	Comments	Loc Conf	Dist (m)	Direction
N/A	No records in buffer											

Waste Management Facilities Data Source: Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

EPA PFAS Investigation Program

Upper Campus, University of New South Wales, Sydney, NSW 2052

EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer:

Id	Site	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

EPA PFAS Investigation Program: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

EPA Other Sites with Contamination Issues

Upper Campus, University of New South Wales, Sydney, NSW 2052

EPA Other Sites with Contamination Issues

This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill

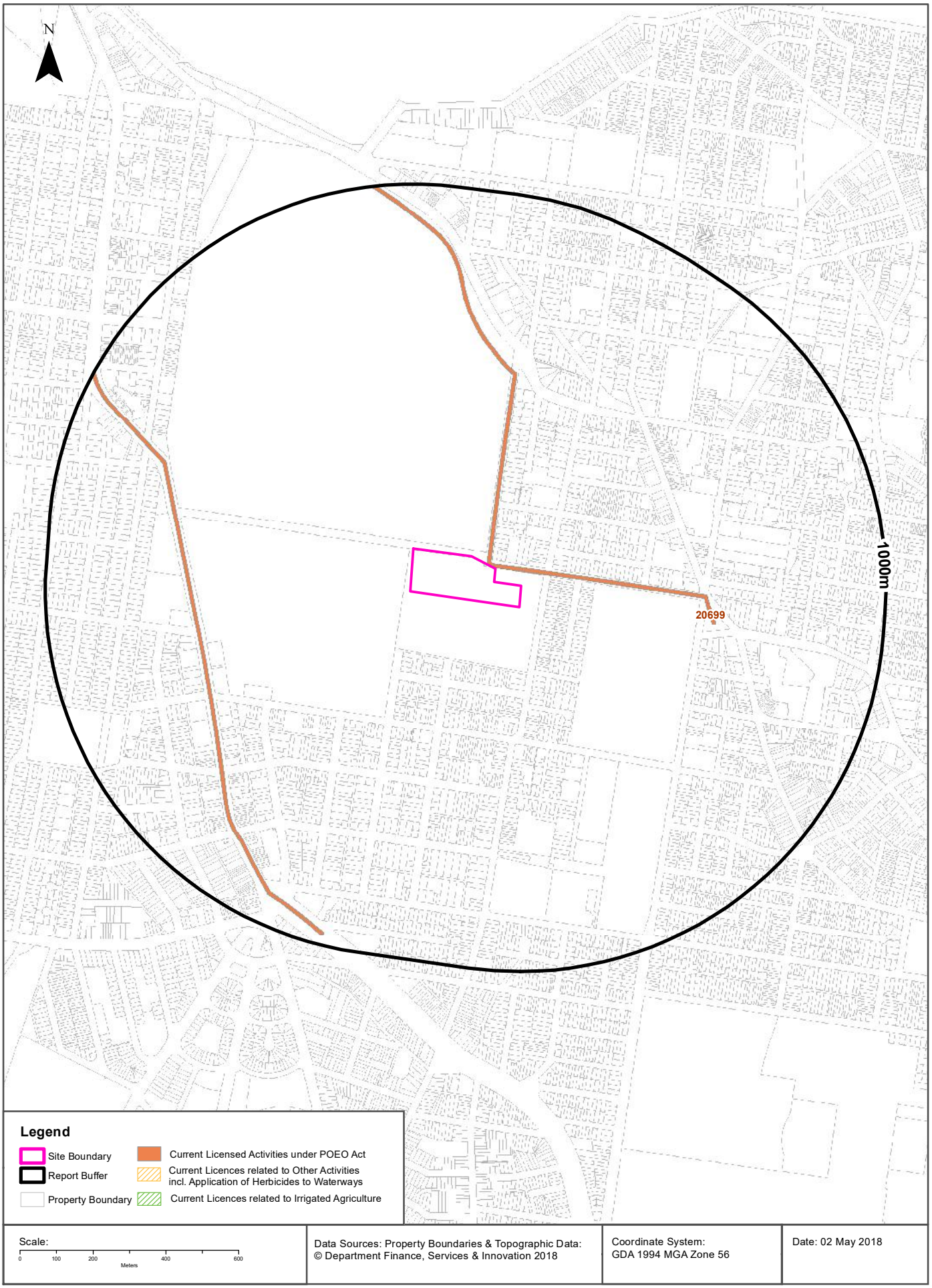
Sites within the dataset buffer:

Site Id	Site Name	Site Address	Dataset	Comments	Location Confidence	Distance	Direction
N/A	No records in buffer						

EPA Other Sites with Contamination Issues: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Current EPA Licensed Activities

Upper Campus, University of New South Wales, Sydney, NSW 2052



EPA Activities

Upper Campus, University of New South Wales, Sydney, NSW 2052

Licensed Activities under the POEO Act 1997

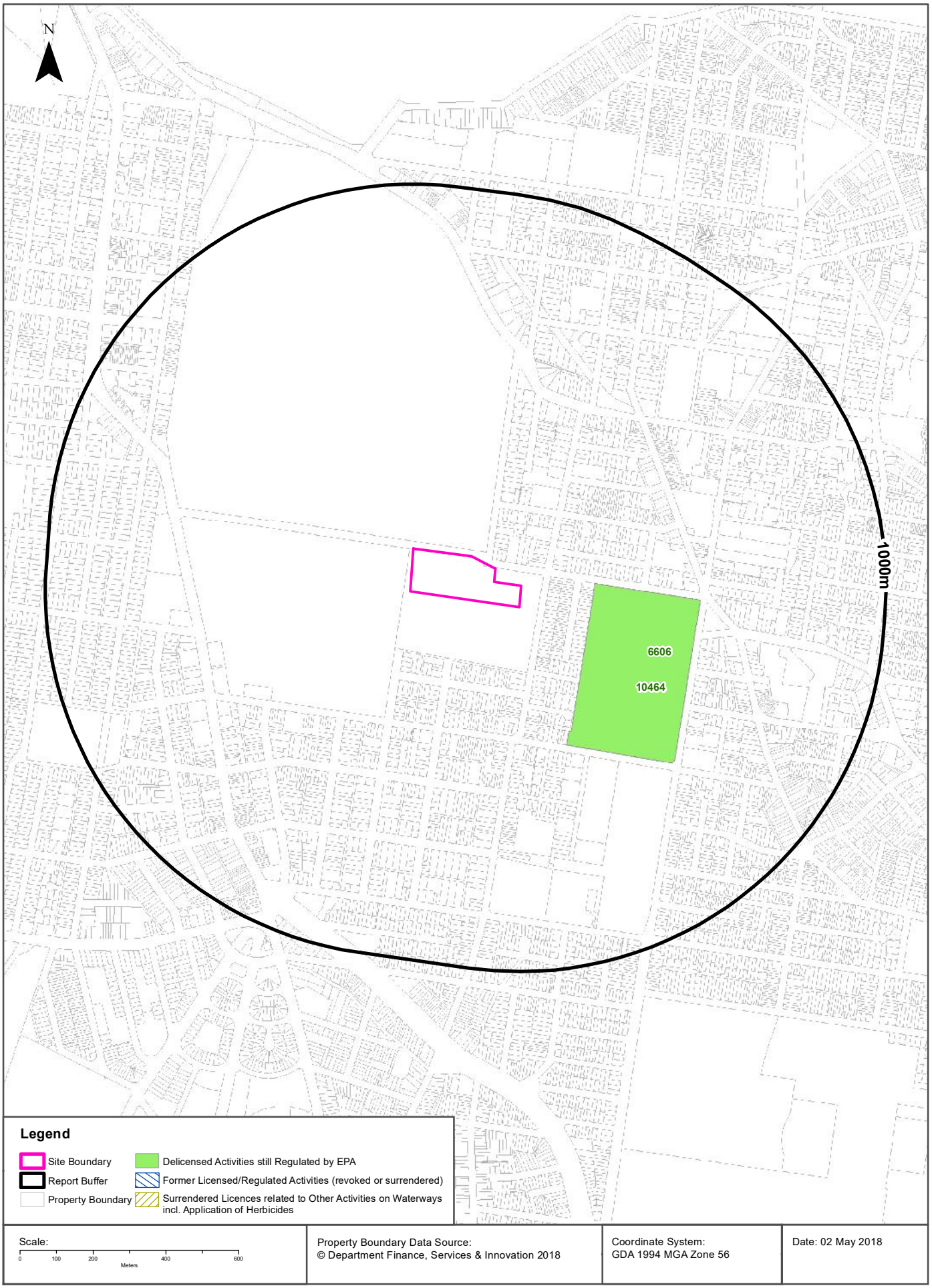
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
20699	ACCIONA INFRASTRUCTURE AUSTRALIA PTY LTD	CBD and South East Light Rail	CBD and South East Light Rail Alignment and Ancillary Sites	SYDNEY	Land-based extractive activity	Road Match	0m	Onsite

POEO Licence Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Delicensed & Former Licensed EPA Activities

Upper Campus, University of New South Wales, Sydney, NSW 2052



EPA Activities

Upper Campus, University of New South Wales, Sydney, NSW 2052

Delicensed Activities still regulated by the EPA

Delicensed activities still regulated by the EPA, within the dataset buffer:

Licence No	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
6606	SOUTH EASTERN SYDNEY AND ILLAWARRA AREA HEALTH SERVICE	PRINCE OF WALES HOSPITAL	BARKER STREET	RANDWICK	Hazardous, Industrial or Group A Waste Generation or Storage	Premise Match	191m	South East
10464	P.O.W. HOSPITAL PTY LIMITED	PRINCE OF WALES PRIVATE HOSPITAL	Barker Street	RANDWICK	Hazardous, Industrial or Group A Waste Generation or Storage	Premise Match	191m	South East

Delicensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

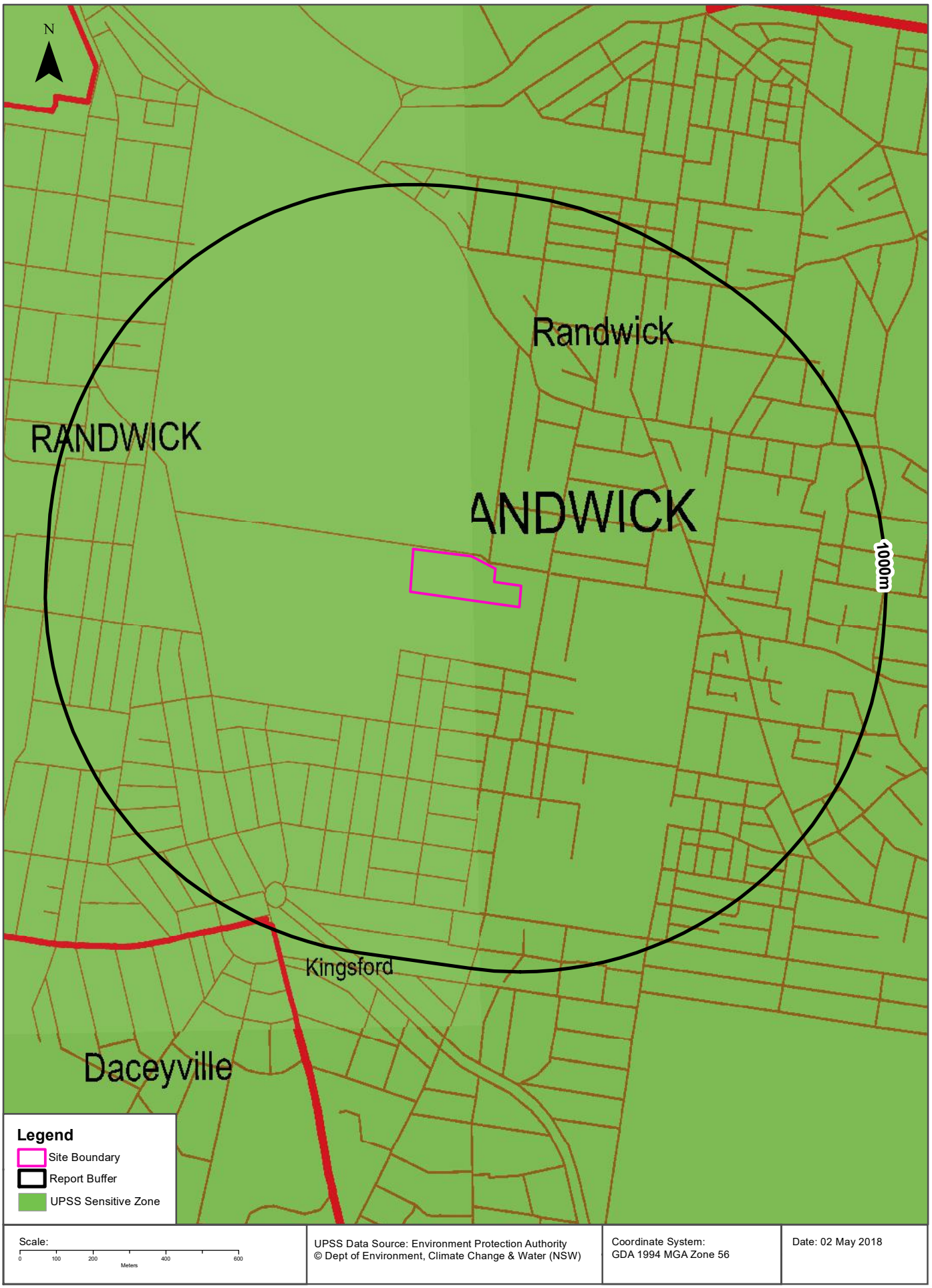
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
N/A	No records in buffer							

Former Licensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

UPSS Sensitive Zones

Upper Campus, University of New South Wales, Sydney, NSW 2052



Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

1991 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1991 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1991 Business to Business Directory Records Road or Area Matches

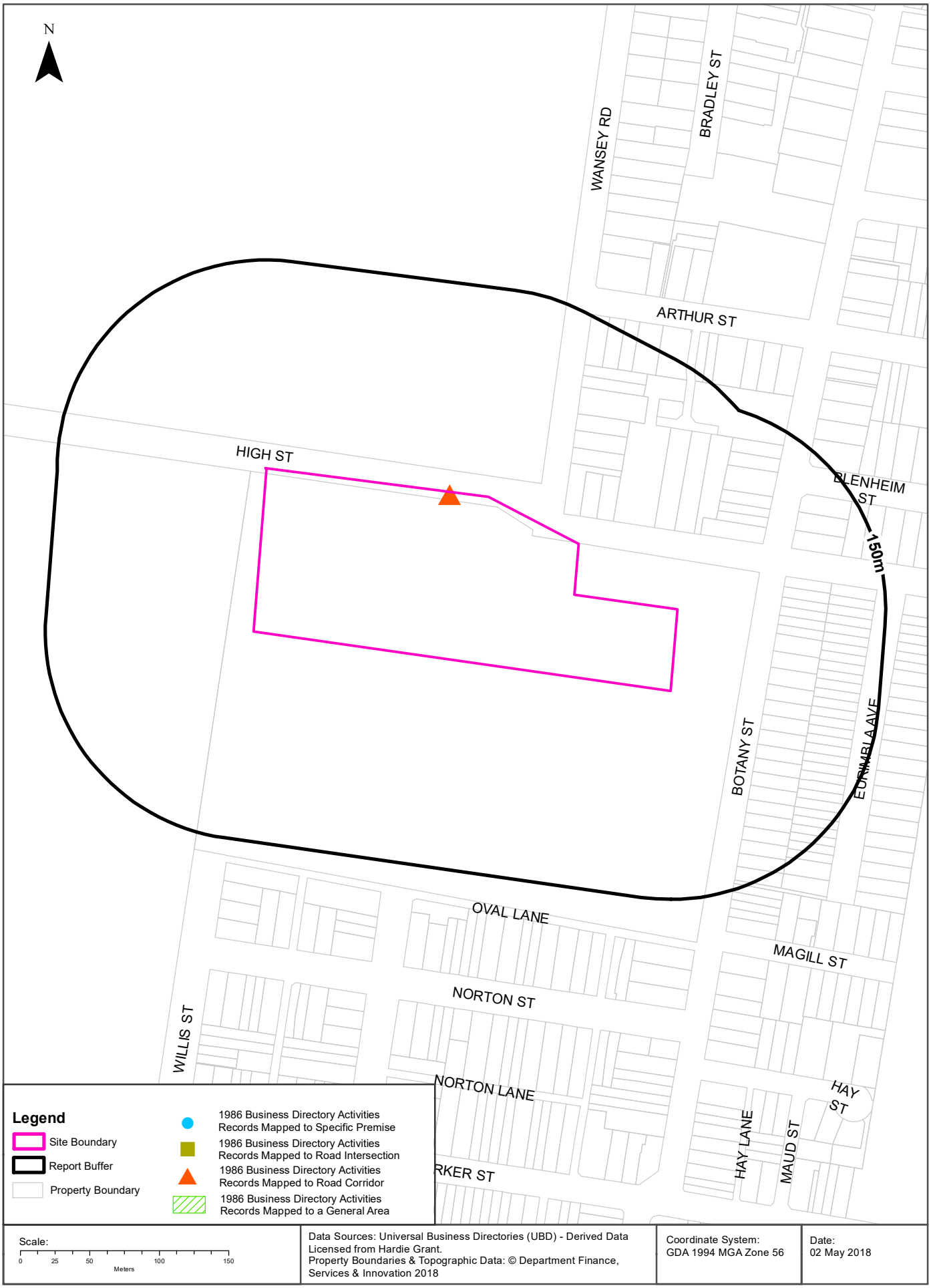
Records from the 1991 UBD Business to Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
N/A	No records in buffer			

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1986 Historical Business Directory Records

Upper Campus, University of New South Wales, Sydney, NSW 2052



Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

1986 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1986 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1986 Business to Business Directory Records Road or Area Matches

Records from the 1986 UBD Business to Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
MEDICAL PRACTITIONERS.	Donnellan, M. J., 65 High St., Randwick.	54581	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

1982 Business Directory Records
Premise or Road Intersection Matches

Records from the 1982 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1982 Business Directory Records
Road or Area Matches

Records from the 1982 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
N/A	No records in buffer			

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

1978 Business Directory Records
Premise or Road Intersection Matches

Records from the 1978 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1978 Business Directory Records
Road or Area Matches

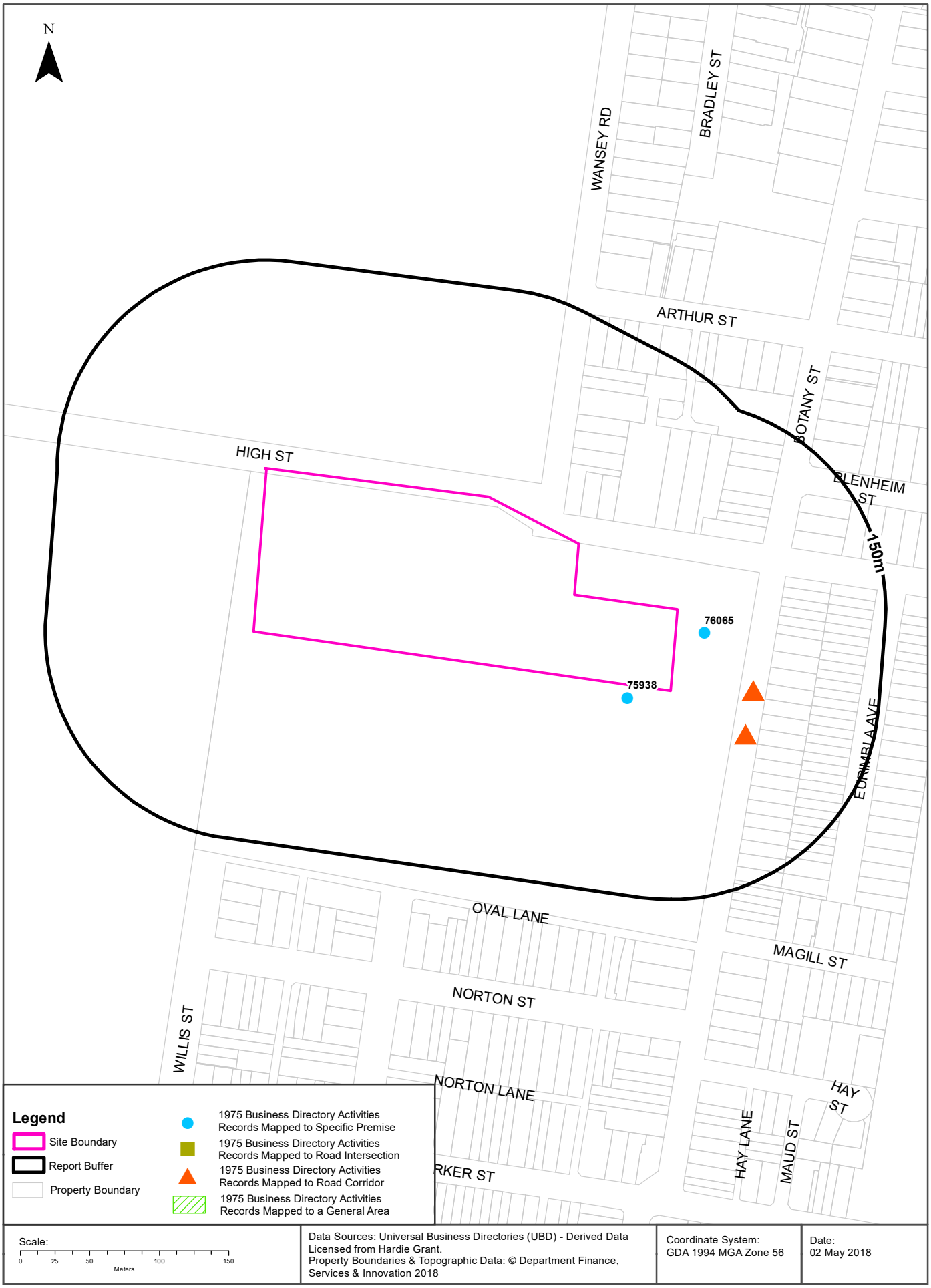
Records from the 1978 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
N/A	No records in buffer			

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1975 Historical Business Directory Records

Upper Campus, University of New South Wales, Sydney, NSW 2052



Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

1975 Business Directory Records
Premise or Road Intersection Matches

Records from the 1975 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
SCHOOLS, COLLEGES., TECHNICAL	School of Biological Sciences, High St., Randwick	75938	Premise Match	9m	South East
SCHOOLS., SPECIAL	Wallace Worth School Medicine, The, High St., Randwick.	76065	Premise Match	21m	East

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1975 Business Directory Records
Road or Area Matches

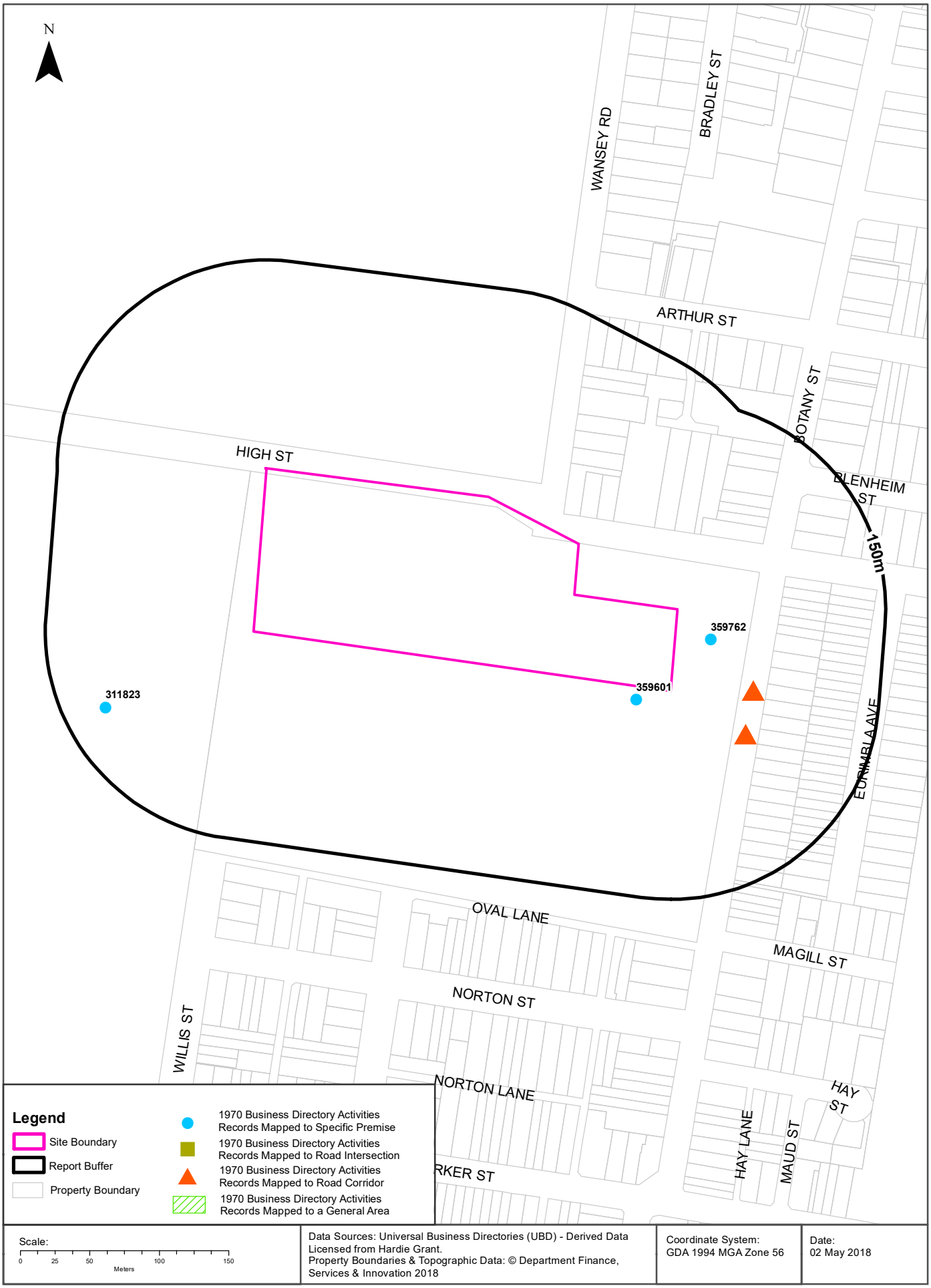
Records from the 1975 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
MOTOR GARAGES &/OR ENGINEERS.	Varsity Auto Centre, Botany St., Randwick.	59716	Road Match	49m
MOTOR SPARE PARTS DEALERS- RETAIL	Varsity Auto Centre, Botany St., Randwick.	62360	Road Match	49m

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1970 Historical Business Directory Records

Upper Campus, University of New South Wales, Sydney, NSW 2052



Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

1970 Business Directory Records
Premise or Road Intersection Matches

Records from the 1970 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
SCHOOLS/COLLEGES-TECHNICAL(S146)	School of Biological Sciences,Cnr. High & Botany Sts.,Randwick	359601	Premise Match	10m	South East
SCHOOLS-SPECIAL (S152)	Wallace Worth School of Medicine (The),Cnr. High & Botany Sts.,Randwick	359762	Premise Match	26m	East
GOVT. DEPTS. -STATE (G500)	University of New South Wales.,Anne Pde.,Kensington	311823	Premise Match	120m	West

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1970 Business Directory Records
Road or Area Matches

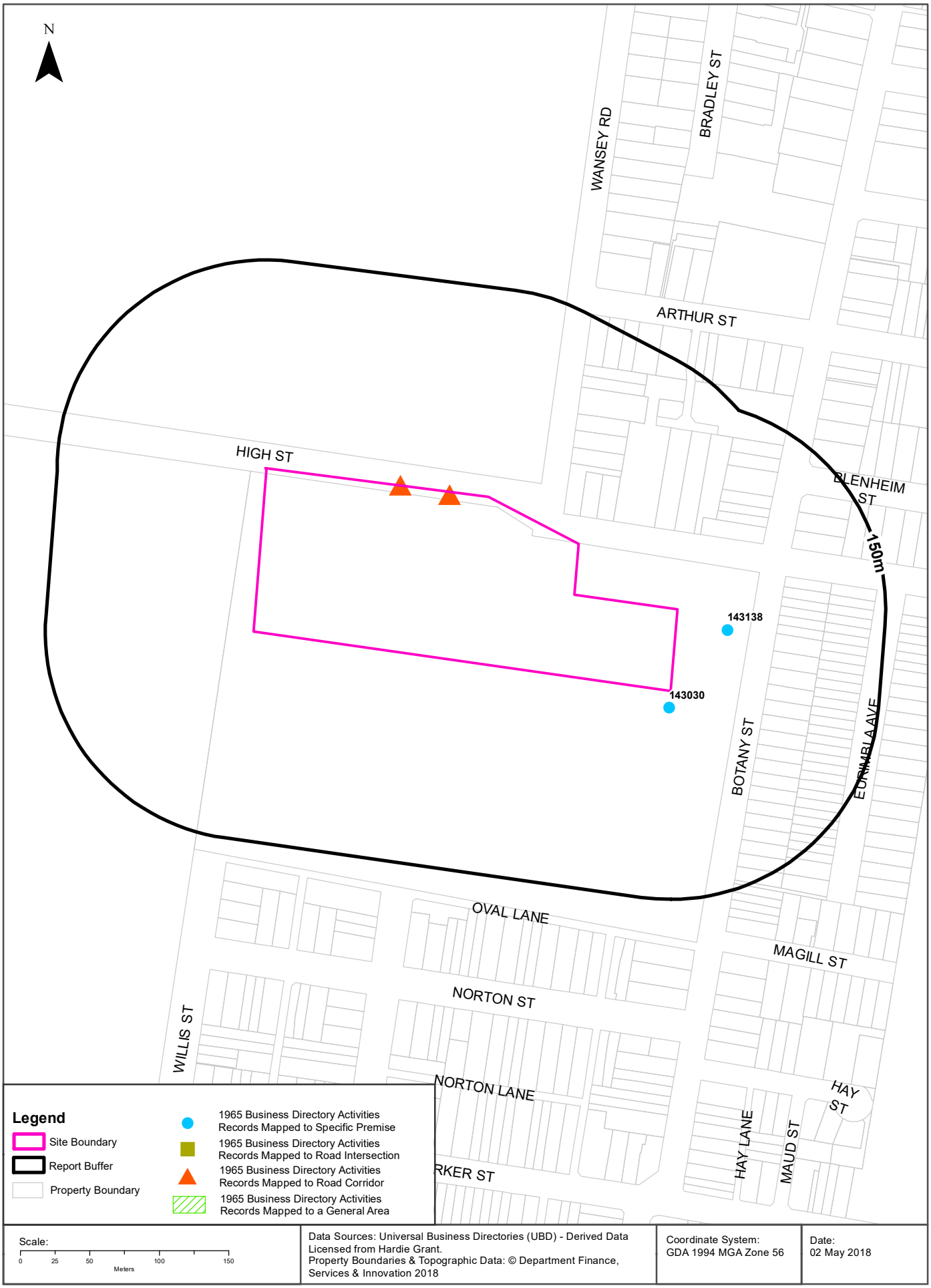
Records from the 1970 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
MOTOR SPARE PARTS DEALERS-RETAIL (M728)	Varsity Auto Centre,Botany St.,Randwick	342055	Road Match	49m
MOTOR GARAGES & ENGINEERS(M6S6)	Varsity Auto Centre,Botany St.RANDWICK	338813	Road Match	49m

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1965 Historical Business Directory Records

Upper Campus, University of New South Wales, Sydney, NSW 2052



Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

1965 Business Directory Records
Premise or Road Intersection Matches

Records from the 1965 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
Schools/Colleges - Technical	School of Biological Sciences, , Cnr, High & Botany Sts., Randwick	143030	Premise Match	12m	South East
Schools - Special	Wallace Worth School of Medicine (The), Cnr. High & Botany Sts., Randwick	143138	Premise Match	37m	East

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1965 Business Directory Records
Road or Area Matches

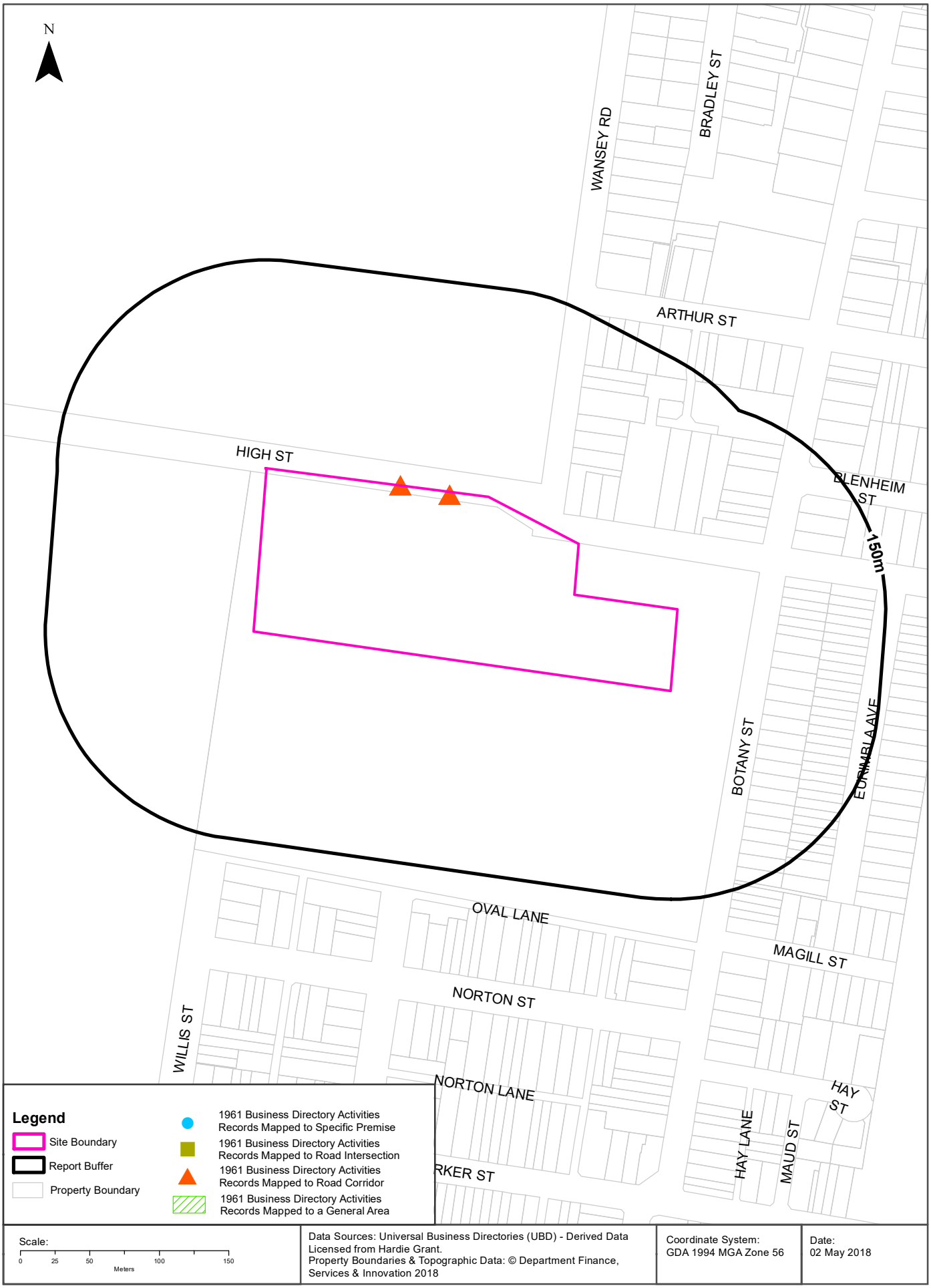
Records from the 1965 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
Piano Tuners &/or Repairers	Continental Piano Co., 22 High St., Randwick	133049	Road Match	0m
Ambulances	Eastern Suburbs Ambulance, , High St., Randwlck	46106	Road Match	0m

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1961 Historical Business Directory Records

Upper Campus, University of New South Wales, Sydney, NSW 2052



Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

1961 Business Directory Records
Premise or Road Intersection Matches

Records from the 1961 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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1961 Business Directory Records
Road or Area Matches

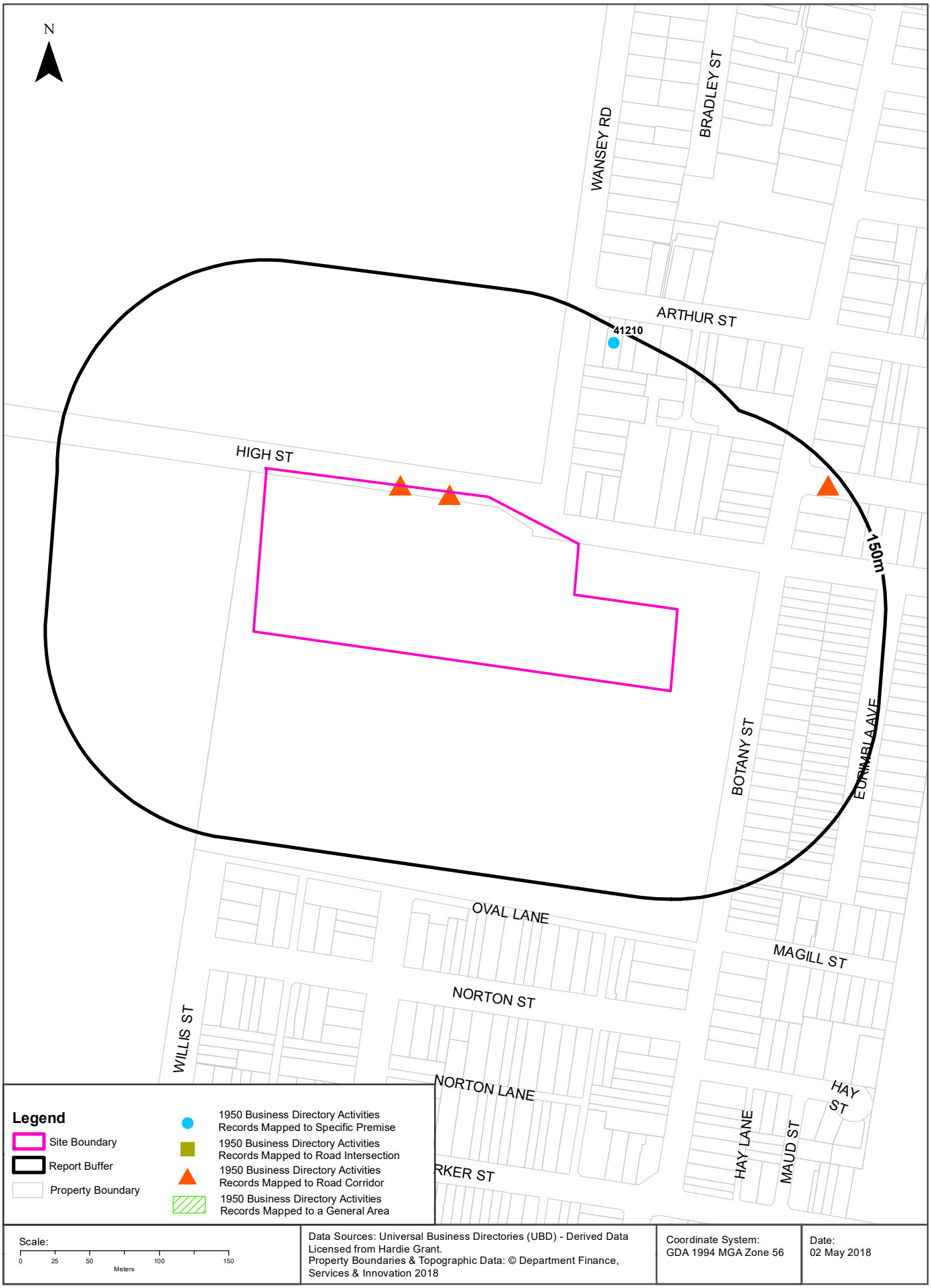
Records from the 1961 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
PIANO TUNERS &/OR REPAIRERS	Continental Piano Co., 22 High St., Randwick	358219	Road Match	0m
AMBULANCES	Eastern Suburbs Ambulance, High St., Randwick	267744	Road Match	0m
CLUBS & SPORTS BODIES	Municipal Golf Links, High St., Randwick	291656	Road Match	0m

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1950 Historical Business Directory Records

Upper Campus, University of New South Wales, Sydney, NSW 2052



Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

1950 Business Directory Records
Premise or Road Intersection Matches

Records from the 1950 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
ENGINEERS-GENERAL &/OR MANUFACTURING &/OR MECHANICAL	Rollex Products, 4 Arthur St., Randwick	41210	Premise Match	140m	North East

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1950 Business Directory Records
Road or Area Matches

Records from the 1950 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
FLATS, RESIDENTIALS, Etc.	Deblacam, High St., Randwick	45075	Road Match	0m
ENGINEERS-GENERAL &/OR MANUFACTURING &/OR MECHANICAL	Donald, A. and Son, 22 High St., Randwick	40635	Road Match	0m
AMBULANCES	Eastern Suburbs Ambulance, High St., Randwick	1715	Road Match	0m
FLATS, RESIDENTIALS, Etc.	Lisrouan, High St., Randwick	45244	Road Match	0m
BOOT & SHOE REPAIRERS	Moffatt, J., Blenheim St., Randwick	10463	Road Match	125m

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Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

Dry Cleaners, Motor Garages & Service Stations Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
MOTOR GARAGES & ENGINEERS	Gillies, I. D., 15 Arthur St. RANDWICK	347227	1961	Premise Match	278m	North East
MOTOR GARAGES &/OR ENGINEERS	Gillies, I. D., 15 Arthur St., Randwick	83802	1950	Premise Match	278m	North East
Motor Garages & Service Stations	Weidmann Motors Pty Ltd, 129 Botany St., Randwick	53989	1991	Premise Match	356m	South East
MOTOR GARAGES & SERVICE STATIONS.	Weidman Motors Pty. Ltd., 129 Botany St., Randwick.	65693	1986	Premise Match	356m	South East
DRY CLEANERS, PRESSERS & DYERS	Normays Dry Cleaners, 152 Barker St., Randwick	35565	1950	Premise Match	415m	South East
DRY CLEANERS & PRESSERS.	Westley Dry Cleaner, 154 Barker St., Randwick.	25565	1986	Premise Match	418m	South East
DRY CLEANERS & PRESSERS. (D8500)	Westley Dry Cleaner, 154 Barker St., Randwick. 2031.	24092	1982	Premise Match	418m	South East
DRY CLEANERS, PRESSERS &/OR DYERS	Normays Dry Cleaner, 154 Barker St., Randwick.	20894	1978	Premise Match	418m	South East
DRY CLEANERS,PRESSERS/DYERS (D710)	Normays Dry Cleaner,154 Barker St.,Randwick	292425	1970	Premise Match	418m	South East
DRY CLEANERS, PRESSERS&/OR DYERS.	Normay's Dry Cleaner, 154 Barker St., Randwick.	24246	1975	Premise Match	422m	South East
DRY CLEANERS, PRESSERS / DYERS	Normays Pty. Ltd., 152-156 Baker St., Randwick	299204	1961	Premise Match	434m	South East
DRY CLEANERS, PRESSERS / DYERS	Hanava Dry Cleaning, 66 Belmore Rd., Randwick	299129	1961	Premise Match	448m	North East
DRY CLEANERS,PRESSERS/DYERS (D710)	Havana Dry Cleaning 66 Belmore Rd.,Randwick	292337	1970	Premise Match	449m	North East
Dry Cleaners, Pressers/Dyers	Havana Dry Cleaning, 66 Belmore Rd., Randwick	76186	1965	Premise Match	449m	North East
DRY CLEANERS, PRESSERS & DYERS	Hanava Dry Cleaning, 66 Belmore Rd., Randwick	35273	1950	Premise Match	449m	North East
DRY CLEANERS & PRESSERS.	Weldon Dry Cleaners, 103 Belmore Rd., Randwick.	25561	1986	Premise Match	478m	East
DRY CLEANERS & PRESSERS. (D8500)	Weldon Dry Cleaners, 103 Belmore Rd., Randwick. 2031.	24090	1982	Premise Match	478m	East
DRY CLEANERS, PRESSERS & DYERS	Wendon Dry Cleaners Pty. Ltd., 103 Belmore Rd., Randwick.,	35825	1950	Premise Match	478m	East
DRY CLEANERS, PRESSERS / DYERS	Weldon Dry Cleaners, 103 Belmore Rd., Randwick	299316	1961	Premise Match	488m	East
DRY CLEANERS & PRESSERS.	Randwick Dry Cleaners, 125 Belmore Rd., Randwick.	25488	1986	Premise Match	493m	East
DRY CLEANERS & PRESSERS. (D8500)	Randwick Dry Cleaners, 125 Belmore Rd., Randwick. 2031.	24020	1982	Premise Match	493m	East
DRY CLEANERS, PRESSERS &/OR DYERS	Randwick Dry Cleaners, 125 Belmore Rd., Randwick.	20927	1978	Premise Match	493m	East
DRY CLEANERS, PRESSERS&/OR DYERS.	Randwick Dry Cleaners, 125 Belmore Rd., Randwick.	24299	1975	Premise Match	493m	East
DRY CLEANERS,PRESSERS/DYERS (D710)	Randwick Dry Cleaners,131 Belmore Rd.,Randwick	292468	1970	Premise Match	498m	East
Dry Cleaners, Pressers/Dyers	Randwick Dry Cleaners, 131 Belmore Rd., Randwick	76304	1965	Premise Match	498m	East

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
Motor Garages & Engineers - Randwick	Alison Service Station, 140 Alison Rd.	123258	1965	Road Intersection	513m	North East
MOTOR GARAGES & ENGINEERS	Alison Service Station, 140 Alison Rd. RANDWICK	346491	1961	Road Intersection	513m	North East
MOTOR GARAGES &/OR ENGINEERS	Alison Service Station, 140 Alison Rd., Randwick	83369	1950	Road Intersection	513m	North East
MOTOR SERVICE STATIONS-PETROL, Etc.	Alison Service Station, 140 Alison Rd., Randwick	85742	1950	Road Intersection	513m	North East
DRY CLEANERS, PRESSERS & DYERS	Lyke-Nu Dry Cleaning Co. Ltd. 37 Belmore Rd., Randwick	35468	1950	Premise Match	529m	North East
DRY CLEANERS, PRESSERS & DYERS	Sharpe Bros., 5 Belmore Rd., Randwick; Wilkes Ave., Artarmon; 146 Alison Rd., Randwick	35687	1950	Premise Match	539m	North East
DRY CLEANERS, PRESSERS & DYERS	Sharpe Bros., 5 Belmore Rd., Randwick; Wilkes Ave., Artarmon; 146 Alison Rd., Randwick	35688	1950	Premise Match	539m	North East
DRY CLEANERS, PRESSERS & DYERS	Sharpe Bros., 5 Belmore Rd., Randwick; Wilkes Ave., Artarmon; 146 Alison Rd., Randwick	35689	1950	Premise Match	539m	North East
MOTOR GARAGES & ENGINEERS(M6S6)	S. & L. Auto Repairs,9 Cuthill St.RANDWICK	338564	1970	Premise Match	546m	East
Motor Garages & Engineers - Randwick	S. & L. Auto Repairs, 9 Cuthill St.	123271	1965	Premise Match	546m	East
MOTOR GARAGES & ENGINEERS	S. & L. Auto Repairs, 9 Cuthill St. RANDWICK	348085	1961	Premise Match	546m	East
DRY CLEANERS, PRESSERS&/OR DYERS.	Sharpe Bros., 5 Belmore Rd., Randwick.	24327	1975	Premise Match	557m	North East
DRY CLEANERS, PRESSERS & DYERS	Sharpe Bros., 5 Belmore Rd., Randwick; Wilkes Ave., Artarmon; 146 Alison Rd., Randwick	35690	1950	Premise Match	557m	North East
MOTOR GARAGES &/OR ENGINEERS	Avoca Garage, 251 Avoca St., Randwick	83403	1950	Premise Match	589m	South East
Motor Garages & Engineers - Randwick	Nock, G., 190 Alison Rd.	123268	1965	Premise Match	598m	North East
MOTOR SERVICE STATIONS-PETROL, Etc.	Morrow and Smith, 188 Alison Rd., Randwick	86223	1950	Premise Match	598m	North East
MOTOR GARAGES &/OR ENGINEERS	Morrow and Smith, 188 Alison Rd., Randwick	84108	1950	Premise Match	598m	North East
Motor Garages & Engineers - Randwick	Lloyd, Peter Pty. Ltd., Cnr. Avoca & Barker Sts.	123266	1965	Road Intersection	619m	South East
Motor Garages & Service Stations	Shore Petroleum Service Station, 8 Perouse Rd., Randwick	53885	1991	Premise Match	620m	East
MOTOR GARAGES & SERVICE STATIONS.	Esso Randwick Service Station, 8 Perouse Rd., Randwick.	64656	1986	Premise Match	620m	East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Esso Randwick Service Station, 8 Perouse Rd., Randwick. 2031.	56726	1982	Premise Match	620m	East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Esso Servicenter, 8 Perouse Rd,, Randwick.	50022	1978	Premise Match	620m	East
MOTOR GARAGES &/OR ENGINEERS.	Esso Servicenter 8 Perouse Rd. Randwick,	58853	1975	Premise Match	622m	East
MOTOR SERVICE STATIONS - PETROL, OIL	Esso Servicenter 8 Perouse Rd., Randwick.	61734	1975	Premise Match	622m	East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	BP Doncaster Service Station 217 Anzac Pde., Kensington, 2033.	56204	1982	Premise Match	626m	West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	BP Doncaster Service Station. 217 Anzac Pde.. Kensington.	49538	1978	Premise Match	626m	West
MOTOR SERVICE STATIONS - PETROL, OIL	BP Doncaster Service Station, 217 Anzac Pde., Kensington.	61495	1975	Premise Match	626m	West
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	B.P. Doncaster Service Station,217 Anzac Pde.,Kensington,2033KENSINGTON	340797	1970	Premise Match	626m	West
Motor Garages & Engineers - Kensington	Green Frog (The), 217 Anzac Pde.	122803	1965	Premise Match	626m	West
MOTOR GARAGES & ENGINEERS	Green Frog (The), 217 Anzac Pde. KENSINGTON	347271	1961	Premise Match	626m	West
MOTOR SERVICE STATIONS—PETROL, OIL, Etc.	Green Frog, 217 Anzac Pde. KENSINGTON	350647	1961	Premise Match	626m	West
MOTOR SERVICE STATIONS-PETROL, Etc.	Green Frog (The), 217 Anzac Pde., Kensington	86009	1950	Premise Match	626m	West

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
MOTOR SERVICE STATIONS-PETROL, Etc.	Green Frog (The), 217 Anzac Pde., Kensington	86008	1950	Premise Match	626m	West
MOTOR GARAGES &/OR ENGINEERS	Green Frog (The), 217 Anzac Pde., Kensington	83822	1950	Premise Match	626m	West
MOTOR GARAGES & SERVICE STATIONS.	Caltex Service Station, 219A Anzac Pde., Kensington.	64402	1986	Premise Match	628m	West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Cooneys (Golden Fleece) Service Station, 219 Anzac Pde.,Kensington. 2033.	56565	1982	Premise Match	628m	West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Esso Kensington Service Station, 219A Anzac Pde., Kensington.2033.	56702	1982	Premise Match	628m	West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Cooneys (Golden Fleece) Service Station, 219 Anzac Pde., Kensington.	49840	1978	Premise Match	628m	West
MOTOR GARAGES &/OR ENGINEERS.	Cooney's Service Station Pty. Ltd., 219a Anzac Pde., Kensington.	58696	1975	Premise Match	628m	West
MOTOR GARAGES &/OR ENGINEERS.	Cooney, N., 219 Anzac Pde., Kensington.	58697	1975	Premise Match	628m	West
MOTOR GARAGES & ENGINEERS(M6S6)	Cooneys Service Station Pty. Ltd.,219a Anzac Parade.KENSINGTON	337611	1970	Premise Match	628m	West
Motor Garages & Engineers - Kensington	Golden Fleece Service Station, 219a Anzac Pde.	122802	1965	Premise Match	628m	West
MOTOR SERVICE STATIONS—PETROL, OIL, Etc.	University Service Station Pty. Ltd., 219a Anzac Pde. KENSINGTON	351242	1961	Premise Match	628m	West
MOTOR GARAGES & SERVICE STATIONS.	Mannys Service Centre, 380 Anzac Pde., Kingsford.	65036	1986	Premise Match	632m	South West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Mannys Service Centre, 380 Anzac Pde., Kingsford. 2032.	57139	1982	Premise Match	632m	South West
DRYCLEANING MACHINERY & SUPPLIES MFRS. &/OR DISTS.	Auto-Coin-Dry Cleaning Pty. Ltd., 221 Anzac Pde., Kensington.	20998	1978	Premise Match	634m	West
DRY CLEANERS, PRESSERS &/OR DYERS	Peter, Barry Laundries Pty. Ltd., 221 Anzac Pde., Kensington.	20913	1978	Premise Match	634m	West
DRYCLEANING MACHINERY & SUPPLIES MFRS. &/OR DISTS.	Auto-Coin-Dry Cleaning Pty. Ltd., 221 Anzac Pde., Kensington.	24433	1975	Premise Match	634m	West
DRY CLEANERS, PRESSERS&/OR DYERS.	Kensington Norge Village. 221 Anzac Pde., Kensington.	24103	1975	Premise Match	634m	West
DRY CLEANING MACHINERY & SUPPLIES-MFRS.&/OR DISTS. (D720)	Auto-Coin Dry Cleaning Pty.Ltd.,221 Anzac Pde.,Kensington	292584	1970	Premise Match	634m	West
DRY CLEANERS,PRESSERS/DYERS (D710)	Kensington Norge Village,221 Anzac Pde.,Kensington (&Branch)	292360	1970	Premise Match	634m	West
Dry Cleaners, Pressers/Dyers	Kensington Norge Village, 221 Anzac Pde., Kensington (& Branch)	76215	1965	Premise Match	634m	West
MOTOR GARAGES & ENGINEERS	Kingsford Car Sales, 247-249 Anzac Pde. KINGSFORD	347509	1961	Premise Match	639m	South West
Motor Garages & Service Stations	Coogee Bay Road Auto Port, 1 Coogee Bay Rd, Randwick 2031	53661	1991	Premise Match	642m	East
BATTERY SERVICE STATIONS	Randwick Garage (J. B. Williams, Propr.), 1 Coogee Bay Rd., Randwick	6635	1950	Premise Match	642m	East
MOTOR GARAGES &/OR ENGINEERS	Randwick Garage, 1 Coogee Bay Rd., Randwick	84257	1950	Premise Match	642m	East
MOTOR SERVICE STATIONS-PETROL, Etc.	Randwick Garage, 1 Coogee Bay Rd., Randwick	86318	1950	Premise Match	642m	East
MOTOR GARAGES &/OR ENGINEERS	Williams, J. B., 1 Coogee Bay Rd., Coogee	84565	1950	Premise Match	643m	East
MOTOR SERVICE STATIONS - PETROL, OIL	Barringtons Service Station, 245 Anzac Pde., Kingsford.	61430	1975	Premise Match	643m	South West
MOTOR GARAGES & SERVICE STATIONS.	Rob & Robb Automotive, Rear 231 Anzac Pde., Kingsford.	65347	1986	Premise Match	643m	West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	White. Peter Service Station, 241 Anzac Pde., Kensington.	51103	1978	Premise Match	644m	South West
MOTOR GARAGES &/OR ENGINEERS.	White, Peter Service Station, 241 Anzac Pde., Kensington,	59779	1975	Premise Match	644m	South West
MOTOR GARAGES & ENGINEERS(M6S6)	White,Peter Service Station,241 Anzac Pde.KENSINGTON	338880	1970	Premise Match	644m	South West

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
Motor Garages & Engineers - Kensington	White, Peter Service Station, 241 Anzac Pde.	122810	1965	Premise Match	644m	South West
MOTOR GARAGES & ENGINEERS	White, Peter Service Station, 241 Anzac Pde. KILLARA	348441	1961	Premise Match	644m	South West
MOTOR SERVICE STATIONS—PETROL, OIL, Etc.	White, Peter, 241 Anzac Pde. KILLARA	351285	1961	Premise Match	644m	South West
MOTOR SERVICE STATIONS-PETROL, Etc.	White, Peter, 241 Anzac Pde., Kensington	86523	1950	Premise Match	644m	South West
MOTOR GARAGES & SERVICE STATIONS.	Boyded (Randwick) Pty. Ltd., 265 Avoca St., Randwick.	64082	1986	Premise Match	645m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Boyded (Randwick) Pty. Ltd., 265 Avoca St., Randwick. 2031,	56156	1982	Premise Match	645m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Boyded (Randwick) Pty. Ltd., 265 Avoca St., Randwick.	49445	1978	Premise Match	645m	South East
MOTOR GARAGES &/OR ENGINEERS.	Boyded (Randwick) Pty. Ltd., 265 Avoea St., Randwick.	58469	1975	Premise Match	645m	South East
MOTOR GARAGES & ENGINEERS(M6S6)	Avoca Garage & Motor Body Works,265 Avoca St.RANDWICK	337229	1970	Premise Match	645m	South East
MOTOR GARAGES & ENGINEERS	Avoca Garage & Motor Body Works, 265 Avoca St. RANDWICK	346573	1961	Premise Match	645m	South East
Motor Garages & Engineers - Kingsford	Barrington's Service Station, 245 Anzac Pde.	122827	1965	Premise Match	646m	South West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Barringtons Service Station, 245 Anzac Pde., Kingsford.	49381	1978	Premise Match	649m	South West
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Barringtons Service Station,245 Anzac Pde.KENSINGTON	340824	1970	Premise Match	649m	South West
Motor Service Stations - Petrol, Oil, Etc. - Kingsford	Barringtons Service Station, 243 Anzac Pde.	125801	1965	Premise Match	651m	South West
MOTOR GARAGES & ENGINEERS	Barrington's Service Station, 243-245 Anzac Pde.	346607	1961	Premise Match	651m	South West
MOTOR GARAGES & ENGINEERS	Randwick Garage, 1 Coogee Bay Rd. RANDWICK	347981	1961	Premise Match	652m	East
MOTOR GARAGES & SERVICE STATIONS.	Amoco Kingsford Service Station, 398 Anzac Pde., Kingsford.	63893	1986	Premise Match	657m	South West
MOTOR SERVICE STATIONS-PETROL, Etc.	Fairway Service Station, 243 Anzac Pde., Kingsford	85950	1950	Premise Match	658m	South West
MOTOR GARAGES & ENGINEERS	Cook, J. S., 198 Alison Rd. RANDWICK	346938	1961	Premise Match	664m	North East
Motor Garages & Service Stations	Randwick Auto Port, 155 Avoca St., Randwick	53801	1991	Premise Match	685m	North East
MOTOR GARAGES & SERVICE STATIONS.	Randwick Auto Port, 155 Avoca St , Randwick.	65324	1986	Premise Match	685m	North East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Randwick Auto Port, 155 Avoca St., Randwick. 2031.	57442	1982	Premise Match	685m	North East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Randwick Auto Port, 155 Avoca St., Randwick.	50720	1978	Premise Match	685m	North East
MOTOR GARAGES &/OR ENGINEERS.	Randwick Auto Port, 155 Avoca St., Randwick.	59445	1975	Premise Match	685m	North East
MOTOR GARAGES & ENGINEERS(M6S6)	Randwick Auto Port,155-159 Avoca St.RANDWICK	338482	1970	Premise Match	685m	North East
Motor Garages & Engineers - Randwick	Randwick Auto Port, 155-159 Avoca St.	123270	1965	Premise Match	686m	North East
MOTOR GARAGES & ENGINEERS(M6S6)	B.P. Garage,211 Anzac Pde.KENSINGTON	337240	1970	Premise Match	707m	West
DRY CLEANERS,PRESSERS/DYERS (D710)	Kingsford Dry Cleaners,432 Anzac Pde.,Kingsford	292362	1970	Premise Match	709m	South West
Dry Cleaners, Pressers/Dyers	Kingsford Dry Cleaners, 432 Anzac Pde., Kingsford	76217	1965	Premise Match	709m	South West
MOTOR GARAGES &/OR ENGINEERS	Destro, L., 273 Anzac Pde., Kingsford	83683	1950	Premise Match	714m	South West
MOTOR GARAGES &/OR ENGINEERS	Kingsford Car Repairs, 273 Anzac Pde., Kingsford	83957	1950	Premise Match	714m	South West
DRY CLEANERS, PRESSERS & DYERS	Randwick Dry Cleaners (R. McKenna, Propr.), 56 Perouse Rd., Randwick	35631	1950	Premise Match	719m	South East

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
MOTOR GARAGES & SERVICE STATIONS.	Kensington Auto Port, 300 Anzac Pde., Kensington.	64939	1986	Premise Match	734m	North West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Kensington Auto Port. 300 Anzac Pde Kensington. 2033.	57039	1982	Premise Match	734m	North West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Kensington Auto Port, 300 Anzac Pde., Kensington.	50320	1978	Premise Match	734m	North West
MOTOR GARAGES &/OR ENGINEERS.	Kensington Auto Port. 300 Anzac Pde., Kensington.	59105	1975	Premise Match	734m	North West
MOTOR GARAGES & ENGINEERS(M6S6)	Kensington Auto Port,300 Anzac Pde.KENSINGTON	338095	1970	Premise Match	734m	North West
Motor Garages & Engineers - Kensington	Kensington Auto Port, 300 Anzac Pde.	122805	1965	Premise Match	734m	North West
DRY CLEANERS, PRESSERS&/OR DYERS.	Star Brite Dry Cleaning, 68 Perouse Rd., Randwick.	24358	1975	Premise Match	734m	South East
DRY CLEANERS, PRESSERS&/OR DYERS.	Weldon Dry Cleaners, 122 Avoca St., Randwick.	24402	1975	Premise Match	737m	North East
DRY CLEANERS & PRESSERS.	Avoca Dry Cleaners, 141 Avoca St., Randwick.	25224	1986	Premise Match	738m	North East
DRY CLEANERS & PRESSERS. (D8500)	Avoca Dry Cleaners. 141 AvocaSt., Randwick. 2031.	23754	1982	Premise Match	738m	North East
DRY CLEANERS, PRESSERS &/OR DYERS	Weldon Dry Cleaners, 141 Avoca St., Randwick.	20985	1978	Premise Match	738m	North East
MOTOR GARAGES & ENGINEERS(M6S6)	Chadwick & Avefy,456 Anzac Pde.KINGSFORD	337557	1970	Premise Match	741m	South West
Motor Service Stations - Petrol, Oil, Etc. - Kingsford	Total Service Station, 456 Anzac Pde.	125808	1965	Premise Match	741m	South West
MOTOR SERVICE STATIONS-PETROL, Etc.	Doncaster Garage, 290 Anzac Pde., Kensington	85927	1950	Premise Match	743m	North West
MOTOR GARAGES &/OR ENGINEERS	Doncaster Garage, 290 Anzac Pde., Kensington	83689	1950	Premise Match	743m	North West
MOTOR GARAGES &/OR ENGINEERS	Wilson, P. F., 290 Anzac Pde., Kensington	84573	1950	Premise Match	743m	North West
Motor Garages & Engineers - Kensington	Grand Prix Garage, Cnr. Day Ave. & Day Lane	122801	1965	Road Intersection	744m	West
MOTOR GARAGES & ENGINEERS	Chadwick & Avery, 456 Anzac Pde. KINGSFORD	346856	1961	Premise Match	751m	South West
MOTOR GARAGES & ENGINEERS	Parade Filling Station, 456 Anzac Pde. KINGSFORD	347844	1961	Premise Match	751m	South West
MOTOR GARAGES & ENGINEERS	Doncaster Garage, 290 Anzac Pde. KENSINGTON	347058	1961	Premise Match	753m	North West
MOTOR GARAGES & ENGINEERS	Reliable Service, 284 Anzac Pde., KENSINGTON	348008	1961	Premise Match	753m	North West
DRY CLEANERS & PRESSERS.	Star Brite Dry Cleaning, 68 Perouse Rd., Randwick. .	25530	1986	Premise Match	756m	South East
DRY CLEANERS & PRESSERS. (D8500)	Star Brite Dry Cleaning, 68 Perouse Rd., Randwick. 2031.	24063	1982	Premise Match	756m	South East
DRY CLEANERS, PRESSERS &/OR DYERS	Star Brite Dry Cleaning, 68 Perouse Rd., Randwick.	20967	1978	Premise Match	756m	South East
Motor Garages & Engineers - Waverly	Waverley Autos, 15 Victoria St.	123512	1965	Premise Match	757m	East
MOTOR GARAGES & SERVICE STATIONS.	Southern Cross Auto Port. 301 Anzac Pde., Kingsford.	65489	1986	Premise Match	760m	South West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Southern Cross Auto Port, 301 Anzac Pde., Kingsford.	50864	1978	Premise Match	760m	South West
MOTOR GARAGES & ENGINEERS(M6S6)	Southern Cross Auto Port,301 Anzac Pde.KINGSFORD	338638	1970	Premise Match	760m	South West
DRY CLEANERS & PRESSERS.	Gemini, 110 Avoca St., Randwick.	25318	1986	Premise Match	761m	North East
DRY CLEANERS & PRESSERS. (D8500)	Gemini, 110 AvocaSt., Randwick. 2031.	23850	1982	Premise Match	761m	North East
DRY CLEANERS, PRESSERS & DYERS	Kleanit Valet Service, 53 Perouse Rd., Randwick	35381	1950	Premise Match	765m	South East
MOTOR GARAGES & ENGINEERS(M6S6)	John's Auto Repairs,295 Houston Lane.KINGSFORD	338068	1970	Premise Match	768m	South West
MOTOR GARAGES &/OR ENGINEERS.	Southern Cross Auto Port, 301 Anzac Pde., Kingsford.	59561	1975	Premise Match	782m	South West

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
Motor Service Stations - Petrol, Oil, Etc. - Kingsford	Southern Cross Auto Port (Shell), 303 Anzac Pde.	125807	1965	Premise Match	783m	South West
DRY CLEANERS, PRESSERS & DYERS	Leo and Co., Military Rd., Watsons Bay and 26a Cowper St., Bondi Junction	35404	1950	Premise Match	812m	North
Motor Garages & Service Stations	Road & Track Automotive Services, 115 Avoca St., Randwick	53816	1991	Premise Match	819m	North East
MOTOR GARAGES & SERVICE STATIONS.	Road & Track Automotive Services, 115 Avoca St., Randwick.	65346	1986	Premise Match	819m	North East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Road & Track Automotive Services. 115 Avoca St., Randwick.2031.	57473	1982	Premise Match	819m	North East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Road & Track Automotive Services. 115 Avoca St., Randwick.	50751	1978	Premise Match	819m	North East
MOTOR GARAGES &/OR ENGINEERS.	Road & Track Automotive Services. 115 Avoca St., Randwick.	59469	1975	Premise Match	819m	North East
MOTOR GARAGES &/OR ENGINEERS.	T.S.W TradingCo. 115 Avoca St. Randwick.	59618	1975	Premise Match	819m	North East
DRY CLEANERS, PRESSERS & DYERS	Coogee Laundry, 115 Avoca St., Randwick	35164	1950	Premise Match	819m	North East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	South Kensington Garage, 12 Rainbow St., Kingsford. 2032.	57598	1982	Premise Match	846m	South West
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	South Kensington Garage, 12 Rainbow St., Kingsford.	50857	1978	Premise Match	846m	South West
MOTOR GARAGES &/OR ENGINEERS.	South Kensington Garage, 12 Rainbow St., Kingsford.	59555	1975	Premise Match	846m	South West
MOTOR SERVICE STATIONS - PETROL, OIL	South Kensington Garage. 12 Rainbow St., Kingsford.	61953	1975	Premise Match	846m	South West
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	South Kensington Garage,12 Rainbow St.KINGSFORD	341477	1970	Premise Match	846m	South West
MOTOR GARAGES & ENGINEERS(M6S6)	South Kensington Garage,12 Rainbow St.KINGSFORD	338629	1970	Premise Match	846m	South West
Motor Garages & Engineers - Kingsford	South Kensington Garage, 12 Rainbow St.	122833	1965	Premise Match	846m	South West
Motor Service Stations - Petrol, Oil, Etc. - Kingsford	South Kensington Garage, 12 Rainbow St.	125806	1965	Premise Match	846m	South West
MOTOR GARAGES & ENGINEERS	South Kensington Garage, 12 Rainbow St. KINGSFORD	348167	1961	Premise Match	846m	South West
BATTERY SERVICE STATIONS	South Kensington Garage, 12 Rainbow St., Kingsford	6644	1950	Premise Match	846m	South West
MOTOR SERVICE STATIONS-PETROL, Etc.	South Kensington Garage, 12 Rainbow St., Kingsford	86405	1950	Premise Match	846m	South West
MOTOR GARAGES &/OR ENGINEERS	South Kensington Garage, 12 Rainbow St., Kingsford	84393	1950	Premise Match	846m	South West
MOTOR GARAGES & SERVICE STATIONS.	Lightning Service Station, 72 Alison Rd., Randwick.	64984	1986	Premise Match	879m	North
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Lightning Service Station, 72 Alison Rd., Randwick. 2031.	57089	1982	Premise Match	879m	North
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Lightning Service Station, 72 Alison Rd., Randwick.	50377	1978	Premise Match	879m	North
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Lightning Service Station,72 Alison Rd.RANDWICK	341279	1970	Premise Match	879m	North
Motor Service Stations - Petrol, Oil, Etc. - Randwick	Lightning Service Station, 72 Alison Rd.	126080	1965	Premise Match	879m	North
MOTOR SERVICE STATIONS—PETROL, OIL, Etc.	Lightning Service Station, 72 Alison Rd. RANDWICK	350788	1961	Premise Match	879m	North
MOTOR SERVICE STATIONS-PETROL, Etc.	Lightning Service Station, 72 Alison Rd., Randwick	86139	1950	Premise Match	879m	North
MOTOR GARAGES & ENGINEERS(M6S6)	Randwick Auto Body,107 Avoca St.RANDWICK	338481	1970	Premise Match	885m	North East
DRY CLEANERS & PRESSERS.	Lawrence Dry Cleaners, 343 Anzac Pde., Kingsford.	25402	1986	Premise Match	891m	South West
DRY CLEANERS & PRESSERS. (D8500)	Lawrence Dry Cleaners, 343 Anzac Pde., Kingsford. 2032.	23923	1982	Premise Match	891m	South West
Motor Garages & Engineers - Randwick	Randwick Auto Body, 107 Avoca St.	123269	1965	Premise Match	894m	North East

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
MOTOR GARAGES & ENGINEERS	Savoy Garage, 107 Avoca St. RANDWICK	348098	1961	Premise Match	894m	North East
DRY CLEANERS & PRESSERS.	Doncaster Co-op Laundry, Doncaster Shopping Centre, 260 Anzac Pde., Kensington.	25282	1986	Premise Match	896m	North West
MOTOR GARAGES & SERVICE STATIONS.	Alison Road Auto Port, 54 Alison Rd., Randwick.	63874	1986	Premise Match	897m	North
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Alison Road Auto Port, 54 Alison Rd., Randwick. 2031.	55944	1982	Premise Match	897m	North
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Alison Road Auto Port, 54 Alison Rd., Randwick.	49224	1978	Premise Match	897m	North
MOTOR GARAGES &/OR ENGINEERS.	Alison Road Auto Port, 54 Alison Rd., Randwick.	58314	1975	Premise Match	897m	North
DRY CLEANERS, PRESSERS & DYERS	Lykes Dry Cleaners, 345 Anzac Pde., Kingsford	35481	1950	Premise Match	898m	South West
DRY CLEANERS, PRESSERS & DYERS	Bestway Dry Cleaners, 359 Anzac Pde., Kingsford	35121	1950	Premise Match	901m	South West
DRY CLEANERS, PRESSERS & DYERS	Jones, Dry Cleaners Pty. Ltd. 357 Anzac Pde., Kingsford	35366	1950	Premise Match	916m	South West
DRY CLEANERS, PRESSERS&/OR DYERS.	Twin Star Dry Cleaners, 240 Anzac Pde., Kensington	24389	1975	Premise Match	921m	North West
DRY CLEANERS,PRESSERS/DYERS (D710)	Twin Star Dry Cleaning & Pressing Service,240 Anzac Pde.,Kensington	292557	1970	Premise Match	921m	North West
Dry Cleaners, Pressers/Dyers	Twin Star Dry Cleaning & Pressing Service, 240 Anzac Pde., Kensington	76369	1965	Premise Match	921m	North West
DRY CLEANERS, PRESSERS / DYERS	Twin Star Dry Cleaning & Pressing Service, 240 Anzac Pde., Kensington	299305	1961	Premise Match	921m	North West
DRY CLEANERS, PRESSERS & DYERS	Brennan, A. C., 240 Anzac Pde., Kensington	35136	1950	Premise Match	921m	North West
DRY CLEANERS, PRESSERS & DYERS	Twin Star, 240 Anzac Pde., Kensington	35805	1950	Premise Match	921m	North West
DRY CLEANERS, PRESSERS & DYERS	Norton, E. I., 78 Houston Rd., Kingsford	35570	1950	Premise Match	932m	South West
DRY CLEANERS, PRESSERS&/OR DYERS.	Westley Dry Cleaners, 161 Anzac Pete., Kensington.	24419	1975	Premise Match	961m	North West
MOTOR SERVICE STATIONS—PETROL, OIL, Etc.	South Randwick Service Station, 345 Avoca St. REDFERN	351100	1961	Premise Match	963m	South East
MOTOR GARAGES &/OR ENGINEERS.	South Randwick Service Station Pty. Ltd., 345 Avoca St., Randwick.	59558	1975	Premise Match	972m	South East
MOTOR GARAGES & ENGINEERS(M6S6)	South Randwick Service Station Pty. Ltd.,345 Avoca St.RANDWICK	338632	1970	Premise Match	972m	South East
Motor Garages & Engineers - Randwick	South Randwick Service Station Pty. Ltd., 345 Avoca St.	123272	1965	Premise Match	972m	South East
MOTOR GARAGES & ENGINEERS(M6S6)	Central Service Station,7 Buanerong Rd.KINGSFORD	337554	1970	Premise Match	979m	South West
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Central Service Station,7 Bunnerong Rd.KINGSFORD	340959	1970	Premise Match	979m	South West
MOTOR GARAGES & SERVICE STATIONS.	George Anthony Mechanical Repairs, 16 Alison Rd., Randwick.	64735	1986	Premise Match	990m	North
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Swanson Service Station, 16 Alison Rd., Randwick.	50913	1978	Premise Match	990m	North
MOTOR GARAGES &/OR ENGINEERS.	Swanson Service Station. 16 AlisonRd., Randwick.	59607	1975	Premise Match	990m	North
MOTOR GARAGES & ENGINEERS(M6S6)	Moule,Les,16 Alison Rd.RANDWICK	338301	1970	Premise Match	990m	North
MOTOR GARAGES & ENGINEERS(M6S6)	Swanson Service Station,16 Alison Rd.RANDWICK	338700	1970	Premise Match	990m	North
Motor Garages & Engineers - Randwick	Moule, Les, 16 Alison Rd.	123267	1965	Premise Match	990m	North
Motor Garages & Engineers - Randwick	Swanson Service Station, 16 Alison Rd.	123273	1965	Premise Match	990m	North
MOTOR GARAGES & ENGINEERS	Moule, Les, 16 Alison Rd. RANDWICK	347754	1961	Premise Match	990m	North
MOTOR GARAGES & ENGINEERS	Swanson Service Station, 16 Alison Rd. RANDWICK	348252	1961	Premise Match	990m	North

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
MOTOR GARAGES &/OR ENGINEERS	Swanson, C. O., 16 Alison Rd., Randwick	84448	1950	Premise Match	990m	North
DRY CLEANERS, PRESSERS / DYERS	Park View Dry Cleaning & Pressing, 16 Gardeners Rd., Kingsford	299215	1961	Premise Match	998m	South West

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Historical Business Directories

Upper Campus, University of New South Wales, Sydney, NSW 2052

Dry Cleaners, Motor Garages & Service Stations Road or Area Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
MOTOR GARAGES &/OR ENGINEERS.	Varsity Auto Centre, Botany St., Randwick.	59716	1975	Road Match	49m
MOTOR GARAGES & ENGINEERS(M6S6)	Varsity Auto Centre,Botany St.RANDWICK	338813	1970	Road Match	49m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Varsity Auto Centre, Barker St., Kensington. 2033.	57786	1982	Road Match	353m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Varsity Auto Centre, Barker St;, Kensington.	51034	1978	Road Match	353m
Motor Garages & Service Stations	Varsity Auto Centre Barker St., Randwick	53975	1991	Road Match	360m
MOTOR GARAGES & SERVICE STATIONS.	Varsity Auto Centre, Barker St., Randwick.	65664	1986	Road Match	360m
Motor Garages & Engineers - Randwick	Avoca Garage & Motor Body Works, 265 Avoca St.	123259	1965	Road Match	484m
MOTOR GARAGES & SERVICE STATIONS.	Avoca Rae Service Station, Avoca St., Randwick.	63996	1986	Road Match	484m
Motor Garages & Service Stations	Kensington Auto Port, Anzac Pde, Kensington. 2033	53764	1991	Road Match	575m
MOTOR GARAGES & SERVICE STATIONS.	Vasilas, J. & S. & H. Pty. Ltd. Esso Self Serve, Anzac Pde., Kensington.	65666	1986	Road Match	575m
MOTOR GARAGES &/OR ENGINEERS	B. and H. Motors, Middle Lane, Kingsford	83405	1950	Road Match	595m
MOTOR SERVICE STATIONS-PETROL, Etc.	B. and H. Motors, Middle Lane, Kingsford	85766	1950	Road Match	595m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Grand Prix Garage, Day Ave., Kensington.	50188	1978	Road Match	605m
MOTOR GARAGES & ENGINEERS(M6S6)	Grand Prix Garage,Day Ave.KENSINGTON	337925	1970	Road Match	605m
MOTOR GARAGES &/OR ENGINEERS.	Grand Prix Garage. Day Ave., Kensington.	58985	1975	Road Match	605m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Amoco Kingsford Service Station, Anzac Pde., Kingsford. 2032.	55971	1982	Road Match	612m
Motor Garages & Engineers - Kingsford	Amoco Service Station, Anzac Pde.	122825	1965	Road Match	612m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Kingsford Motor Industries Pty. Ltd., Anzac Pde., Kingsford.	50337	1978	Road Match	612m
MOTOR GARAGES &/OR ENGINEERS.	Kingsford Motor industries Pty. Ltd., Anzac Pde., Kingsford.	59113	1975	Road Match	612m
MOTOR GARAGES &/OR ENGINEERS.	Kingsford Motor Industries, Anzac Pde., Kingsford.	59112	1975	Road Match	612m
MOTOR GARAGES & SERVICE STATIONS.	Mobil Kingsford Service Station, Anzac Pde., Kingsford.	65107	1986	Road Match	612m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Mobil KingsfordService Station, Anzac Pde., Kingsford. 2032.	57221	1982	Road Match	612m
MOTOR GARAGES & SERVICE STATIONS.	Coogee Bay Road Auto Port, Coogee Bay Rd., Randwick.	64502	1986	Road Match	626m
DRY CLEANERS, PRESSERS & DYERS	Tasman Dry Cleaners. 49 Barrowdale Rd., Kingsford	35768	1950	Road Match	826m

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
Motor Garages & Engineers - Kingsford	Central Service Station, 7 Bunnerong Rd.	122828	1965	Road Match	972m
Motor Service Stations - Petrol, Oil, Etc. - Kingsford	Central Service Station, 7 Bunnerong Rd.	125803	1965	Road Match	972m
MOTOR GARAGES & ENGINEERS	Central Service Station, 7 Bunnerong Rd. KINGSFORD	346854	1961	Road Match	972m
MOTOR GARAGES &/OR ENGINEERS.	Central Service Station, 7 Bunnerong Rd., Kingsford.	58649	1975	Road Match	972m
MOTOR SERVICE STATIONS - PETROL, OIL	Central Service Station, 7 Bunnerong Rd., Kingsford.	61637	1975	Road Match	972m

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Meters

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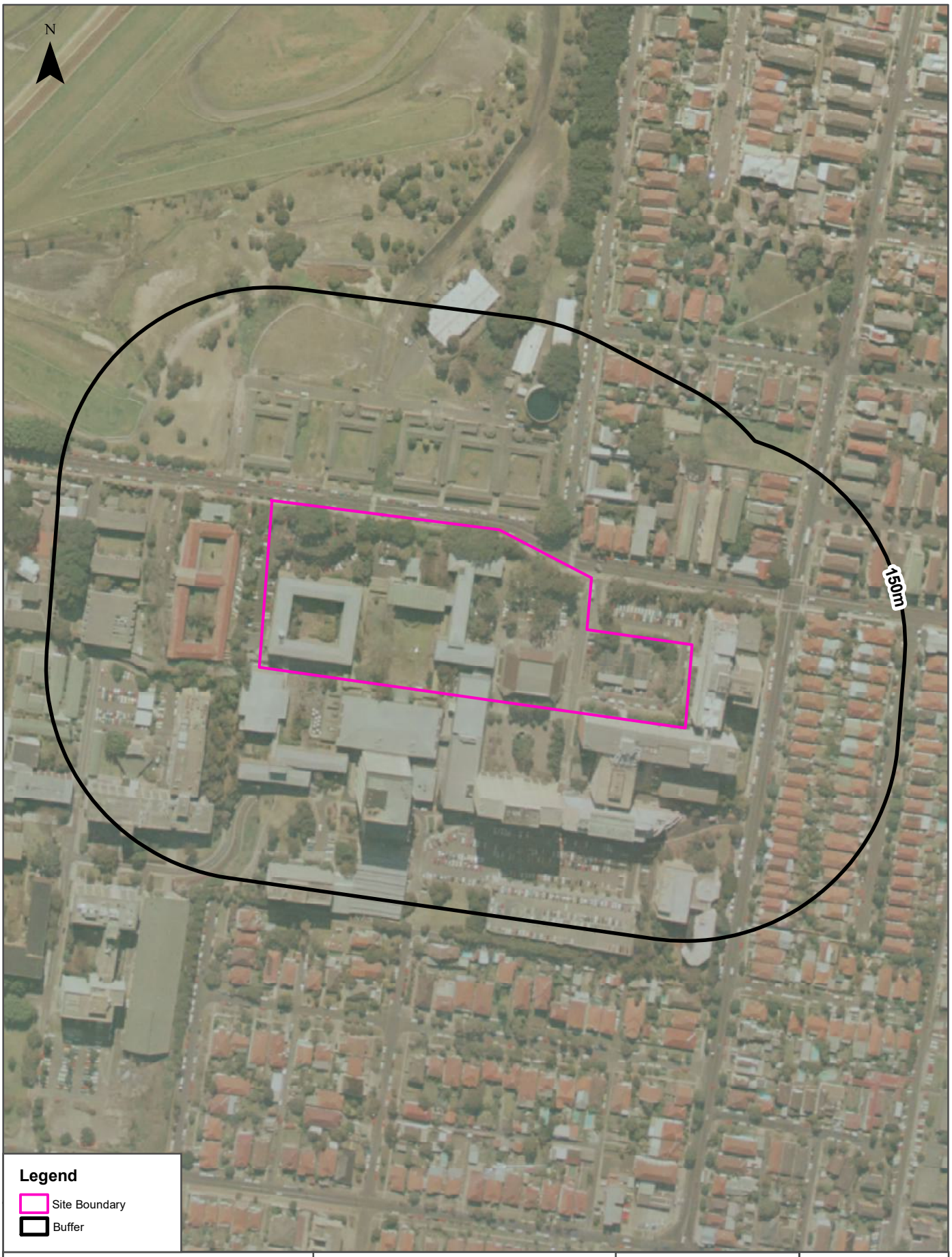
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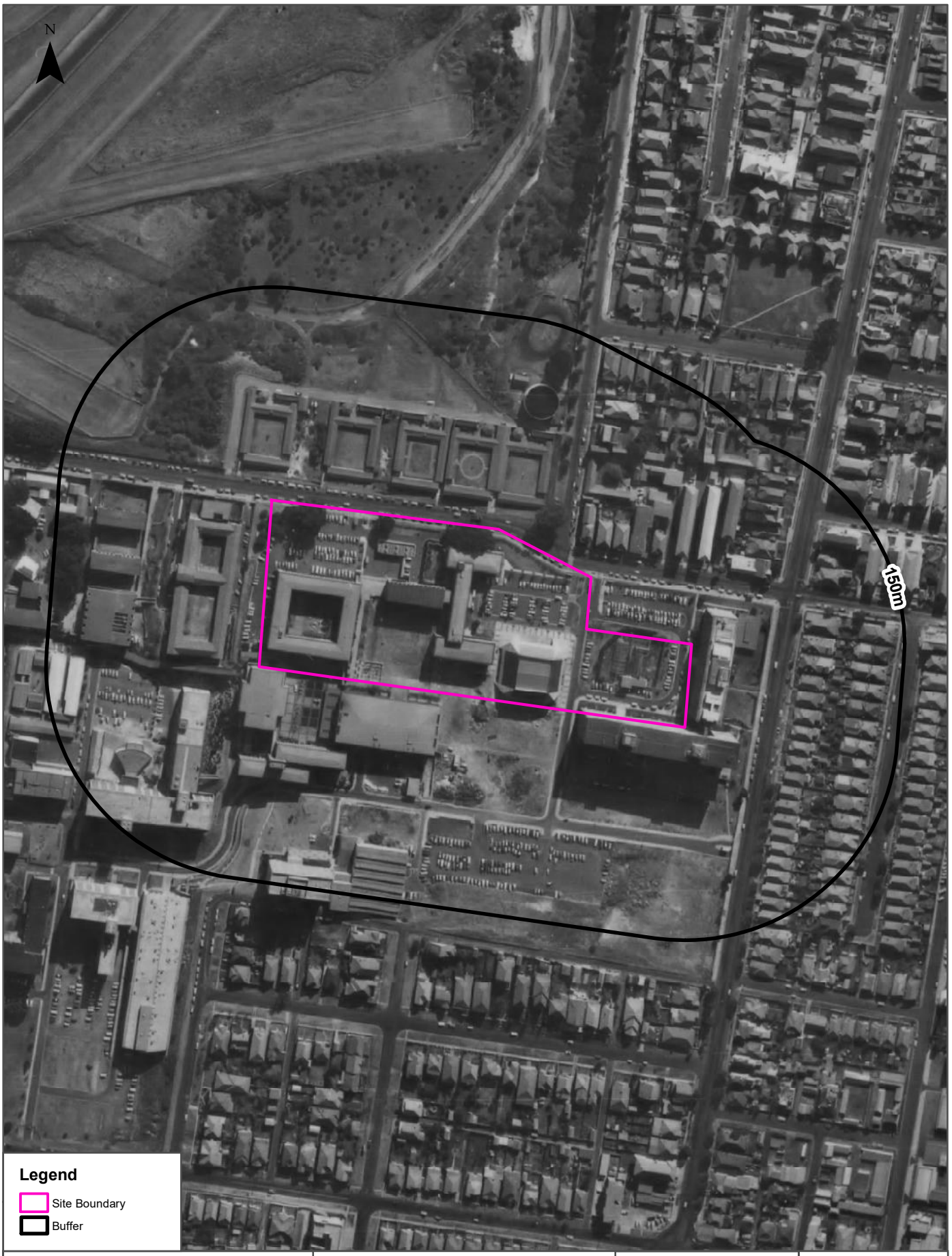
Aerial Imagery 1982

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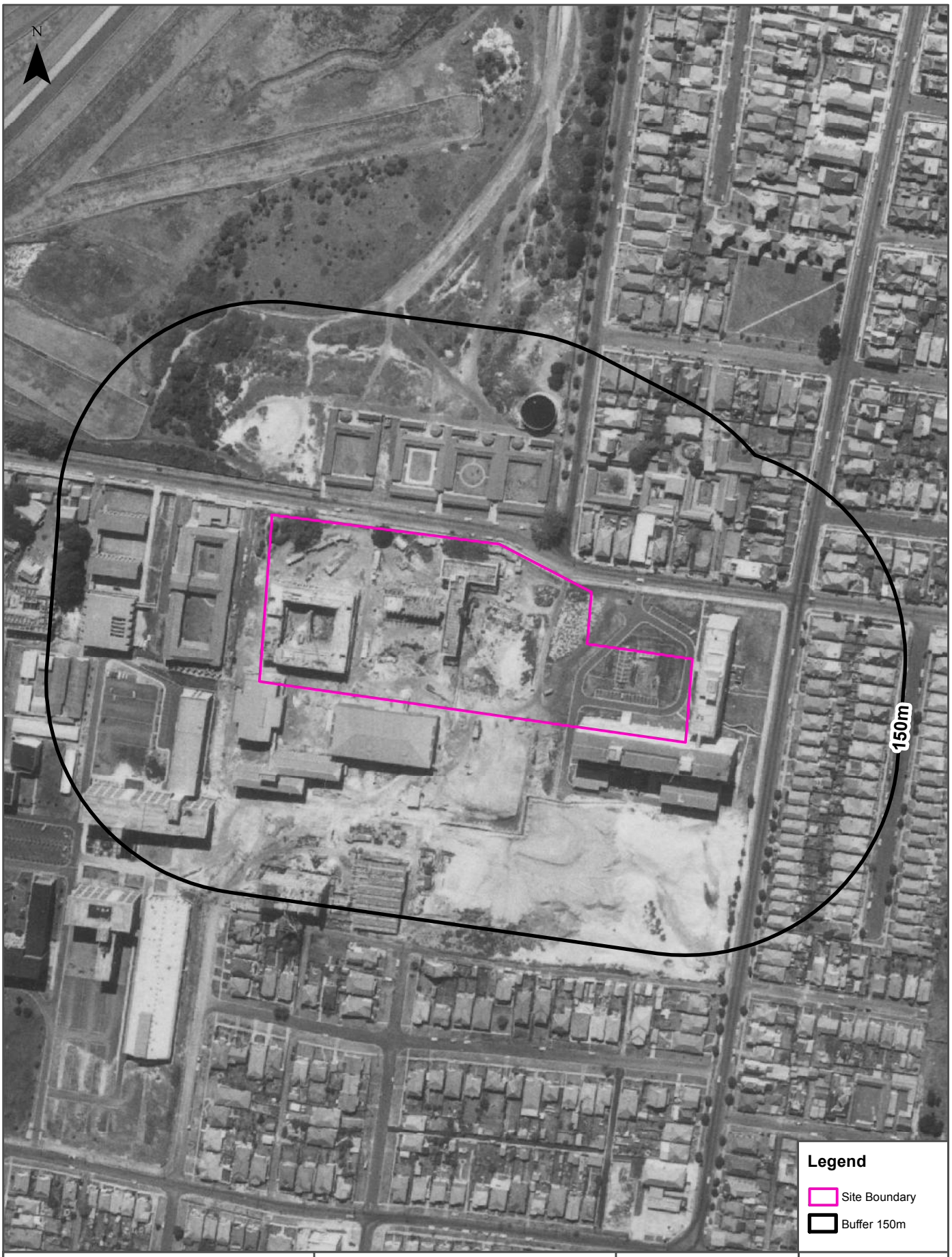
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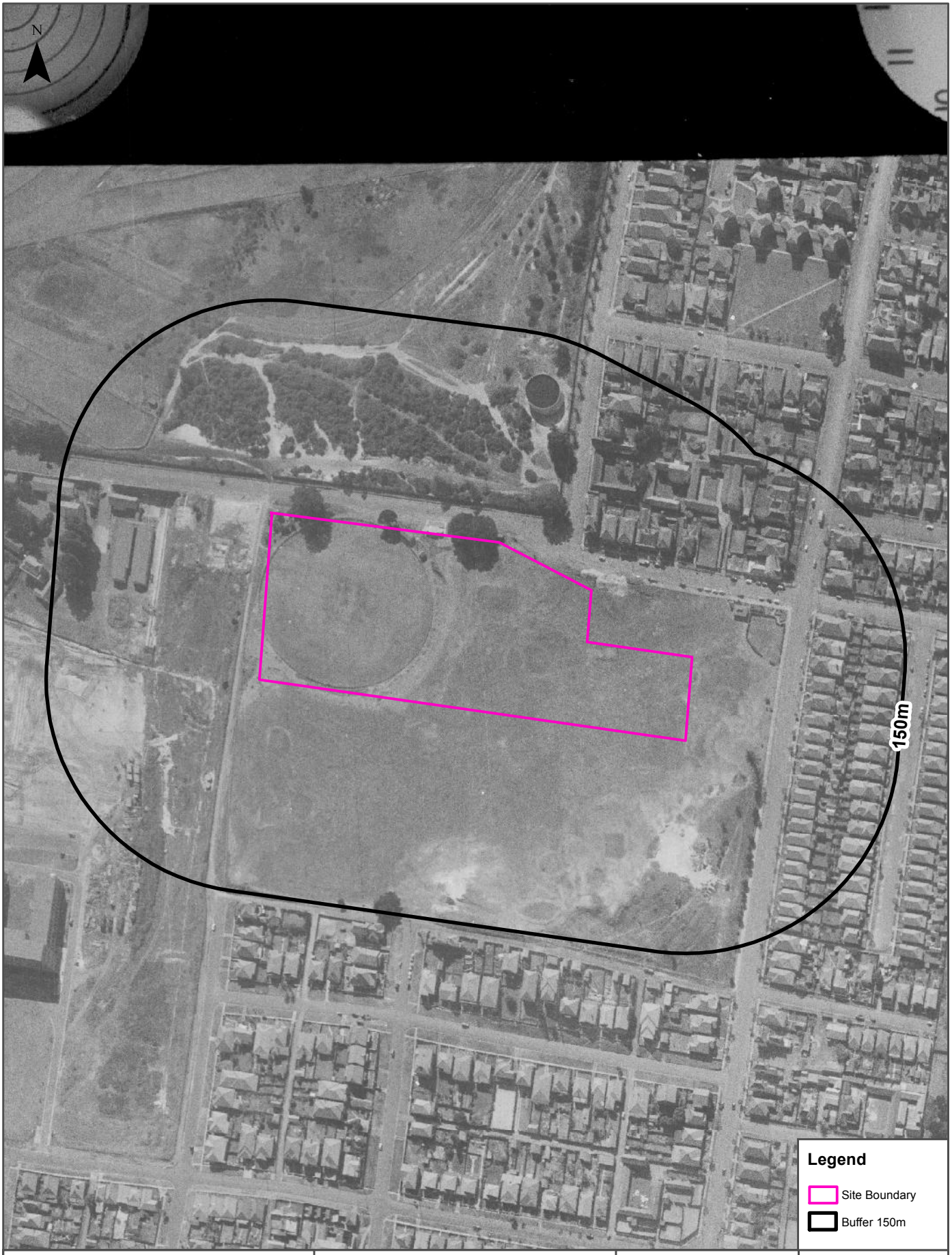
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Aerial Imagery 1955

Upper Campus, University of New South Wales, Sydney, NSW 2052



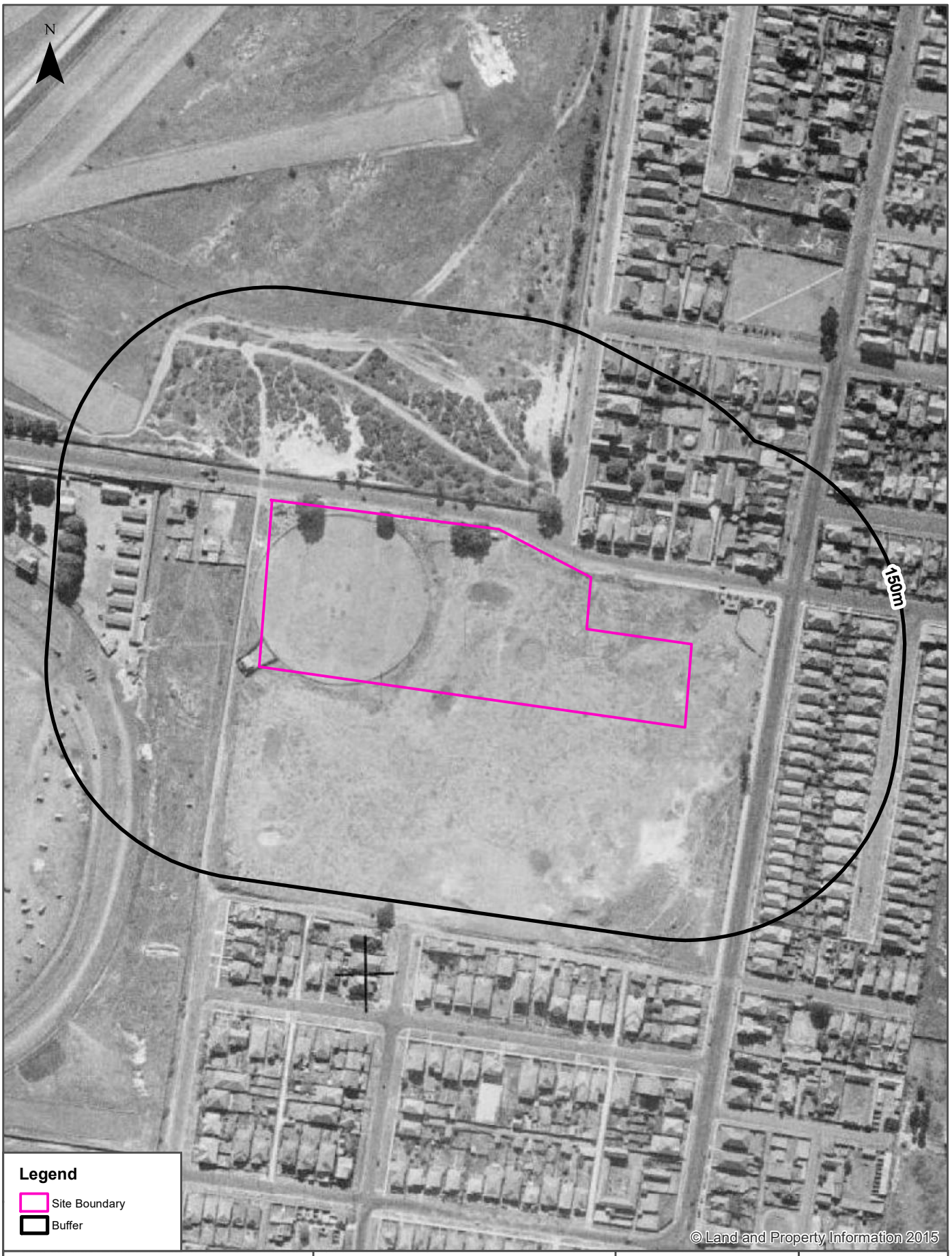
Data Source Aerial Imagery:
© NSW Department Finance, Services & Innovation

Coordinate System:
GDA 1994 MGA Zone 56

Date: 30 April 2018

Aerial Imagery 1943

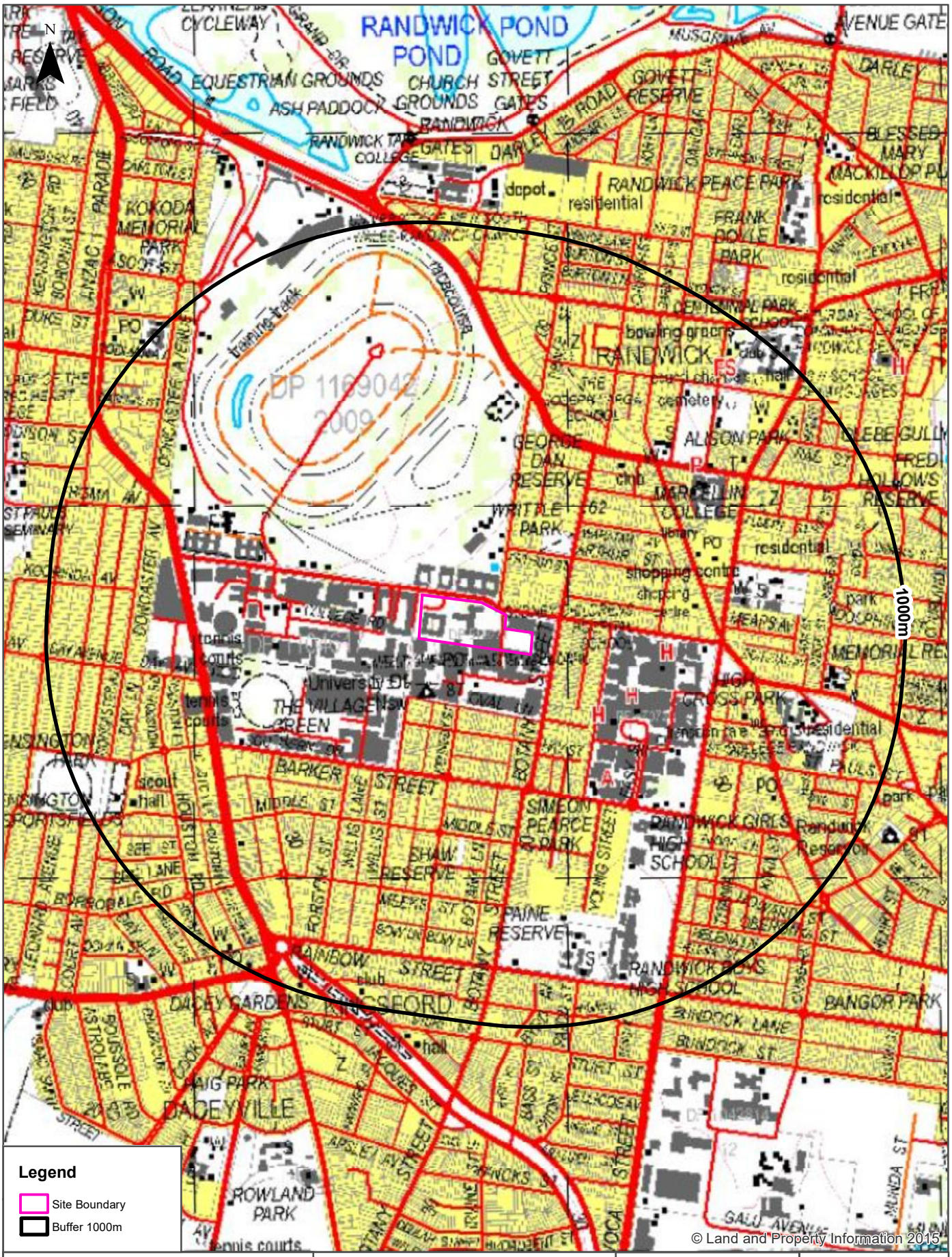
Upper Campus, University of New South Wales, Sydney, NSW 2052



Scale: 0 25 50 100 150 Meters	Data Sources: Aerial Imagery © Department Finance, Services & Innovation	Coordinate System: GDA 1994 MGA Zone 56	Date: 02 May 2018

Topographic Map 2015

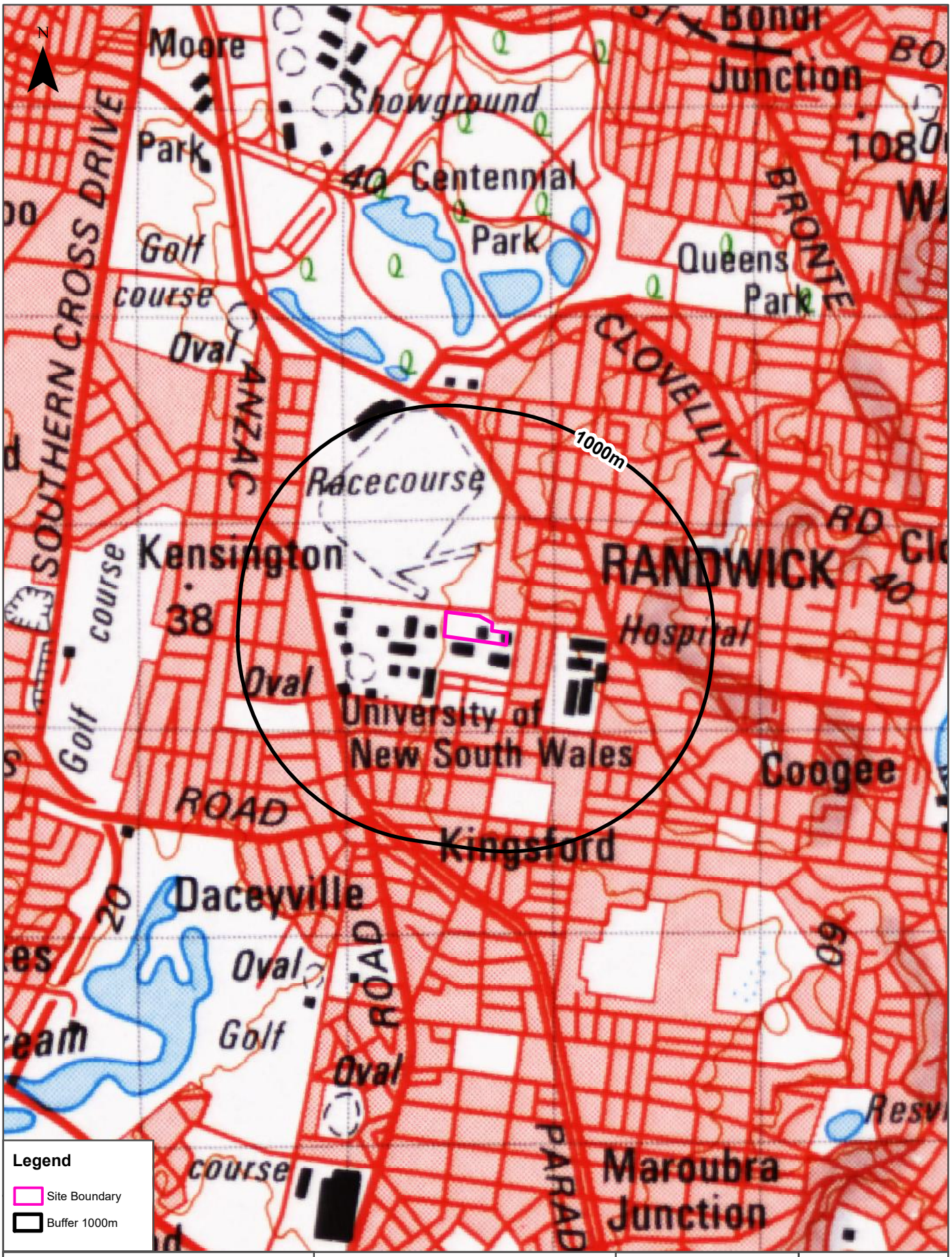
Upper Campus, University of New South Wales, Sydney, NSW 2052



Scale:	Data Sources: Topographic Map Data © NSW Land and Property Information	Coordinate System: GDA 1994 MGA Zone 56	Date: 02 May 2018

Historical Map 1975

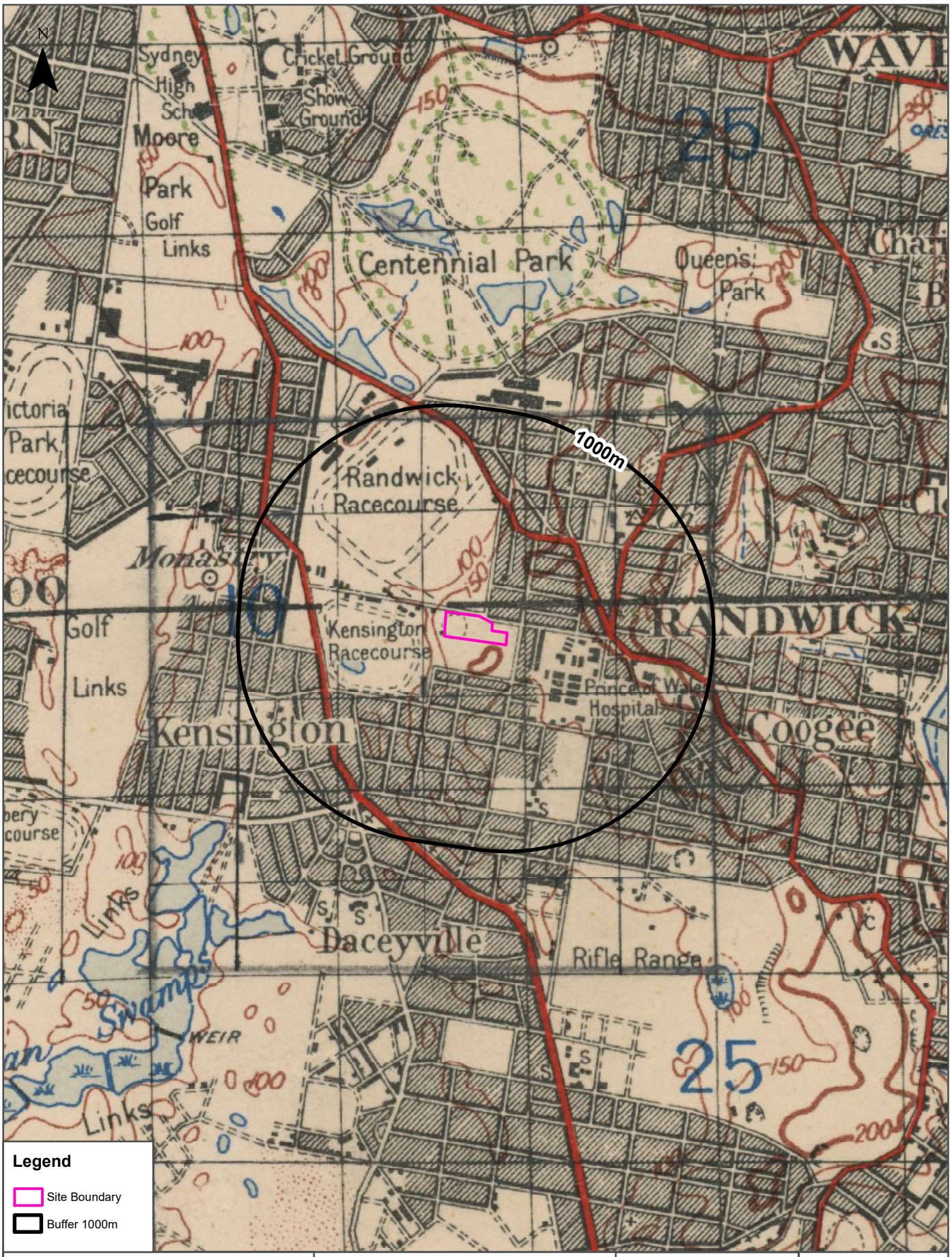
Upper Campus, University of New South Wales, Sydney, NSW 2052



Scale: 0 300 600 Meters 1,200	Data Sources: Sheet 9130, Edition 1, Sydney, NSW, National Topographic Map Series Commonwealth of Australia	Coordinate System: GDA 1994 MGA Zone 56	Date: 01 May 2018

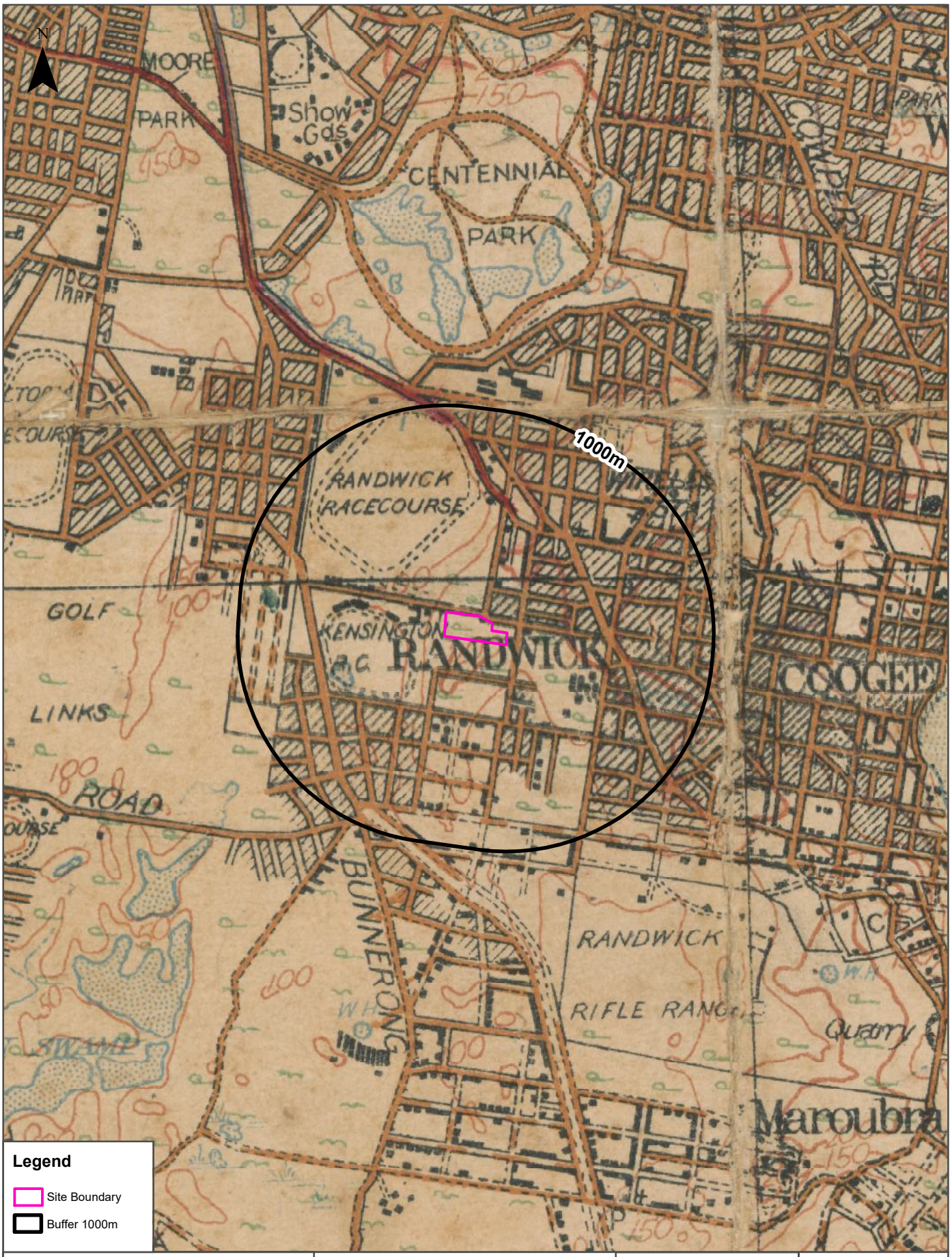
Historical Map 1949

Upper Campus, University of New South Wales, Sydney, NSW 2052



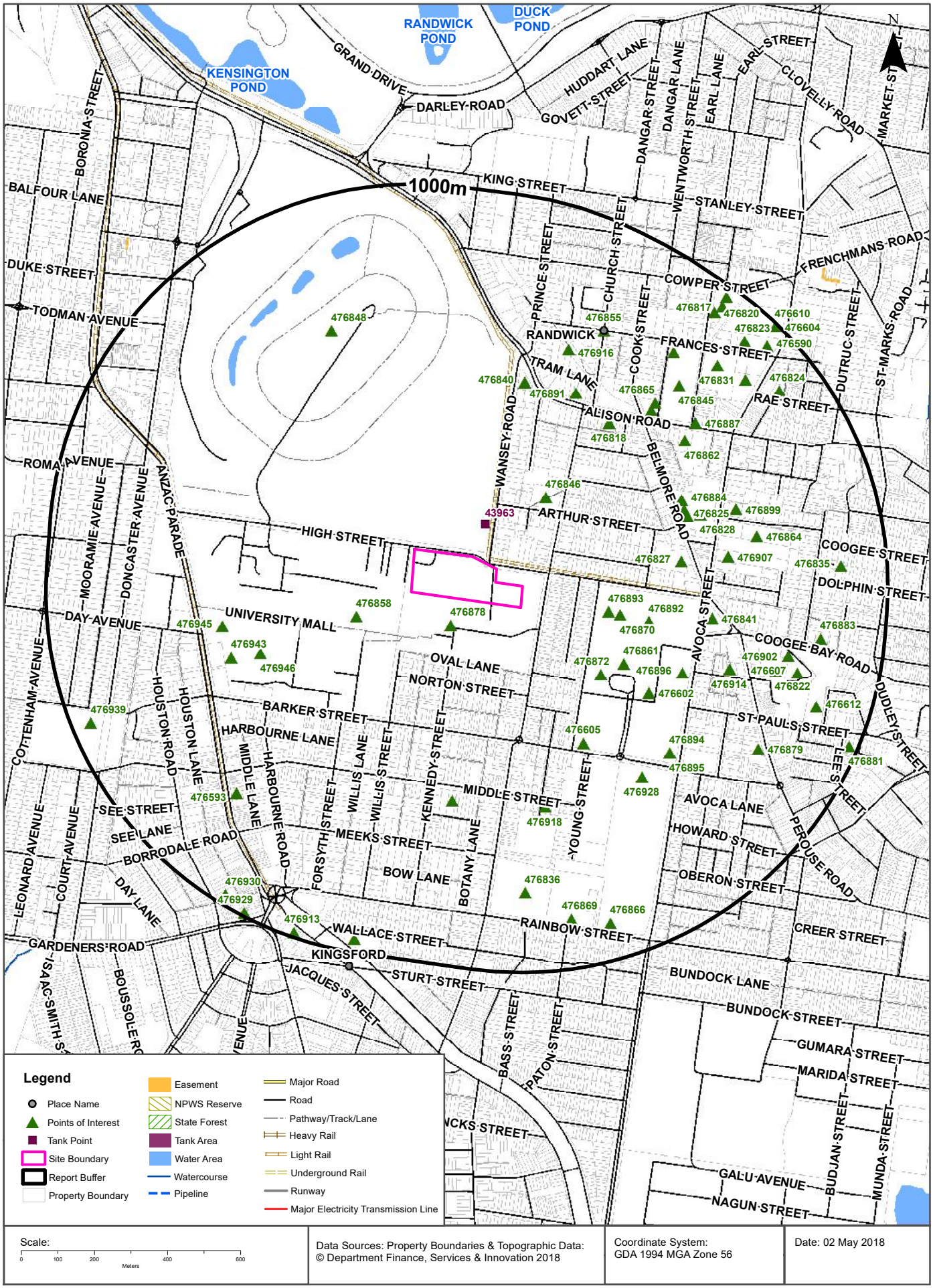
Historical Map 1917

Upper Campus, University of New South Wales, Sydney, NSW 2052



Topographic Features

Upper Campus, University of New South Wales, Sydney, NSW 2052



Topographic Features

Upper Campus, University of New South Wales, Sydney, NSW 2052

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
476878	Post Office	UNIVERSITY OF NSW POST OFFICE	77m	South
476858	University	UNIVERSITY OF NEW SOUTH WALES KENSINGTON CAMPUS	166m	West
476846	Park	WRITTLE PARK	237m	North East
476893	Childrens Hospital	SYDNEY CHILDREN'S HOSPITAL	239m	East
476870	Special School	SYDNEY CHILDRENS HOSPITAL SCHOOL	271m	East
476872	General Hospital	ROYAL HOSPITAL FOR WOMEN	285m	South East
476861	General Hospital	PRINCE OF WALES PRIVATE HOSPITAL	321m	South East
476892	General Hospital	PRINCE OF WALES HOSPITAL	351m	East
476605	Ambulance Station	RANDWICK AMBULANCE STATION	409m	South East
476602	Helipad	Helipad	420m	South East
476827	Shopping Centre	RANDWICK PLAZA	438m	East
476946	Sports Field	THE VILLAGE GREEN	447m	West
476896	Community Home	PRINCE OF WALES COMMUNITY HEALTH SERVICE	476m	South East
476825	Post Office	RANDWICK POST OFFICE	487m	East
476904	Medical Centre	RANDWICK EARLY CHILDHOOD CENTRE	488m	East
476884	Library	MARGARET MARTIN LIBRARY	493m	East
476840	Park	GEORGE DAN RESERVE	498m	North
476818	Club	RANDWICK LABOR CLUB	503m	North East
476828	Shopping Centre	ROYAL RANDWICK SHOPPING CENTRE	523m	East
476841	Park	HIGH CROSS PARK	523m	East
476943	Sports Court	TENNIS COURTS	525m	West
476945	Sports Court	TENNIS COURTS	526m	West
476891	Special School	THE JOSEPH VARGA SCHOOL	526m	North East
476918	Park	SIMEON PEARCE PARK	550m	South
476838	Park	SHAW RESERVE	551m	South
476907	Place Of Worship	OUR LADY OF THE SACRED HEART	566m	East
476894	Medical Centre	RANDWICK DEVELOPMENTAL CLINIC TUMBATIN BUILDING	569m	South East
476895	Medical Centre	SYDNEY CHILDREN'S COMMUNITY HEALTH CENTRE	569m	South East
476928	High School	RANDWICK GIRLS HIGH SCHOOL	570m	South East
476914	Place Of Worship	GRACEPOINT CHRISTIAN CHURCH	594m	East

Map Id	Feature Type	Label	Distance	Direction
476908	Place Of Worship	RANDWICK PRESBYTERIAN CHURCH	595m	North East
476862	High School	MARCELLIN COLLEGE	595m	North East
476865	Primary School	COOGEE BOYS PREPARATORY SCHOOL	617m	North East
476899	Community Home	MILFORD HOUSE NURSING HOME	619m	East
476916	Park	KYNASTON AVENUE RESERVE	624m	North East
476848	Racecourse	ROYAL RANDWICK RACECOURSE	639m	North West
476887	Police Station	RANDWICK POLICE STATION	649m	North East
476864	Primary School	OUR LADY OF THE SACRED HEART SCHOOL	654m	East
476845	Park	ALISON PARK	695m	North East
476855	Suburb	RANDWICK	714m	North East
476822	High School	BRIGIDINE COLLEGE RANDWICK	717m	East
476593	Community Facility	CASTELLORIZIAN CLUB	731m	South West
476902	Retirement Village	STRATHALLEN VILLAGE	743m	East
476879	Post Office	ST PAULS POST OFFICE	756m	South East
476924	Child Care Centre	RANDWICK COOGEE PRE-SCHOOL	761m	North East
476607	Nursing Home	CATHOLIC HEALTHCARE BRIGIDINE HOUSE	776m	East
476836	Park	PAINE RESERVE	783m	South
476831	Cemetery	Cemetery	805m	North East
476883	Primary School	CLAREMONT COLLEGE	823m	East
476906	Place Of Worship	ST JUDE'S ANGLICAN CHURCH	831m	North East
476612	Nursing Home	ST BASILS NURSING HOME	852m	East
476869	Primary School	RAINBOW STREET PUBLIC SCHOOL	866m	South
476835	Park	Park	871m	East
476824	Place Of Worship	UNITING CHURCH	881m	North East
476866	High School	RANDWICK BOYS HIGH SCHOOL	900m	South East
476823	Local Government Chambers	RANDWICK CITY COUNCIL	903m	North East
476820	Fire Station	RANDWICK FIRE STATION	914m	North East
476590	Community Facility	RANDWICK TOWN HALL	937m	North East
476817	Club	RANDWICK BOWLING CLUB	939m	North East
476939	Park	KENSINGTON PARK	949m	West
476819	Club	SOUTH SYDNEY JUNIOR RUGBY LEAGUE CLUB	964m	South
476853	Sports Field	BOWLING GREENS	966m	North East
476930	Place Of Worship	INDONESIAN PRESBYTERIAN CHURCH	974m	South West
476881	Retirement Village	KOINONIA RETIREMENT VILLAGE	974m	South East
476913	Place Of Worship	KINGSFORD CHURCH OF CHRIST	987m	South West
476610	High School	NSW SCHOOL OF LANGUAGES	991m	North East
476604	High School	SATURDAY SCHOOL OF COMMUNITY LANGUAGES RANDWICK CE	991m	North East

Map Id	Feature Type	Label	Distance	Direction
476929	Post Office	KINGSFORD POST OFFICE	992m	South West

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Topographic Features

Upper Campus, University of New South Wales, Sydney, NSW 2052

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
	No records in buffer					

Tanks (Points)

What are the Tank Points located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
43963	Water	Operational		05/10/2000	94m	North East

Tanks Data Source: © Land and Property Information (2015)
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Major Easements

What Major Easements exist within the dataset buffer?
Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
N/A	No records in buffer				

Easements Data Source: © Land and Property Information (2015)
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Topographic Features

Upper Campus, University of New South Wales, Sydney, NSW 2052

State Forest

What State Forest exist within the dataset buffer?

State Forest Number	State Forest Name	Distance	Direction
N/A	No records in buffer		

State Forest Data Source: © Land and Property Information (2015)
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National Parks and Wildlife Service Reserves

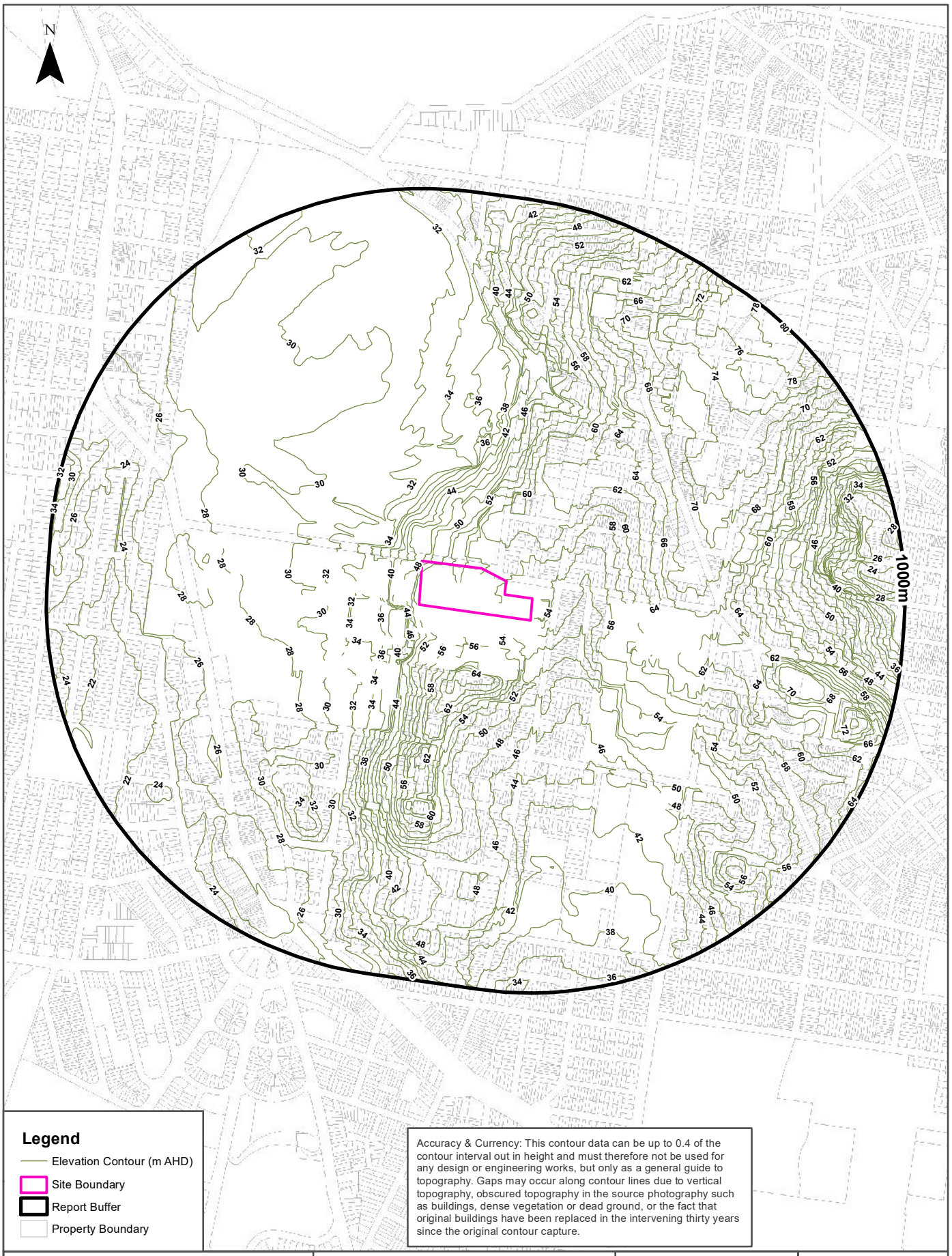
What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N/A	No records in buffer				

NPWS Data Source: © Land and Property Information (2015)
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Elevation Contours (m AHD)

Upper Campus, University of New South Wales, Sydney, NSW 2052



Hydrogeology & Groundwater

Upper Campus, University of New South Wales, Sydney, NSW 2052

Hydrogeology

Description of aquifers on-site:

Description
Porous, extensive highly productive aquifers

Description of aquifers within the dataset buffer:

Description
Porous, extensive highly productive aquifers

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)
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Botany Groundwater Management Zones

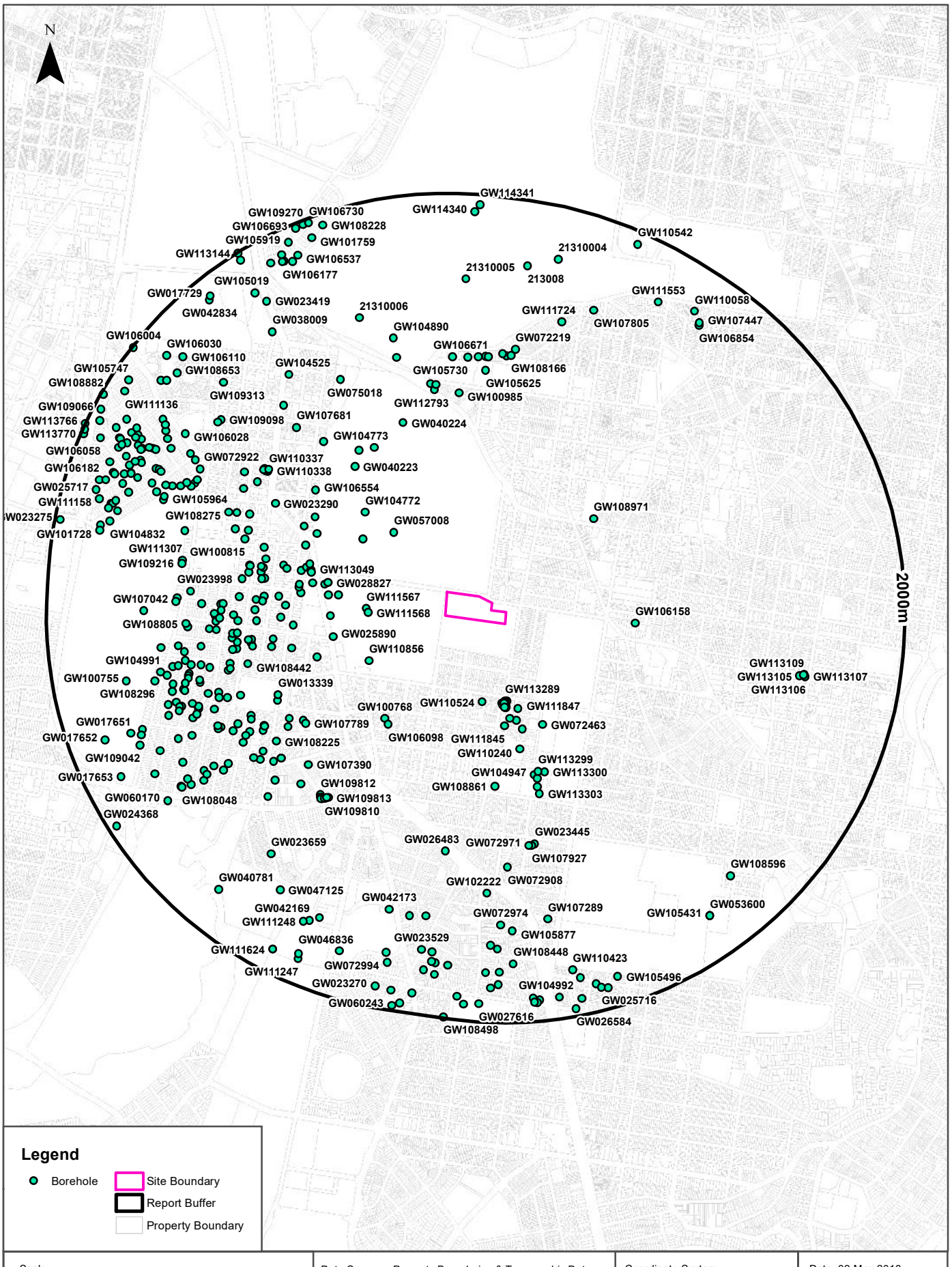
Groundwater management zones relating to the Botany Sand Beds aquifer within the dataset buffer:

Management Zone No.	Restriction	Distance	Direction
N/A	No records in buffer		

Botany Groundwater Management Zones Data Source : NSW Department of Primary Industries

Groundwater Boreholes

Upper Campus, University of New South Wales, Sydney, NSW 2052



Hydrogeology & Groundwater

Upper Campus, University of New South Wales, Sydney, NSW 2052

Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW111568	10BL604946	Bore	Private	Monitoring	Groundtek Drilling	01/08/2011	8.60	8.60	123	5.20			386m	West
GW113289	10BL604337	Bore	Private	Monitoring	Macquarie Drilling	01/05/2010	4.00	4.00					387m	South
GW113287	10BL604337	Bore	Private	Monitoring	Macquarie Drilling	01/05/2010	3.90	3.90		2.50			388m	South
GW109679	10BL602763, 10WA109553	Well	Private	GW Remediation	Macquarie Drilling	13/10/2008	6.00	6.00					391m	South
GW111567	10BL604946	Bore	Private	Monitoring	Groundtek Drilling	01/08/2011	8.00	8.00	145	5.20			395m	West
GW113288	10BL604337	Bore	Private	Monitoring	Macquarie Drilling	01/05/2010	4.00	4.00					395m	South
GW109680	10BL602763, 10WA109553	Well	Private	GW Remediation	Macquarie Drilling	14/10/2008	5.50	5.50					398m	South
GW111554	10BL602666	Bore	Private	Monitoring	Geoprobe	03/09/2008	4.00	4.00		2.58			399m	South
GW057008	10BL124553	Bore	Private	Industrial		01/10/1981	30.00	30.00					400m	North West
GW110524	10BL601622, 10WA109195	Bore	Private	Domestic		18/11/2009	1.50	1.50					404m	South
GW109681	10BL602763, 10WA109553	Well	Private	GW Remediation	Macquarie Drilling	13/10/2008	6.00	6.00					407m	South
GW112858	10BL603083	Bore	Private	Monitoring	TERRATEST	14/05/2009	3.50	3.50					414m	South
GW112855	10BL603083	Bore	Private	Monitoring	TERRATEST	05/05/2009	6.50	6.50		2.23			418m	South
GW112856	10BL603083	Bore	Private	Monitoring	TERRATEST	14/05/2009	5.00	5.00					419m	South
GW112857	10BL603083	Bore	Private	Monitoring	TERRATEST	05/05/2009	5.20	5.20					420m	South
GW111847	10BL602843	Bore	Local Govt	Monitoring		11/08/2009	5.00	5.00		3.77			430m	South East
GW110856	10BL601283	Bore	Private	Monitoring	Water Works	22/07/2004	13.20	13.20	176	10.00	1.000		445m	South West
GW017851	10BL008581	Bore	Private	Commercial		01/03/1958	4.50	4.60					475m	South
GW111846	10BL602843	Bore	Local Govt	Monitoring		11/08/2009	5.60	5.60		2.94			488m	South
GW102419	10BL156872, 10CA114623	Bore		Industrial		01/01/1978	22.00			3.00	10.000		496m	North West
GW111845	10BL602843	Bore	Local Govt	Monitoring		11/08/2009	3.00	3.00		2.69			513m	South
GW111844	10BL602843	Bore	Local Govt	Monitoring		11/08/2009	4.80	4.80		2.67			535m	South East
GW072463	10BL156227, 10WA114625	Bore	Private	Industrial	B & B Drilling Inc	14/11/1994	43.00	43.00		8.60	1.870		539m	South East
GW019634	10BL012859	Bore	Other Govt	Recreation		01/04/1954	32.60	32.60					541m	West
GW104772	10BL161316, 10BL162010, 10CA114623	Bore	Private	Recreation	B & B Drilling Inc	20/02/2003	25.00	25.00	290	4.90	3.000		571m	North West
GW025890	10BL014914, 10BL600316, 10WA112802	Bore	Other Govt	Irrigation		01/07/1965	31.30	31.40	0-500 ppm				572m	West
GW102016	10BL156792, 10WA114637	Bore		Industrial, Recreation	Panorama Drilling Company	11/09/1995	32.00	35.00	Fresh	7.20	18.000		574m	West

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW101682	10BL156791, 10WA114637	Bore	Private	Industrial, Recreation	Panorama Drilling Company	23/08/1995	33.00	41.00	Fresh				592m	West
GW019635	10BL012860	Bore	Other Govt	Recreation		01/09/1955	28.40	28.50					597m	West
GW028827	10BL022485	Bore	Other Govt	Recreation		01/07/1968	32.60	32.60					597m	West
GW100768	10BL157198, 10WA113124	Bore	Private	Domestic		01/10/1995	17.39	17.39	Good		0.500		600m	South West
GW034992	10BL030088, 10BL156719, 10WA114637	Bore	Private	Industrial, Recreation	Panorama Drilling Company	08/08/1995	41.00	41.00	Fresh	7.50	19.000		611m	West
GW106098	10BL162313, 10WA113401	Bore	Private	Domestic		22/01/2004	9.50	9.50					616m	South West
GW110240	10BL600416, 10BL602332, 10WA114779	Bore	Private	Recreation	Britt's Water Solutions	12/11/2008	150.00	150.00	100	16.50	0.500		633m	South
GW108971	10BL601798, 10BL602256, 10WA109523	Bore	Other Govt	Recreation	Britt's Water Solutions	27/06/2008	216.00	216.00	Fresh	27.00	0.050		644m	North East
GW106158	10BL162658, 10WA113466	Bore				29/06/2005							650m	East
GW019612	10BL012857	Bore	Other Govt	Recreation		01/10/1955	31.30	31.40					674m	West
GW101452	10BL158479, 10WA113247	Spear	Private	Domestic		17/02/1998	6.00	6.00					675m	West
GW113049	10BL602811	Bore	Private	Monitoring	Macquarie Drilling	21/10/2013	8.00	8.00					686m	West
GW113050	10BL602811	Bore	Private	Monitoring	Macquarie Drilling	12/11/2008	10.50	10.50					689m	West
GW113051	10BL602811	Bore	Private	Monitoring	Macquarie Drilling	13/11/2008	7.50	7.50					699m	West
GW047543	10BL110202, 10CA114623	Bore	Private	Industrial, Irrigation		01/01/1978	30.50	30.50					713m	North West
GW113048	10BL602811	Bore	Private	Monitoring		13/11/2008	8.50	8.50					713m	West
GW107651	10BL165685, 10WA114019	Spear	Private	Domestic	B & B Drilling Inc	29/11/2005	7.00	7.00	Good	5.00	0.500		730m	West
GW106378	10BL163862, 10WA113695	Spear	Private	Domestic	B & B Drilling Inc	23/08/2004	7.00	7.00	Good	5.00	0.500		736m	West
GW105676	10BL162667, 10WA113468	Spear	Private	Domestic		08/03/2004	9.15	9.15			1.000		739m	West
GW105978	10BL162744, 10WA113480	Spear	Private	Domestic		29/03/2004	8.23	8.24		5.18	1.000		740m	West
GW024677	10BL018344	Spear	Private	General Use		01/06/1966	4.80	4.90	Good				746m	West
GW047542	10BL110201, 10CA114623	Bore	Private	Industrial, Irrigation		01/01/1978	30.50	30.50					757m	North West
GW113299	10BL604336	Well	Private	Monitoring	Numac	01/11/2010	5.20						758m	South
GW106774	10BL164077, 10WA113723	Spear	Private	Domestic		23/10/2004	8.23	8.24	Good	5.85	1.000		761m	West
GW113300	10BL604336	Bore	School	Monitoring	Numac	01/11/2010	5.20	5.20					768m	South East
GW104947	10BL160513	Bore		Test Bore	B & B Drilling Inc	21/02/2002	5.00	5.00	210	2.71	0.650		772m	South
GW040223		Spear	Private	Recreation			7.00	7.15				28.37	779m	North West
GW108036	10BL600152, 10WA114113	Spear	Private	Domestic	B & B Drilling Inc	27/03/2006	6.00	6.00		3.00	0.500		786m	West
GW104969	10BL160301, 10WA113307	Bore	Private	Domestic		27/11/2001	6.00	6.00		3.00	1.000		786m	North West
GW113301	10BL604336	Bore	School	Monitoring	Numac	01/11/2010	5.20	5.20					793m	South
GW107638	10BL162367, 10WA113415	Spear	Private	Domestic	B & B Drilling Inc	27/10/2005	5.00	5.00	Good	3.00	0.500		801m	West
GW108674	10BL601443, 10WA114349	Spear	Private	Domestic		10/04/2007	8.00	8.00					809m	West

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW104773	10BL161316, 10BL162009, 10CA114623	Bore	Private	Recreation	B & B Drilling Inc	20/02/2003	25.00	25.00	290	4.90	3.000		810m	North West
GW108861	10BL164832, 10BL601893, 10WA109499	Bore	Local Govt	Recreation	Britt's Water Solutions	08/05/2008	114.00	114.00		20.00	2.210		815m	South
GW105754	10BL162297, 10WA113398	Spear	Private	Domestic		27/11/2003	5.18	5.19		1.52	1.000		823m	West
GW101453	10BL158478, 10WA113246	Spear	Private	Domestic		03/02/1998	6.00	6.00					829m	West
GW106554	10BL162310, 10WA113400	Spear	Private	Domestic	B & B Drilling Inc	13/11/2004	6.00	6.00	Good	3.00	0.500		831m	North West
GW113302	10BL604336	Bore	School	Monitoring		01/11/2010	5.20	5.20					832m	South
GW047544	10BL108893, 10CA114623	Bore	Private	Industrial, Irrigation		01/07/1978	23.00	23.00					836m	North West
GW106797	10BL163649, 10WA113642	Spear	Private	Domestic		11/10/2004	7.00	7.00					837m	West
GW113303	10BL604336	Bore	School	Monitoring	Numac	01/11/2010	5.20	5.20					870m	South
GW107728	10BL165893, 10WA114056	Spear	Private	Domestic		13/01/2006	7.00	7.00					870m	West
GW040224		Spear	Private	Recreation			7.00	7.00				30.04	876m	North
GW108422	10BL600820, 10WA114228	Spear	Private	Domestic		18/01/2007	14.00	14.00					882m	South West
GW101455	10BL158480, 10WA113248	Spear	Private	Domestic		15/02/1998	6.00	6.00					883m	West
GW107789	10BL162853, 10WA113498	Spear	Private	Domestic		01/06/2004	7.00	7.00					885m	South West
GW106973	10BL163973, 10WA113712	Spear	Private	Domestic	B & B Drilling Inc	18/02/2005	6.00	6.00	Good	3.00	0.500		911m	West
GW107614	10BL164804, 10WA113863	Spear	Private	Domestic	B & B Drilling Inc	24/10/2005	6.00	6.00	Good	3.00	0.500		915m	West
GW107641	10BL165333, 10WA113962	Spear	Private	Domestic		01/11/2005	7.50	7.50					916m	West
GW101225	10BL158321, 10WA113222	Spear	Private	Domestic	A Korkadis	09/12/1997	6.00	6.00	Good	3.05	1.000		920m	West
GW103644	10BL159632, 10WA113294	Bore	Private	Domestic		03/04/2000	7.00	7.00					926m	West
GW013339	10BL006742	Bore	Private	Recreation		01/05/1956	16.40	16.50	Good			20.90	928m	South West
GW023179	10BL016742, 10WA114771	Spear	Private	Irrigation			7.60	7.60	Good				928m	South West
GW109117	10BL602224, 10WA114465	Spear	Private	Domestic	Combined Drilling Services	25/07/2008	9.00						929m	West
GW110535	10BL602777, 10WA114536	Bore	Private	Domestic		30/10/2009	12.00	12.00					935m	South West
GW102611	10BL159396, 10WA113286	Bore		Domestic		25/09/1999	6.00	6.00					936m	West
GW113251	10WA118703	Spear	Private	Domestic		01/01/2000	7.50	7.50		4.00	0.200		938m	West
GW026468	10BL019000	Bore	Private	Recreation		01/07/1966	19.60	19.70					942m	South West
GW106249	10BL163304, 10WA113555	Spear	Private	Domestic		02/06/2004	6.00	6.00					943m	West
GW101219	10BL158306, 10WA113218	Spear	Private	Domestic	A Korkadis	02/12/1997	4.88	4.88	Good	2.13	0.750		944m	West
GW107653	10BL165654, 10WA114012	Spear	Private	Domestic		12/12/2005	9.50	9.50					949m	West
GW106862	10BL164871, 10WA113878	Spear	Private	Domestic		10/03/1995	7.63	7.63	Good	4.58	1.000		953m	West
GW107584	10BL165704, 10WA114025	Spear	Private	Domestic		10/10/2005	7.50	7.50					965m	South West
GW023290	10BL016656, 10WA112832	Spear	Private	General Use		01/09/1965	4.20	4.30					966m	North West
GW107342	10BL165349, 10WA113965	Spear	Private	Domestic		25/08/2005	5.18	5.19	Good	3.35	1.000		974m	North West

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW102598	10BL159410, 10WA113287	Bore		Domestic		09/10/1999	6.00	6.00					975m	West
GW101456	10BL158481, 10WA113249	Bore	Private	Domestic		04/02/1998	6.00	6.00					976m	West
GW101458	10BL158491, 10WA113251	Spear	Private	Domestic		05/03/1998	6.00	6.00					981m	West
GW107142	10BL165146, 10WA113926	Spear	Private	Domestic		20/06/2005	17.80	17.80		11.55	1.000		994m	West
GW107335	10BL165306, 10WA113955	Spear	Private	Domestic	Water Works	17/09/2005	7.00	7.00		3.00	0.500		995m	West
GW107129	10BL164723, 10WA113842	Spear	Private	Domestic		11/05/2005	12.81	12.81	Good	7.32	1.000		996m	West
GW107612	10BL164378, 10WA113786	Spear	Private	Domestic		18/12/2004	12.81	12.81	Good	10.68	1.000		998m	West
GW100985	10BL156951, 10WA113088	Spear	Private	Domestic		28/08/1995	5.18	5.18	Good	2.14	1.000		999m	North
GW112793	10BL602685	Bore	Private	Monitoring	Ability Plus Environmental and Geotechnical Drilling Pty Ltd	03/09/2013	4.80	4.80		2.50			1014 m	North
GW107390	10BL164155, 10WA113740	Spear	Private	Domestic		13/09/2004	7.32	7.32	Good	4.88	1.000		1015 m	South West
GW108442	10BL600983, 10WA114258	Spear	Private	Domestic		06/01/2007	8.00	8.00					1018 m	West
GW108229	10BL600466, 10WA114152	Spear	Private	Domestic		06/08/2006	17.00	17.00					1027 m	West
GW101967	10BL158599, 10WA113257	Bore		Domestic		28/04/1998	7.00	7.00					1035 m	West
GW106766	10BL162335, 10WA113407	Spear	Private	Domestic	B & B Drilling Inc	12/12/2004	6.00	6.00	Good	3.00	0.500		1039 m	West
GW112791	10BL602685	Bore	Private	Monitoring	Ability Plus Environmental and Geotechnical Drilling Pty Ltd	03/09/2013	3.30	3.30		1.90			1040 m	North
GW111445	10BL601938, 10WA114423	Spear	Private	Domestic		09/04/2011	8.00	8.00					1040 m	West
GW100815	10BL156330, 10WA113038	Bore				01/01/1994	14.00			8.00			1045 m	West
GW108918	10BL601790, 10WA114415	Spear	Private	Domestic		17/06/2008	7.93		Good	4.58	1.000		1045 m	West
GW112792	10BL602685	Bore	Private	Monitoring	Ability Plus Environmental and Geotechnical Drilling Pty Ltd	03/09/2013	5.00	5.00		2.50			1046 m	North
GW111615	10BL163626, 10WA113635	Spear	Private	Domestic		01/10/2004	7.00	7.00	good				1049 m	West
GW106297	10BL163795, 10WA113685	Spear	Private	Domestic		10/08/2004	8.23	8.24	Good	5.18	1.000		1055 m	West
GW108225	10BL600443, 10WA114146	Bore	Private	Domestic		19/08/2006	14.00	14.00					1055 m	South West
GW105630	10BL162435, 10WA113427	Spear	Private	Domestic		08/12/2003	5.18	5.19		3.36	1.500		1061 m	West
GW109062	10BL601484, 10WA114362	Bore	Private	Domestic	B & B Drilling Inc	16/07/2008	7.00		Good	5.00	0.500		1062 m	North West
GW106076	10BL163154, 10WA113532	Spear	Private	Domestic		22/06/2004	5.80	5.80		1.83	1.000		1063 m	South West
GW106488	10BL163625, 10WA113634	Spear	Private	Domestic		01/11/2004	6.10	6.10	Good	3.50	1.000		1063 m	South West
GW110874	10BL601374, 10WA114330	Spear	Private	Domestic		10/03/2007	7.93			7.00			1068 m	West
GW114951	10WA119158	Spear	Private	Domestic	B&B Drilling	06/07/2015	6.00	6.00		3.00	0.500		1073 m	West
GW110786	10BL602904, 10WA114555	Spear	Private	Domestic		11/03/2010	8.00	8.00					1078 m	South West

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW105438	10BL162238, 10WA113373	Bore		Domestic		03/11/2003	7.63	7.63		4.58	1.000		1079 m	West
GW110342	10BL165553	Well	Private	Monitoring		23/11/2004	4.00	4.00	261	2.40			1079 m	North West
GW110338	10BL165553	Well	Private	Monitoring		20/10/2004	4.00	4.00	237	2.24			1081 m	North West
GW110337	10BL165553	Well	Private	Monitoring		20/10/2004	4.00	4.00	136	2.16			1082 m	North West
GW110339	10BL165553	Well	Private	Monitoring		20/10/2004	4.00	4.00	315	2.42			1084 m	North West
GW109813	10BL601905	Well	Private	Monitoring	HLA Enviroscience s	16/05/2007	9.00	9.00					1086 m	South West
GW110336	10BL165553	Well	Private	Monitoring		18/10/2004	4.00	4.00	251	2.57			1088 m	North West
GW108507	10BL600353, 10WA114138	Spear	Private	Domestic		15/07/2006	8.00	8.00					1090 m	South West
GW110341	10BL165553	Well	Private	Monitoring		23/11/2004	4.00	4.00	140	2.51			1090 m	North West
GW109054	10BL602149, 10WA114453	Spear	Private	Domestic		15/07/2008	8.00						1090 m	South West
GW023612	10BL017351, 10WA112893	Spear	Private	General Use		01/01/1966	5.10	5.20	Good				1091 m	South West
GW105307	10BL163293, 10WA113553	Bore		Domestic		01/01/1970							1095 m	South West
GW109812	10BL601905	Well	Private	Monitoring	HLA Enviroscience s	15/04/2007	9.00	9.00					1095 m	South West
GW107431	10BL165301, 10WA113952	Spear	Private	Domestic		08/09/2005	7.63	7.63	Good	3.50	1.000		1097 m	North West
GW109849	10BL601020	Bore	Private	Monitoring	Macquarie Drilling	09/08/2006	8.50	8.50		6.10			1097 m	South West
GW109810	10BL601905	Well	Private	Monitoring	HLA Enviroscience s	17/05/2007	9.00	9.00					1101 m	South West
GW075021		Bore	NSW Office of Water	Monitoring	McDermott Drilling Pty Ltd	13/07/1998	43.00	44.50		3.23		8.54	1102 m	West
GW110340	10BL165553	Well	Private	Monitoring		21/10/2004	4.00	4.00	140	2.36			1103 m	North West
GW109848	10BL601020	Bore	Private	Monitoring	Macquarie Drilling	08/08/2006	8.70	8.70		6.40			1103 m	South West
GW110335	10BL165553	Well	Private	Monitoring		18/10/2004	4.00	4.00	133	2.88			1103 m	North West
GW025781	10BL017054, 10WA112860	Spear	Private	General Use		01/10/1965	4.50	4.60	Good				1103 m	South West
GW109811	10BL601905	Well	Private	Monitoring	HLA Enviroscience s	16/05/2007	9.00	9.00					1105 m	South West
GW111004	10BL604103, 10WA114603	Spear	Private	Domestic		19/07/2010	13.12	13.12	good	4.88	1.000		1105 m	West
GW108212	10BL600131, 10WA114105	Spear	Private	Domestic	Chris Mylonas	18/09/2006	12.00			9.00			1106 m	West
GW105567	10BL162124, 10WA113352	Bore		Domestic	B & B Drilling Inc	30/10/2003	7.00	7.00	Good	4.70	0.500		1108 m	West
GW109809	10BL601905	Well	Private	Monitoring	HLA Enviroscience s	18/05/2007	9.00	9.00					1109 m	South West
GW109847	10BL601020	Bore	Private	Monitoring	Macquarie Drilling	07/08/2006	8.50	8.50		6.80			1112 m	South West
GW023445	10BL016690, 10WA112836, 70WA606910	Spear	Private	Domestic		01/11/1965	4.20	4.30	Good				1113 m	South
GW101645	10BL154344, 10WA113011	Bore		Domestic		01/03/1994	7.00						1114 m	South West
GW107327	10BL165206, 10WA113935	Spear	Private	Domestic	B & B Drilling Inc	22/07/2005	7.00	7.00	Good	5.00	0.500		1114 m	West

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GW107681	10BL163088	Bore				15/12/2006							1116 m	North West
GW072971		Spear	Private	Commercial		27/02/1995	9.00	9.00					1118 m	South
GW107927	10BL600176, 10WA114117	Spear	Private	Domestic	Combined Drilling Services	28/03/2006	10.00						1120 m	South
GW108700	10BL601663, 10WA114403	Spear	Private	Domestic		12/05/2007	7.93	7.93	Good	3.96	1.000		1121 m	West
GW107093	10BL165718, 10WA114030	Bore		Domestic	A Korkadis	02/05/2006	13.73	13.73	Good	5.18	1.000		1122 m	West
GW109035	10BL600556, 10WA114164	Spear	Private	Domestic		14/07/2008	12.00						1124 m	West
GW107417	10BL164727, 10WA113844	Spear	Private	Domestic	B & B Drilling Inc	12/10/2005	7.00	7.00	Good	5.00	0.500		1124 m	West
GW105625	10BL162884, 10BL164953, 10WA114735	Bore		Recreation	Intertec Drilling Services	06/12/2004	13.80	14.00	172	4.60	0.900		1127 m	North
GW103051	10BL159257, 10WA113283	Bore		Domestic	A Korkadis	28/06/1999	5.80	5.80	Good	3.05	1.000		1128 m	South West
GW023117	10BL016870, 10WA112849	Spear	Private	General Use		01/11/1965	6.00	6.10					1131 m	West
GW107296	10BL163785, 10WA113680	Spear	Private	Domestic		16/04/2005	6.00	6.00					1139 m	South West
GW106296	10BL163764, 10WA113672	Spear	Private	Domestic		09/08/2004	6.10	6.10	Good	3.05	1.000		1139 m	South West
GW108428	10BL600893, 10WA114240	Bore	Private	Domestic		08/01/2007	8.00	8.00					1142 m	North West
GW023996	10BL017432, 10WA112897	Spear	Private	Domestic		01/01/1966	4.50	4.60	Good				1149 m	West
GW029637	10BL023577, 10WA112997	Spear	Private	General Use		01/02/1969	4.40	4.40	Good				1149 m	West
GW109052	10BL602180, 10WA114460	Spear	Private	Domestic		15/07/2008	10.00						1150 m	West
GW110448	10BL602895, 10WA114553	Spear	Private	Domestic		28/02/2009	9.00	9.00	Other	5.00	1.000		1157 m	West
GW108275	10BL600132, 10WA114106	Spear	Private	Domestic	Chris Mylonas	01/05/2006	12.00			8.00			1164 m	West
GW109119	10BL602250, 10WA114473	Spear	Private	Domestic		25/07/2008	7.63		Good	13.05	1.000		1167 m	South West
GW105551	10BL162406, 10WA113423	Bore		Domestic		01/02/2003	7.63	7.63		4.58	1.000		1167 m	West
GW026483		Spear	Private	General Use		01/09/1966	4.80	4.90					1170 m	South
GW072280	10BL154860, 10WA113013	Bore	Private	Domestic		02/06/1994	8.00	8.00					1173 m	South West
GW111438	10BL600923, 10WA114246	Spear	Private	Domestic		11/02/2007	6.10	6.10	good	3.50	1.000		1176 m	South West
GW101699	10BL158646, 10WA113259	Bore		Domestic		03/06/1998	7.00	7.00					1179 m	North
GW107336	10BL165316, 10WA113959	Spear	Private	Domestic		15/08/2005	7.00	7.00					1179 m	North West
GW105730	10BL162270, 10WA113386	Bore	Private	Domestic		15/11/2003	8.00	8.00					1182 m	North
GW105717	10BL162470, 10WA113435	Bore	Private	Domestic	B & B Drilling Inc	07/01/2004	6.00	6.00	Good	3.50	0.500		1183 m	West
GW101157	10BL157030, 10WA113099	Spear	Private	Domestic		06/09/1995	6.10	6.10	Good	3.96	1.000		1187 m	South West
GW110099	10BL162241, 10WA113374	Bore	Private	Domestic		01/01/2003	8.00			2.00	2.500		1190 m	North
GW075018		Bore	NSW Office of Water	Monitoring	McDermott Drilling Pty Ltd	08/07/1998	43.00	44.00		0.48		8.59	1191 m	North West
GW106386	10BL163574, 10WA113615	Spear	Private	Domestic		24/09/2004	7.32	7.32		2.13	1.000		1196 m	South West
GW108207	10BL162227, 10WA113369	Spear		Domestic		01/01/2004	9.50			5.00	1.000		1196 m	North

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GW106366	10BL163804, 10WA113690	Spear	Private	Domestic		18/09/2004	5.81	5.81	Good	3.05	1.000		1197 m	South West
GW106671	10BL162426, 10WA113425	Spear	Private	Domestic		15/10/2004	9.50	9.50					1197 m	North
GW107444	10BL165466, 10WA113983	Spear	Private	Domestic	Water Works	10/09/2005	7.00	7.00	430	3.00	0.500		1198 m	West
GW103124	10BL156139, 10CA114621	Excavation		Recreation		01/01/1995	75.00	75.00			40.000		1202 m	North
GW107154	10BL164908, 10WA113883	Spear	Private	Domestic		26/05/2005	7.93	7.93		4.88	1.000		1206 m	West
GW023138	10BL017078, 10WA112863	Spear	Private	General Use		01/09/1965	4.80	4.90	Excellent				1208 m	West
GW108660	10BL164127, 10WA113733	Spear	Private	Domestic		19/04/2007	16.00	16.00					1210 m	South West
GW106087	10BL162976	Spear	Private	Domestic		14/04/2004	7.63	7.63		4.58	1.000		1213 m	North
GW108166	10BL600428, 10WA114145	Spear		Domestic		29/05/2007	8.00				10.000		1218 m	North
GW072908		Spear	Private	Domestic		19/02/1995	8.00	8.00					1221 m	South
GW105969	10BL162735, 10WA113479	Spear	Private	Domestic		25/05/2006	9.46	9.46	Good	7.01	1.000		1221 m	West
GW106078	10BL162975, 10WA113514	Spear	Private	Domestic		14/04/2004	7.32	7.32		4.27	1.000		1221 m	North
GW101162	10BL157033, 10WA113101	Spear	Private	Domestic		06/09/1995	6.10	6.10	Good	3.50	1.000		1233 m	West
GW024367	10BL018457	Spear	Private	General Use		01/07/1966	4.20	4.30	Good				1242 m	North West
GW023572	10BL017647, 10WA112924	Spear	Private	General Use		01/01/1960	3.60	3.70	Good				1247 m	West
GW107668	10BL164166, 10WA113744	Spear	Private	Domestic		12/12/2005	12.81	12.81	Good	6.41	1.000		1248 m	West
GW104966	10BL160279, 10WA113306	Bore	Private	Domestic		29/09/2001	6.00	6.10		3.05	1.000		1250 m	West
GW072219		Spear	Private	Domestic		28/02/1995	8.00	8.00					1252 m	North
GW107906	10BL600188, 10WA114118	Spear	Private	Domestic		01/04/2006	7.50	7.50					1253 m	South West
GW017473	10BL008402	Spear	Private	General Use			7.60	7.60					1267 m	South West
GW102008	10BL158612, 10WA113258	Bore		Domestic		20/04/1998	6.10	6.10	Good	1.83	6.100		1271 m	West
GW105771	10BL162543, 10WA113443	Spear	Private	Domestic		08/12/2004	7.01	7.02			1.000		1271 m	South West
GW106237	10BL163544, 10WA113607	Bore	Private	Domestic	Water Works	24/06/2004	9.00	9.00		6.00	0.500		1272 m	South West
GW106875	10BL164501, 10WA113804	Spear	Private	Domestic		24/01/2005	5.80	5.80		3.05	1.000		1273 m	West
GW023998	10BL016443, 10WA112819	Bore	Private	General Use		01/09/1965	35.90	36.00					1279 m	West
GW110780	10BL601147, 10WA114289	Spear	Private	Domestic		10/02/2010	23.00	23.00		17.00	1.000		1292 m	West
GW100831	10BL157546, 10WA113164	Spear	Private	Domestic		12/03/1996	6.10	6.10	Good	3.50	1.000		1297 m	West
GW108805	10BL601712, 10WA114407	Spear	Private	Domestic		01/01/2007	20.00			15.00	1.000		1300 m	West
GW104890	10BL161843, 10BL162062, 10CA114621	Bore	Other Govt	Irrigation	Intertec Drilling Services	19/06/2003	25.00	25.80	104	0.90	1.000		1300 m	North
GW106146	10BL157102, 10WA113112	Spear	Private	Domestic		21/09/1995	7.32	7.32	Good		1.000		1315 m	West
GW108595	10BL601333, 10WA114322	Spear	Private	Domestic		03/02/2007	8.00	8.00					1316 m	South West
GW107593	10BL165651, 10WA114011	Spear	Private	Domestic		29/11/2005	12.20	12.20	Good	6.41	1.000		1317 m	West
GW103325	10BL159870, 10WA113297	Bore		Domestic		16/09/2000	7.00	7.00					1318 m	West

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GW107804	10BL165841, 10WA114048	Spear	Private	Domestic		20/01/2006	13.42	13.42	Good	7.63	1.000		1320 m	West
GW108942	10BL601904, 10WA114422	Spear	Private	Domestic		19/06/2008	7.32		Good	3.96	1.000		1321 m	West
GW073459		Bore	Private	Domestic		24/10/1995	7.00	7.00	Good				1322 m	West
GW106106	10BL163269, 10WA113550	Spear	Private	Domestic		02/06/2004	7.01	7.02		3.96	1.000		1325 m	West
GW111307	10BL600465, 10WA114151	Bore	Private	Domestic		25/05/2010	18.00	18.00		14.00	1.000		1335 m	West
GW109216	10BL602549, 10WA114523	Spear	Private	Domestic		15/08/2008	30.00						1335 m	West
GW106132	10BL162281, 10WA113391	Spear	Private	Domestic		27/04/2004	10.37	10.37	Good		1.000		1338 m	West
GW111279	10BL600619, 10WA114180	Spear	Private	Domestic	B&B Drilling	14/11/2001	6.00	6.00					1342 m	West
GW108705	10BL601552, 10WA114372	Spear	Private	Domestic		27/03/2004	13.72	13.73	Good	4.58	1.000		1345 m	West
GW110193	10BL600021, 10WA114081	Bore	Private	Domestic		22/02/2006	24.00	24.00	Good	18.00	1.000		1346 m	West
GW107041	10BL162902, 10WA113509	Spear	Private	Domestic	Water Works	29/04/2004	20.00		370	15.00	1.000		1347 m	West
GW104525	10BL160923	Bore	Private	Monitoring	Intertec Drilling Services	13/11/2002	17.65	17.65	Good	2.00	7.000		1347 m	North West
GW108433	10BL600969, 10WA114253	Spear	Private	Domestic		29/01/2007	12.81	12.81	Good	8.10	1.000		1348 m	West
GW107042	10BL162901, 10WA113508	Spear	Private	Domestic	Water Works	29/04/2004	20.00		370	15.00	1.000		1351 m	West
GW102222	10BL159077, 10WA113275	Spear	Private	Domestic		11/03/1999	9.50	9.50					1354 m	South
GW106178	10BL163264, 10WA113549	Spear	Private	Domestic	B & B Drilling Inc	03/07/2004	7.00	7.00		5.00	0.500		1355 m	South West
GW108998	10BL601009, 10WA114263	Spear	Private	Domestic		09/07/2008	13.72		Good	4.58	1.000		1358 m	West
GW104646	10BL161240, 10WA113332	Bore	Private	Domestic		17/01/2003	10.00	10.00					1361 m	West
GW108286	10BL600521, 10WA114159	Spear	Private	Domestic		13/11/2006	15.25	15.25		4.88	1.000		1363 m	West
GW111465	10BL604400, 10WA114613	Spear	Private	Domestic	B&B Drilling	17/05/2011	9.00	9.00	good	7.00	0.500		1364 m	West
GW107137	10BL164534, 10WA113808	Spear	Private	Domestic		03/05/2005	7.63	7.63		3.96	1.000		1371 m	North West
GW107430	10BL165324, 10WA113961	Spear	Private	Domestic		12/09/2005	9.15	9.15	Good	3.10	1.000		1376 m	North West
GW107534	10BL165409, 10WA113973	Spear	Private	Domestic		05/09/2005	6.10	6.10	Good	2.44	1.000		1381 m	North West
GW107514	10BL163864, 10WA113697	Spear	Private	Domestic		01/09/2005	7.50	7.50					1383 m	South West
GW104928	10BL160633, 10WA113319	Bore	Private	Domestic	B & B Drilling Inc	28/10/2002	9.00	9.00		5.80	0.400		1385 m	North West
GW111585	10WA114280	Bore	Private	Domestic		01/01/2007	21.00	21.00					1389 m	West
GW105770	10BL162554, 10WA113446	Spear	Private	Domestic		07/01/2004	7.01	7.02		4.58	1.000		1398 m	West
GW111452	10BL601572, 10WA114378	Spear	Private	Domestic		01/01/1962	9.00	9.00					1404 m	South West
GW110778	10BL601234, 10WA114305	Spear	Private	Domestic		25/01/2010	23.00	23.00		18.00	1.000		1406 m	West
GW106031	10BL162808, 10WA113487	Spear	Private	Domestic		31/03/2004	5.80	5.80			1.000		1406 m	West
GW105999	10BL162445, 10WA113429	Spear	Private	Domestic		22/03/2004	10.68	10.68			1.000		1414 m	North West
GW108837	10BL163015, 10WA113519	Spear	Private	Domestic		21/01/2006	7.50	7.50					1416 m	West
GW101783	10BL157374, 10WA113152	Bore		Domestic		18/12/1995	5.00	5.00					1417 m	West

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW073445		Spear	Private	Domestic		20/10/1995	10.00						1420 m	West
GW109098	10BL162923, 10WA113510	Spear	Private	Domestic		23/07/2008	10.68			6.10	1.000		1423 m	North West
GW072922		Spear	Private	Domestic		22/02/1995	6.70	6.70					1423 m	North West
GW111696	10BL164365, 10WA113782	Bore	Private	Domestic		01/10/2008	22.00	22.00		16.00	1.000		1425 m	West
GW027462	10BL020600	Bore	Private	General Use		01/07/1967	20.70	20.70	Other				1428 m	North West
GW109490	10BL164954, 10WA113897	Bore	Private	Domestic	B & B Drilling Inc	21/04/2005	18.00	18.00	Good	12.00	0.400		1433 m	West
GW107348	10BL165062, 10WA113911	Spear	Private	Domestic		19/07/2005	13.42	13.42		9.15	1.000		1435 m	North West
GW111724	10BL165065, 10WA113914	Spear	Private	Domestic		01/01/2008	6.00	6.00		4.50	1.000		1436 m	North
GW108640	10BL165794, 10WA114042	Spear	Private	Domestic		01/03/2006	7.50	7.50					1436 m	South West
GW109922	10BL602855, 10WA114547	Spear	Private	Domestic		20/01/2009	4.58	4.58		2.44	1.000		1437 m	South West
21310006				UNK								31.69	1442 m	North
GW104991	10BL160432, 10WA113314	Bore	Private	Domestic		04/04/2002	9.00	9.00		6.50	1.000		1455 m	West
GW104984	10BL160373, 10WA113310	Bore	Private	Domestic		24/01/2002	9.00	9.00		7.00	1.000		1458 m	West
GW107391	10BL163366, 10WA113565	Spear	Private	Domestic		10/12/2004	7.01	7.02	Good	3.66	1.000		1459 m	North West
GW106915	10BL164684, 10WA113830	Spear	Private	Domestic		03/04/2005	7.50	7.50					1466 m	South West
GW107738	10BL165938, 10WA114063	Spear	Private	Domestic	B & B Drilling Inc	05/01/2006	7.00	7.00	Good	5.00	0.500		1473 m	West
GW107760	10BL165566, 10WA113995	Bore	Private	Domestic		19/01/2007	6.00						1474 m	South West
GW105964	10BL162729, 10WA113478	(Unknown)	Private	Domestic		01/06/2004	9.50	9.50					1474 m	West
GW023659	10BL018050, 10WA112936	Spear	Private	General Use		01/01/1966	4.80	4.90	Good				1481 m	South West
GW108296	10BL600618, 10WA114179	Spear	Private	Domestic		05/11/2006	16.00	16.00					1491 m	West
GW042159		Bore	NSW Office of Water	Monitoring			24.00					24.82	1493 m	West
GW075017		Bore	NSW Office of Water	Monitoring	McDermott Drilling Pty Ltd	07/07/1998	28.50	29.50	Fresh	1.75		8.56	1494 m	West
GW107289	10BL165159, 10WA113928	Spear	Private	Domestic		17/07/2005	14.03	14.03	Good	10.37	1.000		1496 m	South
GW113105	10BL602800	Bore	Private	Monitoring	Macquarie Drilling	18/11/2008	4.90	4.90					1499 m	East
GW042173		Spear	Local Govt	Stock								24.70	1502 m	South
GW106945	10BL164837, 10WA113867	Spear	Private	Domestic		15/04/2005	9.50	9.50					1507 m	West
GW106661	10BL164001, 10WA113719	Spear	Private	Domestic		10/10/2004	15.25	15.25		8.23	1.000		1507 m	South
GW106069	10BL163194, 10WA113537	Spear	Private	Domestic		31/05/2004	7.01	7.02		4.58	1.000		1508 m	South West
GW017341	10BL008542, 10CA114657	Bore	Private	Recreation			18.20						1509 m	West
GW072974		Bore	Private	Domestic		06/05/1995	10.00	10.00					1510 m	South
GW106005	10BL163101, 10WA113526	Spear	Private	Domestic		20/05/2004	12.29	12.29		7.93	1.000		1516 m	South
GW113109	10BL602800	Bore	Private	Monitoring	Macquarie Drilling	23/07/2009	3.50	3.50					1519 m	East

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GW113108	10BL602800	Bore	Private	Monitoring	Macquarie Drilling	23/07/2009	7.00	7.00					1522 m	East
GW113107	10BL602800	Bore	Private	Monitoring	Macquarie Drilling	20/07/2009	8.50	8.50					1528 m	East
GW106863	10BL164867, 10WA113877	Spear	Private	Domestic		15/03/2005	16.47	16.47	Good	7.93	1.000		1528 m	South West
GW113106	10BL602800	Bore	Private	Monitoring	Macquarie Drilling	18/11/2008	5.50	5.50					1529 m	East
GW107132	10BL164682, 10WA113829	Spear	Private	Domestic		23/05/2005	14.64	14.64	Good	7.32	1.000		1530 m	South West
GW106028	10BL162949, 10WA113511	Spear	Private	Domestic	B & B Drilling Inc	21/06/2004	5.00	5.00	Good	3.00	0.500		1531 m	North West
GW109313	10BL602424, 10WA114510	Spear	Private	Domestic	Ultra Drilling	09/09/2008	84.00		200	23.00	1.000		1534 m	North West
GW107643	10BL164000, 10WA113718	Spear	Private	Domestic	B & B Drilling Inc	19/07/2005	7.00	7.00	Good	5.00	0.500		1538 m	West
GW105877	10BL162678, 10WA113472	Bore				09/05/2005							1540 m	South
GW107805	10BL165702, 10WA114024	Bore	Private	Domestic	Combined Drilling Services	27/02/2006							1543 m	North
GW110538	10BL603119, 10WA114570	Spear	Private	Domestic		08/09/2009	8.00	8.00					1554 m	North West
GW105040	10BL161099, 10WA113326	Bore		Domestic		20/03/2003	8.00	8.00		5.00	1.000		1557 m	North West
GW108703	10BL601650, 10WA114398	Bore	Private	Domestic		01/01/1982	8.00				40.000		1567 m	North West
GW038009	10BL101948	Bore	Private	Recreation		01/09/1969	21.30	22.90	Good				1571 m	North West
21310005				UNK								37.92	1571 m	North
GW105492	10BL162700, 10WA113474	Bore		Domestic		15/04/2004	6.71	6.71		4.58	1.000		1574 m	West
GW108048	10BL600304, 10WA114134	Spear	Private	Domestic		12/06/2006	16.16	16.17		8.24	1.000		1575 m	South West
GW108046	10BL600288, 10WA114132	Spear	Private	Domestic		17/06/2006	15.86	15.86		8.23	1.000		1577 m	South West
GW028289	10BL018447, 10WA112950	Spear	Private	General Use		01/09/1966	6.00	6.10	Very Good				1581 m	South West
GW109118	10BL602249, 10WA114472	Bore	Private	Domestic		25/07/2008	7.63		Good	3.05	1.000		1582 m	North West
GW108400	10BL600676, 10WA114193	Spear	Private			15/10/2007	7.01		Good	3.96	1.000		1597 m	North West
GW047125	10BL105641, 10BL601141	Bore	Local Govt	Recreation		01/05/1976	24.40	24.40		4.00			1605 m	South West
GW108443	10BL600984, 10WA114259	Spear	Private	Domestic	Combined Drilling Services	12/01/2007	14.50			8.00			1614 m	South
GW106021	10BL162581, 10WA113452	Spear	Private	Domestic		22/03/2003	16.47	16.47		7.32	1.000		1621 m	West
GW112397	10WA118646	Spear	Private	Domestic		16/04/2013	7.32	7.32	Good	3.05	1.000		1624 m	North West
GW103774	10BL156600, 10WA113072	Bore		Domestic		12/03/1995	6.00			4.00			1625 m	North West
GW100755	10BL157572, 10CA114657	Bore	Private	Irrigation, Recreation	B & B Drilling Inc	30/10/1996	19.50	19.50		3.40	12.500		1630 m	West
GW109774	10BL165829, 10WA114047	Spear	Private	Domestic		01/01/2005	10.00			3.00	0.500		1632 m	South
GW111238	10BL600173, 10WA114116	Bore	Private	Domestic		11/10/2010	12.00	12.00					1636 m	West
GW101933	10BL156973, 10WA113092	Bore		Domestic		11/01/1996	2.20			2.10			1638 m	North West
GW110539	10BL601395, 10WA114336	Spear	Private	Domestic		07/10/2009	10.00	10.00					1640 m	North West
GW106165	10BL163192, 10WA113536	Bore				29/06/2005							1642 m	South West
GW105508	10BL162631, 10WA113462	Bore		Domestic		01/01/2000	7.00				0.050		1651 m	West

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GW107741	10BL165165, 10WA113929	Spear	Private	Domestic		05/01/2006	9.00	9.00					1658 m	South West
GW113310	10BL163382, 10WA113571	Spear	Private	Domestic		01/01/2004	9.00	9.00			4.000		1659 m	North West
GW106772	10BL157060, 10WA113107	Spear	Private	Domestic		10/09/1995	5.00	5.00					1659 m	North West
GW109042	10BL602008, 10WA114429	Spear	Private	Domestic		14/07/2008	17.69		Good	8.54	1.000		1662 m	West
GW106602	10BL163744, 10WA113670	Spear	Private	Domestic		28/08/2004	6.10	6.10		3.50	1.000		1664 m	North West
GW105575	10BL162490, 10WA113436	Bore	Private	Domestic		04/01/2004	7.00	7.00					1671 m	North West
GW108734	10BL601448, 10WA114352	Spear	Private	Domestic		19/03/2007	6.10	6.10	Good		1.000		1672 m	West
GW060170	10BL131560, 10WA114635	Bore	Private	Industrial			20.00	20.00	Good				1672 m	South West
213008				UNK								39.12	1674 m	North
GW042169		Bore - Nested (2)	NSW Office of Water	Monitoring			29.80	29.80				20.20	1674 m	South West
GW023529	10BL016955, 10WA112853	Spear	Private	General Use		01/12/1965	6.70	6.70	Good				1677 m	South
GW108472	10BL601127, 10WA114288	Spear	Private	Domestic		06/01/2007	16.00	16.00					1680 m	South
GW017651	10BL008543, 10BL159954, 10CA114657	Bore	Private	Recreation		01/02/1954	29.20	29.30					1683 m	West
GW110270	10BL165643, 10WA114008	Bore	Private	Domestic	B & B Drilling Inc	16/01/2006	6.00	6.00	Good	4.00	0.500		1686 m	North West
GW105440	10BL162159, 10WA113357	Bore		Domestic		20/10/2003	5.19	5.19		2.75	1.000		1690 m	West
GW107213	10BL164994, 10WA113901	Spear	Private	Domestic	B & B Drilling Inc	05/07/2005	6.00	6.00		2.00	0.500		1690 m	West
GW111248	10BL162151, 10BL601857, 10WA114799	Bore	Private	Recreation	STD	20/01/2004	30.00	30.00		6.00			1690 m	South West
GW025718	10BL016426, 10WA112816	Spear	Private	General Use		01/11/1965	3.60	3.70	Good				1691 m	North West
GW107551	10BL165618, 10WA114005	Spear	Private	Domestic		18/11/2005	6.71	6.71	Good	3.50	1.000		1693 m	North West
GW108596	10BL601365, 10WA114327	Spear	Private	Domestic		20/02/2007	16.00	16.00					1696 m	South East
GW104945	10BL160495, 10WA113317	Bore	Private	Domestic		08/02/2000	7.32	7.32		4.27	1.000		1698 m	West
GW108448	10BL601046, 10WA114271	Spear	Private	Domestic		19/01/2007	16.00	16.00					1706 m	South
GW106364	10BL163835, 10WA113691	Bore				23/08/2005							1709 m	North West
GW111621	10BL164152, 10WA113739	Spear	Private	Domestic		01/01/2004	6.00	6.00		4.00			1712 m	North West
GW108440	10BL165741, 10WA114037	Spear	Private	Domestic	B & B Drilling Inc	03/11/2005	5.00	5.00	Good	3.00	0.500		1712 m	West
GW106093	10BL162896, 10WA113507	Spear	Private	Domestic		18/04/2004	5.18	5.19		2.13	1.000		1713 m	North West
GW023419	10BL017015, 10WA112858	Spear	Private	Domestic		07/08/1974					0.080		1715 m	North West
GW075025		Bore	NSW Office of Water	Monitoring	McDermott Drilling Pty Ltd	20/07/1998	24.20	25.50		9.13		8.52	1715 m	South
GW107881	10BL600088, 10WA114098	Spear		Domestic		20/03/2006	7.00						1720 m	West
GW107603	10BL162349, 10WA113411	Spear	Private	Domestic		15/10/2004	7.00	7.00					1722 m	West
GW111553	10BL165565, 10WA113994	Bore	Private	Domestic		01/01/2005	14.00	14.00					1723 m	North East

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GW104832	10BL161176, 10WA113329	Bore	Private	Domestic		07/12/2000	7.32	7.32		3.96	1.250		1726 m	West
GW106752	10BL164167, 10WA113745	Spear	Private	Domestic		30/10/2004	9.50	9.50					1728 m	South
GW108403	10BL600688, 10WA114196	Spear	Private	Domestic		15/12/2006	5.00	5.00					1730 m	West
GW108822	10BL165672, 10WA114016	Spear	Private	Domestic		12/12/2006	14.00	14.00	Good		1.000		1731 m	South
GW023144	10BL016800, 10WA112845	Spear	Private	General Use		01/01/1942	4.80		Good				1734 m	North West
GW106854	10BL163505, 10WA113597	Spear	Private	Domestic		15/02/2005	7.00	7.00					1735 m	North East
21310004				UNK								42.05	1735 m	North
GW025540	10BL016659, 10WA112833	Spear	Private	General Use		01/12/1965	4.80	4.90	Good				1736 m	South
GW111557	10BL600797, 10WA114224	Spear	Private	Domestic		25/01/2007	8.00	8.00					1740 m	West
GW100359	10BL157618, 10WA113170	Spear	Private	Domestic		12/09/1995	5.50	5.50	Good	2.74	1.000		1742 m	North West
GW108653	10BL601557, 10WA114374	Spear	Private	Domestic		17/04/2007	12.00	12.00					1743 m	North West
GW105736	10BL162854, 10WA113499	Bore				19/04/2005							1744 m	North West
GW107447	10BL163858, 10WA113693	Spear	Private	Domestic		17/06/2004	8.23	8.24	Good	5.49	1.000		1745 m	North East
GW108418	10BL600796, 10WA114223	Spear	Private	Domestic		30/01/2007	6.00	6.00					1747 m	West
GW109769	10BL165796, 10WA114044	Spear	Private	Domestic		01/01/2005	8.00			2.00	2.500		1748 m	South
GW101883	10BL157490, 10WA113161	Bore		Domestic		26/02/1996	10.00	10.00					1752 m	South
GW106856	10BL163087, 10WA113524	Spear	Private	Domestic		21/12/2004	7.93	7.93	Good	2.13	1.000		1757 m	North West
GW106083	10BL162811, 10WA113488	Bore	Private	Domestic	Intertec Drilling Services	23/03/2004	18.90	20.10	295	1.70	3.500		1761 m	North West
GW072994	10BL156371, 10WA113044	Bore	Private	Domestic		20/08/1995	9.50	9.50					1764 m	South
GW046836	10BL107197, 10BL132425, 10WA114639	Bore	Local Govt	Industrial, Recreation		01/10/1970	37.80	37.80					1765 m	South
GW104834	10BL161173, 10WA113328	Bore	Private	Domestic	A Korkadis	07/12/2002	5.80	5.80		2.44	1.000		1767 m	North West
GW101728	10BL157144, 10WA113118	Bore		Domestic		10/10/1995	4.58	4.58	Good	1.52	1.000		1767 m	West
GW105134	10BL157056, 10WA113105	Bore	Private	Domestic		11/09/1995	5.00	5.00					1767 m	West
GW109946	10BL602187, 10WA114462	Spear	Private	Domestic	B & B Drilling Inc	05/02/2009	5.00	5.00	Good	2.00	0.500		1768 m	West
GW110423	10BL602943, 10WA114561	Spear	Private	Domestic		19/03/2009	12.00	12.00	Other	7.50	1.000		1769 m	South
GW100939	10BL156892, 10WA113082	Bore	Private	Domestic		21/08/1995	5.50	5.50	Good	2.44	1.000		1769 m	North West
GW106110	10BL162824, 10WA113493	Bore	Private	Domestic	Intertec Drilling Services	19/03/2004	20.50	23.20	239	4.40	2.000		1772 m	North West
GW072787		Spear	Private	Domestic		14/01/1995	5.50	5.50	Good				1775 m	West
GW110956	10BL601399, 10WA114338	Spear	Private	Domestic		01/01/2007	12.19	12.19					1776 m	South
GW110058	10BL600038, 10WA114085	Spear	Private	Domestic		01/01/2006	8.00			2.00	2.200		1780 m	North East
GW105019	10BL153144, 10CA114621	Bore	Private	Recreation		26/05/1993	30.00	30.00		7.80	1.890		1781 m	North West
GW040781		Bore	Private				3.29						1782 m	South West

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GW013629	10BL009006	Bore	Private	General Use		01/11/1955	21.90	21.90	0-500 ppm				1782 m	North West
GW108632	10BL165385, 10WA113969	Spear	Private	Domestic		15/08/2005	7.32	7.32	Good	3.96	1.000		1787 m	North West
GW105431	10BL163345, 10BL164439, 10BL604809, 10WA114723, 10WA117789	Bore		Recreation	Southern Tablelands Drilling	02/08/2004	30.00	30.00		8.10	10.000		1789 m	South East
GW053600	10BL120842, 10BL604569, 10BL604809, 10BL605130, 10WA114691, 10WA117791	Bore	Local Govt	Recreation		01/04/1981	29.00	30.50	0-500 ppm				1789 m	South East
GW108394	10BL600558, 10WA114165	Bore	Private	Domestic		26/10/2006	16.00	16.00					1790 m	South
GW108491	10BL600658, 10WA114191	Spear	Private	Domestic	B & B Drilling Inc	08/01/2007	7.00	7.00	Good	5.00	0.500		1797 m	North West
GW112385	10WA118623	Spear	Private	Domestic		17/03/2013	5.49	5.49		3.05	1.000		1798 m	West
GW111158	10BL600566, 10WA114169	Spear	Private	Domestic		01/01/2003	14.00	14.00					1802 m	West
GW023585	10BL017518, 10WA112912	Spear	Private	General Use		01/03/1966	4.50	4.60					1807 m	North West
GW102294	10BL159092, 10WA113276	Spear	Private	Domestic		06/03/1999	10.00	10.00					1809 m	South
GW114917	10WA119150	Spear	Private	Domestic		04/03/2015	9.15	9.15		5.49	1.000		1810 m	West
GW108846	10BL601652	Bore	Private	Domestic		20/04/2006	8.00	8.00					1813 m	North West
GW017653	10BL008545, 10CA114657	Bore	Private	Recreation		01/11/1957	25.60	25.60					1814 m	South West
GW024024	10BL018394, 10WA112945	Spear	Private	General Use		01/12/1965	6.00	6.10	Good				1815 m	South
GW017652	10BL008544, 10CA114657	Bore	Private	Recreation			24.60						1815 m	West
GW105940	10BL162321, 10WA113403	Bore				20/05/2005							1821 m	North West
GW107578	10BL164156, 10WA113741	Spear	Private	Domestic		10/11/2004	16.47	16.47	Good	12.81	1.000		1829 m	South
GW107509	10BL163643, 10WA113640	Spear	Private	Domestic		25/08/2005	10.00	10.00					1829 m	North West
GW106182	10BL162821, 10WA113491	Spear	Private	Domestic	B & B Drilling Inc	14/07/2004	4.00	4.00	Good	2.00	0.500		1830 m	West
GW025717	10BL016557, 10WA112825	Spear	Private	General Use		01/10/1965	3.60						1830 m	West
GW106030	10BL162823, 10WA113492	Bore	Private	Domestic	Intertec Drilling Services	17/03/2004	20.00	20.50	220	4.10	2.000		1838 m	North West
GW106537	10BL163696, 10WA113653	Spear	Private	Domestic		09/10/2004	10.00	10.00					1846 m	North West
GW106177	10BL163428, 10BL600644, 10WA114187	Spear	Private	Domestic	B & B Drilling Inc	01/01/2007	8.00	8.00		2.00	2.500		1848 m	North West
GW019633	10BL012858	(Unknown)	Other Govt	Recreation		01/11/1961	35.00	35.10					1849 m	South West
GW111592	10BL165354, 10WA113966	Bore	Private	Domestic		01/01/2005	20.00	20.00					1849 m	North West
GW106435	10BL163960, 10WA113708	Spear	Private	Domestic		20/09/2004	12.81	12.81		8.23	1.000		1849 m	North West
GW105496	10BL162469, 10WA113434	Bore		Domestic		06/10/2003	10.00						1856 m	South
GW024206	10BL018634, 10WA112963	Spear	Private	General Use		01/08/1966	5.40	5.50	Good				1861 m	South
GW106798	10BL163600, 10WA113627	Spear	Private	Domestic		19/12/2004	10.00	10.00					1869 m	North West
GW111247	10BL162151, 10BL601856, 10WA114799	Bore	Private	Recreation	STD	14/04/2004	36.00	36.00		7.00			1874 m	South West

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW104057	10BL160241, 10WA113304	Bore		Domestic	Southern Tablelands Drilling	02/11/2000	14.00	14.00					1880 m	North West
GW113243	10BL602802	Bore	Private	Monitoring	Macquarie Drilling	10/11/2008	13.00	13.00					1883 m	South
GW111600	10BL604978	Bore	Private	Monitoring	UNSW	29/09/2011	20.00	20.00		5.00			1883 m	South West
GW111624	10BL165365	Bore	Private	Monitoring		05/08/2005	36.00	36.00		5.00			1883 m	South West
GW112525	10BL600682, 10BL602307, 10WA118709	Bore	Private	Industrial	B&B Drilling	16/10/2008	30.00	30.00		10.60			1883 m	South
GW025716	10BL016548, 10WA112823	Spear	Private	General Use		01/01/1945	4.80						1885 m	South
GW042834	10BL105619, 10BL162081, 10CA114621	Bore	Local Govt	Irrigation, Recreation		01/11/1976	31.10	31.10					1886 m	North West
GW023270	10BL016732, 10WA112840	Spear	Private	General Use			7.00	7.00					1890 m	South
GW104992	10BL160433, 10WA113315	Bore	Private	Domestic		24/01/2002	9.00	9.00		6.50	1.000		1892 m	South
GW113245	10BL602802	Bore	Private	Monitoring	Macquarie Drilling	10/11/2008	13.00	13.00					1894 m	South
GW023841	10BL017496, 10WA112903	Spear	Private	General Use		01/03/1966	4.50	4.60	Good				1896 m	South
GW023991	10BL018144, 10WA112940	Spear	Private	General Use		01/05/1966	5.70	5.80	Good				1898 m	South
GW101759	10BL157335	Bore		Domestic		12/11/1995	10.98	10.98	Good	8.24	1.000		1899 m	North West
GW106058	10BL162559, 10WA113447	Spear	Private	Domestic		06/02/2004	7.50	7.50					1899 m	North West
GW101072	10BL158251, 10WA113211	Spear	Private	Domestic		11/11/1997	10.00	10.00					1900 m	South
GW017729	10BL008396	Bore	Local Govt	Recreation		01/01/1942	30.40	30.50	Good				1900 m	North West
GW111136	10BL600564, 10WA114167	Spear	Private	Domestic	Combined Drilling Services	17/12/2006	11.00	11.00		3.50			1903 m	North West
GW113242	10BL602802	Bore	Private	Monitoring	Macquarie Drilling	10/11/2008	13.00	13.00					1903 m	South
GW113244	10BL602802	Bore	Private	Monitoring	Macquarie Drilling	10/11/2008	13.00	13.00					1906 m	South
GW114340	10BL604956	Bore	Other Govt	Monitoring	Total Drilling	12/09/2011	5.55	5.55		3.42			1911 m	North
GW027616	10BL019784, 10WA112992	Bore	Private	Industrial		01/08/1967	32.60	32.60					1911 m	South
GW105747	10BL162263, 10WA113382	Spear	Private	Domestic		15/12/2003	8.23	8.24		4.88	1.000		1916 m	North West
GW029355	10BL019786	Bore	Private	Industrial		01/07/1968	28.90	29.00					1919 m	South
GW105962	10BL163248, 10WA113544	Bore				24/05/2005	14.00						1919 m	South
GW105919	10BL161675, 10WA113341	Bore				13/05/2005							1923 m	North West
GW110542	10BL603341, 10WA114577	Bore	Private	Domestic	Intertec Drilling Services	12/10/2009	27.80	28.00	134	12.20	0.600		1934 m	North East
GW024118	10BL018436, 10WA112948	Spear	Private	General Use		01/01/1966	3.00	3.00	Good				1940 m	North West
GW108228	10BL600464, 10WA114150	Spear	Private	Domestic		02/09/2006	17.00	17.00					1941 m	North
GW114341	10BL604956	Bore	Other Govt	Monitoring	Total Drilling	12/09/2011	2.72	2.72		1.41			1949 m	North
GW024368	10BL018351	Bore	Private	Recreation		01/02/1966	12.90	13.00				20.50	1955 m	South West
GW101069	10BL158216, 10WA113205	Spear	Private	Domestic		11/10/1997	10.00	10.00					1957 m	South
GW113145	10BL604599	Bore	Private	Monitoring	Total Drilling	13/05/2011	9.70	9.74					1959 m	North West

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW109066	10BL601956, 10WA114425	Spear	Private	Domestic		16/07/2008	7.50						1960 m	North West
GW026584	10BL019542, 10WA112986	Spear	Private	General Use		01/11/1966	6.00	6.10					1962 m	South
GW023275	10BL016918	Spear	Local Govt	General Use		01/09/1965	5.70	5.80					1970 m	West
GW106693	10BL164313, 10WA113773	Spear	Private	Domestic		21/11/2004	11.29	11.29	Good	7.93	1.000		1974 m	North West
GW060243	10BL132429, 10WA114645	Bore	Local Govt	Industrial, Recreation		01/05/1973	33.50						1975 m	South
GW106730	10BL164248, 10WA113765	Spear	Private	Domestic	Water Works	28/10/2004	15.00	15.00	334	12.00	1.000		1975 m	North West
GW109270	10BL164852, 10WA113871	Bore	Private	Domestic		26/08/2008	11.00			2.00	2.500		1977 m	North West
GW113770	10BL601746	Bore	Private	Monitoring		06/02/2014	5.00	5.00					1986 m	North West
GW108882	10BL163403, 10WA113575	Bore	Private	Domestic		30/05/2008	6.00						1986 m	North West
GW113768	10BL601746	Bore	Private	Monitoring		06/11/2006	5.00	5.00					1988 m	North West
GW106004	10BL162812, 10WA113489	Bore	Private	Domestic	Intertec Drilling Services	25/03/2004	19.50	23.20	305	4.10	2.000		1992 m	North West
GW113144	10BL604599	Bore	Private	Monitoring	Total Drilling	12/05/2011	9.75	9.75					1996 m	North West
GW108498	10BL164824	Spear	Private	Domestic		22/01/2006	18.00	18.00					1996 m	South
GW113766	10BL601746	Bore	Private	Monitoring		09/11/2006	5.50	5.50					1998 m	North West

Borehole Data Source : NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation for all bores prefixed with GW. All other bores © Commonwealth of Australia (Bureau of Meteorology) 2015. Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Hydrogeology & Groundwater

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Driller's Logs

Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
GW111568	0.00m-0.03m ASPHALT 0.03m-0.10m SAND AND GRAVEL 0.10m-1.20m SAND,YELLOW AND BROWN,F/GRAINED 1.20m-8.60m SAND,LIGHT YELLOW BROWN F/GRAINED	386m	West
GW109679	0.00m-0.10m CONCRETE 0.10m-1.00m FILL, MOIST,SAND, GRAVEL 1.00m-4.00m SAND, MOIST GREY BROWN 4.00m-6.00m SANDSTONE,ORANGE BROWN	391m	South
GW111567	0.00m-0.03m ASPHALT 0.03m-0.10m SAND AND GRAVEL 0.10m-0.50m FILLING,DARK GREY SAND,TRACE OF GRAVEL 0.50m-0.70m FILLING,BROWN SAND 0.70m-4.00m SAND,ORANGE AND DARK BROWN,F/GRAINED 4.00m-4.50m SAND,LIGHT BROWN,F/GRAINED 4.50m-8.00m SANDMLIGHT YELLOW BROWN,F/GRAINED	395m	West
GW109680	0.00m-0.50m CONCRETE 0.50m-0.70m FILL,PALE,ORANGE 0.70m-1.50m SAND 1.50m-1.90m SANDSTONE 1.90m-3.90m SAND 3.90m-5.50m SANDSTONE,MOIST,PALE,GREY	398m	South
GW057008	0.00m-0.20m Topsoil 0.20m-3.00m Sand Grey 3.00m-13.50m Sand 13.50m-18.30m Sand Grey 13.50m-18.30m Peat Seams Clay Bands 18.30m-27.50m Sand Yellow 27.50m-30.00m Clay Grey	400m	North West
GW110524	0.00m-1.50m ROCK	404m	South
GW109681	0.00m-1.00m CONCRETE,FILL,MOIST ORANGE 1.00m-1.30m SAND 1.30m-2.10m SANDSTONE,MOIST,DARK 2.10m-3.50m SAND,WET,PALE 3.50m-6.00m SANDSTONE,SLIGHLY MOIST,WEATHERED	407m	South
GW111847	0.00m-0.50m FILL,SLIGHTLY MOIST,PALE PINK,DENSE,SANDSTONE,SAND 0.50m-3.00m SAND,MOIST,PALE GREYS,BROWN,COARSE 3.00m-5.00m SAND,WET,PALE BROWN,MEDIUM GRAINED	430m	South East
GW110856	0.00m-13.00m SAND 13.00m-13.20m ROCKS	445m	South West
GW017851	0.00m-4.57m Sand Water Supply	475m	South
GW111846	0.00m-0.20m BITUMEN 0.20m-0.50m FILL,MOIST,BROWN,DENSE,SAND,MINOR ASPHALT 0.50m-5.60m SAND,DENSE,MOIST,ORANGE,BROWN,SANDSTONE	488m	South
GW111845	0.00m-0.20m BITUMEN 0.20m-1.00m FILL, MOIST,ORANGE BROWN AND BLACK 1.00m-3.00m SAND MOIST,PALE,M/DENSE,COARSE	513m	South
GW111844	0.00m-0.15m FILL,MOIST,GREY BROWN,LOOSE,SAND 0.15m-3.00m SAND,MEDIUM DENSE,MOIST,GREY,M/GRAINED 3.00m-4.80m SAND,WET,PALE BROWN,COARSE GRAINED	535m	South East

Groundwater No	Drillers Log	Distance	Direction
GW072463	0.00m-7.00m GREY SAND 7.00m-8.00m GREY CLAY 8.00m-10.50m BROWN SANDSTONE 10.50m-11.00m BROWN SOFT SANDSTONE 11.00m-17.00m GREY SANDSTONE 17.00m-17.50m GREY CLAY 17.50m-43.00m WHITE SANDSTONE	539m	South East
GW019634	0.00m-0.91m Sand Made Ground 0.91m-1.21m Ash Made Ground 1.21m-1.82m Sand Hard Cemented 1.82m-6.70m Sand Packed 6.70m-9.14m Sand Light Brown 9.14m-10.97m Sand Yellow 9.14m-10.97m Peat Bands 10.97m-20.11m Peat Some 10.97m-20.11m Sand Grey 20.11m-23.16m Sand Grey Coarse 20.11m-23.16m Peat Bands 23.16m-26.21m Sand Yellow 26.21m-31.39m Sand White 31.39m-32.61m Sand Yellow 31.39m-32.61m Clay Bands 32.61m-32.62m Peat	541m	West
GW104772	0.00m-0.50m TOP FILL 0.50m-2.10m LIGHT BROWN SAND 2.10m-9.70m YELLOW SAND 9.70m-9.90m BROWN CLAY 9.90m-14.20m YELLOW SAND 14.20m-15.20m SILTY SAND/CLAY 15.20m-16.80m BROWN SAND 16.80m-20.50m WHITE SILTY SAND/CLAY 20.50m-24.10m DECOMPOSED SANDSTONE 24.10m-25.00m L/YELLOW HARD SANDSTONE	571m	North West
GW025890	0.00m-0.30m Sand Grey 0.30m-10.05m Sand 10.05m-10.21m Sand Peaty 10.21m-10.97m Sand Dirty Wet 10.97m-12.19m Sand Wet 10.97m-12.19m Clay Bands 12.19m-13.71m Sand Dirty Wet 13.71m-15.24m Sand Water Supply 15.24m-16.76m Sand Grey Water Supply 16.76m-18.28m Sand Grey Peaty Water Supply 18.28m-19.81m Sand Grey Water Supply 19.81m-21.33m Sand Dark Brown Water Supply 19.81m-21.33m Clay Bands 21.33m-22.86m Sand Dark Brown Water Supply 22.86m-25.90m Sand Water Supply 25.90m-29.56m Sand Yellow Water Supply 29.56m-31.39m Sand Yellow Peat 29.56m-31.39m Clay Seams	572m	West
GW102016	0.00m-1.00m Topsoil 1.00m-3.00m Fill material - ash and slag 3.00m-4.00m Light Brown Sand F.G., trace organic matter 4.00m-8.00m Light Brown Sand F.G. 8.00m-11.00m Yellow/Brown Sand F.G. 11.00m-14.00m Sand F.G. with thin peat stringers 14.00m-20.00m Light Brown Sand with trace peat 20.00m-33.00m White Sand F.G. 33.00m-35.00m Peat and Clay	574m	West
GW101682	0.00m-1.00m Topsoil 1.00m-3.00m Fill - ash and slag material 3.00m-12.00m Yellow/Brown Sand F.G. 12.00m-15.00m A/A with thin Peat and trace Clay 15.00m-17.00m Yellow/Brown Sand F.G. 17.00m-21.00m White Sand F.G. 21.00m-29.00m Light Brown Sand F.G. 29.00m-33.00m White Sand F.G. 33.00m-41.00m Peat, Clayey, black and oily	592m	West

Groundwater No	Drillers Log	Distance	Direction
GW019635	0.00m-2.43m Ash Clay 0.00m-2.43m Sand 2.43m-11.58m Sand Clay 11.58m-11.88m Peat Bands 11.88m-14.93m Peat Sandy Wet 14.93m-17.37m Sand Water Supply 17.37m-19.81m Sand White Water Supply 19.81m-21.33m Peat Sandy 21.33m-24.38m Sand Water Supply 24.38m-24.68m Peat Sandy Water Supply 24.68m-25.60m Sand White Coarse 25.60m-28.49m Sand Yellow Water Supply	597m	West
GW028827	0.00m-3.65m Sand Dirty 3.65m-11.58m Sand Light Brown Clean 11.58m-13.10m Sand Peaty Water Supply 13.10m-18.89m Sand Grey Water Supply 18.89m-26.51m Sand Dark Brown Peaty Water Supply 26.51m-27.73m Sand Grey Clayey Silty Water Supply 27.73m-32.61m Sand Light Grey Water Supply 32.61m-32.62m Clay Grey Stiff Water Supply	597m	West
GW100768	0.00m-17.39m UNCOSOLIDATED ALL SANDS	600m	South West
GW034992	0.00m-1.00m SANDY SOIL,GREY/BROWN 1.00m-2.00m SAND,F.G. LT. BROWN 2.00m-3.00m SAND 3.00m-4.00m SAND, F.G. YELLOW/BROWN 4.00m-7.00m SAND/F.G. 7.00m-12.00m SAND F.G. 12.00m-13.00m A/A WITH THIN PEAT BED 13.00m-14.00m A/A MIN OR PEAT 14.00m-17.00m SAND F.G. WITH YELLOW MIN.PEAT 17.00m-20.00m SAND F.G WH. 20.00m-21.00m A/A WITH PEAT 21.00m-27.00m SAND F.G WITH SL COARSE AT BASE 27.00m-29.00m SAND F.G WITH 10-20 % CLAY 29.00m-34.00m SAND F.G. WITH MIN CLAY AT COARSE 34.00m-36.50m PEAT MASSIVE, OILY 36.50m-38.00m CLAY WITH MIN PEAT 38.00m-41.00m PEAT & CLAY WITH 50:50	611m	West
GW106098	0.00m-9.50m sand	616m	South West
GW110240	0.00m-0.50m TOPSOIL 0.50m-10.70m SAND COLOURED 10.70m-17.00m SOFT SANDSTONE 17.00m-150.00m HARD SANDSTONE	633m	South
GW108971	0.00m-0.30m TOPSOIL 0.30m-1.80m SANDY CLAY 1.80m-3.50m WHITE CLAY 3.50m-9.00m COLOURED SANDSTONE 9.00m-39.00m WHITE SANDSTONE 39.00m-41.00m BLACK SANDSTONE 41.00m-208.00m WHITE SANDSTONE 208.00m-216.00m GREY SHALE	644m	North East
GW019612	0.00m-11.58m Sand Clay 11.58m-14.32m Sand Peaty Coloured 14.32m-15.24m Sand Wet 15.24m-19.50m Sand White Water Supply 19.50m-19.81m Peat 19.81m-20.42m Sand Peaty 20.42m-25.90m Sand Dark Brown Water Supply 25.90m-26.82m Sand Water Supply 26.82m-26.97m Clay 26.97m-31.39m Sand White Water Supply	674m	West
GW101452	0.00m-6.00m SAND	675m	West
GW047543	0.00m-30.48m Sand Water Supply	713m	North West
GW107651	0.00m-0.30m topsoil 0.30m-4.50m sand, yellow 4.50m-7.00m sand, grey	730m	West
GW106378	0.00m-0.30m topsoil 0.30m-2.20m sand, yellow 2.20m-2.60m sand, dark brown 2.60m-7.00m sand, yelllow	736m	West
GW105676	0.00m-9.15m sand, unconsolidated	739m	West

Groundwater No	Drillers Log	Distance	Direction
GW105978	0.00m-8.23m sand, unconsolicated	740m	West
GW024677	0.00m-4.87m Sand Yellow Water Supply	746m	West
GW047542	0.00m-0.61m Loam Sandy 0.61m-1.22m Sand 1.22m-2.13m Sand Hard Cemented 2.13m-7.62m Sand 7.62m-10.06m Sand 10.06m-12.19m Sand Peaty 12.19m-14.02m Sand White 14.02m-15.24m Sand White Clayey 15.24m-17.37m Sand White 17.37m-20.73m Sand Peaty 20.73m-21.34m Sand White 21.34m-22.25m Sand Peaty 22.25m-23.16m Sand White Peaty 23.16m-24.38m Sand Slightly Peaty 24.38m-30.18m Sand White Clean 30.18m-30.48m Clay	757m	North West
GW106774	0.00m-8.23m sand, unconsolidated	761m	West
GW104947	0.00m-0.30m TOPSOIL 0.30m-1.20m WHITE SAND 1.20m-1.40m ROCK COFFEE 1.40m-4.80m YELLOW SAND MG. 4.80m-5.00m YELLOW SILTY SAND	772m	South
GW104969	0.00m-6.00m SAND	786m	North West
GW108036	0.00m-0.30m topsoil 0.30m-4.30m sand, yellow 4.30m-6.00m sand, white	786m	West
GW107638	0.00m-0.30m topsoil 0.30m-5.00m sand, yellow	801m	West
GW108674	0.00m-8.00m sand	809m	West
GW104773	0.00m-0.50m TOP FILL 0.50m-2.10m LIGHT BROWN SAND 2.10m-9.70m YELLOW SAND 9.70m-9.90m BROWN CLAY 9.90m-14.20m YELLOW SAND 14.20m-15.20m SILTY SAND/CLAY 15.20m-16.80m BROWN SAND 16.80m-20.50m WHITE SILTY SAND 20.50m-24.10m DECOMPOSED SANDSTONE 24.10m-25.00m LIGHT YELLOW SANDSTONE	810m	North West
GW108861	0.00m-0.10m TOPSOIL 0.10m-0.80m SANDY CLAY 0.80m-0.90m GREY CLAY 0.90m-4.00m RED YELLOW SANDSTONE 4.00m-114.00m WHITE SANDSTONE	815m	South
GW105754	0.00m-5.18m sand, uncosolicated	823m	West
GW101453	0.00m-6.00m SAND	829m	West
GW106554	0.00m-0.30m topsoil 0.30m-4.20m sand, brown 4.20m-6.00m sand, yellow	831m	North West
GW047544	0.00m-2.20m Sand 2.20m-3.50m Sand Yellow 3.50m-4.50m Sand White Water Supply 4.50m-7.50m Sand Water Supply 7.50m-16.20m Sand Yellow Water Supply 16.20m-17.00m Sand White Peaty Clay Water Supply 17.00m-18.00m Sand White Water Supply 18.00m-22.00m Sand Yellow Water Supply 22.00m-23.00m Sandstone Red Soft Water Supply	836m	North West
GW106797	0.00m-7.00m sand	837m	West
GW107728	0.00m-7.00m sand	870m	West

Groundwater No	Drillers Log	Distance	Direction
GW108422	0.00m-14.00m Sand	882m	South West
GW101455	0.00m-6.00m SAND	883m	West
GW107789	0.00m-7.00m sand	885m	South West
GW106973	0.00m-0.30m Topsoil 0.30m-1.50m Sand, brown 1.50m-4.50m Sand, yellow 4.50m-6.00m Sand, grey	911m	West
GW107614	0.00m-0.30m topsoil 0.30m-4.20m sand, yellow 4.20m-6.00m sand, dark yellow	915m	West
GW107641	0.00m-7.50m sand	916m	West
GW101225	0.00m-6.00m Unconsolidated - all sand.	920m	West
GW103644	0.00m-7.00m SAND	926m	West
GW013339	0.00m-16.45m Sand Nominal Water Supply 0.00m-16.45m Mud Marine Nominal	928m	South West
GW023179	0.00m-1.21m Sand 1.21m-1.52m Sand Hard Cemented 1.52m-7.62m Sand Water Supply	928m	South West
GW110535	0.00m-12.00m SAND	935m	South West
GW102611	0.00m-6.00m SAND	936m	West
GW026468	0.00m-0.91m Topsoil 0.91m-3.04m Sand Hard Cemented 3.04m-6.70m Clay Sandy 6.70m-7.31m Peat Wood 7.31m-9.14m Sand White Clean Water Supply 9.14m-10.05m Sand Yellow Clean Water Supply 10.05m-14.93m Sand White Clean Water Supply 14.93m-15.24m Sand Yellow Water Supply 15.24m-15.54m Sand Grey Water Supply 15.54m-19.66m Sand Grey Pete Water Supply 19.66m-19.67m Peat Water Supply	942m	South West
GW106249	0.00m-6.00m sand	943m	West
GW101219	0.00m-4.88m Unconsolidated - all sand.	944m	West
GW107653	0.00m-9.50m sand	949m	West
GW106862	0.00m-7.63m Sand, unconsolidated	953m	West
GW107584	0.00m-7.50m sand	965m	South West
GW023290	0.00m-3.96m Sand Water Supply 3.96m-4.26m Sand Hard Cemented	966m	North West
GW107342	0.00m-5.18m Sand, unconsolidated	974m	North West
GW102598	0.00m-6.00m SAND	975m	West
GW101456	0.00m-6.00m SAND	976m	West
GW101458	0.00m-6.00m SAND	981m	West
GW107142	0.00m-17.05m sand	994m	West
GW107335	0.00m-7.00m sand	995m	West
GW107129	0.00m-12.81m Sand, unconsolidated	996m	West
GW107612	0.00m-12.81m Sand, unconsolidated	998m	West
GW100985	0.00m-5.18m UNCONSOLIDATED ALL SANDS	999m	North

Groundwater No	Drillers Log	Distance	Direction
GW107390	0.00m-7.32m Sand, unconsolidated	1015m	South West
GW108442	0.00m-8.00m Sand	1018m	West
GW108229	0.00m-17.00m sand	1027m	West
GW101967	0.00m-7.00m Sand	1035m	West
GW106766	0.00m-0.30m topsoil 0.30m-4.50m sand, yellow 4.50m-6.00m sand, brown	1039m	West
GW111445	0.00m-8.00m SAND	1040m	West
GW106297	0.00m-8.23m sand	1055m	West
GW108225	0.00m-14.00m sand	1055m	South West
GW105630	0.00m-5.18m sand, uncolsolidated	1061m	West
GW106076	0.00m-5.79m SAND, UNCONSOLIDATED	1063m	South West
GW106488	0.00m-6.10m sand	1063m	South West
GW110874	0.00m-7.93m UNCONSOLIDATED ALL SANDS	1068m	West
GW114951	0.00m-0.50m TOPSOIL 0.50m-4.00m SAND YELLOW 4.00m-6.00m SAND WHITE	1073m	West
GW110786	0.00m-8.00m SAND	1078m	South West
GW105438	0.00m-7.63m UNCONSOLIDATED ALL SANDS	1079m	West
GW110342	0.00m-0.20m CONCRETE 0.20m-0.60m FILL 0.60m-4.00m SAND	1079m	North West
GW110338	0.00m-0.50m FILL 0.50m-1.00m FILL POSSIBLY NATURAL SAND 1.00m-4.00m SAND	1081m	North West
GW110337	0.00m-1.00m FILL 1.00m-4.00m SAND	1082m	North West
GW110339	0.00m-0.50m FILL 0.50m-4.00m SAND	1084m	North West
GW109813	0.00m-1.00m GRAVELLY SILTY SAND,LOOSE,DRY,DARK GREY,PIECES OF RUBBLE 1.00m-9.00m SAND,MOIST,L/GREY,DARK BROWN,D/ORANGE,CREAM,SATURATED	1086m	South West
GW110336	0.00m-0.50m FILL 0.50m-1.90m FILL,(POSSIBLY NATURAL) 1.90m-4.00m SAND	1088m	North West
GW108507	0.00m-8.00m sand	1090m	South West
GW110341	0.00m-0.20m CONCRETE 0.20m-0.30m FILL 0.30m-4.00m SAND	1090m	North West
GW023612	0.00m-5.18m Sand Water Supply	1091m	South West
GW109812	0.00m-0.10m CONCRETE 0.10m-0.30m SILTY SAND,LOOSE,DRY,BROWN/GREY,SANDSTONE BRICK PIECES 0.30m-9.00m SAND,LOOSE,DRY,MOIST,ORANGE,BECOMES SATURATED	1095m	South West
GW107431	0.00m-7.63m Sand, unconsolidated	1097m	North West
GW109849	0.00m-0.20m CONCRETE 0.20m-1.00m FILL 1.00m-8.50m SAND	1097m	South West
GW109810	0.00m-0.80m GRAVELLY SILTY SAND,FILL, LOOSE,DRY MOIST,DARK,BROWN,GREY 0.80m-9.00m SAND,MEDIUM DENSE,V/DARK BROWN/BLACK BECOMES SATURATED	1101m	South West

Groundwater No	Drillers Log	Distance	Direction
GW075021	0.00m-2.00m SAND,FINE GRAINED,WHITE 2.00m-6.00m SAND,MED GRAINED,YELLOW BROWN 6.00m-7.00m SILTY SAND 7.00m-13.00m SAND,MED TO FINE GRAINED 13.00m-19.00m SAND,VERY FINE GRAINED 19.00m-20.50m PEAT,FIRM 20.50m-24.00m PEAT FIRM,BLACK 24.00m-25.00m SAND,WHITE 25.00m-32.00m PEATY SAND 32.00m-34.00m CLAYEY SAND,FINE GRAINED 34.00m-35.00m SAND,MED GRAINED 35.00m-41.00m SILTY SAND,GREY WITH SILT 41.00m-44.00m SANDY CLAY,FINE TO MED GRAINED 44.00m-44.50m SANDY CLAY	1102m	West
GW025781	0.00m-4.57m Sand Water Supply	1103m	South West
GW109848	0.00m-0.20m CONCRETE 0.20m-1.70m FILL 1.70m-8.70m SAND	1103m	South West
GW110335	0.00m-0.20m CONCRETE 0.20m-0.80m FILL 0.80m-4.00m SAND	1103m	North West
GW110340	0.00m-0.80m FILL 0.80m-4.00m SAND	1103m	North West
GW109811	0.00m-0.30m SILTY SAND,DRY,BROWN,GREY,MINOR GLASS 0.30m-9.00m SAND,DRY,L/GREY,BROWN/COPPER,MOIST,BECOMES SATURATED	1105m	South West
GW111004	0.00m-13.12m UNCONSOLIDATED ALL SAND	1105m	West
GW105567	0.00m-0.30m TOPSOIL 0.30m-2.30m BROWN SAND 2.30m-7.00m WHITE SAND	1108m	West
GW109809	0.00m-0.20m CONCRETE 0.20m-0.60m GRAVELLY SILTY SAND,LOOSE,DRY 0.60m-9.00m SAND,MEDIUM DENSE/YELLOW,ORANGE,GRADES TO CREAM	1109m	South West
GW109847	0.00m-1.00m FILL 1.00m-8.50m SAND	1112m	South West
GW023445	0.00m-0.30m Sand 0.30m-3.35m Sand White Water Supply 3.35m-3.65m Loam 3.65m-4.26m Sand White	1113m	South
GW107327	0.00m-0.30m topsoil 0.30m-4.50m sand, yellow 4.50m-6.00m sand, white	1114m	West
GW072971		1118m	South
GW108700	0.00m-7.93m sand	1121m	West
GW107093	0.00m-12.43m UNCONSOLIDATED ALL SANDS	1122m	West
GW107417	0.00m-0.30m topsoil 0.30m-5.50m sand, yellow 5.50m-7.00m sand, brown	1124m	West
GW105625	0.00m-1.00m SILTY SAND 1.00m-6.50m L/BROWN SAND 6.50m-8.00m SAND,SMALL CLAY BANDS 8.00m-10.00m W. L/BROWN SAND 10.00m-13.50m W. CREAM SAND 13.50m-13.80m DIRTY YELLOW SAND 13.80m-14.00m RED CLAY	1127m	North
GW103051	0.00m-5.79m UNCONSOLIDATED ALL SAND	1128m	South West
GW023117	0.00m-1.21m Sand 1.21m-1.52m Sand Hard Cemented 1.52m-6.09m Sand Water Supply	1131m	West
GW106296	0.00m-6.10m sand	1139m	South West
GW107296	0.00m-6.00m sand	1139m	South West

Groundwater No	Drillers Log	Distance	Direction
GW108428	0.00m-8.00m Sand	1142m	North West
GW023996	0.00m-3.04m Sand White 3.04m-3.65m Sand Black Water Supply 3.65m-4.57m Sand White	1149m	West
GW029637	0.00m-4.41m Sand Water Supply	1149m	West
GW110448	0.00m-9.00m UNCONSOLIDATE ALL SANDS	1157m	West
GW105551	0.00m-7.63m UNCONSOLIDATED ALL SANDS	1167m	West
GW026483	0.00m-4.87m Sand	1170m	South
GW072280	0.00m-8.00m SAND	1173m	South West
GW111438	0.00m-6.10m UNCONSOLIDATED ALL SAND	1176m	South West
GW101699	0.00m-7.00m Sand	1179m	North
GW107336	0.00m-7.00m sand	1179m	North West
GW105730	0.00m-8.00m sand	1182m	North
GW105717	0.00m-0.30m topsoil 0.30m-4.20m sand, light brown 4.20m-6.00m sand, yellow	1183m	West
GW101157	0.00m-6.10m UNCONSOLIDATED, ALL CLEAN SAND	1187m	South West
GW075018	0.00m-0.50m FILLING MATERIAL 0.50m-5.00m SAND,MED GRAINED YELLOW 5.00m-15.20m SAND,FINE GRAINED YELLOW 15.20m-19.50m SILTY SAND FINE GRAINED,GREY 19.50m-26.00m SANDY SILT 26.00m-26.50m SAND,MED GRAINED 26.50m-27.50m PEATY SAND 27.50m-29.00m CLAYEY SAND 29.00m-32.00m CLAY,SOFT,FINE 32.00m-39.50m SANDY CLAY,SOFT,MED TO FINE GRAINED 39.50m-43.00m SANDY SILT 43.00m-44.00m SANDY CLAY,SOFT	1191m	North West
GW106386	0.00m-7.32m mud sand	1196m	South West
GW106366	0.00m-5.81m sand	1197m	South West
GW106671	0.00m-9.50m sand	1197m	North
GW107444	0.00m-7.00m sand	1198m	West
GW107154	0.00m-7.93m sand	1206m	West
GW023138	0.00m-4.87m Sand Water Supply	1208m	West
GW108660	0.00m-16.00m sand	1210m	South West
GW106087	0.00m-7.63m sand, unconsolidated	1213m	North
GW072908		1221m	South
GW105969	0.00m-9.46m sand, unconsolidated	1221m	West
GW106078	0.00m-7.32m sand, unconsolidated	1221m	North
GW101162	0.00m-6.10m UNCONSOLIDATED. ALL CLEAN SAND.	1233m	West
GW024367	0.00m-2.43m Sand 2.43m-4.26m Clay Sandy Water Supply	1242m	North West
GW023572	0.00m-3.65m Sand Water Supply	1247m	West
GW107668	0.00m-12.81m Sand, unconsolidated	1248m	West

Groundwater No	Drillers Log	Distance	Direction
GW104966	0.00m-6.10m UNCONSOLIDATED ALL SAND	1250m	West
GW072219		1252m	North
GW107906	0.00m-7.50m sand	1253m	South West
GW017473	0.00m-7.62m Sand	1267m	South West
GW102008	0.00m-6.10m Sand	1271m	West
GW105771	0.00m-7.01m sand, unconsolidated	1271m	South West
GW106237	0.00m-9.00m sand	1272m	South West
GW106875	0.00m-5.79m Sand, unconsolidated	1273m	West
GW023998	0.00m-14.63m Sand Yellow 14.63m-15.39m Sand Grey Clean 15.39m-15.54m Sand Hard Cemented 15.54m-17.06m Sand Dark Brown Peaty 17.06m-19.50m Sand Grey 19.50m-24.38m Sand Light Brown Water Supply 24.38m-25.29m Sand Slightly Peaty Water Supply 25.29m-29.10m Sand Light Brown Clean Water Supply 29.10m-30.48m Sand Grey Clean Water Supply 30.48m-34.74m Sand Clean Water Supply 34.74m-35.96m Sand Slightly Clayey Water Supply 35.96m-35.98m Sandstone	1279m	West
GW110780	0.00m-23.00m SAND	1292m	West
GW100831	0.00m-6.10m UNCONSOLIDATED ALL SAND	1297m	West
GW104890	0.00m-10.50m SAND,BROWN TO GREY 10.50m-13.50m SAND,L/GREY 13.50m-13.60m SANDY CLAY 13.60m-17.00m SAND/L/GREY 17.00m-21.00m SAND L/GREY 21.00m-22.00m SAND/PEAT 22.00m-25.80m L/GREY	1300m	North
GW106146	0.00m-7.32m sand, unconsolidated	1315m	West
GW108595	0.00m-8.00m sand	1316m	South West
GW107593	0.00m-12.20m sand	1317m	West
GW103325	0.00m-7.00m SAND	1318m	West
GW107804	0.00m-13.42m Sand, unconsolidated	1320m	West
GW073459	0.00m-7.02m Unconsolidated Sand	1322m	West
GW106106	0.00m-7.01m sand, unconsolidated	1325m	West
GW111307	0.00m-0.10m SOIL 0.10m-18.00m SAND	1335m	West
GW106132	0.00m-10.37m sand, unconsolidated	1338m	West
GW108705	0.00m-13.72m sand	1345m	West
GW110193	0.00m-24.00m UNCONSOLIDATE ALL SAND	1346m	West
GW104525	0.00m-0.50m FILL S/S CEMENT 0.50m-4.50m SAND/ GREY TO BROWN 4.50m-4.90m SANDY PEAT / D/BROWN 4.90m-16.80m SAND:YELLOW BROWN 16.80m-17.65m PEAT D/ BROWN WITH CEMENTED SAND	1347m	North West
GW108433	0.00m-12.81m Sand, unconsolidated	1348m	West
GW102222	0.00m-9.50m Sand	1354m	South

Groundwater No	Drillers Log	Distance	Direction
GW106178	0.00m-0.30m topsoil 0.30m-5.00m sand,yellow 5.00m-7.00m sand, yellow with some shells	1355m	South West
GW104646	0.00m-10.00m SAND	1361m	West
GW108286	0.00m-15.25m sand	1363m	West
GW111465	0.00m-6.00m YELLOW SAND 6.00m-9.00m GREY SAND	1364m	West
GW107137	0.00m-7.63m Sand, unconsolidated	1371m	North West
GW107430	0.00m-9.15m Sand, unconsolidated	1376m	North West
GW107534	0.00m-6.10m Sand, unconsolidated	1381m	North West
GW107514	0.00m-7.50m sand	1383m	South West
GW104928	0.00m-0.20m TOPSOIL 0.20m-4.50m LIGHT BROWN SAND 4.50m-9.00m LIGHT YELLOW SAND	1385m	North West
GW105770	0.00m-7.01m sand, unconsolidated	1398m	West
GW106031	0.00m-5.79m sand, unconsolidated	1406m	West
GW110778	0.00m-23.00m SAND	1406m	West
GW105999	0.00m-10.68m sand, unconsolidated	1414m	North West
GW108837	0.00m-7.50m sand	1416m	West
GW101783	0.00m-5.00m Sand	1417m	West
GW072922	0.00m-6.70m Unconsolidated Sand	1423m	North West
GW111696	0.00m-22.00m SAND	1425m	West
GW027462	0.00m-0.60m Topsoil Sandy 0.60m-1.21m Sand 1.21m-2.13m Sand White 2.13m-6.40m Sand 6.40m-8.83m Sand Dark Brown Peaty 8.83m-13.10m Sand Water Supply 13.10m-14.93m Sand Grey Water Bearing 14.93m-15.84m Sand Water Supply 15.84m-16.76m Sand Clay Seams Water Supply 16.76m-19.50m Sand Water Supply 19.50m-20.72m Peat Fossils:wood	1428m	North West
GW109490	0.00m-0.30m TOPSOIL 0.30m-13.00m YELLOW SAND 13.00m-18.00m WEATHERED SAND	1433m	West
GW107348	0.00m-13.42m Sand, unconsolidated	1435m	North West
GW108640	0.00m-7.50m sand	1436m	South West
GW109922	0.00m-4.58m UNCONSOLIDATED ALL SANDS	1437m	South West
GW104991	0.00m-9.00m SAND	1455m	West
GW104984	0.00m-9.00m SAND	1458m	West
GW107391	0.00m-7.01m Sand, unconsolidated	1459m	North West
GW106915	0.00m-7.50m Sand	1466m	South West
GW107738	0.00m-0.30m topsoil 0.30m-4.50m sand, yellow 4.50m-7.00m sand, white	1473m	West

Groundwater No	Drillers Log	Distance	Direction
GW105964	0.00m-9.50m sand	1474m	West
GW023659	0.00m-3.65m Soil Clay 3.65m-4.87m Sand Yellow Water Supply	1481m	South West
GW108296	0.00m-16.00m sand	1491m	West
GW075017	0.50m-3.00m SAND, MED TO FINE GRAINED,YELLOW 3.00m-4.00m PEATY SAND 4.00m-4.50m PEAT,FINE 4.50m-13.00m SILTY SAND 13.00m-18.00m SAND,DENSE,FINE 18.00m-19.00m PEATY SAND 19.00m-21.50m PEAT,SANDY PEAT,BLACK 21.50m-22.00m SAND 22.00m-23.00m PEAT, FIRM,BLACK 23.00m-27.00m SILTY SAND 27.00m-28.00m SANDY CLAY 28.00m-28.50m WEATHERED ROCK 28.50m-29.50m BED ROCK	1494m	West
GW107289	0.00m-14.03m Sand, unconsolidated	1496m	South
GW106661	0.00m-15.25m sand, unconsolidated	1507m	South
GW106945	0.00m-9.50m sand	1507m	West
GW106069	0.00m-7.01m sand, unconsolidated	1508m	South West
GW072974		1510m	South
GW106005	0.00m-12.29m sand	1516m	South
GW106863	0.00m-16.47m Sand, unconsolidated	1528m	South West
GW107132	0.00m-14.64m Sand, unconsolidated	1530m	South West
GW106028	0.00m-0.30m topsoil 0.30m-3.00m sand, yellow 3.00m-5.00m sand, brown	1531m	North West
GW107643	0.00m-0.30m topsoil 0.30m-3.50m sand, yellow 3.50m-5.50m sand, brown 5.50m-7.00m sand, fine grey	1538m	West
GW110538	0.00m-8.00m SAND	1554m	North West
GW105040	0.00m-8.00m SAND	1557m	North West
GW038009	0.00m-3.65m Sand Rubble 3.65m-4.87m Sand Hard Cemented 4.87m-8.53m Sand 8.53m-10.97m Sand 8.53m-10.97m Clay Sandy Bands 10.97m-12.19m Sand Clean 12.19m-21.33m Sand Clean Water Supply 21.33m-22.86m Clay Sandy	1571m	North West
GW105492	0.00m-6.71m UNCONSOLIDATED ALL SANDS	1574m	West
GW108048	0.00m-16.16m sand	1575m	South West
GW108046	0.00m-15.86m sand	1577m	South West
GW028289	0.00m-6.09m Sand Water Supply	1581m	South West
GW047125	0.00m-0.61m Made Ground 0.61m-3.05m Sand Yellow 3.05m-3.96m Peat 3.96m-5.79m Sand Grey Water Supply 5.79m-15.85m Sand White Water Supply 15.85m-18.59m Sand Water Supply 18.59m-18.75m Wood 18.75m-20.73m Sand Water Supply 20.73m-24.38m Sandstone Water Supply	1605m	South West

Groundwater No	Drillers Log	Distance	Direction
GW106021	0.00m-16.47m sand, unconsolidated	1621m	West
GW112397	0.00m-7.32m UNCONSOLIDATED ALL SAND	1624m	North West
GW100755	0.00m-0.30m TOPSOIL 0.30m-0.70m BROWN SAND 0.70m-4.50m WHITE SAND 4.50m-4.80m COFFEE ROCK 4.80m-15.20m WHITE SAND 15.20m-15.40m BLACK PEAT 15.40m-19.00m WHITE SAND 19.00m-19.50m GREY CLAY 19.50m-19.50m SANDSTONE	1630m	West
GW111238	0.00m-12.00m SAND	1636m	West
GW110539	0.00m-10.00m SAND	1640m	North West
GW107741	0.00m-9.00m sand	1658m	South West
GW106772	0.00m-5.00m sand	1659m	North West
GW106602	0.00m-6.10m sand, unconsolidated	1664m	North West
GW105575	0.00m-7.00m sand	1671m	North West
GW060170	0.00m-3.00m Sand White Peaty Water Supply 3.00m-14.00m Sand Light Brown Water Supply 14.00m-14.50m Peat Water Supply 14.50m-20.00m Sand White Peaty Water Supply	1672m	South West
GW108734	0.00m-6.10m sand	1672m	West
GW023529	0.00m-0.91m Sand Grey 0.91m-6.70m Sand White Water Supply	1677m	South
GW108472	0.00m-16.00m sand	1680m	South
GW017651	0.00m-0.30m Topsoil 0.30m-0.91m Sand Yellow Hard Cemented 0.91m-3.65m Sand Yellow Clay 3.65m-6.09m Sand White Clean Water Supply 6.09m-9.75m Sand Packed Dry 9.75m-15.84m Sand White Clean Water Supply 15.84m-16.15m Clay Sandy Bands 16.15m-17.37m Sand White Clay 17.37m-17.67m Peat 17.67m-18.28m Sand Grey Clay 18.28m-19.20m Peat Clay Bands 19.20m-20.72m Peat Sand 20.72m-21.33m Sand Coarse Hard Cemented Clay 21.33m-23.62m Sand White Clay 23.62m-25.29m Sand Peaty clay 25.29m-29.26m Sand White	1683m	West
GW110270	0.00m-0.30m TOPSOIL 0.30m-3.00m YELLOW SAND 3.00m-5.00m SAND,DARK BROWN 5.00m-6.00m SAND, LIGHT BROWN	1686m	North West
GW105440	0.00m-5.18m UNCONSOLIDATED ALL SANDS	1690m	West
GW107213	0.00m-0.30m topsoil 0.30m-1.50m sand, grey 1.50m-3.40m sand, brown 3.40m-6.00m sand, yellow	1690m	West
GW111248	0.00m-2.00m TOPSOIL 2.00m-16.00m SAND 16.00m-17.00m PEAT AND COAL 17.00m-30.00m SAND	1690m	South West
GW025718	0.00m-3.65m Sand Water Supply	1691m	North West
GW107551	0.00m-6.71m Sand, unconsolidated	1693m	North West
GW108596	0.00m-16.00m sand	1696m	South East
GW104945	0.00m-7.32m UNCONSOLIDATED ALL SANDS	1698m	West

Groundwater No	Drillers Log	Distance	Direction
GW108448	0.00m-16.00m Sand	1706m	South
GW108440	0.00m-0.30m Topsoil 0.30m-3.50m Sand, yellow 3.50m-5.00m Sand, grey	1712m	West
GW106093	0.00m-5.18m sand, unconsolidated	1713m	North West
GW075025	0.00m-2.00m SAND,COFFEE BROWN 2.00m-5.00m SAND,MED GRAINED,YELLOW 5.00m-7.50m SAND,FINE,WHITE 7.50m-8.00m PEAT,FINE,BLACK 8.00m-12.00m PEATY SAND,DARK BROWN 12.00m-18.00m SILTY SAND,FINE GRAINED 18.00m-24.50m SAND,MED. COARSE 24.50m-25.50m BEDROCK	1715m	South
GW107603	0.00m-7.00m sand	1722m	West
GW104832	0.00m-7.32m UNCONSOLIDATED ALL SANDS	1726m	West
GW106752	0.00m-9.50m sand	1728m	South
GW108822	0.00m-14.00m sand	1731m	South
GW106854	0.00m-7.00m sand	1735m	North East
GW025540	0.00m-0.91m Sand Black 0.91m-4.87m Sand White Water Supply	1736m	South
GW111557	0.00m-8.00m ALL SAND	1740m	West
GW100359	0.00m-5.50m ALL SAND UNCONSOLIDATED	1742m	North West
GW108653	0.00m-12.00m sand	1743m	North West
GW107447	0.00m-8.23m Sand, unconsolidated	1745m	North East
GW108418	0.00m-6.00m sand	1747m	West
GW101883	0.00m-10.00m Sand	1752m	South
GW106856	0.00m-7.93m sand, unconsolidated	1757m	North West
GW106083	0.00m-0.50m fill 0.50m-11.20m sand 11.20m-11.30m peat 11.30m-19.20m sand 19.20m-20.00m peat siff 20.00m-20.10m sandstone,	1761m	North West
GW072994		1764m	South
GW046836	0.00m-6.10m Sand White 6.10m-7.92m Sand Yellow 7.92m-10.97m Sand Some Traces Clay Fine 10.97m-14.63m Sand White 14.63m-16.46m Sand 16.46m-18.29m Sand White 18.29m-18.90m Sand Water Supply 18.90m-21.95m Sand White Water Supply 21.95m-24.08m Sand Dirty Water Supply 24.08m-24.38m Sand White Water Supply 24.38m-25.91m Sand Water Supply 25.91m-35.97m Sand White Water Supply 35.97m-37.49m Sand Some Clay 37.49m-37.80m Clay Grey	1765m	South
GW101728	0.00m-4.58m SAND, UNCONSOLIDATED	1767m	West
GW104834	0.00m-5.79m UNCONSOLIDATED ALL SANDS	1767m	North West
GW105134	0.00m-5.00m SAND	1767m	West
GW109946	0.00m-0.30m TOPSOIL 0.30m-3.00m SAND BROWN 3.00m-5.00m SAND YELLOW	1768m	West

Groundwater No	Drillers Log	Distance	Direction
GW100939	0.00m-5.50m UNCONSOLIDATED ALL SANDS	1769m	North West
GW110423	0.00m-12.00m UNCONSOLIDATED ALL SANDS	1769m	South
GW106110	0.00m-1.80m fill 1.80m-9.00m sand 9.00m-10.50m sand, peat 10.50m-21.00m sand 21.00m-23.20m peat heavy	1772m	North West
GW072787	0.00m-5.50m Unconsolidated Sand	1775m	West
GW105019	0.00m-0.30m SANDY TOPSOIL 0.30m-6.50m FILL,SAND,BRICKS 6.50m-9.60m LIGHT BROWN SAND 9.60m-18.00m WHITE BEACH SAND 18.00m-24.00m YELLOW SAND 24.00m-26.50m YELLOW SAND/SILTY 26.50m-27.50m YELLOW SAND MORE SILTY 27.50m-30.00m SOFT SANDSTONE	1781m	North West
GW013629	0.00m-0.60m Topsoil Sandy 0.60m-12.19m Sand White Some Hard Cemented 12.19m-16.76m Sand 16.76m-16.91m Clay Seams 16.91m-21.64m Sand Water Supply 21.64m-21.94m Peat	1782m	North West
GW108632	0.00m-7.32m sand	1787m	North West
GW053600	0.00m-2.50m Sand White 2.50m-13.00m Sand Yellow 13.00m-19.60m Sand White 19.60m-23.00m Sand White Peaty 23.00m-24.00m Peat Clay 24.00m-26.00m Sand Peaty 26.00m-30.00m Sand Yellow 30.00m-30.50m Clay Grey	1789m	South East
GW105431	0.00m-6.00m SAND BROWN 6.00m-30.00m SAND WHITE	1789m	South East
GW108394	0.00m-16.00m SAND	1790m	South
GW108491	0.00m-0.30m Topsoil 0.30m-6.50m Sand, yellow 6.50m-7.00m Sand, dark grey	1797m	North West
GW112385	0.00m-5.49m UNCONSOLIDATE ALL SANDS	1798m	West
GW023585	0.00m-4.57m Sand Water Supply	1807m	North West
GW102294	0.00m-10.00m Sand	1809m	South
GW114917	0.00m-9.15m UNCONSOLIDATED ALL SANDS	1810m	West
GW108846	0.00m-8.00m sand	1813m	North West
GW017653	0.00m-0.91m Sand White Dirty 0.91m-1.21m Sand Cemented Hard 1.21m-2.43m Sand Cemented Hard 2.43m-9.14m Sand Clean 9.14m-9.75m Sand Cemented Hard Bands 9.75m-11.27m Sand Clean Wet 11.27m-15.54m Sand Clean Water Supply 15.54m-16.00m Peat 16.00m-18.59m Sand Grey Water Supply 18.59m-18.74m Peat Wood 18.74m-19.20m Clay Peaty 19.20m-19.50m Peat Wood 19.50m-21.94m Sand Dirty Water Supply 21.94m-22.55m Peat Wood 22.55m-22.86m Sand White 22.86m-24.38m Sand Dirty 22.86m-24.38m Clay Grey 24.38m-25.60m Peat 24.38m-25.60m Sand Dirty	1814m	South West
GW024024	0.00m-0.60m Sand Grey 0.60m-6.09m Sand White Water Supply	1815m	South

Groundwater No	Drillers Log	Distance	Direction
GW107509	0.00m-10.00m sand	1829m	North West
GW107578	0.00m-16.47m Sand, unconsolidated	1829m	South
GW106182	0.00m-0.30m topsoil 0.30m-3.00m sand, brown silty 3.00m-4.00m sand, light brown	1830m	West
GW106030	0.00m-1.00m fill 1.00m-4.00m sand, small rocks 4.00m-8.80m sand 8.80m-8.90m peat 8.90m-9.70m sand 9.70m-11.30m peat & sand 11.30m-13.10m sand 13.10m-13.20m peat 13.20m-14.70m sand 14.70m-14.80m peat 14.80m-19.90m sand 19.90m-20.40m clay 20.40m-20.50m sandstone	1838m	North West
GW106537	0.00m-10.00m sand	1846m	North West
GW019633	0.00m-4.57m Sand 4.57m-6.09m Sand Wet 6.09m-7.31m Sand Peaty 7.31m-10.97m Sand 10.97m-11.58m Sand Dark Brown 11.58m-14.63m Sand 14.63m-14.93m Clay Sandy 14.93m-16.15m Sand 16.15m-16.76m Clay Peaty 16.76m-18.28m Sand 18.28m-18.89m Peat Bands 18.89m-19.50m Clay Sandy 19.50m-20.72m Sand White 20.72m-21.94m Sand 21.94m-22.55m Sand Yellow 22.55m-24.99m Sand Gravel 24.99m-29.87m Sand Clean 29.87m-33.52m Sand White Clean 33.52m-34.13m Sand Yellow 34.13m-35.05m Sand Peaty	1849m	South West
GW106435	0.00m-12.81m sand, uncosolidated	1849m	North West
GW024206	0.00m-1.21m Topsoil Grey 1.21m-5.48m Sand Yellow Water Supply	1861m	South
GW106798	0.00m-10.00m sand	1869m	North West
GW111247	0.00m-1.00m TOPSOIL 1.00m-3.00m SILT 3.00m-19.00m SAND 19.00m-20.00m PEAT/COAT 20.00m-36.00m SAND	1874m	South West
GW104057	0.00m-1.00m SANDY TOPSOIL 1.00m-2.00m DIRTY WHITE SAND 2.00m-3.00m LIGHT BROWN SAND 3.00m-7.00m LIGHT YELLOW SAND 7.00m-11.00m WHITE SAND 11.00m-12.00m WHITE SAND,BLACK PEAT 12.00m-13.00m WHITE SAND 13.00m-14.00m ROCK,ORANGE FATTY SANDS & CLAY	1880m	North West
GW111600	0.00m-20.00m SANDS,FINE,VERY FINE,DK GREY IN COLOUR	1883m	South West
GW111624	0.00m-31.00m BOTANY SANDS 31.00m-36.00m HAWKESBURY SANDSTONE	1883m	South West
GW112525	0.00m-4.50m SAND LIGHT BROWN 4.50m-9.00m SAND YELLOW 9.00m-17.00m SAND LIGHT BROWN 17.00m-21.50m SAND GREY 21.50m-26.00m SAND LIGHT BROWN 26.00m-30.00m SAND WHITE	1883m	South

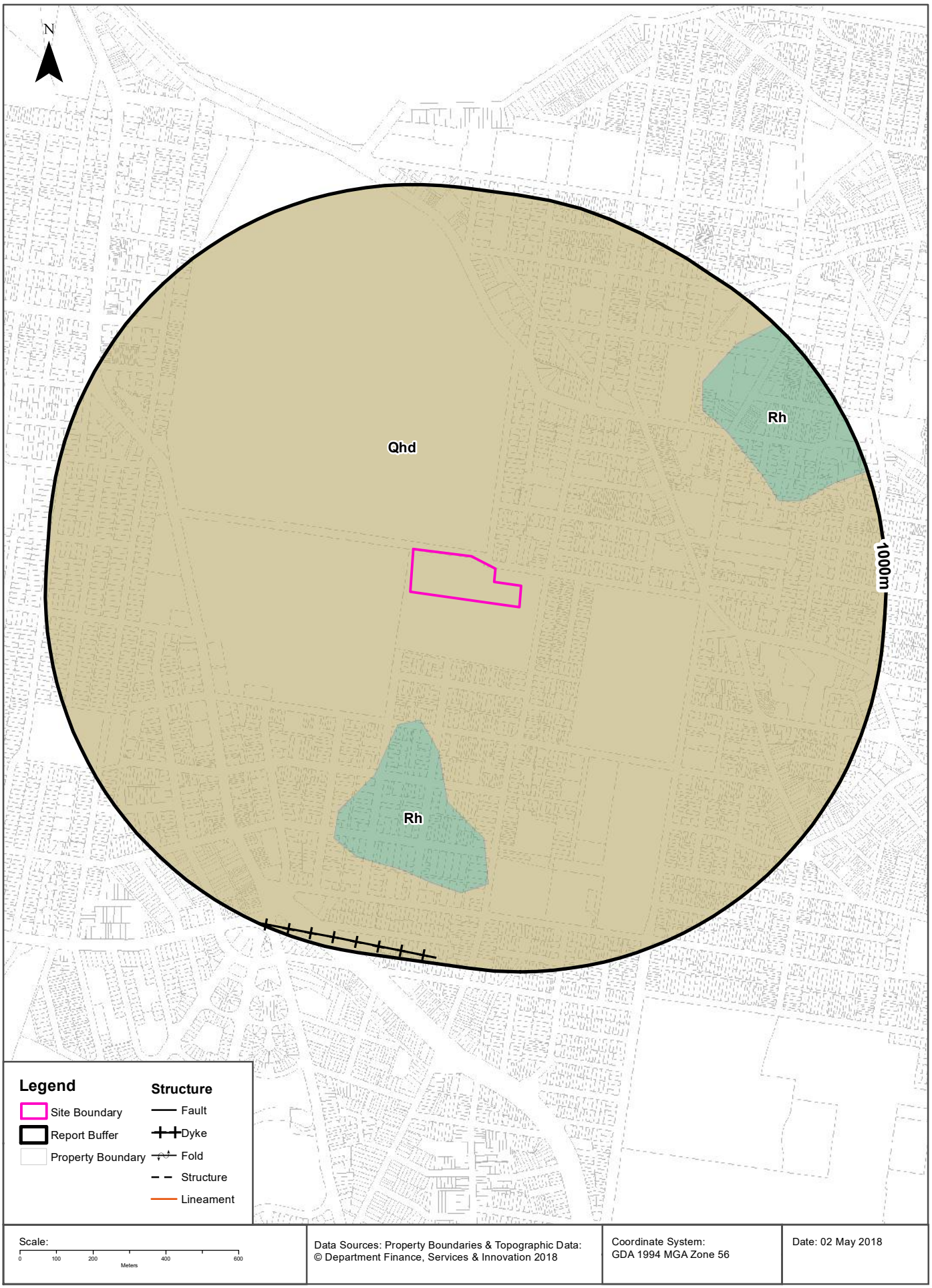
Groundwater No	Drillers Log	Distance	Direction
GW042834	0.00m-1.22m Made Ground 1.22m-10.36m Sand White 10.36m-21.95m Sand White Light Water Supply 21.95m-23.16m Peat Sand Water Supply 23.16m-29.87m Sand Grey Water Supply 29.87m-30.48m Sand Grey Clay Water Supply 30.48m-31.09m Clay Grey	1886m	North West
GW023270	0.00m-3.65m Sand 3.65m-3.74m Sand Hard Cemented 3.74m-5.18m Sand White 5.18m-7.01m Sand Water Supply	1890m	South
GW104992	0.00m-9.00m SAND	1892m	South
GW023841	0.00m-4.57m Sand Water Supply	1896m	South
GW023991	0.00m-1.52m Sand White 1.52m-3.04m Sand Hard Cemented 3.04m-5.79m Sand Yellow Water Supply	1898m	South
GW101759	0.00m-10.98m Unconsolidated Sand	1899m	North West
GW106058	0.00m-7.50m sand	1899m	North West
GW017729	0.00m-30.48m Sand Water Supply	1900m	North West
GW101072	0.00m-10.00m Sand	1900m	South
GW027616	0.00m-0.91m Sand Made Ground 0.91m-1.82m Sand Hard Cemented 1.82m-3.65m Sand White 3.65m-5.48m Sand White Some Clay 5.48m-8.22m Sand 8.22m-10.05m Sand Slightly Peaty Water Supply 10.05m-12.19m Sand Yellow Some Clay Water Supply 12.19m-27.43m Sand White Water Supply 27.43m-32.00m Sand Water Supply 32.00m-32.61m Sandstone Decomposed	1911m	South
GW114340	0.00m-5.55m SAND	1911m	North
GW105747	0.00m-8.23m sand, unconsolidated	1916m	North West
GW029355	0.00m-2.43m Sand 2.43m-2.74m Clay Sand 2.74m-3.20m Sand Hard Cemented 3.20m-11.27m Sand 11.27m-14.02m Sand Clayey 14.02m-14.32m Sand Water Supply 14.32m-15.24m Sand White Water Supply 15.24m-28.95m Sand Water Supply 28.95m-28.97m Sandstone	1919m	South
GW110542	0.00m-1.00m SAND AND FILL 1.00m-7.00m SAND L/BROWN 7.00m-13.00m SAND L/GREY 13.00m-17.00m SAND YELLOW 17.00m-20.00m SAND GREY 20.00m-23.00m SAND D/GREY 23.00m-27.50m SAND CREAM 27.50m-28.00m SAND AND CLAY	1934m	North East
GW024118	0.00m-0.91m Sand Black 0.91m-3.04m Sand White Water Supply	1940m	North West
GW108228	0.00m-17.00m sand	1941m	North
GW114341	0.00m-0.20m BITUMEN 0.20m-2.00m SAND 2.00m-2.72m CLAY / SANDSTONE	1949m	North
GW024368	0.00m-4.27m Made Ground 4.27m-5.79m Sand Moist 5.79m-12.95m Sand White Wet Water Supply	1955m	South West
GW101069	1.00m-10.00m sand	1957m	South
GW026584	0.00m-6.09m Sand Grey	1962m	South

Groundwater No	Drillers Log	Distance	Direction
GW023275	0.00m-5.79m Sand Water Supply	1970m	West
GW106693	0.00m-11.29m sand	1974m	North West
GW106730	0.00m-15.00m sand	1975m	North West
GW106004	0.00m-0.30m fill 0.30m-10.80m sand 10.80m-11.50m sand, peat 11.50m-16.50m sand 16.50m-17.00m sand, peat 17.00m-19.00m sand 19.00m-21.00m peat 21.00m-23.20m peat, sand	1992m	North West
GW108498	0.00m-18.00m Sand	1996m	South

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp
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Geology 1:100,000

Upper Campus, University of New South Wales, Sydney, NSW 2052



Geology

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Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Qhd	Medium to fine-grained marine sand with podsols				Quaternary		Sydney	1:100,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Qhd	Medium to fine-grained marine sand with podsols				Quaternary		Sydney	1:100,000
Rh	Medium to coarse grained quartz sandstone, very minor shale and laminate lenses				Triassic		Sydney	1:100,000

Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
Dyke			Sydney	1:100,000

Geological Data Source : NSW Department of Industry, Resources & Energy
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Naturally Occurring Asbestos Potential

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Naturally Occurring Asbestos Potential

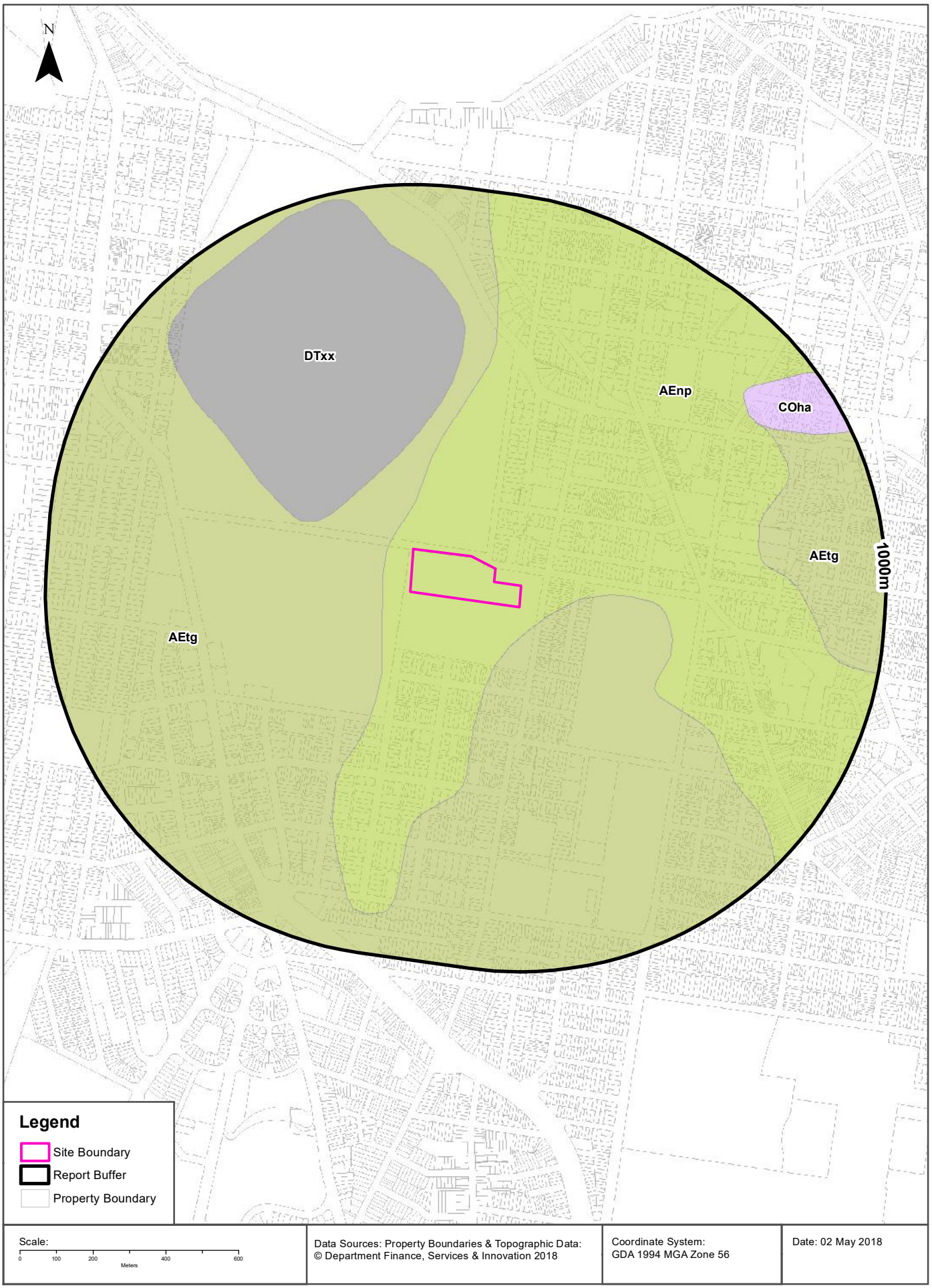
Naturally Occurring Asbestos Potential within the dataset buffer:

Potential	Sym	Strat Name	Group	Formation	Scale	Min Age	Max Age	Rock Type	Dom Lith	Description	Dist	Dir
No records in buffer												

Mining Subsidence District Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

Soil Landscapes

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Soils

Upper Campus, University of New South Wales, Sydney, NSW 2052

Soil Landscapes

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
AEnp	NEWPORT		AEOLIAN	Sydney	1:100,000

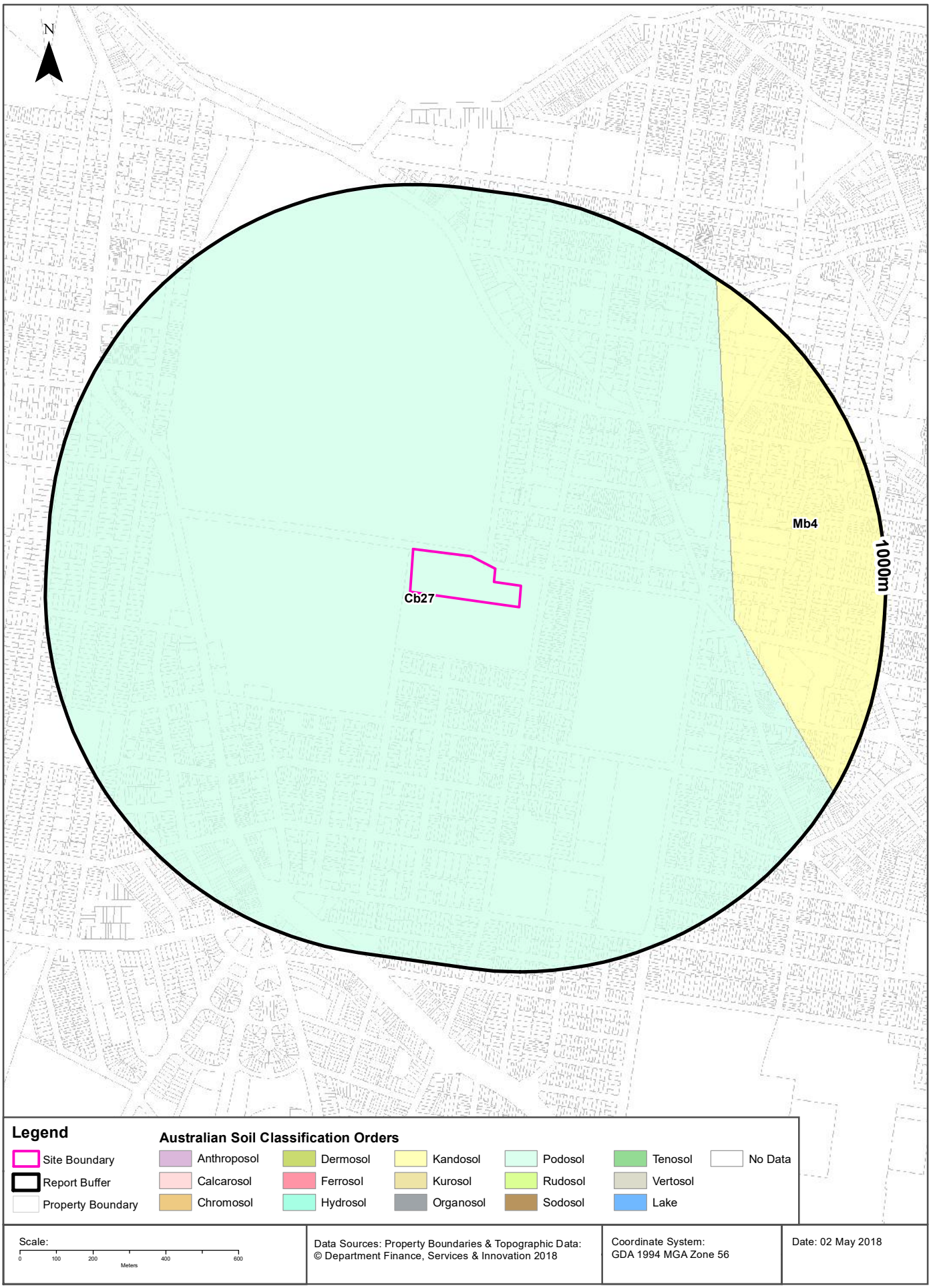
What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
AEnp	NEWPORT		AEOLIAN	Sydney	1:100,000
AEtg	TUGGERAH		AEOLIAN	Sydney	1:100,000
COha	HAWKESBURY		COLLUVIAL	Sydney	1:100,000
DTxx	DISTURBED TERRAIN		DISTURBED TERRAIN	Sydney	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage
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Atlas of Australian Soils

Upper Campus, University of New South Wales, Sydney, NSW 2052



Soils

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Atlas of Australian Soils

Soil mapping units and Australian Soil Classification orders within the dataset buffer:

Map Unit Code	Soil Order	Map Unit Description	Distance
Cb27	Podosol	Coastal sand plains and dunes, lagoons, and swampy areas: chief soils are leached sands (Uc2.3 and Uc2.2). Associated are dunes of siliceous sands (Uc1.2) and/or calcareous sands (Uc1.l) fringing the coastline; and swampy areas of (Uf6) soils and (Uc1.2) soils with peaty surfaces. Unit Cb27 has similarities with units Cb28 and Ca6.	0m
Mb4	Kandosol	Coastal complex: chief soils are acid yellow leached earths (Gn2.74) and (Gn2.34), hard acidic yellow mottled soils (Dy3.41), and hard acidic red soils (Dr2.21). This unit includes headlands and rugged coastal areas of unit Mb2; ridges and slopes of unit Tb35; low-lying coastal areas of unit Cb27; and some swampy areas.	577m

Atlas of Australian Soils Data Source: CSIRO
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Acid Sulfate Soils

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Standard Local Environmental Plan Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

Soil Class	Description	LEP
N/A		

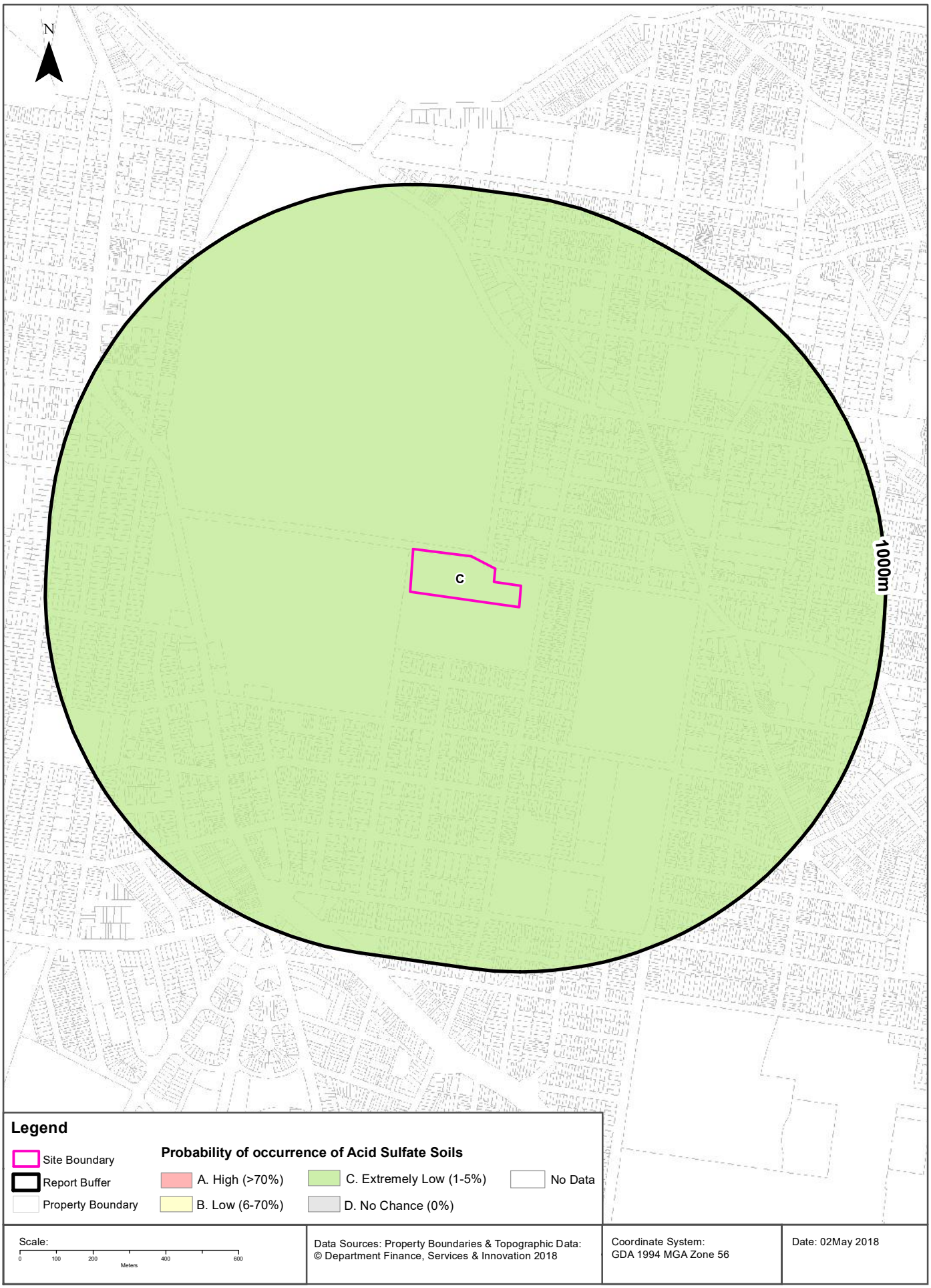
If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	LEP	Distance	Direction
N/A				

Acid Sulfate Data Source Accessed 07/10/2016: NSW Crown Copyright - Planning and Environment
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Atlas of Australian Acid Sulfate Soils

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Acid Sulfate Soils

Upper Campus, University of New South Wales, Sydney, NSW 2052

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

Class	Description	Distance
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO
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Dryland Salinity

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Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

Is there Dryland Salinity - National Assessment data within the dataset buffer?

No

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
N/A	N/A	N/A	N/A	N/A

Dryland Salinity Data Source : National Land and Water Resources Audit
The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.
In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
N/A	Outside Data Coverage			

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage
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Mining Subsidence Districts

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Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
There are no Mining Subsidence Districts within the report buffer		

Mining Subsidence District Data Source: © Land and Property Information (2016)
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Environmental Zoning

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State Environmental Planning Policy Protected Areas

Are there any State Environmental Planning Policy Protected Areas onsite or within the dataset buffer?

Dataset	Onsite	Within Site Buffer	Distance
SEPP14 - Coastal Wetlands	No	No	N/A
SEPP26 - Littoral Rainforests	No	No	N/A
SEPP71 - Coastal Protection Zone	No	No	N/A

SEPP Protected Areas Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Major Developments (2005)

State Environmental Planning Policy Major Developments within the dataset buffer:

Map Id	Feature	Effective Date	Distance	Direction
N/A	No records within buffer			

SEPP Major Development Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Strategic Land Use Areas

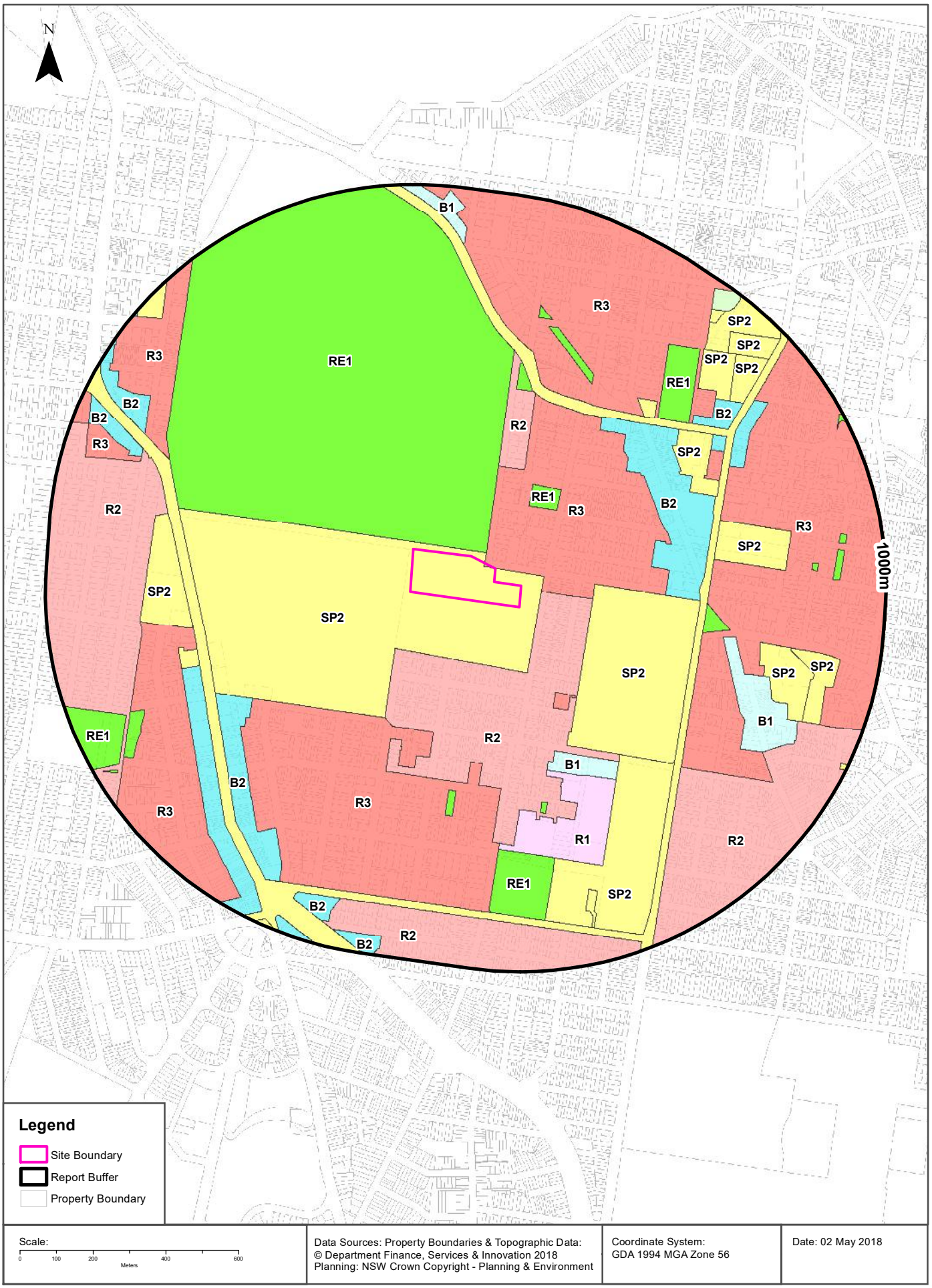
State Environmental Planning Policy Strategic Land Use Areas onsite or within the dataset buffer:

Strategic Land Use	SEPPNo	Effective Date	Amendment	Amendment Year	Distance	Direction
No records within buffer						

SEPP Strategic Land Use Data Source: NSW Department of Planning & Environment
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LEP Planning Zones

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Local Environmental Plan

Upper Campus, University of New South Wales, Sydney, NSW 2052

Land Zoning

What Local Environmental Plan Land Zones exist within the dataset buffer?

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		0m	Onsite
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		0m	Onsite
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		15m	North West
R2	Low Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		49m	South
SP2	Infrastructure	Health Services Facilities	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		191m	South East
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		194m	North East
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		253m	South East
R2	Low Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		258m	North
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		353m	South
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		358m	East
B1	Neighbourhood Centre		Randwick Local Environmental Plan 2012	02/04/2015	02/04/2015	26/01/2018	Amendment No 2	406m	South East
R1	General Residential		Randwick Local Environmental Plan 2012	02/04/2015	02/04/2015	26/01/2018	Amendment No 2	453m	South East
SP2	Infrastructure	Classified Road	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		473m	South
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		474m	North
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		487m	South East
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		503m	North East
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		504m	East
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		504m	East
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		524m	South West
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		524m	South
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		526m	North East
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		531m	East
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		537m	South
B1	Neighbourhood Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		563m	South East
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		570m	North East
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		573m	North East
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		580m	North East

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		591m	North East
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		605m	South West
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		605m	West
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		607m	West
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		614m	South West
R2	Low Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		620m	South East
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		638m	North East
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		645m	North East
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		658m	North East
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		664m	East
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		668m	South
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		678m	North
R2	Low Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		681m	West
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		713m	North West
SP2	Infrastructure	Cemetery	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		725m	North East
SP2	Infrastructure	Seniors Housing	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		750m	East
SP2	Infrastructure	Community Facility	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		762m	North East
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		786m	West
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		788m	North West
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		795m	East
SP2	Infrastructure	Childcare Centre	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		796m	South
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		799m	South West
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		802m	North West
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		817m	North East
B1	Neighbourhood Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		849m	North
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		851m	West
SP2	Infrastructure	Public Administration Building	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		851m	North East
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		852m	East
R2	Low Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		860m	South
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		863m	South West
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		876m	East
SP2	Infrastructure	Emergency Services Facility	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		886m	North East
RE2	Private Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		921m	North East

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
SP2	Infrastructure	Educational Establishment	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		935m	North West
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		941m	South West
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		948m	South
R3	Medium Density Residential		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		955m	North West
B2	Local Centre		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		959m	South West
RE1	Public Recreation		Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		962m	North East
SP2	Infrastructure	Water Supply System	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	26/01/2018		977m	South East
SP2	Infrastructure	Classified Road	Botany Bay Local Environmental Plan 2013	09/10/2015	09/10/2015	19/02/2016	Amendment No 4	982m	South West

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Local Environmental Plan

Upper Campus, University of New South Wales, Sydney, NSW 2052

Minimum Subdivision Lot Size

What are the onsite Local Environmental Plan Minimum Subdivision Lot Sizes?

Symbol	Minimum Lot Size	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

Maximum Height of Building

What are the onsite Local Environmental Plan Maximum Height of Buildings?

Symbol	Maximum Height of Building	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
19	24.00 m	Randwick Local Environmental Plan 2012	01/02/2013	15/01/2013	26/01/2018		19.1

Floor Space Ratio

What are the onsite Local Environmental Plan Floor Space Ratios?

Symbol	Floor Space Ratio	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

Land Application

What are the onsite Local Environmental Plan Land Applications?

Application Type	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
Included	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	15/02/2013		100

Land Reservation Acquisition

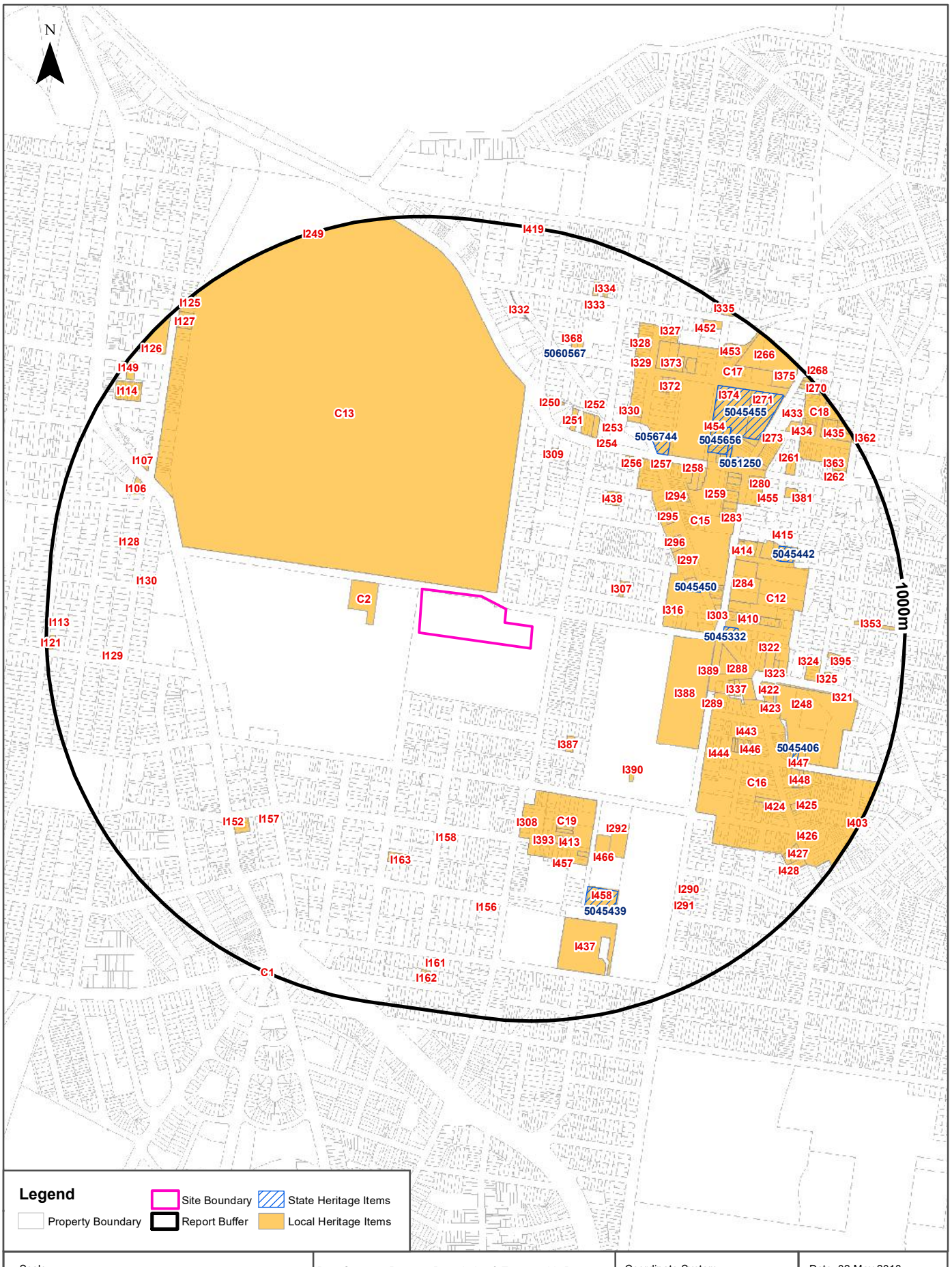
What are the onsite Local Environmental Plan Land Reservation Acquisitions?

Reservation	LEP	Published Date	Commenced Date	Currency Date	Amendment	Comments	Percentage of Site Area
No Data							

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Heritage Items

Upper Campus, University of New South Wales, Sydney, NSW 2052



Heritage

Upper Campus, University of New South Wales, Sydney, NSW 2052

State Heritage Items

What are the State Heritage Items located within the dataset buffer?

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
5045450	Sandgate	128 Belmore Road Randwick	Randwick	02/04/1999	67	261	416m	East
5045332	Corana and Hygeia	211-215 Avoca Street Randwick	Randwick	02/04/1999	454	1177	512m	East
5056744	Randwick Presbyterian Church	162 Alison Road Randwick	Randwick	08/05/2008	1777	2203	573m	North East
5045439	Big Stable Newmarket	29-39 Young Street Randwick	Randwick	02/04/1999	388	939	657m	South East
5045656	Avonmore Terrace	26-42 The Avenue Randwick	Randwick	02/04/1999	565	1534	664m	North East
5045455	St. Jude's Anglican Church, Cemetery, Rectory, Vergers Residence	102-108 Avoca Street Randwick	Randwick	02/04/1999	12	23	677m	North East
5045442	Nugal Hall	16-18 Milford Street Randwick	Randwick	02/04/1999	173	354	679m	East
5060567	Electricity Substation No. 349	2S Frances Street Randwick	Randwick	02/05/2008	1792	2231	684m	North
5051250	Randwick Post Office (former) and Jubilee Fountain	124 Alison Road Randwick	Randwick	23/06/2000	1409		693m	North East
5045406	Ritz Theatre	43 St Pauls Street Randwick	Randwick	02/04/1999	348	832	755m	East

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Local Heritage Items

What are the Local Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
C13	Racecourse	Conservation Area - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	15m	North West
C2	Old Tote & Figtree Theatre	Conservation Area - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	119m	West
I307	Blenheim House and outbuilding	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	241m	East
I387	'Cotswold', late Victorian cottage	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	253m	South East
C15	Randwick Junction	Conservation Area - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	347m	East

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
I316	Semi-detached pair	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	354m	East
I388	Prince of Wales Hospital group (Main Block, Catherine Hayes Hospital and Superintendent's residence)	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	372m	East
C12	High Cross	Conservation Area - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	372m	East
C19	Struggletown	Conservation Area - General	Local	Randwick Local Environmental Plan 2012	02/04/2015	02/04/2015	02/04/2015	381m	South East
I438	Group of Italianate houses	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	382m	North East
I390	Randwick Destitute Children's Asylum Cemetery	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	398m	South East
I309	'Redlands', Art Deco flats	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	414m	North East
I301	'Sandgate'	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	417m	East
I297	'Koorowi Flats' 3 storey commercial/residential building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	422m	East
I296	3 storey commercial building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	424m	East
I299	Commercial building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	425m	East
I295	Residential/commercial building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	453m	North East
I308	Georgian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	459m	South
I298	'Cooks Lodge' 2 storey commercial building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	478m	East
I392	Workers cottage	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	478m	South East
I300	Federation commercial building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	479m	East
I389	Prince of Wales Hospital gates and fence	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	480m	East
I393	2 storey sandstone cottage	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	487m	South East
I302	The Star and Garter Inn	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	489m	East
I303	Statue of Captain James Cook	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	494m	East
I285	Late Victorian shop and residence	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	497m	East
I289	Post box	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	502m	East
I288	High Cross Park	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	504m	East

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
I251	'Carlton', Victorian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	504m	North East
I255	'Rexmere', Victorian terrace	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	505m	North East
C16	The Spot	Conservation Area - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	506m	South East
I411	St Jude's Mission Church	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	506m	South
I252	'Verona', 'Amphion' and 'Donacis', Boom style houses	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	508m	North East
I256	'Hillcrest', Victorian terrace	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	509m	North East
I294	3 storey Art Deco commercial building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	511m	North East
I287	'Corana' and 'Hygeia'	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	512m	East
I253	'Rothesay', Art Deco residential flats	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	514m	North East
I412	Old stone cottage	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	514m	South East
I413	Edwardian timber cottage	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	517m	South East
I286	'Goldring House'	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	518m	East
I292	Newmarket Sale Ring	Item - General	Local	Randwick Local Environmental Plan 2012	02/04/2015	02/04/2015	02/04/2015	519m	South East
I254	St Jude's Well, early stone fountain	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	520m	North East
I158	Late 1920s house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	524m	South
I466	Newmarket House	Item - General	Local	Randwick Local Environmental Plan 2012	02/04/2015	02/04/2015	02/04/2015	529m	South East
I284	Our Lady of the Sacred Heart Church and 'Ventnor', sandstone house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	531m	East
I336	'Essex', Victorian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	537m	East
I250	'Shahzada', Victorian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	545m	North
I337	'Edith', Victorian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	550m	East
I410	'Brighton Terrace'	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	552m	East
I258	'Seabird', Victorian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	557m	North East
I457	Weatherboard cottage	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	559m	South East
I422	Royal Hotel	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	563m	East

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
I259	'Glanmire', Victorian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	571m	North East
I257	Randwick Presbyterian Church	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	573m	North East
C17	St Jude's	Conservation Area - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	573m	North East
I283	'Somerset' and 'Glastonbury'	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	580m	East
I443	Victorian terrace	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	591m	South East
I282	Terraced pair	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	592m	North East
I414	Victorian mansion	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	593m	East
I444	Federation single storey cottage	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	597m	South East
I163	Inter-war mansion	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	597m	South
I281	Terraced pair	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	600m	North East
I445	Victorian Italianate boom style 2 storey house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	604m	South East
I279	'Clovelly', 'Ilfracombe' and 'Torquay', Italianate houses	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	612m	North East
I330	'Juverna', Art Deco flat buildings	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	615m	North East
I322	'Gower Galtees', Art Deco residential flat building, including fence and gates	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	626m	East
I157	'Lanor', Edwardian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	629m	South West
I446	Terraced pair	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	630m	South East
I415	Californian bungalow	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	634m	East
I423	Pair of cottages	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	641m	East
I277	Commercial building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	647m	North East
I323	Edwardian residence	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	650m	East
I458	Big Stable Newmarket	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	657m	South East
I260	Stone commercial building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	658m	North East
I276	Commercial building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	660m	North East

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
I248	'Aeolia', Brigidine Convent and Chapel	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	664m	East
I321	Coogee Bay Road Retaining Walls	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	664m	East
I454	'Avonmore Terrace'	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	664m	North East
I416	'Nugal Hall', Gothic revival sandstone mansion	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	679m	East
I152	Commercial/residential group, 'O'Dea's Corner'	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	679m	South West
I370	Electricity Substation No 349	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	684m	North
I368	Federation arts and crafts 2 storey house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	687m	North
I369	Federation arts and crafts 2 storey house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	691m	North
I274	Former Randwick Post Office	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	693m	North East
I280	Coach and Horses Hotel	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	694m	North East
I156	1950s brick house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	694m	South
I455	2 storey semi-detached pair	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	697m	East
I275	Jubilee Fountain	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	704m	North East
I371	Federation Queen Anne single storey house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	715m	North East
I130	Bungalow	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	718m	West
I424	Grand Edwardian mansion	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	721m	South East
I372	Federation Queen Anne single storey house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	723m	North East
I278	Part of Victorian and inter-war building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	723m	North East
I374	St Jude's Cemetery	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	725m	North East
I437	Rainbow Street Public School	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	726m	South
I324	'Glen Mervyn'	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	736m	East
I329	Federation house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	739m	North East
I272	Hetta Building, commercial/residential building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	742m	North East
I273	Victorian and inter-war building (shopfronts with residences above)	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	745m	North East

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
I332	Part of Normanhurst boundary wall (adjacent to former tramway reservation)	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	747m	North
I447	Ritz Cinema	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	748m	East
I290	Late Edwardian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	757m	South East
I381	Pair of 2 storey stone cottages	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	759m	East
I373	Group of Federation mansions	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	760m	North East
I271	St Jude's Group (St Jude's Anglican Church, Rectory, Old Borough Chambers and Hall (Note - Cemetery*	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	762m	North East
I128	Edwardian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	775m	West
I291	'Canberra', Edwardian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	785m	South East
I328	Federation house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	788m	North East
I325	Former police station	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	788m	East
I448	Masonic Temple, classical revival style	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	788m	South East
I261	Residential flat building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	790m	North East
I395	2 storey Federation house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	793m	East
I455	2 storey semi-detached pair	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	795m	East
I373	Group of Federation mansions	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	796m	North East
I129	Corner bungalow	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	802m	West
I107	Doncaster Hotel	Item - General	State	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	802m	North West
I106	Masonic Temple	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	806m	West
I425	Federation house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	811m	South East
C18	St Mark's	Conservation Area - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	842m	North East
I327	'Woodville', Edwardian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	850m	North East
I433	Small Gothic church	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	854m	North East

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
I333	'Pepadeniya', Federation bungalow	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	860m	North
I353	Dolphin Street Sandstone Retaining Wall and Embankment	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	861m	East
I334	Semi-detached pair	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	866m	North
I426	Unusual Edwardian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	874m	South East
I434	Part of historic residential streetscape	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	882m	North East
I266	Randwick Public School (c 1924) and Randwick North High School (1886)	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	885m	North East
I453	Randwick Fire Station	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	886m	North East
I427	Federation Queen Anne house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	887m	South East
I262	Freestanding Victorian house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	887m	East
I161	Late modern house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	895m	South
I162	Late 1920s residential flat building	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	897m	South
I428	Federation Queen Anne houses	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	898m	South East
I363	Sandstone cottage and terraced pair	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	905m	North East
I375	Randwick Town Hall	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	909m	North East
I114	Single storey terrace group	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	909m	North West
I452	'Tayar', Italianate house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	921m	North East
I435	Part of historic residential streetscape	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	922m	North East
I127	Victorian mansion	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	932m	North West
I126	Kensington Public School buildings	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	935m	North West
I113	Bungalow	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	943m	West
I362	Victorian Italianate residence	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	955m	North East
I149	'Cooma', Edwardian mansion	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	956m	North West
I270	'Braemar'	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	957m	North East

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
I267	Post box	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	960m	North East
I269	'Aloha'	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	968m	North East
I125	Detached cottage group	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	972m	North West
I121	Bungalow	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	977m	West
I268	'Eulalia'	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	978m	North East
I335	'Peckham', Victorian mansion	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	978m	North East
I403	Transitional Victorian/Edwardian style house	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	987m	South East
I419	Spanish Mission flats	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	995m	North
C1	Daceyville Garden Suburb Heritage Conservation Area	Conservation Area - General	Local	Botany Bay Local Environmental Plan 2013	21/06/2013	21/06/2013	09/10/2015	995m	South West
I249	Members, Stand/Official Stand, Royal Randwick Racecourse	Item - General	Local	Randwick Local Environmental Plan 2012	01/02/2013	15/02/2013	02/04/2015	997m	North

Heritage Data Source: NSW Crown Copyright - Planning & Environment
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Natural Hazards

Upper Campus, University of New South Wales, Sydney, NSW 2052

Bush Fire Prone Land

What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
No records within buffer		

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence

Ecological Constraints - Native Vegetation & RAMSAR Wetlands

Upper Campus, University of New South Wales, Sydney, NSW 2052



Ecological Constraints

Upper Campus, University of New South Wales, Sydney, NSW 2052

Native Vegetation

What native vegetation exists within the dataset buffer?

Map ID	Map Unit Name	Threatened Ecological Community NSW	Threatened Ecological Community EPBC Act	Understorey	Disturbance	Disturbance Index	Dominant Species	Dist	Direction
Urban_E/N	Urban_E/N: Urban Exotic/Native			00: Not assessed	00: Not assessed	0: Not assessed	Urban Exotic/Native	0m	Onsite

Native Vegetation of the Sydney Metropolitan Area : NSW Office of Environment and Heritage
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RAMSAR Wetlands

What RAMSAR Wetland areas exist within the dataset buffer?

Map Id	RAMSAR Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

RAMSAR Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints

Upper Campus, University of New South Wales, Sydney, NSW 2052

Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
N/A	No records within buffer				

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints

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Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
N/A	No records within buffer				

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
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Ecological Constraints

Upper Campus, University of New South Wales, Sydney, NSW 2052

NSW BioNet Atlas

Species on the NSW BioNet Atlas that have a NSW or federal conservation status, a NSW sensitivity status, or are listed under a migratory species agreement, and are within 10km of the site?

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Amphibia	Crinia tinnula	Wallum Froglet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Amphibia	Pseudophryne australis	Red-crowned Toadlet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Actitis hypoleucos	Common Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Ardea ibis	Cattle Egret	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Ardenna carneipes	Flesh-footed Shearwater	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Ardenna grisea	Sooty Shearwater	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Ardenna pacificus	Wedge-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ardenna tenuirostris	Short-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Arenaria interpres	Ruddy Turnstone	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Botaurus poiciloptilus	Australasian Bittern	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Burhinus grallarius	Bush Stone-curlew	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris alba	Sanderling	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris bairdii	Baird's Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Calidris canutus	Red Knot	Not Listed	Not Sensitive	Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris ferruginea	Curlew Sandpiper	Endangered	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris melanotos	Pectoral Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Calidris ruficollis	Red-necked Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris tenuirostris	Great Knot	Vulnerable	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Charadrius leschenaultii	Greater Sand-plover	Vulnerable	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Charadrius mongolus	Lesser Sand-plover	Vulnerable	Not Sensitive	Endangered	ROKAMBA;CAMBA; JAMBA

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Charadrius veredus	Oriental Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Chlidonias leucopterus	White-winged Black Tern	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Dasyornis brachypterus	Eastern Bristlebird	Endangered	Category 2	Endangered	
Animalia	Aves	Diomedea exulans	Wandering Albatross	Endangered	Not Sensitive	Endangered	JAMBA
Animalia	Aves	Diomedea gibsoni	Gibson's Albatross	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Egretta sacra	Eastern Reef Egret	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Epthianura albifrons	White-fronted Chat	Endangered Population, Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Erythrotriorchis radiatus	Red Goshawk	Critically Endangered	Category 2	Vulnerable	
Animalia	Aves	Fregata ariel	Lesser Frigatebird	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus fuliginosus	Sooty Oystercatcher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus longirostris	Pied Oystercatcher	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Hydroprogne caspia	Caspian Tern	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Limicola falcinellus	Broad-billed Sandpiper	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Limosa lapponica	Bar-tailed Godwit	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Limosa limosa	Black-tailed Godwit	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Macronectes giganteus	Southern Giant Petrel	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Macronectes halli	Northern Giant-Petrel	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Merops ornatus	Rainbow Bee-eater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Neochmia ruficauda	Star Finch	Presumed Extinct	Not Sensitive	Endangered	
Animalia	Aves	Neophema chrysogaster	Orange-bellied Parrot	Critically Endangered	Category 3	Critically Endangered	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Numenius madagascariensis	Eastern Curlew	Not Listed	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Numenius minutus	Little Curlew	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Numenius phaeopus	Whimbrel	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Onychoprion fuscata	Sooty Tern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pandion cristatus	Eastern Osprey	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pezoporus wallicus wallicus	Eastern Ground Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Phaethon lepturus	White-tailed Tropicbird	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Pluvialis fulva	Pacific Golden Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Polytelis swainsonii	Superb Parrot	Vulnerable	Category 3	Vulnerable	
Animalia	Aves	Procelsterna cerulea	Grey Ternlet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pterodroma leucoptera leucoptera	Gould's Petrel	Vulnerable	Not Sensitive	Endangered	
Animalia	Aves	Ptilinopus regina	Rose-crowned Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus superbus	Superb Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Stercorarius longicaudus	Long-tailed Jaeger	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Stercorarius parasiticus	Arctic Jaeger	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Stercorarius pomarinus	Pomarine Jaeger	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Sterna hirundo	Common Tern	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Sternula albifrons	Little Tern	Endangered	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Sula dactylatra	Masked Booby	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Thalassarche cauta	Shy Albatross	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Thalassarche chrysostoma	Grey-headed Albatross	Not Listed	Not Sensitive	Endangered	
Animalia	Aves	Thalassarche melanophris	Black-browed Albatross	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Tringa brevipes	Grey-tailed Tattler	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa glareola	Wood Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa incana	Wandering Tattler	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa stagnatilis	Marsh Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tryngites subruficollis	Buff-breasted Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Xenus cinereus	Terek Sandpiper	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Mammalia	Aepyprymnus rufescens	Rufous Bettong	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Arctocephalus forsteri	New Zealand Fur-seal	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Arctocephalus pusillus doriferus	Australian Fur-seal	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Dasyurus viverrinus	Eastern Quoll	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Dugong dugon	Dugong	Endangered	Not Sensitive	Not Listed	
Animalia	Mammalia	Eubalaena australis	Southern Right Whale	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Megaptera novaeangliae	Humpback Whale	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Miniopterus australis	Little Bentwing-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Mormopterus norfolkensis	Eastern Freetail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Perameles nasuta	Long-nosed Bandicoot	Endangered Population	Not Sensitive	Not Listed	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Reptilia	Dermochelys coriacea	Leatherback Turtle	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Acacia gordonii		Endangered	Not Sensitive	Endangered	
Plantae	Flora	Acacia pubescens	Downy Wattle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Acacia terminalis subsp. terminalis	Sunshine Wattle	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Allocasuarina portuensis	Nielsen Park She-oak	Endangered	Category 3	Endangered	
Plantae	Flora	Amperea xiphoclada subsp. pedicellata		Presumed Extinct	Not Sensitive	Extinct	
Plantae	Flora	Asterolasia buxifolia		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Caladenia tessellata	Thick Lip Spider Orchid	Endangered	Category 2	Vulnerable	
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Dichanthium setosum	Bluegrass	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Diuris arenaria	Sand Doubletail	Endangered	Category 2	Not Listed	
Plantae	Flora	Doryanthes palmeri	Giant Spear Lily	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus camfieldii	Camfield's Stringybark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus fracta	Broken Back Ironbark	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus leucoxylon subsp. pruinosa	Yellow Gum	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus pulverulenta	Silver-leafed Gum	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus scoparia	Wallangarra White Gum	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Grammitis stenophylla	Narrow-leaf Finger Fern	Endangered	Category 3	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Grevillea caleyi	Caley's Grevillea	Critically Endangered	Category 3	Endangered	
Plantae	Flora	Hibbertia puberula		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Macadamia tetraphylla	Rough-shelled Bush Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Melaleuca biconvexa	Biconvex Paperbark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Melaleuca deanei	Deane's Paperbark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Persoonia hirsuta	Hairy Geebung	Endangered	Category 3	Endangered	
Plantae	Flora	Persoonia nutans	Nodding Geebung	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pimelea curviflora subsp. curviflora		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Pimelea spicata	Spiked Rice-flower	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Prasophyllum fuscum	Slaty Leek Orchid	Critically Endangered	Category 2	Vulnerable	
Plantae	Flora	Prostanthera marifolia	Seaforth Mintbush	Critically Endangered	Category 3	Critically Endangered	
Plantae	Flora	Pultenaea parviflora		Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Senecio spathulatus	Coast Groundsel	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Senna acclinis	Rainforest Cassia	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Tetratheca glandulosa		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Tetratheca juncea	Black-eyed Susan	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Thesium australe	Austral Toadflax	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Triplarina imbricata	Creek Triplarina	Endangered	Not Sensitive	Endangered	

Data does not include NSW category 1 sensitive species.
NSW BioNet: © State of NSW and Office of Environment and Heritage
Data obtained 02/05/2018

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Appendix C7

Site Photographs

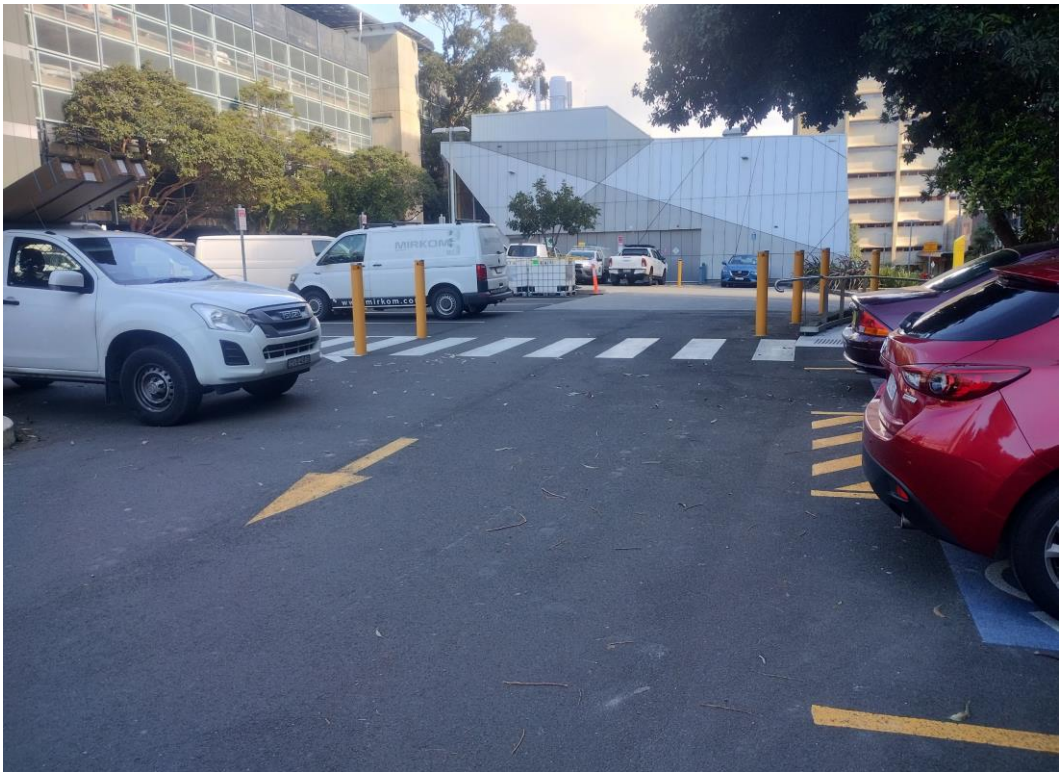


Photo 1: Site photograph - at-grade carpark



Photo 2: Site photograph - raised at-grade carpark

Douglas PARTNERS	**Site Photographs**	PROJECT:	227492.04
	UNSW G25 Education Building	PLATE No:	1
	8 High Street, Kensington, NSW, 2033	REV:	0
	CLIENT	The University of New South Wales	



Photo 3: Site photograph - Botany Street carpark

Douglas PARTNERS	**Site Photographs**	PROJECT:	227492.04
	UNSW G25 Education Building	PLATE No:	2
	8 High Street, Kensington, NSW, 2033	REV:	0
	CLIENT	The University of New South Wales	

Appendix D

Data Quality Objectives

1. Data quality objectives

The DSI has been devised broadly in accordance with the seven-step data quality objectives (DQO) process which is provided in Appendix B, Schedule B2 of NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).

Table 1: Data quality objectives

Step	Summary
1: State the problem	The objective of the investigation was to assess the contamination status of the site with respect to the proposed land use. The report has been prepared as the site is to be redeveloped. A preliminary conceptual site model (CSM) has been prepared (Section 9) for the proposed development. The project team consisted of experienced environmental engineers and scientists working in the roles of Project Principal, Project Reviewer, Project Manager and field staff.
2: Identify the decisions / goal of the study	The site history has identified possible contaminating previous uses which are identified in the CSM (Section 9). The CSM identifies the associated contaminants of potential concern (CoPC) and the likely impacted media. The site assessment criteria (SAC) for each of the CoPC are detailed in Appendix F. The decision is to establish whether or not the results fall below the SAC. On this basis, an assessment of the site's suitability from a contamination perspective will be derived and a decision made on whether (or not) further assessment and / or remediation will be required.
3: Identify the information inputs	Inputs were the desktop information, field results and analytical results for the CoPC (identified in the CSM, Section 9) from NATA accredited laboratories and methods, where possible. The SAC for each of the CoPC are detailed in Appendix F. A photoionisation detector (PID) was used on-site to screen soils for VOC. PID readings were used to inform sample selection for laboratory analysis.
4: Define the study boundaries	The lateral boundaries of the investigation area are shown on Drawing 1, Appendix A. The vertical boundaries are to the extent of contamination impact as determined from the site history assessment and site observations. The assessment is limited to the timeframe over which the field works were undertaken. Constraints to the assessment are identified and discussed in the conclusions of the report, Section 14.
5: Develop the analytical approach (or decision rule)	The decision rule is to compare all analytical results with the SAC (Appendix F, based on NEPC (2013)). Where guideline values are absent, other sources of guideline values accepted by NEPC (2013) shall be adopted where warranted and suitable values identified. Where a sample result exceeds the adopted criterion, a further site-specific assessment will be made as to the risk posed by the presence of that contaminant(s).

Step	Summary
	Initial comparisons will be with individual results. Were a suitable dataset is available the significance of individual exceedances may be further assessed by statistical analysis. This will include calculation of summary statistics (including mean, standard deviation and 95% upper confidence limit (UCL) of the arithmetic mean (95% UCL)) to assess potential risks posed by the site contamination. Quality control results are to be assessed according to their relative percent difference (RPD) values. For field duplicates, triplicates and laboratory results, RPD values should generally be below 30%; for field blanks and rinsates, results should be at or less than the limits of reporting (NEPC, 2013). The field and laboratory quality assurance assessment is included in Appendix K.
6: Specify the performance or acceptance criteria	Baseline condition: Contaminants at the site (in line with NEPC (2013)) exceed the human health and environmental SAC and pose a potentially unacceptable risk to receptors (null hypothesis). Alternative condition: Contaminants at the site (in line with NEPC (2013)) comply with the human health and environmental SAC and as such, do not pose a potentially unacceptable risk to receptors (alternative hypothesis). Unless conclusive information from the collected data is sufficient to reject the null hypothesis, it is assumed that the baseline condition is true. Uncertainty that may exist due to the above potential decision errors shall be mitigated as follows: • The statistical assessment, where appropriate and required. • Consideration of data gaps and qualitative data in conjunction with quantitative data in assessing contamination risk at the site.
7: Optimise the design for obtaining data	As the purpose of the investigation is to assess the contamination status of the site, the sampling program is reliant on professional judgement to identify and sample the potentially affected areas with consideration to the site access constraints imposed by the client. Further details regarding the proposed sampling plan are presented in Section 10.

2. References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

Appendix E

Sampling Methodology

1. Guidelines

The following key guidelines were consulted for the field work methodology:

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).
- HEPA *PFAS National Environmental Management Plan (NEMP)* (HEPA, 2020).

2. Soil sampling

Soil sampling was carried out in accordance with Douglas' standard operating procedures. The general sampling and sample management procedures comprised:

- Collection of soil samples directly from solid flight auger / hand tools at the nominated sample depth;
- Transfer of samples in laboratory-prepared glass jars with Teflon lined lids by hand, capping immediately and minimising headspace within the sample jar;
- Transfer of samples in laboratory-prepared container (specific for PFAS) by hand, capping immediately and minimising headspace within the sample jar;
- Collection of replicate samples in zip-lock bags for photoionisation detector (PID) screening;
- Collection of ~500 ml samples for fibrous asbestos and asbestos fines (FA and AF) analysis;
- Collection of bulk (~10 L) soil samples for bonded asbestos containing material (ACM) field sieve test;
- New disposable nitrile gloves were worn for each sample point thereby minimising potential for cross-contamination;
- Collection of 10% replicate samples for quality control (QC) purposes;
- Labelling of sample containers with individual and unique identification details, including project number, sample location and sample depth (where applicable);
- Placement of samples into a cooled, insulated and sealed container for transport to the laboratory;
- Collection of soil samples for acid sulfate soils analysis at every 0.5 m depth interval and / or at least one sample for every change in strata observed. Place immediately into zip-lock plastic bags after minimising air content and potential for moisture loss and immediately place on ice in a cooled, insulated and sealed container for transport to the laboratory. Once in the laboratory place the samples in a freezer; and
- Use chain of custody documentation.

Reference was made to HEPA (2020) for requirements specific to PFAS.

2.1 Field testing

Field testing is carried out in accordance with Douglas' standard operating procedures. The general sampling and sample management procedures comprised:

PID field test

- Calibration of the PID with isobutylene gas at 100 ppm and with fresh air prior to commencement of each successive day's field work;
- Headspace was allowed to equilibrate in the PID zip-lock bag samples; and
- Screening using the PID.

Assessment of subsurface ACM (from 250 mm auger boreholes)

- Collection of at least one bulk (~10 L) soil sample per metre of fill from selected borehole locations;
- Weighing of each bulk sample;
- Screening of each bulk sample through a ≤7 mm aperture sieve;
- Weighing all retrieved potential ACM fragments (if recovered); and
- Calculation of the asbestos concentration (% w/w) in soil as per the procedure described in NEPC (2013).

3. Groundwater sampling

3.1 Monitoring well installation

Monitoring wells were constructed using class 18 uPVC machine slotted screen and blank sections with screw threaded joints. The screened section of each well was backfilled with a washed sand filter pack to approximately 0.5 m above the screened interval. Each well was completed with a hydrated bentonite plug of at least 0.5 m thick and then compacted drill cuttings to the surface, finished as a cast iron road-box.

3.2 Monitoring well development

Groundwater monitoring wells were developed as soon as practicable following well installation. The purpose of well development is to remove sediments and / or drilling fluid introduced to the well during drilling and to facilitate connection of the monitoring well to the aquifer. The wells were developed by pumping to remove a minimum of five well volumes, or until dry.

3.3 Groundwater sampling

Peristaltic pump

Groundwater sampling was carried out in accordance with Douglas' standard operating procedures. Groundwater samples were collected using a low flow peristaltic pump via the micro-purge (minimal drawdown) method. The sampling method is described as follows:

- Measurement of the static water level using an electronic interface probe and record the thickness of any LNAPL (if encountered);
- Decontamination of the interface probe and cable between monitoring wells by rinsing in a diluted Liquinox solution and then rinsing in demineralised water;
- Lowering of the well-dedicated tubing into the well then clamped at a level estimated to be 1 m below the top of the water column (provided the depth of the pump is within the screened section) or to the approximate mid-point of the well screen;
- The pump at the lowest rate possible to minimise drawdown of the water column;
- Measurement of physical parameters by continuously passing the purged water through a flow cell; and
- Following stabilisation of the field parameters, samples were collected in laboratory-prepared bottles minimising headspace within the sample bottle and cap immediately.

Sample handling, all methods

The general groundwater sample handling and management procedures comprise:

- Collection of 10% replicate samples for QC purposes;
- Labelling of sample containers with individual and unique identification details, including project number and sample location;
- Field filtering of recovered groundwater from monitoring wells using a groundwater inline (0.45 µm pore size, 800 cm^2) filter for the analysis of heavy metals;
- Placement of the sample jars into a cooled, insulated and sealed container for transport to the laboratory; and
- Use chain of custody documentation.

4. References

ASTM D7663-12. (2018). *Standard Practice for Active Soil Gas Sampling in the Vadose Zone for Vapour Intrusion Evaluations*. 2018 e1 (editorial change to 2012 revision): American Society for Testing and Materials.

HEPA. (2020). *PFAS National Environmental Management Plan (NEMP)*. Version 2.0: Heads of EPAs Australia and New Zealand and Australian Government Department of the Environment.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

NSW EPA. (2020). *Assessment and Management of Hazardous Ground Gases.* NSW Environment Protection Authority.

USEPA. (1999a). *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air.* Second Edition: United States Environment Protection Agency.

USEPA. (1999b). *Compendium Method TO-15 Determination of Volatile Organic Compounds (VOCs) In Air Collected in Specially-Prepared Canisters and Analysed By Gas Chromatography Mass Spectrometry (GC/MS).* United States Environment Protection Agency.

Appendix F

Site Assessment Criteria

1. Introduction

1.1 Guidelines

The following key guidelines were consulted for deriving the site assessment criteria (SAC):

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).
- CRC CARE *Health screening levels for petroleum hydrocarbons in soil and groundwater* (CRC CARE, 2011).
- HEPA *PFAS National Environmental Management Plan (NEMP)* (HEPA, 2020).
- ANZG *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG, 2018).
- NHMRC, NRMMC *Australian Drinking Water Guidelines 6 2011, Version 3.2* (NHMRC, NRMMC, 2022).
- ANZECC *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC, 2000).

1.2 General

The SAC applied in the current investigation are informed by the CSM which identified human and environmental receptors to potential contamination at the site. Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising primarily the investigation and screening levels of Schedule B1 of NEPC (2013).

The following inputs are relevant to the selection and / or derivation of the SAC:

- Land use: commercial / industrial:
    - Based on review of Appendix C, Schedule B7 of the NEPC (2013), HIL A, B and C were derived from parameters that take risk exposure factors for young children (0 – 5 years old) into consideration. Given that adult students or workers are more likely targeted groups within a university setting, Douglas considers that HIL D would be the most appropriate land use type for this investigation. Furthermore, HIL D is consistent with previous investigations conducted within the university.
- Soil type: sand.

2. Soils

2.1 Health investigation and screening levels

The generic health investigation levels (HIL) and health screening levels (HSL) are considered to be appropriate for the assessment of human health risk via all relevant pathways of exposure associated with contamination at the site. The adopted soil HIL and HSL for the contaminants of concern are in Table 1 and Table 2.

Table 1: Health investigation levels (mg/kg)

Contaminant	HIL-D
Metals	
Arsenic	3000
Cadmium	900
Chromium (VI)	3600
Copper	240 000
Lead	1500
Mercury (inorganic)	730
Nickel	6000
Zinc	400 000
Metals	
Arsenic	3000
Beryllium	500
Boron	300 000
Cadmium	900
Chromium (VI)	3600
Cobalt	4000
Copper	240 000
Lead	1500
Manganese	60 000
Mercury (inorganic)	730
Methyl mercury	180
Nickel	6000
Selenium	10 000
Zinc	400 000
PAH	
B(a)P TEQ	40
Total PAH	4000
Phenols	
Phenol	240 000
Pentachlorophenol	660

Contaminant	HIL-D
OCP	
DDT+DDE+DDD	3600
Aldrin and dieldrin	45
Chlordane	530
Endosulfan	2000
Endrin	100
Heptachlor	50
HCB	80
Methoxychlor	2500
OPP	
Chlorpyrifos	2000
PCB	
PCB	7

Table 2: Health screening levels (mg/kg)

Contaminant	HSL-D	HSL-D	HSL-D	HSL-D
SAND	**0 m to <1 m**	**1 m to <2 m**	**2 m to <4 m**	**4 m+**
Benzene	3	3	3	3
Toluene	NL	NL	NL	NL
Ethylbenzene	NL	NL	NL	NL
Xylenes	230	NL	NL	NL
Naphthalene	NL	NL	NL	NL
TRH F1	260	370	630	NL
TRH F2	NL	NL	NL	NL

Notes: TRH F1 is TRH C_6-C_{10} minus BTEX
TRH F2 is TRH >C_{10}-C_{16} minus naphthalene
The soil saturation concentration (Csat) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds Csat, a soil vapour source concentration for a petroleum mixture could not exceed a level that would results in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'

The HSL for direct contact derived from CRC CARE (2011) are in Table 3.

Table 3: Health screening levels for direct contact (mg/kg)

Contaminant	DC HSL-D	DC HSL-IMW
Benzene	430	1100
Toluene	99 000	120 000
Ethylbenzene	27 000	85 000
Xylenes	81 000	130 000
Naphthalene	11 000	29 000
TRH F1	26 000	82 000
TRH F2	20 000	62 000
TRH F3	27 000	85 000
TRH F4	38 000	120 000

Notes: TRH F1 is TRH C_6-C_{10} minus BTEX
TRH F2 is TRH >C_{10}-C_{16} minus naphthalene
IMW intrusive maintenance worker

2.2 Health investigation levels for per- and poly-fluoroalkyl substances in soil

The laboratory analytical results for per- and poly-fluoroalkyl substances (PFAS) in soil have been assessed against HIL published in HEPA (2020). The HIL represent a nationally-agreed suite that should be used to inform site investigations. The HIL are intentionally conservative, and an exceedance of these criteria may not constitute a risk if other exposure pathways are controlled. An exceedance of the HIL should trigger further investigations, such as a site-specific risk assessment. At the time of this investigation, screening values were available only for perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS).

The HIL derived from Table 2 of HEPA (2020) are in Table 4.

Table 4: Health investigation levels (mg/kg)

Contaminant	HIL-D
PFOS and PFHxS *	20
PFOA	50

Notes: * Includes PFOS only, PFHxS only and the sum of the two.

2.3 Asbestos in soil

The HSL for asbestos in soil are based on likely exposure levels for different scenarios published in NEPC (2013) for the following forms of asbestos:

- Bonded asbestos containing material (ACM); and
- Fibrous asbestos and asbestos fines (FA and AF).

The HSL are in Table 5.

Table 5: Health screening levels for asbestos

Form of asbestos	HSL-D
ACM	0.05%
FA and AF	0.001%
FA and AF and ACM	No visible asbestos for surface soil *

Notes: Surface soils defined as top 10 cm.
* Based on site observations at the sampling points and the analytical results of surface samples.

2.4 Ecological investigation levels

Ecological investigation levels (EIL) and added contaminant limits (ACL), where appropriate, have been derived in NEPC (2013) for arsenic, copper, chromium (III), nickel, lead, zinc, DDT and naphthalene. The adopted EIL, derived using the interactive (excel) calculation spreadsheet on the NEPM toolbox website are shown in Table 7, with inputs into their derivation shown in Table 6.

Table 6: Inputs to the derivation of the ecological investigation levels

Variable	Input	Rationale
Age of contaminants	"Aged" (>2 years)	No recent development onsite
pH	8.88	Average calculated from laboratory results
CEC	5.5 $cmol_c/kg$	Average calculated from laboratory results
Clay content	10%	Assumed as a conservative measure
Traffic volumes	High	-
State / Territory	NSW	-

Table 7: Ecological investigation levels (mg/kg)

Contaminant	EIL-D
Metals	
Arsenic	160
Copper	180
Nickel	75
Chromium III	680
Lead	1800
Zinc	510
PAH	
Naphthalene	370
OCP	

Contaminant	EIL-D
DDT	640

Notes: EIL-D – Commercial / Industrial

2.5 Ecological screening levels

Ecological screening levels (ESL) are used to assess the risk of selected petroleum hydrocarbon compounds, BTEX and benzo(a)pyrene to terrestrial ecosystems. The adopted ESL are shown in Table 8.

Table 8: Ecological screening levels (mg/kg)

Contaminant	Soil Type	ESL-D
Benzene	Coarse	75
Toluene	Coarse	135
Ethylbenzene	Coarse	165
Xylenes	Coarse	180
TRH F1	Coarse/ Fine	215*
TRH F2	Coarse/ Fine	170*
TRH F3	Coarse	1700
TRH F4	Coarse	3300
B(a)P	Coarse	1.4

Notes: ESL are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability
TRH F1 is TRH C_6-C_{10} minus BTEX
TRH F2 is TRH >C_{10}-C_{16} including naphthalene
ESL-D – Commercial / Industrial

2.6 Ecological soil guideline values

The interim ecological soil guideline values (EGV) derived from Table3 of HEPA (2020) are in Table 9.

Table 9: Ecological soil guideline values (mg/kg) – all land uses

Contaminant	Direct exposure	Indirect exposure
PFOS	1	0.01
PFOA	10	NC
PFHxS	NC	NC

Notes: NC no criterion

2.7 Management limits

In addition to appropriate consideration and application of the HSL and ESL, there are additional considerations which reflect the nature and properties of petroleum hydrocarbons, including:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosion hazards; and
- Effects on buried infrastructure e.g., penetration of, or damage to, in-ground services.

The adopted management limits are in Table 10.

Table 10: Management limits (mg/kg)

Contaminant	Soil type	ML-D
TRH F1	Coarse	700
TRH F2	Coarse	1000
TRH F3	Coarse	3500
TRH F4	Coarse	10 000

Notes: TRH F1 is TRH C_6-C_{10} including BTEX
TRH F2 is TRH >C_{10}-C_{16} including naphthalene
ML-D – Commercial

2.8 Health screening levels

Soil vapour HSL for petroleum hydrocarbons were published by NEPC (2013) to assess the vapour intrusion exposure pathway.

The HSL derived from NEPC (2013) are in Table 11.

Table 11: Soil vapour health screening levels for vapour intrusion (µg/m³)

Contaminant	HSL-D	HSL-D	HSL-D	HSL-D	HSL-D
SAND	0-1 m	1-2 m	2-4 m	4-8 m	>8 m
Benzene	4000	10000	30 000	6 5000	130 000
Toluene	4 800 000	16 000 000	39 000 000	84 000 000	NL
Ethylbenzene	1 300 000	4 600 000	11 000 000	25 000 000	53 000 000
Xylene Total	840 000	3 200 000	8 000 000	18 000 000	37 000 000
Naphthalene	3000	15 000	35 000	75 000	150 000
TRH F1	680 000	2 800 000	7 000 000	15 000 000	32 000 000
TRH F2	500 000	2 400 000	NL	NL	NL

Notes: TRH F1 is TRH C_6-C_{10} minus BTEX
TRH F2 is TRH >C_{10}-C_{16} minus naphthalene
The maximum possible soil vapour concentrations have been calculated based on vapour pressures of the pure chemicals. Where soil vapour HSL exceed these values, a soil-specific source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'

3. Groundwater

3.1 Introduction

The groundwater investigation levels (GIL) used for interpretation of the groundwater data (as a Tier 1 assessment) have been selected based on the potential risks posed from contamination sourced from the site to receptors at or down-gradient of the site, as identified by the conceptual site model (CSM). The receptors, exposure points and pathways are summarised in Table 12.

Table 12: Summary of potential receptors and potential risks

Receptor	Location	Exposure point	Exposure pathway
Surface water aquatic ecosystem	Down-gradient from site.	Receiving surface water body at the groundwater discharge point.	Exposure to contaminants.
Occupants of buildings	On site and down-gradient from site.	Enclosed buildings (existing or proposed).	Inhalation of VOC (including TRH and BTEX) overlying VOC impacted groundwater via the vapour intrusion pathway.

The rationale for the selection of GIL is in Table 13.

Table 13: Groundwater investigation level rationale

Receptor / beneficial use	GIL	Source	Comments / rationale
Aquatic ecosystem	DGV	ANZG (2018)	Freshwater 95% LOP for non-bioaccumulative contaminants
Aquatic ecosystem	DGV	HEPA (2020)	Freshwater 99% LOP as recommended for potential bioaccumulation Screening values were only available for PFOS and PFOA at the time of this investigation.
Building occupants (vapour intrusion)	HSL	NEPC (2013)	2 m to <4 m / 4 m to <8 m / 8 m+
Drinking water	GV	NHMRC (2022)	Health and aesthetic-based GV
Irrigation	LTV / STV	ANZECC (2000)	Generally applicable to particular crops and should be interpreted with caution in this regard.

Notes: DGV default guideline value
% LOP percentage level of protection of species
HSL health screening level
GV guideline value
LTV long term value (up to 100 years)
STV short term value (up to 20 years)

3.2 Groundwater investigation levels for aquatic ecosystems

The DGV for the protection of aquatic ecosystems derived from ANZG (2018) are in Table 14.

Table 14: Groundwater investigation levels for protection of aquatic ecosystems (µg/L)

Contaminant	Freshwater DGV 95% LOP	Hardness Modified Trigger Value	Notes
Metals / metalloids			
Arsenic	24 / 13		*Levels provided for As III / As IV respectively. Moderate reliability.*
Cadmium	0.2	0.6	Very high reliability.
Chromium (VI)	1		Chromium VI levels adopted as initial screen for total chromium. Very high reliability.
Copper	1.4		Very high reliability.
Lead	3.4	16.1	Moderate reliability.
Mercury (inorganic)	0.06		99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
Nickel	11	31.1	Low reliability.
Zinc	8	22.6	Very high reliability.
BTEX			
Benzene	950		Moderate reliability.
Ethylbenzene	80		Unknown reliability.
m-Xylene	75		Unknown reliability.
o-xylene	350		Low reliability.
p-Xylene	200		Low reliability.
Toluene	180		Unknown reliability.
PAH			
Anthracene	0.01		99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.
Benzo(a)pyrene	0.1		99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.
Fluoranthene	1		99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.

Contaminant	Freshwater DGV 95% LOP	Hardness Modified Trigger Value	Notes
Naphthalene	16		Low reliability.
Phenanthrene	0.6		99% LOP adopted as recommended due to potential for bioaccumulation. Unknown reliability.
Phenols			
Phenol	320		Moderate reliability.
Pentachlorophenol	3.6		99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
2,4,6-Trichlorophenol	3		99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
OCP			
Aldrin	0.001		Unknown reliability and LOP.
Chlordane	0.03		99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
DDT	0.006		99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
Dieldrin	0.01		Unknown reliability and LOP.
Endosulfan	0.03		99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
Endrin	0.01		99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
Heptachlor	0.01		99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
Methoxychlor	0.005		Unknown reliability and LOP.
OPP			
Chlorpyrifos	0.01		Moderate reliability.
Diazinon	0.01		Moderate reliability.
Dimethoate	0.15		Low reliability.
Fenitrothion	0.2		Moderate reliability.

Contaminant	Freshwater DGV 95% LOP	Hardness Modified Trigger Value	Notes
Malathion	0.05		Moderate reliability.
Parathion	0.004		Moderate reliability.
PCB			
Aroclor 1242	0.3		99% LOP adopted as recommended due to potential for bioaccumulation. Low reliability.
Aroclor 1254	0.01		99% LOP adopted as recommended due to potential for bioaccumulation. Moderate reliability.
VOC			
1,1,1-trichloroethane	270		Unknown reliability.
1,1,2,2-tetrachloroethane	400		Unknown reliability.
tetrachloroethene	70		Unknown reliability.
1,1,2-trichloroethane	6500		Unknown reliability.
1,1,2-trichloroethylene	330		Unknown reliability.
1,1-Dichloroethene	700		Unknown reliability.
1,2,3-trichlorobenzene	3		Unknown reliability.
1,2,4-trichlorobenzene	85		Unknown reliability.
1,2-dichlorobenzene	160		Unknown reliability.
1,2-dichloroethane	1900		Unknown reliability.
1,2-dichloropropane	900		Unknown reliability.
1,3-dichlorobenzene	260		Unknown reliability.
1,3-dichloropropane	1100		Unknown reliability.
1,4-dichlorobenzene	60		Unknown reliability.
Chloroform	770		Unknown reliability.
Isopropylbenzene (cumene)	30		Unknown reliability.
Monochlorobenzene	55		Unknown reliability.
Tetrachloroethene (PCE)	70		Unknown reliability.

Contaminant	Freshwater DGV 95% LOP	Hardness Modified Trigger Value	Notes
Trichloroethene (TCE)	330		Unknown reliability.
cis-1,2-dichloroethene (DCE)	700		Unknown reliability.
Chloroethene (vinyl chloride / VC)	100		Unknown reliability.
Tetrachloromethane (carbon tetrachloride / CT)	240		Unknown reliability.
Trichloromethane (chloroform / TCM)	370		99% LOP adopted as recommended to protect key species from chronic toxicity. Unknown reliability.

Notes: 95% LOP for non-bioaccumulative contaminants
99% LOP for bioaccumulative contaminants

Hardness modified trigger value based upon a hardness of 102 mg/L (site average)

The DGV for the protection of aquatic ecosystems derived from HEPA (2020) are in Table 15.

Table 15: Groundwater investigation levels for protection of aquatic ecosystems (µg/L)

Contaminant / LOP	Freshwater DGV
PFOS 99% LOP	0.00023
PFOA 99% LOP	19

3.3 Health screening levels for vapour intrusion

The HSL to evaluate potential vapour intrusion risks derived from NEPC (2013) are in Table 18

Table 16: Groundwater health screening levels for vapour intrusion (µg/L)

Contaminant	HSL-D	HSL-D	HSL-D	Solubility limit
SAND	**2 m to <4 m**	**4 m to <8 m**	**8 m+**	**-**
Benzene	5000	5000	5000	59 000
Toluene	NL	NL	NL	61 000
Ethylbenzene	NL	NL	NL	3900
Xylenes	NL	NL	NL	21 000
Naphthalene	NL	NL	NL	170

Contaminant	HSL-D	HSL-D	HSL-D	Solubility limit
TRH F1	6000	6000	7000	9000
TRH F2	NL	NL	NL	3000

Notes: TRH F1 is TRH C_6-C_{10} minus BTEX
TRH F2 is TRH >C_{10}-C_{16} minus naphthalene
The solubility limit is defined as the groundwater concentration at which the water cannot dissolve any more of an individual chemical based on a petroleum mixture. The soil vapour that is in equilibrium with the groundwater will be at its maximum. If the derived groundwater HSL exceeds the water solubility limit, a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'.

3.4 Groundwater investigation levels for drinking water

The GV for the drinking water derived from NHMRC, NRMMC (2022) are in Table 17.

Table 17: Groundwater investigation levels for drinking water (µg/L)

Contaminant	Drinking water guideline values
Metals / metalloids	
Arsenic	10
Cadmium	2
Chromium (VI)	50
Copper	2000
Lead	10
Mercury (inorganic)	1
Nickel	20
Zinc	3000 (aesthetic only)
BTEX	
Benzene	1
Ethylbenzene	300
Xylenes	600
Toluene	800
PAH	
Benzo(a)pyrene	0.01
OCP	
Aldrin + Dieldrin	0.3
Chlordane	2
DDT	9
Endosulfan	20

Contaminant	Drinking water guideline values
Heptachlor	0.3
Methoxychlor	300
OPP	
Chlorpyrifos	10
Diazinon	4
Dimethoate	7
Fenitrothion	7
Malathion	70
Parathion	20
PFAS	
PFOS + PFHxS*	0.07
PFOA	0.56
VOC	
Tetrachloroethene (PCE)	50
cis-1,2-dichloroethene (DCE)	30
1,2-dichlorobenzene	1500
Chloroethene (vinyl chloride / VC)	0.3
Tetrachloromethane (carbon tetrachloride / CT)	3
Trichloromethane (chloroform / TCM)	250
1,2-dichloroethane	3
1,4-dichlorobenzene	40
1,2-dibromoethane	1
hexachlorobutadiene	0.7
Bromomethane	1
Monochlorobenzene	300
Styrene (vinylbenzene)	30

Notes: * Includes PFOS only, PFHxS only and the sum of the two.

3.5 Groundwater investigation levels for irrigation

The GV for irrigation derived from ANZECC (2000) are in Table 18.

Table 18: Groundwater investigation levels for irrigation (µg/L)

Contaminant	Short term irrigation value	Long term irrigation value
Metals / metalloids		
Arsenic	2000	100
Cadmium	50	10
Chromium (VI)	1000	100
Copper	-	200
Lead	5000	2000
Mercury (inorganic)	2	2
Nickel	2000	200
Zinc	5000	2000

Notes: Irrigation values are often based on specific crops, sensitive to the contaminant. Refer to guideline for further information.

4. References

ANZECC. (2000). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Australia and New Zealand Environment and Conservation Council.

ANZG. (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Canberra, ACT: Australian and New Zealand Governments and Australian state and territory governments.

CRC CARE. (2011). *Health screening levels for petroleum hydrocarbons in soil and groundwater*. Parts 1 to 3, Technical Report No. 10: Cooperative Research Centre for Contamination Assessment and Remediation of the Environment.

HEPA. (2020). *PFAS National Environmental Management Plan (NEMP)*. Version 2.0: Heads of EPAs Australia and New Zealand and Australian Government Department of the Environment.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]*. Australian Government Publishing Services Canberra: National Environment Protection Council.

NHMRC. (2008). *Guidelines for Managing Risks In Recreational Water*.

NHMRC, NRMMC. (2022). *Australian Drinking Water Guidelines 6 2011, Version 3.7*. Canberra: National Health and Medical Research Council, National Resource Management Ministerial Council.

Appendix G

Borehole Logs

BOREHOLE LOG

CLIENT: Bovis Lend Lease
PROJECT: Chancellery Walk
LOCATION: University of NSW, Kensington

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH1 (2010)
PROJECT No: 72075
DATE: 19/10/2010
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.1	ASPHALTIC CONCRETE		E	0.1				
		FILLING - brown, medium grained sand filling with some sandstone gravel, moist		E	0.5				
	1			E	1.0				1
				S			5,5,5 N = 10		
					1.45				
	1.8								
	1.9	SANDSTONE - extremely low to very low strength, red brown sandstone		D	1.9				
	2	Bore discontinued at 1.9m - refusal on sandstone							2
	3								3
	4								4
	5								5
	6								6
	7								7
	8								8
	9								9

RIG: Bobcat **DRILLER:** SY **LOGGED:** NJT **CASING:** None **SURVEY DATUM:**

TYPE OF BORING: Solid flight auger to 1.9m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.0 AHD
COORDINATE: E:336831.2, N:6245525.9
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH1
PROJECT No: 227492.01
DATE: 02/08/24
SHEET: 1 of 3

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) / DENSITY.(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
02/08/24 No free groundwater observed whilst augering		0.04	ASPHALTIC CONCRETE		FILL	(WC)			A/ES		0.10 0.20				
		0.30	FILL / Sandy GRAVEL: grey; fine to medium, angular, aggregate; medium to coarse sand.		FILL				ES/A		0.40 0.50				
		0.60	FILL / SAND: grey amd grey brown; fine to medium; trace brick, glass fragment, charcoal, and plastics.			PC			A/ES		0.90 1.00				
	55	1	FILL / SAND: pale grey and brown; fine to medium; trace ripped sandstone gravel.		FILL		M					SPT	2,2,4 N=6	Backfill	
		1.60	SAND (SP): pale grey brown; fine.						ES/A		1.50 1.60				
	54	2	2.00m: sandy clay and trace ironstone gravel		RS	(L)			ES/A		1.90 2.00			Bentonite	
		2.40	SANDSTONE: pale grey and brown, medium grained. Hawkesbury Sandstone						A		2.40 2.50	SPT	25/50 Refusal		
		2.60	Continued as rock						A		2.55				
	53	3									3			Gravel	
	52	4									4				
	51	5									5				
	50	6									6				
	49	7									7				
	48	8									8				
	47	9									9			Bentonite	

NOTES: (#) Soil origin is "probable" unless otherwise stated. (*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI

METHOD: AD/T to 2.5m, WB to 2.6m, NMLC to 13.05m
CASING: HW to 2.5m

REMARKS: Standpipe installed to 9.0m (screen 3.0m-9.0m, PVC 0.1m-3.0m, Gravel 10.0m-13.0m, Bentonite 9.0m-10.0m, Gravel 2.9m-9.0m, Bentonite 2.5m-2.9m, Backfill to 0.1m, gatic cover at top)

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Split Soil-Rock Log

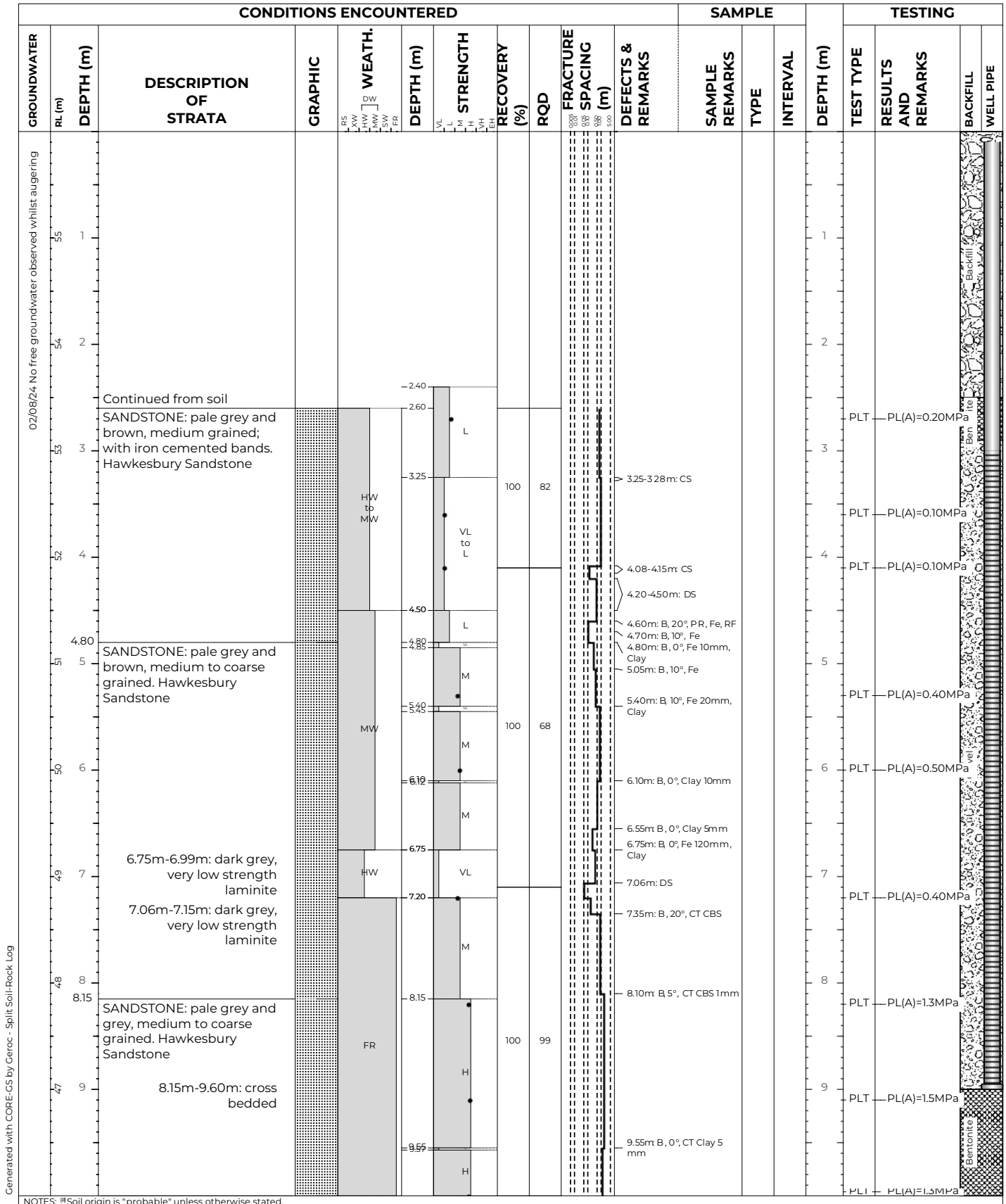
Douglas PARTNERS

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.0 AHD
COORDINATE: E:336831.2, N:6245525.9
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH1
PROJECT No: 227492.01
DATE: 02/08/24
SHEET: 2 of 3



NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI

METHOD: AD/T to 2.5m, WB to 2.6m, NMLC to 13.05m
CASING: HW to 2.5m

REMARKS: Standpipe installed to 9.0m (screen 3.0m-9.0m, PVC 0.1m-3.0m, Gravel 10.0m-13.0m, Bentonite 9.0m-10.0m, Gravel 2.9m-9.0m, Bentonite 2.5m-2.9m, Backfill to 0.1m, gatic cover at top)

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.0 AHD
COORDINATE: E:336831.2, N:6245525.9
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH1
PROJECT No: 227492.01
DATE: 02/08/24
SHEET: 3 of 3

CONDITIONS ENCOUNTERED													SAMPLE				TESTING			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH. (PS, XW, HW, DW, MW, SW, FR)	DEPTH (m)	STRENGTH (VL, L, M, H, VH, EH)	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
	45	11	[CONT] SANDSTONE: pale grey and grey, medium to coarse grained. Hawkesbury Sandstone		FR		H	100	99		10.65m: B, 10°, CT Clay 5 mm				11	PLT	PL(A)=1.3MPa	Gravel	
	44	12						100	100		12.30m: B, 0°, VNR Clay				12	PLT	PL(A)=1.3MPa		
	43	13														PLT	PL(A)=1.4MPa		
			Borehole discontinued at 13.05m depth. Target depth reached.																
	42	14																	
	41	15																	
	40	16																	
	39	17																	
	38	18																	
	37	19																	

NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI

METHOD: AD/T to 2.5m, WB to 2.6m, NMLC to 13.05m
CASING: HW to 2.5m

REMARKS: Standpipe installed to 9.0m (screen 3.0m-9.0m, PVC 0.1m-3.0m, Gravel 10.0m-13.0m, Bentonite 9.0m-10.0m, Gravel 2.9m-9.0m, Bentonite 2.5m-2.9m, Backfill to 0.1m, gatic cover at top)

Refer to explanatory notes for symbol and abbreviation definitions

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Douglas PARTNERS

CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.0 AHD
COORDINATE: E:336831.2, N:6245525.9
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH1
PROJECT No: 227492.01
DATE: 02/08/24
SHEET: 1 of 2



2.60-7.00 m depth



7.00-12.00 m depth

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CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.0 AHD
COORDINATE: E:336831.2, N:6245525.9
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH1
PROJECT No: 227492.01
DATE: 02/08/24
SHEET: 2 of 2



12.00-13.50 m depth

Generated with CORE-GS by Geroc - Split Soil-Rock Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.7 AHD
COORDINATE: E:336860.0, N:6245514.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH2
PROJECT No: 227492.01
DATE: 05/08/24
SHEET: 1 of 3

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[*] DENSITY.[*]	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
05/08/24 No free groundwater observed whilst augering	55	0.04	ASPHALTIC CONCRETE		FILL	MC			A/ES	0.10–0.20	0.10		
		0.30	FILL / Sandy GRAVEL: grey; fine to coarse, angular, aggregates.		FILL				A/ES	0.40–0.50	0.40		
		0.80	FILL / SAND: grey and grey brown; fine to medium; trace gravel, charcoal, plastic, brick.						A/ES	0.90–1.00	0.90	SPT	7,8,7 N=15
	54	1	FILL / SAND AND RIPPED SANDSTONE: pale grey brown; fine to coarse; ripped sandstone gravel and cobble.		FILL	MC	M		A/ES	1.50–1.60	1.50		
		2							ES/A	1.90–2.00	1.90		
	53	2.20	SAND (SP): orange-brown; fine to medium; trace of ironstone gravel and silt.		RS	MD			ES/A	2.40–2.50	2.40	SPT	4,6,25/50
		2.85											
	52	3.00	SANDSTONE: pale grey and brown, medium to coarse grained. Hawkesbury Sandstone								3		
			Continued as rock										
	51	4									4		
	50	5									5		
	49	6									6		
	48	7									7		
	47	8									8		
	46	9									9		

NOTES: [#] Soil origin is "probable" unless otherwise stated. [*] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI
METHOD: DT (300mm) to 0.04m, AD/T to 2.5m, WB to 3.0m, NMLC to 15.85m
CASING: HW to 2.5m
REMARKS:

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Split Soil-Rock Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.7 AHD
COORDINATE: E:336860.0, N:6245514.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH2
PROJECT No: 227492.01
DATE: 05/08/24
SHEET: 2 of 3

CONDITIONS ENCOUNTERED													SAMPLE				TESTING			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
05/08/24 No free groundwater observed whilst augering	55	0													0				
	54	1													1				
	53	2													2				
	52	3	Continued from soil												3	PLT	PL(A)=0.50MPa		
			SANDSTONE: pale grey and brown, medium to coarse grained. Hawkesbury Sandstone		HW	3.00	M												
						3.25		100	95		3.35-3.38m: CS								
					MW	3.40	L to M												
	52	4									3.90m: B, 10°, PR, VNR Clay, RF				4	PLT	PL(A)=0.20MPa		
					HW	4.25	VL				4.25-4.35m: CS								
						4.35					4.55m: B, 10°, CT Clay 2 mm								
	51	5			SW		M								5	PLT	PL(A)=0.40MPa		
								94	65		5.62m: B, 0°, CT Clay 3 mm								
	50	6				5.83					5.83-6.08m: CS				6				
					HW		VL				6.12-6.30m: CS								
		6.30																	
		6.45			HW	6.45	VL				6.47-6.62m: DS								
	49				SW	6.62	L												
		6.88			HW	6.75	VL				6.75-6.90m: DS								
		6.95				6.88													
			7.10m-8.55m: cross bedded		SW	6.95	M				7.10-7.15m: CS				7	PLT	PL(A)=0.20MPa		
		7.40				7.10					7.33-7.38m: DS								
			SANDSTONE: pale grey and grey, medium to coarse grained. Hawkesbury Sandstone			7.15	M												
	48	8				7.33									8	PLT	PL(A)=0.50MPa		
						7.40	M												
								98	93										
	47				FR	8.52					8.52-8.57m: CS								
		9				8.57									9	PLT	PL(A)=0.90MPa		
							M												
	46																		

NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI
METHOD: DT (300mm) to 0.04m, AD/T to 2.5m, WB to 3.0m, NMLC to 15.85m
CASING: HW to 2.5m
REMARKS:

Generated with CORE-GS by Geroc - Split Soil-Rock Log

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.7 AHD
COORDINATE: E:336860.0, N:6245514.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH2
PROJECT No: 227492.01
DATE: 05/08/24
SHEET: 3 of 3

GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
	45	11	[CONT] SANDSTONE: pale grey and grey, medium to coarse grained. Hawkesbury Sandstone		FR	10.00 10.02	M	100	98		10.00m: B, 0°, Clay 15mm				11	PLT	PL(A)=0.60MPa		
	44										11.40m: B, 0°, CT Clay 3 mm					PLT	PL(A)=0.50MPa		
	43	12				12.00 12.30	M								12	PLT	PL(A)=0.80MPa		
	42	13													13	PLT	PL(A)=1.3MPa		
	41	14					H	100	100						14	PLT	PL(A)=1.1MPa		
	40	15									15.45m: JT, 30°, PR, CN, RF				15	PLT	PL(A)=1.2MPa		
	39	16	Borehole discontinued at 15.85m depth. Target depth reached.																
	38	17																	
	37	18																	
	36	19																	

NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI
METHOD: DT (300mm) to 0.04m, AD/T to 2.5m, WB to 3.0m, NMLC to 15.85m
CASING: HW to 2.5m
REMARKS:

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Split Soil-Rock Log

CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.7 AHD
COORDINATE: E:336860.0, N:6245514.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH2
PROJECT No: 227492.01
DATE: 05/08/24
SHEET: 1 of 2



3.00-7.00 m depth



7.00-12.00 m depth

Generated with CORE-GS by Geroc - Split Soil-Rock Log

Douglas PARTNERS

CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.7 AHD
COORDINATE: E:336860.0, N:6245514.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH2
PROJECT No: 227492.01
DATE: 05/08/24
SHEET: 2 of 2



12.00-15.85 m depth

Generated with CORE-GS by Geroc - Split Soil-Rock Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.9 AHD
COORDINATE: E:336845.1, N:6245497.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH3
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 1 of 3

GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[*]	DENSITY.[*]	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
06/08/24 No free groundwater observed whilst augering		0.03	ASPHALTIC CONCRETE		FILL	(MC)				ES/A		0.10 0.20			Backfill	
		0.30	FILL / Sandy GRAVEL: grey; fine to medium, angular; medium to coarse sand; aggregates.							ES/A		0.40 0.50				
	55	1	FILL / SAND: grey and brown; fine to medium; trace metal, building rubble, bricks, glass, charcoal.		FILL	MC				ES/A		0.90 1.00			Bentonite	
													SPT	4,6,5 N=11		
										A/ES		1.50 1.60				
	54	1.70	SAND (SP): pale grey then brown; fine to medium.		AEO	MD		M		A/ES		1.90 2.00				
													SPT	11,13,11 N=24	Gravel	
	53	3										3				
		3.30	Clayey SAND (SC): red-brown; fine; extremely weathered sandstone.		RS	(D)				A		3.50				
		3.60	Continued as rock													
	52	4										4			Bentonite	
	51	5										5				
	50	6										6				
	49	7										7			Gravel	
	48	8										8				
	47	9										9				
	46															

NOTES: [#] Soil origin is "probable" unless otherwise stated. [*] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI
METHOD: DT (300mm) to 0.04m, AD/T to 3.6m, NMLC to 14.3m
CASING: HW to 3.6m
REMARKS: Standpipe installed to 4.0m (screen 2.0m-4.0m, PVC 0.1m-2.0m, Gravel 5.0m-14.3m, Bentonite 4.0m-5.0m, Gravel 1.7m-4.0m, Bentonite 0.5m-1.7m, Backfill to 0.1m, gatic cover at top)

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

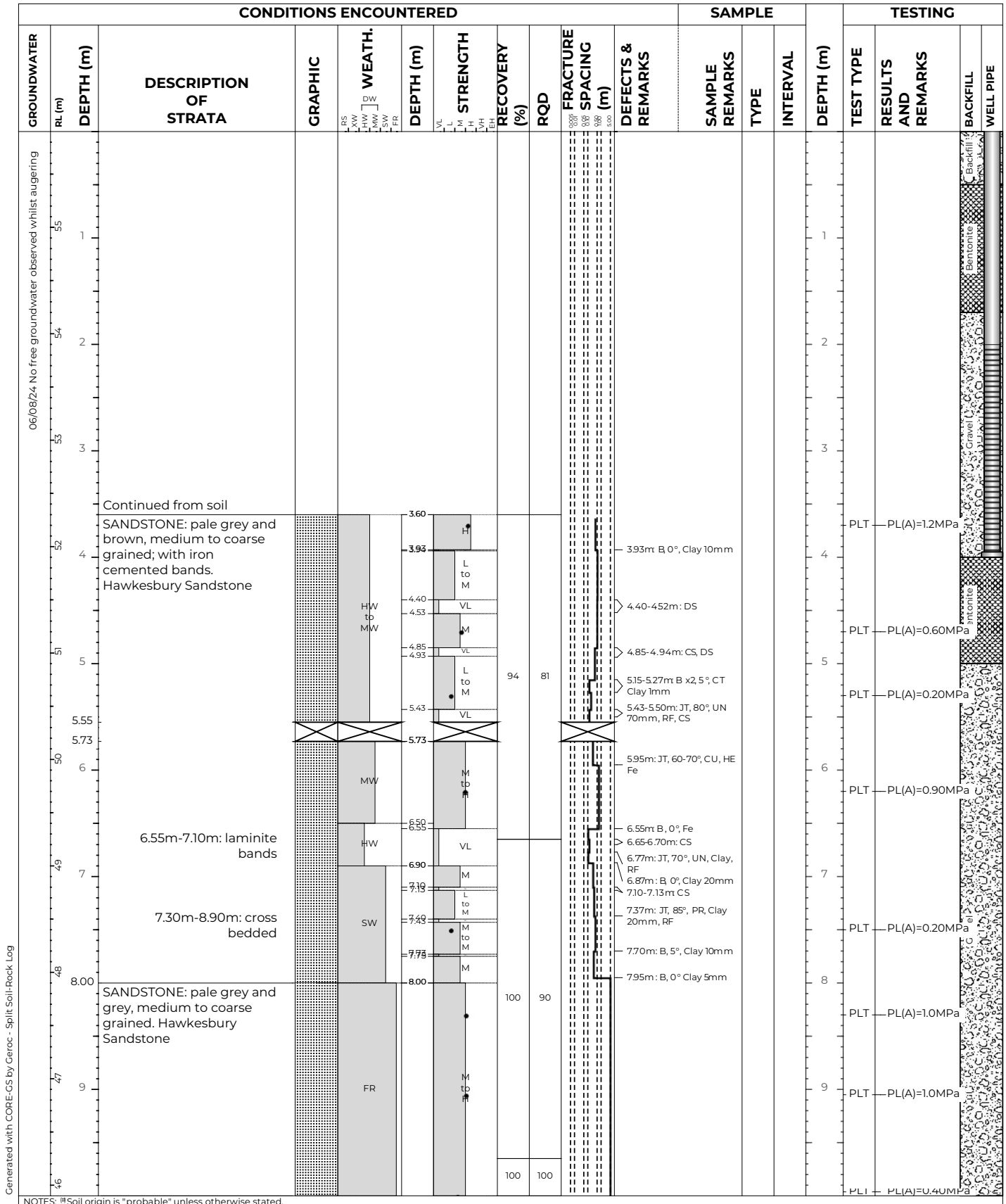
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BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.9 AHD
COORDINATE: E:336845.1, N:6245497.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH3
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 2 of 3



NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI
METHOD: DT (300mm) to 0.04m, AD/T to 3.6m, NMLC to 14.3m
CASING: HW to 3.6m
REMARKS: Standpipe installed to 4.0m (screen 2.0m-4.0m, PVC 0.1m-2.0m, Gravel 5.0m-14.3m, Bentonite 4.0m-5.0m, Gravel 1.7m-4.0m, Bentonite 0.5m-1.7m, Backfill to 0.1m, gatic cover at top)

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.9 AHD
COORDINATE: E:336845.1, N:6245497.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH3
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 3 of 3

CONDITIONS ENCOUNTERED													SAMPLE				TESTING			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH. (DW: PS, XW, HW, MW, SW, FR)	DEPTH (m)	STRENGTH (VL, L, M, H, VH, EH)	RECOVERY (%)	RQD	FRACTURE SPACING (m) (0.03, 0.06, 0.20, 0.60, 2.00)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
	45	11	[CONT] SANDSTONE: pale grey and grey, medium to coarse grained. Hawkesbury Sandstone		FR		M to H	100	100						11	PLT	PL(A)=1.1MPa	Gravel	
	44	12									12.08m: B, 5°, VNR Clay				12	PLT	PL(A)=1.2MPa		
	43	13						100	100						13	PLT	PL(A)=0.90MPa		
	42	14													14	PLT	PL(A)=1.5MPa		
			Borehole discontinued at 14.30m depth. Target depth reached.																
	41	15																	
	40	16																	
	39	17																	
	38	18																	
	37	19																	
	36																		

NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI

METHOD: DT (300mm) to 0.04m, AD/T to 3.6m, NMLC to 14.3m
CASING: HW to 3.6m

REMARKS: Standpipe installed to 4.0m (screen 2.0m-4.0m, PVC 0.1m-2.0m, Gravel 5.0m-14.3m, Bentonite 4.0m-5.0m, Gravel 1.7m-4.0m, Bentonite 0.5m-1.7m, Backfill to 0.1m, gatic cover at top)

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

Generated with CORE-GS by Geroc - Split Soil-Rock Log

CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.9 AHD
COORDINATE: E:336845.1, N:6245497.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH3
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 1 of 2



3.60-8.00 m depth



8.00-13.00 m depth

Generated with CORE-GS by Geroc - Split Soil-Rock Log

Douglas PARTNERS

CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.9 AHD
COORDINATE: E:336845.1, N:6245497.1
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH3
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 2 of 2



13.00-14.30 m depth

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BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.3 AHD
COORDINATE: E:336814.1, N:6245500.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH4
PROJECT No: 227492.01
DATE: 07/08/24 - 08/08/24
SHEET: 1 of 3

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[^]	DENSITY.[^]	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL / WELL PIPE
07/08/24 No free groundwater observed	56	0.05	ASPHALTIC CONCRETE		FILL		D			A/ES		0.10	DCP9/150	5 10 15 Discontinued	Backfill
		0.20	FILL / Sandy GRAVEL: grey; fine to medium, angular; medium to coarse sand; aggregates; apparently cemented.							ES/A		0.40 0.50	SPT	5,9,8 N=17	
	55	1	FILL / SAND: grey; fine to medium; trace building rubble, bricks, glass, wood, ceramics, and charcoal.		FILL		MC to WC			* ES/A		0.90 1.00			
		2	1.80m: light grey brown sand (possible natural)					M		A/ES		1.50 1.60			
										ES/A		1.90 2.00			
	54	2.20	SAND (SP): pale grey; fine to medium.		AEO		MD			ES/A		2.40 2.50	SPT	8,10,9 N=19	Bentonite
		2.80	Clayey SAND (SC): red-brown; fine to medium.		RS										
		3.00 3.10	SANDSTONE: pale grey and red-brown, medium to coarse grained. Hawkesbury Sandstone							A		3.00			
	53		Continued as rock												
		4										4			
	52														
		5										5			Gravel
	51														
		6										6			Bentonite
	50														Gravel
		7										7			
	49														
		8										8			
	48														
		9										9			
	47														

NOTES: [#] Soil origin is "probable" unless otherwise stated. [^] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI

METHOD: DT (300mm) to 0.05m, AD/T to 3.1m, WB to 3.2m, NMLC to 14.1m
CASING: HW to 3.1m

REMARKS: Standpipe installed to 9.0m (screen 3.5m-9.0m, PVC 0.1m-3.5m, Gravel 9.5m-14.1m, Bentonite 9.0m-9.5m, Gravel 3.3m-9.0m, Bentonite 2.5m-3.3m, Backfill to 0.1m, gatic cover at top)
* Field replicate BD207082024 taken at 0.9 to 1m
Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

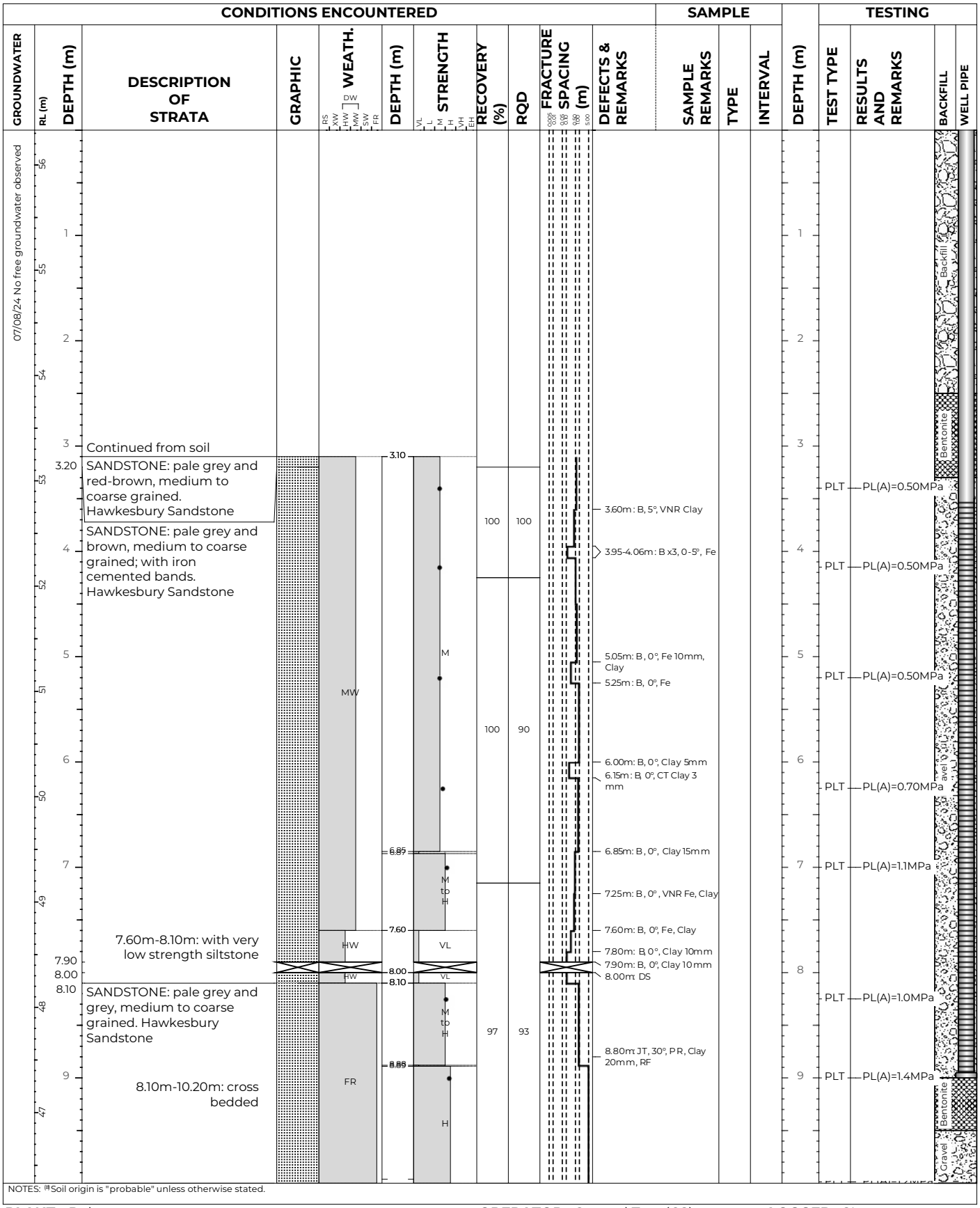
Generated with CORE-GS by Geroc - Split Soil-Rock Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.3 AHD
COORDINATE: E:336814.1, N:6245500.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH4
PROJECT No: 227492.01
DATE: 07/08/24 - 08/08/24
SHEET: 2 of 3



Generated with CORE-GS by Geroc - Split Soil-Rock Log

NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI

METHOD: DT (300mm) to 0.05m, AD/T to 3.1m, WB to 3.2m, NMLC to 14.1m
CASING: HW to 3.1m

REMARKS: Standpipe installed to 9.0m (screen 3.5m-9.0m, PVC 0.1m-3.5m, Gravel 9.5m-14.1m, Bentonite 9.0m-9.5m, Gravel 3.3m-9.0m, Bentonite 2.5m-3.3m, Backfill to 0.1m, gatic cover at top)
* Field replicate BD207082024 taken at 0.9 to 1m

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.3 AHD
COORDINATE: E:336814.1, N:6245500.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH4
PROJECT No: 227492.01
DATE: 07/08/24 - 08/08/24
SHEET: 3 of 3

CONDITIONS ENCOUNTERED														SAMPLE				TESTING			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH. (PS, XW, DW [HW, MW, SW], FR)	DEPTH (m)	STRENGTH (VL, L, M, H, VH, EH)	RECOVERY (%)	RQD	FRACTURE SPACING (m) (0.03, 0.06, 0.20, 0.60, 2.00)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
	46	10	[CONT] SANDSTONE: pale grey and grey, medium to coarse grained. Hawkesbury Sandstone		FR	10.00	M to H	97	93						10			Gravel	
	45	11						100	100						11	PLT	PL(A)=1.1MPa		
	44	12													12	PLT	PL(A)=1.0MPa		
	43	13				13.00	H	100	100		12.90m: B, 0°, CT Clay 2 mm				13	PLT	PL(A)=1.2MPa		
	42	14	Borehole discontinued at 14.10m depth. Target depth reached.								14.00m: B, 10°, Clay 10 mm				14	PLT	PL(A)=1.5MPa		
	41	15																	
	40	16																	
	39	17																	
	38	18																	
	37	19																	

NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI
METHOD: DT (300mm) to 0.05m, AD/T to 3.1m, WB to 3.2m, NMLC to 14.1m
CASING: HW to 3.1m
REMARKS: Standpipe installed to 9.0m (screen 3.5m-9.0m, PVC 0.1m-3.5m, Gravel 9.5m-14.1m, Bentonite 9.0m-9.5m, Gravel 3.3m-9.0m, Bentonite 2.5m-3.3m, Backfill to 0.1m, gatic cover at top)
* Field replicate BD207082024 taken at 0.9 to 1m
Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

Generated with CORE-GS by Geroc - Split Soil-Rock Log

CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.3 AHD
COORDINATE: E:336814.1, N:6245500.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH4
PROJECT No: 227492.01
DATE: 07/08/24 - 08/08/24
SHEET: 1 of 2



3.20-7.00 m depth



7.00-12.00 m depth

Generated with CORE-GS by Geroc - Split Soil-Rock Log

Douglas PARTNERS

CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.3 AHD
COORDINATE: E:336814.1, N:6245500.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH4
PROJECT No: 227492.01
DATE: 07/08/24 - 08/08/24
SHEET: 2 of 2



12.00-14.10 m depth

Generated with CORE-GS by Geroc - Split Soil-Rock Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.9 AHD
COORDINATE: E:336841.6, N:6245524.4
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH5
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 1 of 1

GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[*] / DENSITY.[*]	MOISTURE	REMARKS	SAMPLE TYPE	SAMPLE INTERVAL	SAMPLE DEPTH (m)	TESTING TEST TYPE	TESTING RESULTS AND REMARKS
06/08/24 NGWO		0.06	ASPHALTIC CONCRETE.		NA	ND	NA						
		0.13	FILL / Sandy GRAVEL: grey; fine to medium; medium to coarse sand; aggregates; apparently cemented.		FILL								
			FILL / Sandy GRAVEL: dark grey; fine to coarse sand; fine to coarse sandstone and igneous gravel.		FILL		D						
		0.40	FILL / Silty SAND: brown; fine to coarse; trace fine to coarse, sandstone and igneous gravel, sub-rounded to sub-angular.			MC			A/ES		0.40	DCP9/150	5 10 15
	55				FILL		D						
		1							ES/A		0.90		
											1		
		1.30	FILL / SAND: yellow-brown; fine to coarse.		FILL		D		A/ES		1.40		
		1.60	SAND (SP): pale yellow; fine to medium.		AEO	ND	D		ES/A		1.60		
	54										1.70		
		2									2		
			Borehole discontinued at 2.10m depth. Target depth reached.										
	53												

Discontinued

NOTES: [#] Soil origin is "probable" unless otherwise stated. [*] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Drillman GT10
METHOD: Diatube to 0.13 m, 250mm SFA to 2.1m
REMARKS:

OPERATOR: Ground Test

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Soil Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.8 AHD
COORDINATE: E:336849.3, N:6245523.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH6
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS	
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[^]	DENSITY.[^]	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
06/08/24 NGWO	0.06	ASPHALTIC CONCRETE.		NA			NA						
	0.15	FILL / Sandy GRAVEL: grey; fine to medium; medium to coarse sand; aggregates; apparently cemented.		FILL									
	55	FILL / SAND: brown; fine to coarse; trace fine to coarse igneous and sandstone gravel, sub-rounded to sub-angular, trace plastic, brick gravel.		FILL			D		A/ES		0.20 0.30		
	1								ES/A		0.80 0.90		
	1.10	FILL / SAND: pale brown; fine to coarse; trace fine to coarse sandstone gravel, sub-rounded to sub-angular.		FILL			D		A/ES		1 1.10 1.20		
	1.50	SAND (SP): pale yellow; fine to medium.		AEO			D		ES/A		1.50 1.60		
	54												
	2	Borehole discontinued at 2.00m depth. Target depth reached.											
	53												

NOTES: [#] Soil origin is "probable" unless otherwise stated. [^] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Drillman GT10
METHOD: Diatube to 0.15m, 250mm SFA to 2.0m
REMARKS:

OPERATOR: Ground Test

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

Generated with CORE-GS by Geroc - Soil Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.9 AHD
COORDINATE: E:336799.6, N:6245529.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH7
PROJECT No: 227492.01
DATE: 07/08/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS	
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[*] / DENSITY.[*]	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
07/08/24 NGWO	0.40	FILL / Silty SAND: dark grey to dark brown; trace wood chips, rootlets.		FILL		M		ES/A		0.10		
	1.00	FILL / SAND: dark brown; fine to coarse; trace fine to medium sandstone gravel, sub-rounded to sub-angular.		FILL		M		ES/A		0.50 0.60		
		FILL / SAND: brown; fine to coarse; trace fine to coarse sandstone gravel to cobbles, sub-rounded to sub-angular.		FILL		M		ES/A		1.00 1.10		
	55	Borehole discontinued at 1.20m depth. Refusal on sandstone cobbles.										
	54											
	2											
	53											

NOTES: [#] Soil origin is "probable" unless otherwise stated. [*] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Hand Tools
METHOD: Hand Auger to 1.2m
REMARKS: Blind Duplicate BD4/20240807 at 0-0.1 m

OPERATOR: N/A

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Soil Log

Douglas PARTNERS

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.9 AHD
COORDINATE: E:336833.4, N:6245514.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH8
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS	
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) / DENSITY.(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
06/08/24 NGWO	0.06	ASPHALTIC CONCRETE.		NA		NA						
	0.10	FILL / Sandy GRAVEL: grey; fine to medium; medium to coarse sand; aggregates; apparently cemented.		FILL				ES/A		0.10 0.20		
		FILL / SAND: brown-pale brown; fine to coarse; trace fine to coarse sandstone gravel, sub-rounded to sub-angular, trace plastic, tile.										
	55							A/ES		0.60 0.70		
	1			FILL		D		A/ES		1.00 1.10		
		1.50m: becoming pale-brown						ES/A		1.50 1.60		
	1.70	SAND (SP): yellow-brown; fine to medium.		AEO		D		ES/A		1.70 1.80		
	1.90 54	SANDSTONE: red-yellow, fine to medium grained, possibly very low strength (Hawkesbury Sandstone).		NA								
	2	Borehole discontinued at 2.00m depth. Refusal on sandstone.										
	53											

NOTES: (#) Soil origin is "probable" unless otherwise stated. (*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Drillman GT10
METHOD: Diatube to 0.1m, 250mm SFA to 2.0m
REMARKS: Blind Duplicate BD1/20240806 at 0.1-0.2 m

OPERATOR: Ground Test

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Soil Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.8 AHD
COORDINATE: E:336843.7, N:6245513.4
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH9
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 1 of 1

GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[^]	DENSITY.[^]	MOISTURE	REMARKS	SAMPLE TYPE	SAMPLE INTERVAL	SAMPLE DEPTH (m)	TESTING AND REMARKS: TEST TYPE	TESTING AND REMARKS: RESULTS AND REMARKS
06/08/24 NGWO		0.06	ASPHALTIC CONCRETE.		NA			NA						
		0.15	FILL / Sandy GRAVEL: grey; fine to medium; medium to coarse sand; aggregates; apparently cemented.		FILL									
			FILL / SAND: dark grey-brown; fine to coarse; with fine to coarse igneous gravel, sub-rounded to sub-angular.		FILL			D		A/ES		0.20 0.30		
		0.50	FILL / SAND: pale brown-brown; fine to coarse; trace fine to coarse sandstone gravel, sub-rounded to sub-angular, trace tile, plastic.		FILL			D		ES/A		0.50 0.60		
	55	1								ES/A		1.00 1.10		
		1.30	FILL / SAND: pale brown; fine to coarse.		FILL			D		ES/A		1.30 1.40		
		1.60	SAND (SP): yellow-brown; fine to medium.		AEO			D		ES/A		1.60 1.70		
	54	2										2		
			Borehole discontinued at 2.10m depth. Target depth reached.											
	53													

NOTES: [#] Soil origin is "probable" unless otherwise stated. [^] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Drillman GT10
METHOD: Diatube to 0.15m, 250mm SFA to 2.1m
REMARKS:

OPERATOR: Ground Test

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

Generated with CORE-GS by Geroc - Soil Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.5 AHD
COORDINATE: E:336859.3, N:6245509.5
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH10
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[*] / DENSITY.[*]	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
06/08/24 NGWO		0.06	ASPHALTIC CONCRETE.		NA		NA						
	55		FILL / Silty SAND: dark brown; fine to coarse; trace fine to coarse igneous and concrete gravel, sub-rounded to sub-angular, trace tile, plastic, metal rod, brick gravel.						ES/A		0.10 0.20		
									ES/A		0.50 0.60		
		1			FILL		D		ES/A		1.00 1.10		
	54		1.50m: trace clay						ES/A		1.50 1.60		
		2							A/ES		2.00		
		2.10	SAND (SP): yellow brown; fine to medium.		AEO		D		A/ES		2.10 2.20		
	53		Borehole discontinued at 2.50m depth. Target depth reached.										

NOTES: [#] Soil origin is "probable" unless otherwise stated. [*] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Drillman GT10
METHOD: Diatube to 0.06m, 250mm SFA to 2.5m
REMARKS:

OPERATOR: Ground Test

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

Generated with CORE-GS by Geroc - Soil Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.2 AHD
COORDINATE: E:336817.9, N:6245513.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH11
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[^]	DENSITY.[^]	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
06/08/24 NGWO		0.06	ASPHALTIC CONCRETE.		NA			NA						
	56		FILL / SAND: brown; fine to coarse; trace fine to coarse sandstone gravel, sub-rounded to sub-angular, trace tile, plastic, brick gravel.							A/ES		0.10 0.20		
										A/ES		0.50 0.60		
		1			FILL			D		A/ES		0.90 1		
	55											1.40		
										ES/A				
												1.90		
		2.00	SAND (SP): yellow; fine to medium.		AEO			D		ES/A		2.00		
	54									ES/A		2.10		
			Borehole discontinued at 2.30m depth. Target depth reached.											

NOTES: [#]Soil origin is "probable" unless otherwise stated. [^]Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Drillman GT10
METHOD: Diatube to 0.06m, 250mm SFA to 2.3m
REMARKS: Blind Duplicate BD3/20240806 at 0.1-0.2 m

OPERATOR: Ground Test

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Soil Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 55.9 AHD
COORDINATE: E:336837.6, N:6245506.9
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH12
PROJECT No: 227492.01
DATE: 06/08/24
SHEET: 1 of 1

GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[^]	DENSITY.[^]	MOISTURE	REMARKS	SAMPLE TYPE	SAMPLE INTERVAL	SAMPLE DEPTH (m)	TESTING AND REMARKS: TEST TYPE	TESTING AND REMARKS: RESULTS AND REMARKS
06/08/24 NGWO		0.06	ASPHALTIC CONCRETE.		NA			NA						
		0.15	FILL / Sandy GRAVEL: grey; fine to medium; medium to coarse sand; aggregates; apparently cemented.		FILL									
	55		FILL / SAND: brown to pale brown; fine to coarse; trace fine to coarse sandstone gravel, sub-rounded to sub-angular, trace glass, plastic, tile.							ES/A		0.30 0.40		
										A/ES		0.80 0.90		
		1			FILL			D				1		
										ES/A		1.40		
	54	1.80	FILL / Gravelly SAND: brown to dark grey; fine to coarse; fine to medium igneous and sandstone gravel, sub-rounded to sub-angular.		FILL			D		A/ES		1.80 1.90		
		2.00	SAND (SP): yellow; fine to medium.		AEO			D		ES/A		2.00 2.10		
		2.20	SANDSTONE: red-yellow, fine to medium grained, possibly very low strength (Hawkesbury Sandstone).		NA			D						
	53		Borehole discontinued at 2.30m depth. Target depth reached.											

NOTES: [#] Soil origin is "probable" unless otherwise stated. [^] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Drillman GT10
METHOD: Diatube to 0.15m, 250mm SFA to 2.2m
REMARKS: Blind Duplicate BD2/20240806 at 0.8-0.9 m

OPERATOR: Ground Test

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Soil Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.2 AHD
COORDINATE: E:336852.5, N:6245494.5
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH13
PROJECT No: 227492.01
DATE: 07/08/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS	
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[*] / DENSITY.[*]	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
07/08/24 NGWO	0.06	ASPHALTIC CONCRETE.		NA		NA						
	56	FILL / Gravelly SAND: dark brown to dark grey; fine to coarse; fine to coarse igneous gravel, sub-rounded to sub-angular.		FILL		D		ES/A		0.10 0.20		
	1	Borehole discontinued at 0.40m depth. Refusal on concrete slab.										
	55											
	2											
	54											

NOTES: [#]Soil origin is "probable" unless otherwise stated. [*]Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Drillman GT10
METHOD: Diatube to 0.06m, 250mm SFA to 0.4m
REMARKS:

OPERATOR: Ground Test

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Soil Log

Douglas PARTNERS

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 56.1 AHD
COORDINATE: E:336829.4, N:6245499.4
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH14
PROJECT No: 227492.01
DATE: 07/08/24
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) DENSITY.(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
07/08/24 NGWO	56	0.06	ASPHALTIC CONCRETE.		NA	ND	NA				0.10		
		0.10	FILL / Sandy GRAVEL: grey; fine to medium; medium to coarse sand; aggregates; apparently cemented.		FILL				ES/A		0.20		
			FILL / SAND: dark brown to brown; fine to coarse; trace fine to coarse igneous and sandstone gravel, sub-rounded to sub-angular, trace tile, ceramic, plastic, glass, metal wire.			MC					0.50	DCP9/150	5 10 15
									ES/A		0.60		
		1			FILL		D				1.00		
	55								A/ES		1.10		Discontinued
						ND					1.50		
									ES/A		1.60		
		1.80	FILL / SAND: pale brown; fine to coarse; trace fine to coarse sandstone gravel, sub-rounded to sub-angular, trace tile.		FILL		D				1.90		
		2.00	SAND (SP): yellow; fine to medium.						ES/A		2.00		
	54				AEO		D		ES/A		2.10		
			Borehole discontinued at 2.40m depth. Target depth reached.										

NOTES: (#) Soil origin is "probable" unless otherwise stated. (*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Drillman GT10
METHOD: Diatube to 0.1m, 250mm SFA to 2.4m
REMARKS:

OPERATOR: Ground Test

LOGGED: SAF
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Soil Log

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 53.7 AHD
COORDINATE: E:336876.4, N:6245504.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH15
PROJECT No: 227492.01
DATE: 06/08/24 - 07/08/24
SHEET: 1 of 3

GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN[#]	CONSIS.[*] / DENSITY.[*]	MOISTURE	REMARKS	SAMPLE TYPE	SAMPLE INTERVAL	DEPTH (m)	TESTING AND REMARKS: TEST TYPE	TESTING AND REMARKS: RESULTS AND REMARKS	BACKFILL / WELL PIPE
06/08/24 No free groundwater observed whilst augering	53	0.03	ASPHALTIC CONCRETE		FILL	(WC)	M		ES/A	0.10–0.20	0	DCP9/150	5 10 15	Backfill
		0.30	FILL / Sandy GRAVEL: grey brown; fine possibly medium, angular; medium to coarse sand; aggregates; slightly cemented.						ES/A	0.40–0.50				
	52	1	FILL / SAND: grey; fine to medium; trace building rubble, glass and bricks.		FILL	MC			ES/A	0.90–1.00	1	SPT	Discontinued 8,17,20 N=37	
		1.30	SAND (SP): pale grey brown; fine.		AEO	(MD)			ES/A	1.50–1.60				
	51	1.80	Clayey SAND (SC): pale brown to orange-brown; fine to medium; extremely weathered sandstone.		RS	(D)	ND		A/ES	1.90–2.00	2			Bentonite
		2.40	Continued as rock											Gravel
	50	3									3			Gravel
	49	4									4			Bentonite
	48	5									5			Gravel
	47	6									6			
	46	7									7			
	45	8									8			
	44	9									9			

NOTES: [#] Soil origin is "probable" unless otherwise stated. [*] Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI

METHOD: DT (300mm) to 0.03m, AD/T to 2.4m, NMLC to 13.5m
CASING: HW to 2.5m

REMARKS: Standpipe installed to 9.0m (screen 3.0m-9.0m, PVC 0.1m-3.0m, Gravel 9.5m-13.5m, Bentonite 9.0m-9.5m, Gravel 2.7m-9.0m, Bentonite 2.0m-2.7m, Backfill to 0.1m, gatic cover at top)

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Split Soil-Rock Log

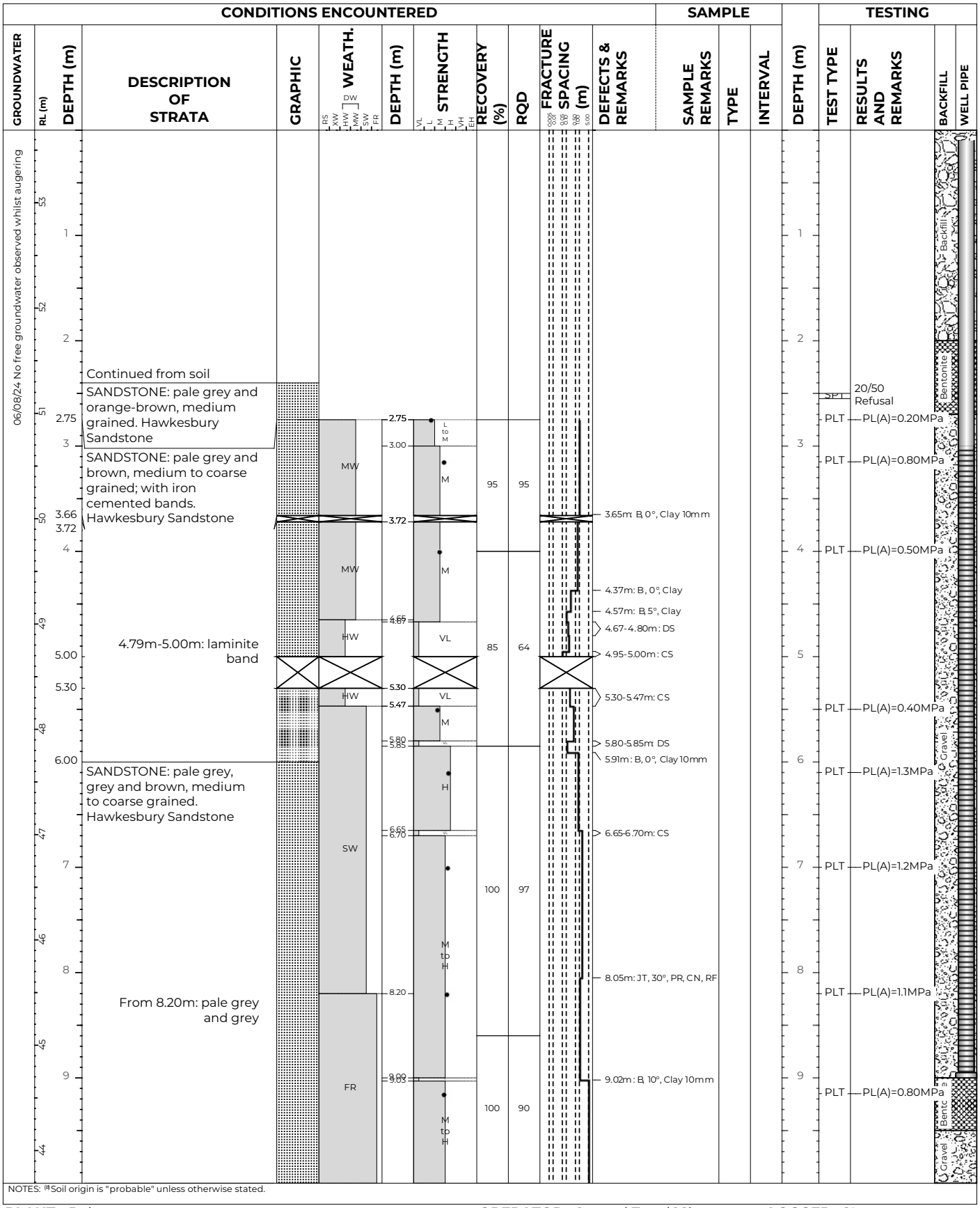
Douglas PARTNERS

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 53.7 AHD
COORDINATE: E:336876.4, N:6245504.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH15
PROJECT No: 227492.01
DATE: 06/08/24 - 07/08/24
SHEET: 2 of 3



Generated with CORE-GS by Geroc - Split Soil-Rock Log

NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI
METHOD: DT (300mm) to 0.03m, AD/T to 2.4m, NMLC to 13.5m
CASING: HW to 2.5m
REMARKS: Standpipe installed to 9.0m (screen 3.0m-9.0m, PVC 0.1m-3.0m, Gravel 9.5m-13.5m, Bentonite 9.0m-9.5m, Gravel 2.7m-9.0m, Bentonite 2.0m-2.7m, Backfill to 0.1m, gatic cover at top)

Refer to explanatory notes for symbol and abbreviation definitions

Douglas PARTNERS

BOREHOLE LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 53.7 AHD
COORDINATE: E:336876.4, N:6245504.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH15
PROJECT No: 227492.01
DATE: 06/08/24 - 07/08/24
SHEET: 3 of 3

CONDITIONS ENCOUNTERED													SAMPLE				TESTING			
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH. (PS, XW, DW [HW, MW, SW], FR)	DEPTH (m)	STRENGTH (VL, L, M, H, VH, EH)	RECOVERY (%)	RQD	FRACTURE SPACING (m) (0.03, 0.06, 0.20, 0.60, 2.00)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
	43 / 10	[CONT] SANDSTONE: pale grey, grey and brown, medium to coarse grained. Hawkesbury Sandstone		FR	10.80	M to H	100	90						10	PLT	PL(A)=0.70MPa	Gravel	
	42 / 11				11.40	H								11	PLT	PL(A)=1.5MPa		
	41 / 12					M to H	100	100						12	PLT	PL(A)=0.90MPa		
	40 / 13				13.20					> 13.20-13.25m: DS, CS				13	PLT	PL(A)=0.90MPa		
	39 / 14	Borehole discontinued at 13.50m depth. Target depth reached.			13.25	M to H												
	38 / 15																	
	37 / 16																	
	36 / 17																	
	35 / 18																	
	34 / 19																	

NOTES: [a] Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
OPERATOR: Ground Test (CS)
LOGGED: SI
METHOD: DT (300mm) to 0.03m, AD/T to 2.4m, NMLC to 13.5m
CASING: HW to 2.5m
REMARKS: Standpipe installed to 9.0m (screen 3.0m-9.0m, PVC 0.1m-3.0m, Gravel 9.5m-13.5m, Bentonite 9.0m-9.5m, Gravel 2.7m-9.0m, Bentonite 2.0m-2.7m, Backfill to 0.1m, gatic cover at top)

Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Split Soil-Rock Log

Douglas PARTNERS

CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 53.7 AHD
COORDINATE: E:336876.4, N:6245504.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH15
PROJECT No: 227492.01
DATE: 06/08/24 - 07/08/24
SHEET: 1 of 2



2.75-7.00 m depth



7.00-12.00 m depth

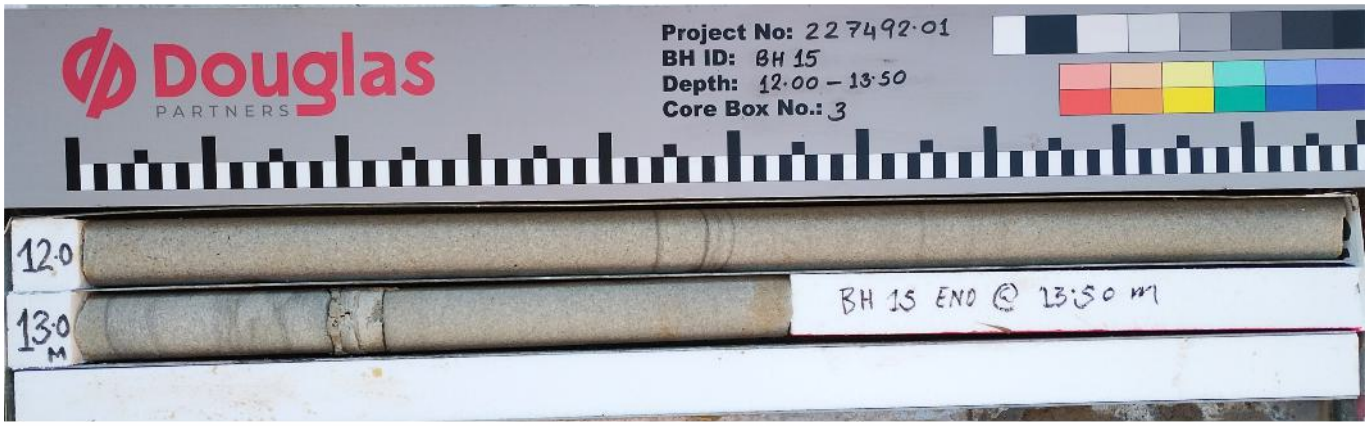
Generated with CORE-GS by Geroc - Split Soil-Rock Log

CORE PHOTO LOG

CLIENT: The University of New South Wales
PROJECT: UNSW G25 Education Building
LOCATION: 8 High Street, Kensington

SURFACE LEVEL: 53.7 AHD
COORDINATE: E:336876.4, N:6245504.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH15
PROJECT No: 227492.01
DATE: 06/08/24 - 07/08/24
SHEET: 2 of 2



12.00-13.50 m depth

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Terminology, Symbols and Abbreviations

November 2023

Introduction to Terminology, Symbols and Abbreviations

Douglas Partners' reports, investigation logs, and other correspondence may use terminology which has quantitative or qualitative connotations. To remove ambiguity or uncertainty surrounding the use of such terms, the following sets of notes pages may be attached Douglas Partners' reports, depending on the work performed and conditions encountered:

- Soil Descriptions;
- Rock Descriptions; and
- Sampling, insitu testing, and drilling methodologies

In addition to these pages, the following notes generally apply to most documents.

Abbreviation Codes

Site conditions may also be presented in a number of different formats, such as investigation logs, field mapping, or as a written summary. In some of these formats textual or symbolic terminology may be presented using textual abbreviation codes or graphic symbols, and, where commonly used, these are listed alongside the terminology definition. For ease of identification in these note pages, textual codes are presented in these notes in the following style XW. Code usage conforms with the following guidelines:

- Textual codes are case insensitive, although herein they are generally presented in upper case; and
- Textual codes are contextual (i.e. the same or similar combinations of characters may be used in different contexts with different meanings (for example `PL` is used for plastic limit in the context of soil moisture condition, as well as in `PL(A)` for point load test result in the testing results column)).

Data Integrity Codes

Subsurface investigation data recorded by Douglas Partners is generally managed in a highly structured database environment, where records "span" between a top and bottom depth interval. Depth interval "gaps" between records are considered to introduce ambiguity, and, where appropriate, our practice guidelines may require contiguous data sets. Recording meaningful data is not always appropriate (for example assigning a "strength" to a concrete pavement) and the following codes may be used to maintain contiguity in such circumstances.

Term	Description	Abbreviation Code
Core loss	No core recovery	KL
Unknown	Information was not available to allow classification of the property. For example, when auguring in loose, saturated sand auger cuttings may not be returned.	UK
No data	Information required to allow classification of the property was not available. For example if drilling is commenced from the base of a hole predrilled by others	ND
Not Applicable	Derivation of the properties not appropriate or beyond the scope of the investigation. For example providing a description of the strength of a concrete pavement	NA

Graphic Symbols

Douglas Partners' logs contain a "graphic" column which provides a pictorial representation of the basic composition of the material. The symbols used are directly representing the material name stated in the adjacent "Description of Strata" column, and as such no specific graphic symbology legend has been provided in these notes.

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Soil Descriptions

Terminology
Symbols
Abbreviations

March 2024

Introduction

All materials which are not considered to be "in-situ rock" are described in general accordance with the soil description model of AS 1726-2017 Part 6.1.3, and can be broken down into the following description structure:



The "classification" comprises a two character "group symbol" providing a general summary of dominant soil characteristics. The "name" summarises the particle sizes within the soil which most influence its behaviour. The detailed description presents more information about composition, condition, structure, and origin of the soil.

Classification, naming and description of soils require the relative proportion of particles of different sizes within the whole soil mixture to be considered.

Particle size designation and Behaviour Model

Solid particles within a soil are differentiated on the basis of size.

The engineering behaviour properties of a soil can subsequently be modelled to be either "fine grained" (also known as "cohesive" behaviour) or "coarse grained" ("non cohesive" behaviour), depending on the relative proportion of fine or coarse fractions in the soil mixture.

Particle Size Designation	Particle Size (mm)	Behaviour Model	
		Behaviour	Approximate Dry Mass
Boulder	>200	Excluded from particle behaviour model as "oversize"	
Cobble	63 - 200		
Gravel[1]	2.36 - 63	Coarse	>65%
Sand[1]	0.075 - 2.36		
Silt	0.002 - 0.075	Fine	>35%
Clay	<0.002		

[1] – refer grain size subdivision descriptions below

The behaviour model boundaries defined above are not precise, and the material behaviour should be assumed from the name given to the material (which considers the particle fraction which dominates the behaviour, refer "component proportions" below), rather than strict observance of the proportions of particle sizes. For example, if a material is named a "Sandy CLAY", this is indicative that the material exhibits fine grained behaviour, even if the dry mass of coarse grained material may exceed 65%.

Component proportions

The relative proportion of the dry mass of each particle size fraction is assessed to be a "primary", "secondary", or "minor" component of the soil mixture, depending on its influence over the soil behaviour.

Component Proportion Designation	Definition[1]	Relative Proportion	
		In Fine Grained Soil	In Coarse Grained Soil
Primary	The component (particle size designation, refer above) which dominates the engineering behaviour of the soil	The clay/silt component with the greater proportion	The sand/gravel component with the greater proportion
Secondary	Any component which is not the primary, but is significant to the engineering properties of the soil	Any component with greater than 30% proportion	Any granular component with greater than 30%; or Any fine component with greater than 12%
Minor[2]	Present in the soil, but not significant to its engineering properties	All other components	All other components

[1] As defined in AS1726-2017 6.1.4.4

[2] In the detailed material description, minor components are split into two further sub-categories. Refer "identification of minor components" below.

Composite Materials

In certain situations, a lithology description may describe more than one material, for example, collectively describing a layer of interbedded sand and clay. In such a scenario, the two materials would be described independently, with the names preceded or followed by a statement describing the arrangement by which the materials co-exist. For example, "INTERBEDDED Silty CLAY AND SAND".

Soil Descriptions

Classification

The soil classification comprises a two character group symbol. The first character identifies the primary component. The second character identifies either the grading or presence of fines in a coarse grained soil, or the plasticity in a fine grained soil. Refer AS1726-2017 6.1.6 for further clarification.

Soil Name

For most soils, the name is derived with the primary component included as the noun (in upper case), preceded by any secondary components stated in an adjective form. In this way, the soil name also describes the general composition and indicates the dominant behaviour of the material.

Component [1]	Prominence in Soil Name
Primary	Noun (eg "CLAY")
Secondary	Adjective modifier (eg "Sandy")
Minor	No influence

[1] – for determination of component proportions, refer component proportions on previous page

For materials which cannot be disaggregated, or which are not comprised of rock or mineral fragments, the names "ORGANIC MATTER" or "ARTIFICIAL MATERIAL" may be used, in accordance with AS1726-2017 Table 14.

Commercial or colloquial names are not used for the soil name where a component derived name is possible (for example "Gravelly SAND" rather than "CRACKER DUST").

Materials of "fill" or "topsoil" origin are generally assigned a name derived from the primary/secondary component (where appropriate). In log descriptions this is preceded by uppercase "FILL" or "TOPSOIL". Origin uncertainty is indicated in the description by the characters (?), with the degree of uncertainty described (using the terms "probably" or "possibly" in the origin column, or at the end of the description).

Identification of minor components

Minor components are identified in the soil description immediately following the soil name. The minor component fraction is usually preceded with a term indicating the relative proportion of the component.

Minor Component Proportion Term	Relative Proportion	
	In Fine Grained Soil	In Coarse Grained Soil
With	All fractions: 15-30%	Clay/silt: 5-12% sand/gravel: 15-30%
Trace	All fractions: 0-15%	Clay/silt: 0-5% sand/gravel: 0-15%

The terms "with" and "trace" generally apply only to gravel or fine particle fractions. Where cobbles/boulders are encountered in minor proportions (generally less than about 12%) the term "occasional" may be used. This term describes the sporadic distribution of the material within the confines of the investigation excavation only, and there may be considerable variation in proportion over a wider area which is difficult to factually characterise due to the relative size of the particles and the investigation methods.

Soil Composition

Plasticity

Descriptive Term	Laboratory liquid limit range	
	Silt	Clay
Non-plastic materials	Not applicable	Not applicable
Low plasticity	≤50	≤35
Medium plasticity	Not applicable	>35 and ≤50
High plasticity	>50	>50

Note, Plasticity descriptions generally describe the plasticity behaviour of the whole of the fine grained soil, not individual fine grained fractions.

Grain Size

Type		Particle size (mm)
Gravel	Coarse	19 - 63
	Medium	6.7 - 19
	Fine	2.36 – 6.7
Sand	Coarse	0.6 - 2.36
	Medium	0.21 - 0.6
	Fine	0.075 - 0.21

Grading

Grading Term	Particle size (mm)
Well	A good representation of all particle sizes
Poorly	An excess or deficiency of particular sizes within the specified range
Uniformly	Essentially of one size
Gap	A deficiency of a particular size or size range within the total range

Note, AS1726-2017 provides terminology for additional attributes not listed here.

Soil Condition

Moisture

The moisture condition of soils is assessed relative to the plastic limit for fine grained soils, while for coarse grained soils it is assessed based on the appearance and feel of the material. The moisture condition of a material is considered to be independent of stratigraphy (although commonly these are related), and this data is presented in its own column on logs.

Applicability	Term	Tactile Assessment	Abbreviation code
Fine	Dry of plastic limit	Hard and friable or powdery	w<PL
	Near plastic limit	Can be moulded	w=PL
	Wet of plastic limit	Water residue remains on hands when handling	w>PL
	Near liquid limit	"oozes" when agitated	w=LL
	Wet of liquid limit	"oozes"	w>LL
Coarse	Dry	Non-cohesive and free running	D
	Moist	Feels cool, darkened in colour, particles may stick together	M
	Wet	Feels cool, darkened in colour, particles may stick together, free water forms when handling	W

The abbreviation code NDF, meaning "not-assessable due to drilling fluid use" may also be used.

Note, observations relating to free ground water or drilling fluids are provided independent of soil moisture condition.

Consistency/Density/Compaction/Cementation/Extremely Weathered Material

These concepts give an indication of how the material may respond to applied forces (when considered in conjunction with other attributes of the soil). This behaviour can vary independent of the composition of the material, and on logs these are described in an independent column and are generally mutually exclusive (i.e it is inappropriate to describe both consistency and compaction at the same time). The method by which the behaviour is described depends on the behaviour model and other characteristics of the soil as follows:

- In fine grained soils, the "consistency" describes the ease with which the soil can be remoulded, and is generally correlated against the materials undrained shear strength;
- In granular materials, the relative density describes how tightly packed the particles are, and is generally correlated against the density index;
- In anthropogenically modified materials, the compaction of the material is described qualitatively;
- In cemented soils (both natural and anthropogenic), the cemented "strength" is described qualitatively, relative to the difficulty with which the material is disaggregated; and
- In soils of extremely weathered material origin, the engineering behaviour may be governed by relic rock features, and expected behaviour needs to be assessed based the overall material description.

Quantitative engineering performance of these materials may be determined by laboratory testing or estimated by correlated field tests (for example penetration or shear vane testing). In some cases, performance may be assessed by tactile or other subjective methods, in which case investigation logs will show the estimated value enclosed in round brackets, for example (VS).

Consistency (fine grained soils)

Consistency Term	Tactile Assessment	Undrained Shear Strength (kPa)	Abbreviation Code
Very soft	Extrudes between fingers when squeezed	<12	VS
Soft	Mouldable with light finger pressure	>12 - ≤25	S
Firm	Mouldable with strong finger pressure	>25 - ≤50	F
Stiff	Cannot be moulded by fingers	>50 - ≤100	St
Very stiff	Indented by thumbnail	>100 - ≤200	VSt
Hard	Indented by thumbnail with difficulty	>200	H
Friable	Easily crumbled or broken into small pieces by hand	-	Fr

Relative Density (coarse grained soils)

Relative Density Term	Density Index	Abbreviation Code
Very loose	<15	VL
Loose	>15 - ≤35	L
Medium dense	>35 - ≤65	MD
Dense	>65 - ≤85	D
Very dense	>85	VD

Note, tactile assessment of relative density is difficult, and generally requires penetration testing, hence a tactile assessment guide is not provided.

Compaction (anthropogenically modified soil)

Compaction Term	Abbreviation Code
Well compacted	WC
Poorly compacted	PC
Moderately compacted	MC
Variably compacted	VC

Cementation (natural and anthropogenic)

Cementation Term	Abbreviation Code
Moderately cemented	MOD
Weakly cemented	WEK

Extremely Weathered Material

AS1726-2017 considers weathered material to be soil if the unconfined compressive strength is less than 0.6 MPa (i.e. less than very low strength rock). These materials may be identified as "extremely weathered material" in reports and by the abbreviation code XWM on log sheets. This identification is not correlated to any specific qualitative or quantitative behaviour, and the engineering properties of this material must therefore be assessed according to engineering principles with reference to any relic rock structure, fabric, or texture described in the description.

Soil Origin

Term	Description	Abbreviation Code
Residual	Derived from in-situ weathering of the underlying rock	RS
Extremely weathered material	Formed from in-situ weathering of geological formations. Has strength of less than 'very low' as per as1726 but retains the structure or fabric of the parent rock.	XWM
Alluvial	Deposited by streams and rivers	ALV
Fluvial	Deposited by channel fill and overbank (natural levee, crevasse splay or flood basin)	FLV
Estuarine	Deposited in coastal estuaries	EST
Marine	Deposited in a marine environment	MAR
Lacustrine	Deposited in freshwater lakes	LAC
Aeolian	Carried and deposited by wind	AEO
Colluvial	Soil and rock debris transported down slopes by gravity	COL
Slopewash	Thin layers of soil and rock debris gradually and slowly deposited by gravity and possibly water	SW
Topsoil	Mantle of surface soil, often with high levels of organic material	TOP
Fill	Any material which has been moved by man	FILL
Littoral	Deposited on the lake or seashore	LIT
Unidentifiable	Not able to be identified	UID

Cobbles and Boulders

The presence of particles considered to be "oversize" may be described using one of the following strategies:

- Oversize encountered in a minor proportion (when considered relative to the wider area) are noted in the soil description; or
- Where a significant proportion of oversize is encountered, the cobbles/boulders are described independent of the soil description, in a similar manner to composite soils (described above) but qualified with "MIXTURE OF".

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Rock Strength

Rock strength is defined by the unconfined compressive strength, and it refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects.

The Point Load Strength Index $I_{s(50)}$ is commonly used to provide an estimate of the rock strength and site specific correlations should be developed to allow UCS values to be determined. The point load strength test procedure is described by Australian Standard AS4133.4.1-2007. The terms used to describe rock strength are as follows:

Strength Term	Unconfined Compressive Strength (MPa)	Point Load Index[1] $I_{s(50)}$ MPa	Abbreviation Code
Very low	0.6 - 2	0.03 - 0.1	VL
Low	2 - 6	0.1 - 0.3	L
Medium	6 - 20	0.3 - 1.0	M
High	20 - 60	1 - 3	H
Very high	60 - 200	3 - 10	VH
Extremely high	>200	>10	EH

[1] Rock strength classification is based on UCS. The UCS to $I_{s(50)}$ ratio varies significantly for different rock types and specific ratios may be required for each site. The point load Index ranges shown above are as suggested in AS1726 and should not be relied upon without supporting evidence.

The following abbreviation codes are used for soil layers or seams of material "within rock" but for which the equivalent UCS strength is less than 0.6 MPa.

Scenario	Abbreviation Code
The material encountered has an equivalent UCS strength of less than 0.6 MPa, and therefore is considered to be soil (as per Note 1 of Table 20 of AS 1726-2017). The properties of the material encountered over this interval are described in the "Description of Strata" and soil properties columns.	SOIL
The material encountered has an equivalent UCS strength of less than 0.6 MPa, and therefore is considered to be soil (as per Note 1 of Table 20 of AS 1726-2017). The prominence of the material is such that it can be considered to be a seam (as defined in Table 22 of AS1726-2017) and the properties of the material are described in the defect column.	SEAM

Degree of Weathering

The degree of weathering of rock is classified as follows:

Weathering Term	Description	Abbreviation Code
Residual Soil[1]	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.	RS
Extremely weathered[1]	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible	XW
Highly weathered	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching or may be decreased due to deposition of weathering products in pores.	HW
Moderately weathered	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable but shows little or no change of strength from fresh rock.	MW
Slightly weathered	Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.	SW
Fresh	No signs of decomposition or staining.	FR
Note: If HW and MW cannot be differentiated use DW (see below)		
Distinctly weathered	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching or may be decreased due to deposition of weathered products in pores.	DW

[1] The parent rock type, of which the residual/extremely weathered material is a derivative, will be stated in the description (where discernible).

Degree of Alteration

The degree of alteration of the rock material (physical or chemical changes caused by hot gasses or liquids at depth) is classified as follows:

Term	Description	Abbreviation Code
Extremely altered	Material is altered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible.	XA
Highly altered	The whole of the rock material is discoloured, usually by staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is changed by alteration. Some primary minerals are altered to clay minerals. Porosity may be increased by leaching or may be decreased due to precipitation of secondary materials in pores.	HA
Moderately altered	The whole of the rock material is discoloured, usually by staining or bleaching to the extent that the colour of the original rock is not recognisable but shows little or no change of strength from fresh rock.	MA
Slightly altered	Rock is slightly discoloured but shows little or no change of strength from fresh rock	SA
Note: If HA and MA cannot be differentiated use DA (see below)		
Distinctly altered	Rock strength usually changed by alteration. The rock may be highly discoloured, usually by staining or bleaching. Porosity may be increased by leaching or may be decreased due to precipitation of secondary minerals in pores.	DA

Degree of Fracturing

The following descriptive classification apply to the spacing of natural occurring fractures in the rock mass. It includes bedding plane partings, joints and other defects, but excludes drilling breaks. These terms are generally not required on investigation logs where fracture spacing is presented as a histogram, and where used are presented in an unabbreviated format.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with occasional fragments
Fractured	Core lengths of 30-100 mm with occasional shorter and longer sections
Slightly Fractured	Core lengths of 300 mm or longer with occasional sections of 100-300 mm
Unbroken	Core contains very few fractures

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$\text{RQD \%} = \frac{\text{cumulative length of 'sound' core sections > 100 mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or stronger. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e., drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

These terms may be used to describe the spacing of bedding partings in sedimentary rocks. Where used, these terms are generally presented in an unabbreviated format

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m

Defect Descriptions

Defect Type

Term	Abbreviation Code
Bedding plane	B
Cleavage	CL
Crushed seam	CS
Crushed zone	CZ
Drilling break	DB
Decomposed seam	DS
Drill lift	DL
Extremely Weathered seam	EW
Fault	F
Fracture	FC
Fragmented	FG
Handling break	HB
Infilled seam	IS
Joint	JT
Lamination	LAM
Shear seam	SS
Shear zone	SZ
Vein	VN
Mechanical break	MB
Parting	P
Sheared Surface	S

Rock Defect Orientation

Term	Abbreviation Code
Horizontal	H
Vertical	V
Sub-horizontal	SH
Sub-vertical	SV

Rock Defect Coating

Term	Abbreviation Code
Clean	CN
Coating	CT
Healed	HE
Infilled	INF
Stained	SN
Tight	TI
Veneer	VNR

Rock Defect Infill

Term	Abbreviation Code
Calcite	CA
Carbonaceous	CBS
Clay	CLAY
Iron oxide	FE
Manganese	MN
Pyrite	Py
Secondary material	MS
Silt	M
Quartz	Qz
Unidentified material	MU

Rock Defect Shape/Planarity

Term	Abbreviation Code
Curved	CU
Discontinuous	DIS
Irregular	IR
Planar	PR
Stepped	ST
Undulating	UN

Rock Defect Roughness

Term	Abbreviation Code
Polished	PO
Rough	RF
Smooth	SM
Slickensided	SL
Very rough	VR

Defect Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

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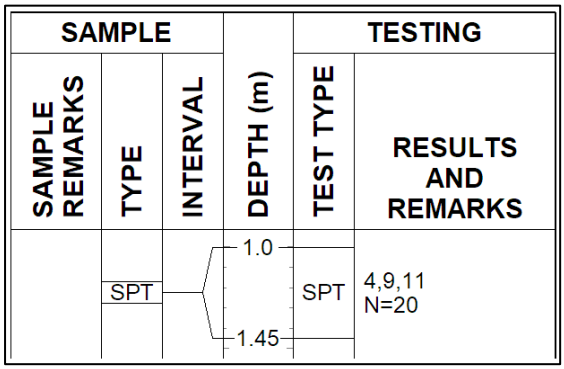
Sampling, Testing and Excavation Methodology

Terminology
Symbols
Abbreviations

March 2024

Sampling and Testing

A record of samples retained, and field testing performed is usually shown on a Douglas Partners' log with samples appearing to the left of a depth scale, and selected field and laboratory testing (including results, where relevant) appearing to the right of the scale, as illustrated below:



Sampling

The type or intended purpose for which a sample was taken is indicated by the following abbreviation codes.

Sample Type	Code
Auger sample	A
Acid Sulfate sample	ASS
Bulk sample	B
Core sample	C
Disturbed sample	D
Environmental sample	ES
Gas sample	G
Piston sample	P
Sample from SPT test	SPT
Undisturbed tube sample	U[1]
Water sample	W
Material Sample	MT
Core sample for unconfined compressive strength testing	UCS

[1] – numeric suffixes indicate tube diameter/width in mm

The above codes only indicate that a sample was retained, and not that testing was scheduled or performed.

Field and Laboratory Testing

A record that field and laboratory testing was performed is indicated by the following abbreviation codes.

Test Type	Code
Pocket penetrometer (kPa)	PP
Photo ionisation detector (ppm)	PID
Standard Penetration Test x/y =x blows for y mm penetration HB = hammer bouncing HW = fell under weight of hammer	SPT
Shear vane (kPa)	V
Unconfined compressive strength, (MPa)	UCS

Field and laboratory testing (continued)

Test Type	Code
Point load test, (MPa), axial (A), diametric (D), irregular (I)	PLT(_)
Dynamic cone penetrometer, followed by blow count penetration increment in mm (cone tip, generally in accordance with AS1289.6.3.2)	DCP/150
Perth sand penetrometer, followed by blow count penetration increment in mm (flat tip, generally in accordance with AS1289.6.3.3)	PSP/150

Groundwater Observations

▷	seepage/inflow
▽	standing or observed water level
NFGWO	no free groundwater observed
OBS	observations obscured by drilling fluids

Drilling or Excavation Methods/Tools

The drilling/excavation methods used to perform the investigation may be shown either in a dedicated column down the left-hand edge of the log, or stated in the log footer. In some circumstances abbreviation codes may be used.

Method	Abbreviation Code
Direct Push	DP
Solid flight auger. Suffixes: /T = tungsten carbide tip, /V = v-shaped tip	AD[1]
Air Track	AT
Diatube	DT[1]
Hand auger	HA[1]
Hand tools (unspecified)	HAND
Existing exposure	X
Hollow flight auger	HSA[1]
HQ coring	HQ3
HMLC series coring	HMLC
NMLC series coring	NMLC
NQ coring	NQ3
PQ coring	PQ3
Predrilled	PD
Push tube	PT[1]
Ripping tyne/ripper	R
Rock roller	RR[1]
Rock breaker/hydraulic hammer	EH
Sonic drilling	SON[1]
Mud/blade bucket	MB[1]
Toothed bucket	TB[1]
Vibrocore	VC[1]
Vacuum excavation	VE
Wash bore (unspecified bit type)	WB[1]

[1] – numeric suffixes indicate tool diameter/width in mm

Douglas PARTNERS

Appendix H

Field Notes

Douglas PARTNERS

Groundwater (GW) Field Sheet

Data logger NO: 866

Project and Bore Installation Details						
Project Name / Site Location	Kensington (UNSW) C-25 Building				Project Number	227492.01
Well Construction Details	Well ID	BH 1	Drilling Method	NMLC	Hole Diameter (m)"	72 mm
	Well Depth (m bgl)	9.0m	Screened (m bgl)	6.0m	Stick Up (m)	0.0
Survey Information	Easting		Northing		Elevation RL	
GW Level During Drilling		m bgl				
Contaminants/Comments						

Well Development Details					
Date / Time / Weather Conditions	12/08/2024, 2:40 PM			Purged By	SI
Purge Method / Equipment	Twister Pump				
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-purge)	5.15m	m bgl	Observed Well Depth	9.0m	m bgl
Height of Water Column (H)	3.85m	m bgl	Estimated Bore Volume*		L
GW Level (post-purge)	8.9m	m bgl	Total Volume Purged**	≈ 10.0L	L
Appearance/Comments	Pale brown				

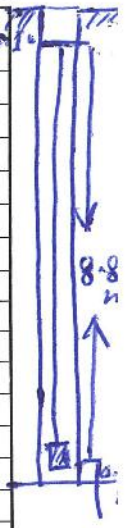
Sampling Details							
Date / Time / Weather Conditions						Sampled By	
Sampling Method / Equipment							
WQM Model					WQM Calibration Date		
Product observed / Thickness			mm		Confirmed with Bailer? (Y / N)		
GW Level (pre-micropurge)			m bgl		Observed Well Depth		m bgl
Height of Water Column			m bgl		Estimated Bore Volume*		L
GW Level (post sample)			m bgl		Total Volume of Micro-Purged		L

Water Quality Parameters

Time	Cumulative Volume (L)	Temp (°C)	DO (mg/L)#	EC (µS or mS/cm)	pH	Redox (mV)	Turbidity^
Stabilisation Target (3 readings)		0.2	+/- 10%	+/- 5%	+/- 0.1	+/- 10 mV	+/- 10%
Notes:	# Considered stabilised if three DO values are less than 0.5 mg/L			^ Considered stabilised if three Turbidity values are less than 5 NTU			

Sample Details						
Sampling Depth (rationale)		m bgl,				
Sample Observations (e.g. colour, sediment, sheen, odour)						
Sample ID						
QAQC Samples	Replicate		Triplicate		Other	
Sample Containers Quantity / Preservation / Filtration	Amber glass		Plastic		PFAS (no teflon)	
	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)	
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other	
Comments						

*Estimated Well Volume = H * F	Std. Drilling Diameter	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1



GL to Cap ⇒ 0.1 m

Cap to bottom of Data logger = 8.8 m

Gap between data logger and bottom of hole ⇒ 0.1 m

Total depth: 9.0 m

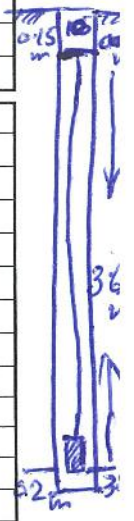
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Groundwater (GW) Field Sheet

Data logger NO: 268

Project and Bore Installation Details						
Project Name / Site Location	Kensington (UNSW) G-25 Building				Project Number	227492.01
Well Construction Details	Well ID	BH3	Drilling Method	SFA	Hole Diameter (m)~	110 mm
	Well Depth (m bgl)	4.0m	Screened (m bgl)	2.0m	Stick Up (m)	0.0 m
Survey Information	Easting		Northing		Elevation RL	
GW Level During Drilling	Nil	m bgl				
Contaminants/Comments						

Well Development Details					
Date / Time / Weather Conditions	12/08/2024, 3:25 PM			Purged By	SJ
Purge Method / Equipment	Twister pump.				
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-purge)	3.4m	m bgl	Observed Well Depth	4.0m	m bgl
Height of Water Column (H)	0.6m	m bgl	Estimated Bore Volume*		L
GW Level (post-purge)	3.8m	m bgl	Total Volume Purged**	≈ 2.0L	L
Appearance/Comments	Pale brown				



Sampling Details					
Date / Time / Weather Conditions				Sampled By	
Sampling Method / Equipment					
WQM Model			WQM Calibration Date		
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-micropurge)		m bgl	Observed Well Depth		m bgl
Height of Water Column		m bgl	Estimated Bore Volume*		L
GW Level (post sample)		m bgl	Total Volume of Micro-Purged		L

Water Quality Parameters

Time	Cumulative Volume (L)	Temp (°C)	DO (mg/L)#	EC (µS or mS/cm)	pH	Redox (mV)	Turbidity^
Stabilisation Target (3 readings)		0.2	+/- 10%	+/- 5%	+/- 0.1	+/- 10 mV	+/- 10%
Notes:	# Considered stabilised if three DO values are less than 0.5 mg/L			^ Considered stabilised if three Turbidity values are less than 5 NTU			

Sample Details						
Sampling Depth (rationale)		m bgl,				
Sample Observations (e.g. colour, sediment, sheen, odour)						
Sample ID						
QAQC Samples	Replicate		Triplicate		Other	
Sample Containers Quantity / Preservation / Filtration	Amber glass		Plastic		PFAS (no teflon)	
	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)	
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other	
Comments						

*Estimated Well Volume = H * F	Std. Drilling Diameter	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1

GL to Cap ⇒ 0.15 m
Cap to bottom of datalogger = 3.65 m
Total depth: GL to bottom of hole ⇒ 4.0 m
Bottom of datalogger to bottom of hole gap ⇒ 0.2 m

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Groundwater (GW) Field Sheet

Data logger NO: 653

Project and Bore Installation Details						
Project Name / Site Location	Kensington (UNSW) G-25 Building				Project Number	227492.01
Well Construction Details	Well ID	BH4	Drilling Method	NMLC Core	Hole Diameter (m)^	96 mm
	Well Depth (m bgl)	8.9m	Screened (m bgl)	6.0 m	Stick Up (m)	0.0
Survey Information	Easting		Northing		Elevation RL	
GW Level During Drilling		m bgl				
Contaminants/Comments						

Well Development Details					
Date / Time / Weather Conditions	12/08/2024, 4:05 PM			Purged By	SI
Purge Method / Equipment	Twister pump				
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-purge)	3.9m	m bgl	Observed Well Depth	8.9m	m bgl
Height of Water Column (H)	5.0 m	m bgl	Estimated Bore Volume*		L
GW Level (post-purge)	8.85m	m bgl	Total Volume Purged**	≈ 22 L	L
Appearance/Comments	Pale brown				

Sampling Details					
Date / Time / Weather Conditions				Sampled By	
Sampling Method / Equipment					
WQM Model			WQM Calibration Date		
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-micropurge)		m bgl	Observed Well Depth		m bgl
Height of Water Column		m bgl	Estimated Bore Volume*		L
GW Level (post sample)		m bgl	Total Volume of Micro-Purged		L

Water Quality Parameters

Time	Cumulative Volume (L)	Temp (°C)	DO (mg/L)#	EC (µS or mS/cm)	pH	Redox (mV)	Turbidity^
Stabilisation Target (3 readings)		0.2	+/- 10%	+/- 5%	+/- 0.1	+/- 10 mV	+/- 10%
Notes:	# Considered stabilised if three DO values are less than 0.5 mg/L			^ Considered stabilised if three Turbidity values are less than 5 NTU			



Sample Details						
Sampling Depth (rationale)		m bgl,				
Sample Observations (e.g. colour, sediment, sheen, odour)						
Sample ID						
QAQC Samples	Replicate		Triplicate		Other	
Sample Containers Quantity / Preservation / Filtration	Amber glass		Plastic		PFAS (no teflon)	
	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)	
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other	
Comments						

*Estimated Well Volume = H * F	Std. Drilling Diameter	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1

GL to cap → 0.1 m

Cap to bottom of datalogger 8.6 m

Total depth GL to hole bottom 8.9 m

Bottom of data logger to the bottom of hole gap = 0.2 m

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Groundwater (GW) Field Sheet

Datalogger No.: 004

Project and Bore Installation Details						
Project Name / Site Location	Kensington (UNSW) C-25 Building				Project Number	227492.01
Well Construction Details	Well ID	BH 15	Drilling Method	NMLC	Hole Diameter (m)^	96 m.m
	Well Depth (m bgl)	9.0 m	Screened (m bgl)	6.0 m	Stick Up (m)	0.0
Survey Information	Easting		Northing		Elevation RL	
GW Level During Drilling		m bgl				
Contaminants/Comments						

Well Development Details					
Date / Time / Weather Conditions	12/08/2024, 12:40 PM			Purged By	SI
Purge Method / Equipment	Twister pump				
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-purge)	1.2 m	m bgl	Observed Well Depth	9.0 m	m bgl
Height of Water Column (H)	7.8 m	m bgl	Estimated Bore Volume*		L
GW Level (post-purge)	8.8 m	m bgl	Total Volume Purged**	≈ 33 L	L
Appearance/Comments					

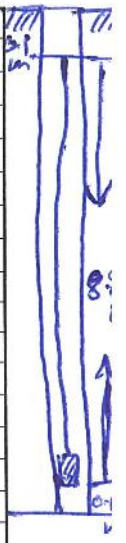
Sampling Details					
Date / Time / Weather Conditions				Sampled By	
Sampling Method / Equipment					
WQM Model			WQM Calibration Date		
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-micropurge)		m bgl	Observed Well Depth		m bgl
Height of Water Column		m bgl	Estimated Bore Volume*		L
GW Level (post sample)		m bgl	Total Volume of Micro-Purged		L

Water Quality Parameters

Time	Cumulative Volume (L)	Temp (°C)	DO (mg/L)#	EC (µS or mS/cm)	pH	Redox (mV)	Turbidity^
Stabilisation Target (3 readings)		0.2	+/- 10%	+/- 5%	+/- 0.1	+/- 10 mV	+/- 10%
Notes:	# Considered stabilised if three DO values are less than 0.5 mg/L			^ Considered stabilised if three Turbidity values are less than 5 NTU			

Sample Details						
Sampling Depth (rationale)		m bgl,				
Sample Observations (e.g. colour, sediment, sheen, odour)						
Sample ID						
QAQC Samples	Replicate		Triplicate		Other	
Sample Containers Quantity / Preservation / Filtration	Amber glass		Plastic		PFAS (no teflon)	
	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)	
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other	
Comments						

*Estimated Well Volume = H * F	Std. Drilling Diameter	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1



GL to cap ⇒ 0.1 m

Cap to bottom of data logger = 8.8 m

Gap betw data logger and bottom of hole : 0.1 m

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Groundwater (GW) Field Sheet

Project and Bore Installation Details						
Project Name / Site Location	UNSW				Project Number	227492.04
Well Construction Details	Well ID	MW1	Drilling Method		Hole Diameter (m)"	
	Well Depth (m bgl)		Screened (m bgl)		Stick Up (m)	
Survey Information	Easting		Northing		Elevation RL	
GW Level During Drilling		m bgl				
Contaminants/Comments						

Well Development Details					
Date / Time / Weather Conditions				Purged By	
Purge Method / Equipment					
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-purge)		m bgl	Observed Well Depth		m bgl
Height of Water Column (H)		m bgl	Estimated Bore Volume*		L
GW Level (post-purge)		m bgl	Total Volume Purged**		L
Appearance/Comments					

Sampling Details							
Date / Time / Weather Conditions	19/8/24 3:12 Cloudy / showers					Sampled By	SAF
Sampling Method / Equipment	Peri Pump						
WQM Model	YSI			WQM Calibration Date			
Product observed / Thickness	–	mm		Confirmed with Bailer? (Y / N)		Yes	
GW Level (pre-micropurge)	5.03	m bgl		Observed Well Depth		8.94	m bgl
Height of Water Column	3.91	m bgl		Estimated Bore Volume*		21.1	L
GW Level (post sample)	7.05	m bgl		Total Volume of Micro-Purged		13	L

Water Quality Parameters

Time	Cumulative Volume (L)	Temp (°C)	DO (mg/L)#	EC (µS or mS/cm)	pH	Redox (mV)	Turbidity^
Stabilisation Target (3 readings)		0.2	+/- 10%	+/- 5%	+/- 0.1	+/- 10 mV	+/- 10%
3:24	2	18.4	0.36	316.2	4.96	236.8	108
3:26	4	18.3	0.45	314.9	4.95	241.0	114
3:28	6	18.3	0.50	314.0	4.92	245.3	141
3:30	8	18.1	0.50	317.8	4.91	247.8	147
3:32	10	18.1	0.47	315.7	4.91	246.6	148

Notes: # Considered stabilised if three DO values are less than 0.5 mg/L ^ Considered stabilised if three Turbidity values are less than 5 NTU

Sample Details						
Sampling Depth (rationale)	~~8~~ 7.5	m bgl,				
Sample Observations (e.g. colour, sediment, sheen, odour)	Clear, slight grey, no odour, no sheen					
Sample ID	MW4					
QAQC Samples	Replicate		Triplicate		Other	
Sample Containers Quantity / Preservation / Filtration	Amber glass		Plastic		PFAS (no teflon)	
	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)	
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other	
Comments						

*Estimated Well Volume = H * F	Std. Drilling Diameter	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1

Groundwater (GW) Field Sheet

Project and Bore Installation Details						
Project Name / Site Location	UNSW				Project Number	227492.04
Well Construction Details	Well ID	MW2 (BH15)	Drilling Method		Hole Diameter (m)~	
	Well Depth (m bgl)		Screened (m bgl)		Stick Up (m)	
Survey Information	Easting		Northing		Elevation RL	
GW Level During Drilling		m bgl				
Contaminants/Comments						

Well Development Details					
Date / Time / Weather Conditions				Purged By	
Purge Method / Equipment					
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-purge)		m bgl	Observed Well Depth		m bgl
Height of Water Column (H)		m bgl	Estimated Bore Volume*		L
GW Level (post-purge)		m bgl	Total Volume Purged**		L
Appearance/Comments					

Sampling Details					
Date / Time / Weather Conditions	19/8/24 12:00 Cloudy/showers			Sampled By	SAF
Sampling Method / Equipment	Peri Pump				
WQM Model	YSI		WQM Calibration Date		
Product observed / Thickness	—	mm	Confirmed with Bailer? (Y / N)	Yes	
GW Level (pre-micropurge)	3.20	m bgl	Observed Well Depth	9.01	m bgl
Height of Water Column	5.81	m bgl	Estimated Bore Volume*	31.4	L
GW Level (post sample)	5.90	m bgl	Total Volume of Micro-Purged	26	L

Water Quality Parameters

Time	Cumulative Volume (L)	Temp (°C)	DO (mg/L)#	EC (µS or mS/cm)	pH	Redox (mV)	Turbidity^
Stabilisation Target (3 readings)		0.2	+/- 10%	+/- 5%	+/- 0.1	+/- 10 mV	+/- 10%
12:25	1	19.3	0.39	1149	5.75	50.5	215
12:27	3	19.0	0.27	1146	5.77	49.0	199
12:29	5	19.0	0.22	1157	5.78	48.6	253
12:31	7	18.9	0.20	1192	5.82	42.0	401
12:33	9	18.9	0.18	1176	5.82	41.0	550
12:35	11	19.0	0.15	1135	5.77	44.7	787
Notes:	# Considered stabilised if three DO values are less than 0.5 mg/L			^ Considered stabilised if three Turbidity values are less than 5 NTU			

Sample Details							
Sampling Depth (rationale)	6	m bgl,	middle of column				
Sample Observations (e.g. colour, sediment, sheen, odour)	~~clear~~, slight brown, mostly clear, no sheen or odour - becoming brown						
Sample ID	MW2						
QAQC Samples	Replicate	001/20240819	Triplicate	T1/20240819	Other		
Sample Containers Quantity / Preservation / Filtration	Amber glass		Plastic		PFAS (no tcfion)		
	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)		
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other		
Comments							

*Estimated Well Volume = H * F	Std. Drilling Diameter	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1

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Groundwater (GW) Field Sheet

Project and Bore Installation Details						
Project Name / Site Location	VNSW				Project Number	227482.04
Well Construction Details	Well ID	MW3 (BH3)	Drilling Method		Hole Diameter (m)~	
	Well Depth (m bgl)		Screened (m bgl)		Stick Up (m)	
Survey Information	Easting		North ng		Elevation RL	
GW Level During Drilling		m bgl				
Contaminants/Comments						

Well Development Details					
Date / Time / Weather Conditions				Purged By	
Purge Method / Equipment					
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-purge)		m bgl	Observed Well Depth		m bgl
Height of Water Column (H)		m bgl	Estimated Bore Volume*		L
GW Level (post-purge)		m bgl	Total Volume Purged**		L
Appearance/Comments					

Sampling Details							
Date / Time / Weather Conditions	19/8/24 1:40 Cloudy / Showers					Sampled By	SAF
Sampling Method / Equipment	—						
WQM Model	—			WQM Calibration Date			
Product observed / Thickness	—	mm		Confirmed with Bailer? (Y / N)		—	
GW Level (pre-micropurge)	3.40	m bgl		Observed Well Depth		3.82	m bgl
Height of Water Column	0.42	m bgl		Estimated Bore Volume*		2.3	L
GW Level (post sample)	—	m bgl		Total Volume of Micro-Purged		—	L

Water Quality Parameters

Time	Cumulative Volume (L)	Temp (°C)	DO (mg/L)#	EC (µS or mS/cm)	pH	Redox (mV)	Turbidity^
Stabilisation Target (3 readings)		0.2	+/- 10%	+/- 5%	+/- 0.1	+/- 10 mV	+/- 10%

Notes: # Considered stabilised if three DO values are less than 0.5 mg/L ^ Considered stabilised if three Turbidity values are less than 5 NTU

Sample Details — None						
Sampling Depth (rationale)		m bgl,				
Sample Observations (e.g. colour, sediment, sheen, odour)	Not enough water column to sample					
Sample ID						
QAQC Samples	Replicate		Triplicate		Other	
Sample Containers Quantity / Preservation / Filtration	Amber glass		Plastic		PFAS (no teflon)	
	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)	
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other	
Comments						

*Estimated Well Volume = H * F	Std. Drilling Diameter	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1

Groundwater (GW) Field Sheet

Project and Bore Installation Details						
Project Name / Site Location	UNSW				Project Number	227982.04
Well Construction Details	Well ID	MW4 (BH4)	Drilling Method		Hole Diameter (m)^	
	Well Depth (m bgl)		Screened (m bgl)		Stick Up (m)	
Survey Information	Easting		Northing		Elevation RL	
GW Level During Drilling		m bgl				
Contaminants/Comments						

Well Development Details					
Date / Time / Weather Conditions				Purged By	
Purge Method / Equipment					
Product observed / Thickness		mm	Confirmed with Bailer? (Y / N)		
GW Level (pre-purge)		m bgl	Observed Well Depth		m bgl
Height of Water Column (H)		m bgl	Estimated Bore Volume*		L
GW Level (post-purge)		m bgl	Total Volume Purged**		L
Appearance/Comments					

Sampling Details					
Date / Time / Weather Conditions	19/8/24 2:20 Cloudy / showers			Sampled By	SAF
Sampling Method / Equipment	Peri Pump				
WQM Model	YSI		WQM Calibration Date		
Product observed / Thickness	-	mm	Confirmed with Bailer? (Y / N)	Yes	
GW Level (pre-micropurge)	3.88	m bgl	Observed Well Depth	8.80	m bgl
Height of Water Column	4.92	m bgl	Estimated Bore Volume*	26.6	L
GW Level (post sample)	4.99	m bgl	Total Volume of Micro-Purged	13	L

Water Quality Parameters

Time	Cumulative Volume (L)	Temp (°C)	DO (mg/L)#	EC (µS or mS/cm)	pH	Redox (mV)	Turbidity^
Stabilisation Target (3 readings)		0.2	+/- 10%	+/- 5%	+/- 0.1	+/- 10 mV	+/- 10%
2:33	2	19.8	1.68	592	4.64	295.5	428
2:35	4	19.8	1.61	589	4.67	294.4	518
2:37	6	19.7	1.41	576	4.72	281.1	287
2:39	8	19.7	1.38	550	4.73	273.4	283
2:41	10	19.6	1.38	526	4.74	265.3	370
Notes:	# Considered stabilised if three DO values are less than 0.5 mg/L			^ Considered stabilised if three Turbidity values are less than 5 NTU			

Sample Details						
Sampling Depth (rationale)	7	m bgl,				
Sample Observations (e.g. colour, sediment, sheen, odour)	Slight grey, no odour, no sheen					
Sample ID						
QAQC Samples	Replicate		Triplicate		Other	
Sample Containers Quantity/ Preservation / Filtration	Amber glass		Plastic		PFAS (no teflon)	
	Metals (F/UF) (HNO3)		Phenols/COD/NH3 (H2SO4)		Vials (HCl)	
	Ferrous/Ferric Iron (HCl)		Cyanides/Chromium (NaOH)		Other	
Comments						

*Estimated Well Volume = H * F	Std. Drilling Diameter	NMLC (0.075)	HQ (0.096)	PQ (0.1226)	SFA (0.125)	HFA (0.194)
**Purge Target: min. 3 well volumes	Factor (F):	2.8	3.7	5.2	5.4	11.1

Douglas Partners
Geotechnics / Environment / Groundwater

YSI CALIBRATION RECORD

Serial Number: 21D103465

DP Identification No. YSI

Project: UNSW

Project Number: 227492.04

PARAMETER	STANDARD	PRE CALIBRATION READING		POST CALIBRATION READING	
Temperature	* 23.0		degrees C		degrees C
pH	10	10.12	pH units	10.06	pH units
	7	7.15	pH units	7.03	pH units
	4	4.04	pH units	4.00	pH units
Conductivity	0.0** uS/cm	2565	µS/cm		µS/cm
	2.76 mS/cm	~~2556~~	mS/cm	2454	mS/cm
Dissolved Oxygen	0.0% sat		ppm		
		0.3	%	0	%
	100.0**% sat		ppm		
		97.8	%	99.6	%
Turbidity	90*** NTU		NTU		NTU
	900 NTU		NTU		NTU
ORP #	~~240~~ 475 mV	414.6	mV	475	mV

Calibrated by: SAF

Date: 18/8/24

* use NATA certified reference thermometer from soils clean lab
** air
*** distilled water
# factory calibrated – do a bump test

NOTES:

Form Updated 1 March 2011

Douglas PARTNERS | GROUNDED EXPERTISE

RECORD OF ASBESTOS SAMPLES

Project: KENSINGTON, G25 Development, UNSW env	**Project Number:** 227492.04
Client: University of New South Wales	**Date:** 6/8/24
Location: Library Walk, Kensington	**Field Staff:** SAF

Sample ID	Sample Type	Sample Depth (m)	Weight of 10 L Bulk Sample (g)	Number of Fragments >7 mm	Condition of Fragments (good/ poor)	Size range of fragments (mm)	Weight of ACM and FA collected (g)
BH10	~~SAND~~	0.1 - 0.5	13.998	0	-	-	-
BH10	↓	1.0 - 1.5	14.337	0	-	-	-
BH9		0.2 - 0.5	15.099	0	-	-	-
BH9		0.5 - 1.0	15.993	6	-	-	-
BH9		1.3 - 1.6	15244	0	-	-	-
BH8		0.1 - 0.5	15839	0	-	-	-
BH8		1.1 - 1.6	14156	0	-	-	-
BH5		0.4 - 0.9	14552	0	-	-	-
BH5		1.3 - 1.6	14435	0	-	-	-
BH6		0.2 - 0.7	15800	0	-	-	-
BH6		0.8 - 1.3	15216	0	-	-	-
BH6		1.3 - 1.6	14240	0	-	-	-
BH12		0.2 - 0.7	16179	0	-	-	-
BH12		1.3 - 1.8	14483	0	-	-	-
BH12		1.8 - 2.0	15981	0	-	-	-

Douglas PARTNERS | GROUNDED EXPERTISE

RECORD OF ASBESTOS SAMPLES

Project: KENSINGTON, G25 Development, UNSW env	**Project Number:** 227492.04
Client: University of New South Wales	**Date:** 6/8/24
Location: Library Walk, Kensington	**Field Staff:** SAF

Sample ID	Sample Type	Sample Depth (m)	Weight of 10 L Bulk Sample (g)	Number of Fragments >7 mm	Condition of Fragments (good/ poor)	Size range of fragments (mm)	Weight of ACM and FA collected (g)
BH11	SAND	0.1-0.5	16145	0	-	-	-
BH11		1.0-1.5	14042	0	-	-	-

Douglas PARTNERS | GROUNDED EXPERTISE

RECORD OF ASBESTOS SAMPLES

Project: KENSINGTON, G25 Development, UNSW env	**Project Number:** 227492.04
Client: University of New South Wales	**Date:** 6/8/24
Location: Library Walk, Kensington	**Field Staff:** SAF

Sample ID	Sample Type	Sample Depth (m)	Weight of 10 L Bulk Sample (g)	Number of Fragments >7 mm	Condition of Fragments (good/ poor)	Size range of fragments (mm)	Weight of ACM and FA collected (g)
BH11	SAND	0.1 - 0.5	16145	0	-	-	-
BH11	↓	1.0 - 1.5	14042	0	-	-	-
7/8/24 BH7	SAND	0 - 0.4	15439	0	-	-	-
BH7		0.4 - 1.0	14217	0	-	-	-
BH13		0.1 - 0.4	16799	0	-	-	-
BH14		0.1 - 0.5	15856	0	-	-	-
BH14		1.0 - 1.5	14945	0	-	-	-
BH14	↓	1.8 - 2.0	14572	0	-	-	-

Douglas PARTNERS | GROUNDED EXPERTISE

CALIBRATION RECORD

Project: Kensington, G25 Development, UNSW
Project Number: 227492.04

Calibrated Equipment

Model: MiniRAE Lite
Serial No.: 591 - 000216
DP Reference: PID4
Other: 10.6eV Lamp

Calibration

Date(s): 5/08/24 Operator(s): SAF
Zero Gas: 0.0 ambient air
Span Gas: 100.0 isobutylene
Span Gas Concentration: 100
Response Factor: 1.0
Gas Supplier
Lot/Batch No: 950-102204
Pre-calibration Reading 164.7 ppm
Post-calibration Reading 97.8

Approved: [signature]
Date: 5/08/24

Appendix I

Summary Results Tables

Table I1: Summary of Laboratory Results – Soil

			Priority metals								Priority PAH				PAH												Priority TRH					
			Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	Naphthalene [b]	Benzo(a)pyrene (B(a)P)	Benzo(a)pyrene TEQ (B(a)P TEQ)	Total PAH	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10 -C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34- C40)
		PQL	4	0.4	1	1	1	0.1	1	1	1	0.05	0.5	0.05	0.1	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	25	50	25	50	100	100
Sample ID	Depth	Sample Date	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	mg/kg	mg/kg	mg/kg
HIL D (NEPC 2013)			3000	900	3600	240000	1500	730	6000	400000	-	-	40	4000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HSL D, Sand, 0-1 m (NEPC 2013)											NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	260	NL	-	-
EIL / ESL D (NEPC 2013)			160	-	680	160	1800	-	55	480	370	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	215	-	1700	3300
Management Limits (ML- D, NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1000	-	-	3500	10000
Health Screening Levels for Direct Contact (DC- HSL D, CRC Care 2011)			-	-	-	-	-	-	-	-	11000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26000	20000	27000	38000
Screening Levels of Intrsuive Maintenance Workers (DC-HSL-IMW, CRC Care 2011)			-	-	-	-	-	-	-	-	29000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82000	62000	85000	120000
HIL D for PFAS (HEPA 2020)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ecological Soil Guideline Values for PFAS (HEPA 2020) Direct Exposure / Indirect Exposure			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1 (2010)	0.1	19/10/2010	<4	<0.5	**5**	**26**	**160**	0.4	**3**	**85**	<0.1	0.09	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	-	-	-	-	-	-
BH1	0.4 - 0.5 m	05/08/24	<4	<0.4	**4**	**11**	**42**	<0.1	**2**	**36**	<1	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<25	<50	<100	<100
BH2	0.4 - 0.5 m	05/08/24	**4**	<0.4	**6**	**25**	**160**	**0.4**	**6**	**100**	<1	**0.07**	<0.5	**0.3**	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<25	<50	<100	<100
BH3	0.9 - 1 m	06/08/24	<4	<0.4	**5**	**22**	**160**	**0.3**	**3**	**100**	<1	**0.2**	<0.5	**1.9**	<0.1	<0.1	<0.1	**0.2**	-	**0.1**	**0.2**	<0.1	**0.2**	<0.1	<0.1	**0.1**	**0.3**	<25	<50	<25	<50	<100	<100
BH4	0.9 - 1 m	07/08/24	<4	<0.4	**6**	**29**	**240**	**0.4**	**6**	**120**	<1	**0.1**	<0.5	**1.4**	<0.1	<0.1	<0.1	**0.1**	-	<0.1	**0.1**	<0.1	**0.2**	<0.1	<0.1	**0.1**	**0.2**	<25	<50	<25	<50	<100	<100
BH5	0.4 - 0.5 m	06/08/24	<4	<0.4	**5**	**26**	**130**	**0.3**	**4**	**80**	<1	**0.5**	**0.6**	**5.5**	<0.1	**0.1**	**0.2**	**0.6**	-	**0.3**	**0.4**	<0.1	**1**	<0.1	**0.3**	**0.6**	**0.9**	<25	<50	<25	<50	<100	<100
BH5	0.9 - 1 m	06/08/24	<4	<0.4	**5**	**97**	**290**	**0.4**	**3**	**160**	<1	**0.06**	<0.5	**0.66**	<0.1	<0.1	<0.1	<0.1	-	<0.1	**0.1**	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.1**	<25	<50	<25	<50	<100	<100
BH5 - [TRIPLICATE]	0.9 - 1 m	06/08/24	<4	<0.4	**7**	**87**	**340**	**0.4**	**4**	**180**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	0.2 - 0.3 m	06/08/24	<4	<0.4	**7**	**25**	**98**	**0.2**	**10**	**74**	<1	**0.3**	<0.5	**3.3**	<0.1	**0.2**	<0.1	**0.2**	-	**0.3**	**0.2**	<0.1	**0.4**	<0.1	**0.2**	<0.1	**0.5**	<25	<50	<25	<50	**110**	**100**
BH6	1.1 - 1.3 m	06/08/24	<4	<0.4	**3**	**12**	**49**	**0.1**	**2**	**31**	<1	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<25	<50	<100	<100
BH7	0.5 - 0.6 m	07/08/24	<4	<0.4	**7**	**41**	**460**	**0.3**	**8**	**110**	<1	**0.2**	<0.5	**1.5**	<0.1	<0.1	<0.1	**0.2**	-	**0.1**	**0.2**	<0.1	**0.2**	<0.1	**0.1**	<0.1	**0.2**	<25	<50	<25	<50	<100	<100
BH7	0 - 0.1 m	07/08/24	<4	<0.4	**12**	**26**	**82**	<0.1	**6**	**130**	<1	**0.53**	**0.9**	**8.9**	<0.1	**0.2**	**0.2**	**0.8**	-	**0.4**	**0.6**	<0.1	**1.6**	<0.1	**0.3**	**0.8**	**1.4**	<25	<50	<25	<50	**150**	**130**
BD4/20240807 (BH7/0-0.1)	0 m	07/08/24	**6**	<0.4	**14**	**29**	**78**	<0.1	**12**	**96**	<0.1	**0.3**	<0.5	**2.8**	<0.1	<0.1	<0.1	**0.4**	-	**0.2**	**0.3**	<0.1	**0.4**	<0.1	**0.2**	**0.2**	**0.4**	-	-	-	-	-	-
BH8	0.1 - 0.2 m	06/08/24	**6**	<0.4	**6**	**40**	**220**	**0.3**	**6**	**110**	<1	<0.05	<0.5	**0.2**	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<25	<50	<100	<100
BD1/20240806 (BH8/0.1-	0 m	06/08/24	<5	<1	**5**	**27**	**190**	**0.5**	**3**	**95**	<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	-	-	-	-	-	-
BH8	1 - 1.1 m	06/08/24	**24**	<0.4	**11**	**43**	**200**	**0.4**	**14**	**220**	<1	**0.1**	<0.5	**0.5**	<0.1	<0.1	<0.1	**0.1**	-	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.1**	<25	<50	<25	<50	<100	<100
BH8	1.7 - 1.8 m	06/08/24	<4	<0.4	**2**	**3**	**11**	<0.1	<1	**9**	<1	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<25	<50	<100	<100
BH9	0.2 - 0.3 m	06/08/24	<4	<0.4	**5**	**28**	**160**	**0.4**	**3**	**100**	<1	**0.1**	<0.5	**1.5**	<0.1	<0.1	<0.1	**0.1**	-	**0.1**	**0.2**	<0.1	**0.2**	<0.1	<0.1	<0.1	**0.2**	<25	<50	<25	<50	<100	<100
BH9	1 - 1.1 m	06/08/24	**11**	<0.4	**11**	**83**	**370**	**0.5**	**11**	**300**	<1	**0.4**	**0.6**	**4.1**	<0.1	<0.1	<0.1	**0.3**	-	**0.3**	**0.4**	<0.1	**0.4**	<0.1	**0.2**	**0.1**	**0.5**	<25	<50	<25	<50	<100	<100
BH10	0.5 - 0.6 m	06/08/24	<4	<0.4	**10**	**43**	**120**	**0.2**	**30**	**84**	<1	**0.08**	<0.5	**0.78**	<0.1	<0.1	<0.1	<0.1	-	<0.1	**0.1**	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.1**	<25	<50	<25	<50	<100	<100
BH10	1.5 - 1.6 m	06/08/24	<4	<0.4	**25**	**28**	**91**	**0.1**	**25**	**78**	<1	**0.06**	<0.5	**0.06**	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<25	<50	<100	<100
BH10	2.1 - 2.2 m	06/08/24	<4	<0.4	**2**	<1	**1**	<0.1	**1**	**1**	<1	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<25	<50	<100	<100
BH11	0.1 - 0.2 m	06/08/24	<4	<0.4	**6**	**37**	**150**	**0.3**	**2**	**100**	<1	**0.1**	<0.5	**0.9**	<0.1	<0.1	<0.1	<0.1	-	<0.1	**0.1**	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.2**	<25	<50	<25	<50	<100	<100
BD3/20240806 (BH11/0.1-	0.1 - 0.2 m	06/08/24	<4	<0.4	**5**	**34**	**170**	**0.3**	**3**	**130**	<0.1	**0.1**	<0.5	**0.74**	<0.1	<0.1	<0.1	**0.1**	-	**0.1**	**0.1**	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.2**	-	-	-	-	-	-
BH11	1.4 - 1.5 m	06/08/24	<4	<0.4	**3**	**13**	**66**	**0.6**	**1**	**54**	<1	**0.06**	<0.5	**0.06**	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<25	<50	<100	<100
BH12	0.3 - 0.4 m	06/08/24	<4	<0.4	**6**	**58**	**190**	**0.4**	**3**	**130**	<1	**0.1**	<0.5	**0.85**	<0.1	<0.1	<0.1	**0.1**	-	**0.1**	**0.1**	<0.1	**0.1**	<0.1	**0.1**	**0.1**	**0.1**	<25	<50	<25	<50	<100	<100
BH12	0.8 - 0.9 m	06/08/24	<4	<0.4	**5**	**26**	**150**	**0.3**	**3**	**85**	<1	<0.05	<0.5	**0.5**	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.1**	<25	<50	<25	<50	<100	<100
BD2/20240806 (BH12/0.8-	0.8 - 0.9 m	06/08/24	<5	<1	**4**	**23**	**114**	**0.3**	**2**	**66**	<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	-	-	-	-	-	-
BH13	0.1 - 0.2 m	07/08/24	<4	<0.4	**14**	**100**	**7**	**0.1**	**100**	**72**	<1	<0.05	<0.5	**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	<25	<50	<25	<50	<100	**110**
BH14	0.5 - 0.6 m	07/08/24	**4**	**0.6**	**9**	**82**	**460**	**0.6**	**7**	**430**	<1	**0.2**	<0.5	**2.1**	<0.1	<0.1	<0.1	**0.2**	-	**0.2**	**0.2**	<0.1	**0.3**	<0.1	**0.2**	**0.1**	**0.3**	<25	<50	<25	<50	<100	<100
BH14	1.9 - 2 m	07/08/24	<4	<0.4	**5**	**18**	**57**	**0.1**	**3**	**63**	<1	<0.05	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<25	<50	<100	<100
BH14 - [TRIPLICATE]	1.9 - 2 m	07/08/24	<4	<0.4	**6**	**24**	**150**	**0.2**	**5**	**80**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	0.4 - 0.5 m	06/08/24	<4	<0.4	**5**	**41**	**230**	**0.4**	**4**	**140**	<1	**0.2**	<0.5	**2.5**	<0.1	<0.1	<0.1	**0.2**	-	**0.2**	**0.2**	<0.1	**0.4**	<0.1	**0.1**	**0.2**	**0.3**	<25	<50	<25	<50	<100	<100

Lab result

HIL/HSL value EIL/ESL/EGV value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance **Red** = EGV-indirect exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Not limiting NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level EGV = Environmental Guideline Value ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Naphthalene reported as highest detection from the BTEXN or PAH suite, or if both results <PQL as lowest PQL

c EIL criteria applies to DDT only

Site Assessment Criteria (SAC):

SAC based on generic land use thresholds for Commercial/ industrial D

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

HIL	HIL-D (NEPC, 2013 or HEPA, 2020 (PFAS only))	EGV	EGV, all land uses, direct exposure (HEPA, 2020)
HSL (vapour intrusion)	HSL-D (NEPC, 2013)	ESL	Commercial and Industrial (NEPC, 2013)
DC	Direct contact HSL D Commercial/Industrial (CRC CARE, 2011)	ML	Commercial and Industrial (NEPC, 2013)
		EGV-Indir	EGV, all land uses, Indirect exposure (HEPA, 2020)

Table I1: Summary of Laboratory Results – Soil

			TRH		BTEX																												
			TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Total Xylenes	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-Dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethyl benzene	1,2-dibromo-3-chloropropane	1,2-dibromoethane	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3,5-trimethyl benzene	1,3-dichlorobenzene	1,3-dichloropropane	1,4-dichlorobenzene	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	4-isopropyl toluene	Bromobenzene
		PQL	25	50	0.2	0.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sample ID	Depth	Sample Date	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	mg/kg	mg/kg	mg/kg	mg/kg
HIL D (NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HSL D, Sand, 0-1 m (NEPC 2013)			-	-	3	NL	NL	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EIL / ESL D (NEPC 2013)			-	-	75	135	165	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limits (ML- D, NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Health Screening Levels for Direct Contact (DC- HSL D, CRC Care 2011)			-	-	**430**	**99000**	**27000**	**81000**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Screening Levels of Intrsuive Maintenance Workers (DC-HSL-IMW, CRC Care 2011)			-	-	**1100**	**120000**	**85000**	**130000**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIL D for PFAS (HEPA 2020)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ecological Soil Guideline Values for PFAS (HEPA 2020) Direct Exposure / Indirect Exposure			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1 (2010)	0.1	19/10/2010	<25	<250	<0.5	<0.5	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1	0.4 - 0.5 m	05/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	0.4 - 0.5 m	05/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	0.9 - 1 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	0.9 - 1 m	07/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	0.4 - 0.5 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	0.9 - 1 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH5 - [TRIPLICATE]	0.9 - 1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	0.2 - 0.3 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	1.1 - 1.3 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	0.5 - 0.6 m	07/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	0 - 0.1 m	07/08/24	<25	**110**	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD4/20240807 (BH7/0-0.1)	0 m	07/08/24	-	-	<0.2	<0.5	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	0.1 - 0.2 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD1/20240806 (BH8/0.1-	0 m	06/08/24	-	-	<0.2	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1 - 1.1 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1.7 - 1.8 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	0.2 - 0.3 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	1 - 1.1 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	0.5 - 0.6 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH10	1.5 - 1.6 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2.1 - 2.2 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	0.1 - 0.2 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD3/20240806 (BH11/0.1-	0.1 - 0.2 m	06/08/24	-	-	<0.2	<0.5	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	1.4 - 1.5 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	0.3 - 0.4 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	0.8 - 0.9 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD2/20240806 (BH12/0.8-	0.8 - 0.9 m	06/08/24	-	-	<0.2	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	0.1 - 0.2 m	07/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	0.5 - 0.6 m	07/08/24	<25	<50	<0.2	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH14	1.9 - 2 m	07/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 - [TRIPLICATE]	1.9 - 2 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	0.4 - 0.5 m	06/08/24	<25	<50	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lab result

HIL/HSL value EIL/ESL/EGV value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance **Red** = EGV-indirect exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Not limiting NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level EGV = Environmental Guideline Value ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Naphthalene reported as highest detection from the BTEXN or PAH suite, or if both results <PQL as lowest PQL

c EIL criteria applies to DDT only

Site Assessment Criteria (SAC):

SAC based on generic land use thresholds for Commercial/ industrial D

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

HIL	HIL-D (NEPC, 2013 or HEPA, 2020 (PFAS only))	EGV	EGV, all land uses, direct exposure (HEPA, 2020)
HSL (vapour intrusion)	HSL-D (NEPC, 2013)	ESL	Commercial and Industrial (NEPC, 2013)
DC	Direct contact HSL D Commercial/Industrial (CRC CARE, 2011)	ML	Commercial and Industrial (NEPC, 2013)
		EGV-Indir	EGV, all land uses, Indirect exposure (HEPA, 2020)

Table I1: Summary of Laboratory Results – Soil

			VOC																											priority pheno
			Bromochloromethane	Bromodichloroethane	Bromoform	Bromomethane	carbon tetrachloride	Monochlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Cyclohexane	dibromochloroethane	Dibromomethane	Dichlorodifluoromethane	hexachlorobutadiene	Isopropylbenzene (cumene)	n-butylbenzene	n-propylbenzene	sec-butylbenzene	Styrene (vinylbenzene)	Tert-butylbenzene	tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	1,1,2-trichloroethylene	Trichlorofluoromethane	Vinyl Chloride	Total Phenolics
		PQL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5
Sample ID	Depth	Sample Date	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	mg/kg
Guidelines																														
HIL D (NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	660
HSL D, Sand, 0-1 m (NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EIL / ESL D (NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limits (ML- D, NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Health Screening Levels for Direct Contact (DC- HSL D, CRC Care 2011)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Screening Levels of Intrsuive Maintenance Workers (DC-HSL-IMW, CRC Care 2011)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIL D for PFAS (HEPA 2020)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ecological Soil Guideline Values for PFAS (HEPA 2020) Direct Exposure / Indirect Exposure			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1 (2010)	0.1	19/10/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BH1	0.4 - 0.5 m	05/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	0.4 - 0.5 m	05/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	0.9 - 1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	0.9 - 1 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	0.4 - 0.5 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	0.9 - 1 m	06/08/24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5
BH5 - [TRIPLICATE]	0.9 - 1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	0.2 - 0.3 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BH6	1.1 - 1.3 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	0.5 - 0.6 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	0 - 0.1 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BD4/20240807 (BH7/0-0.1)	0 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	0.1 - 0.2 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BD1/20240806 (BH8/0.1-	0 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1 - 1.1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1.7 - 1.8 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BH9	0.2 - 0.3 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	1 - 1.1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BH10	0.5 - 0.6 m	06/08/24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5
BH10	1.5 - 1.6 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2.1 - 2.2 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BH11	0.1 - 0.2 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BD3/20240806 (BH11/0.1-	0.1 - 0.2 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	1.4 - 1.5 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	0.3 - 0.4 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	0.8 - 0.9 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BD2/20240806 (BH12/0.8-	0.8 - 0.9 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	0.1 - 0.2 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BH14	0.5 - 0.6 m	07/08/24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
BH14	1.9 - 2 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5
BH14 - [TRIPLICATE]	1.9 - 2 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	0.4 - 0.5 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lab result

HIL/HSL value EIL/ESL/EGV value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance **Red** = EGV-indirect exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Not limiting NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level EGV = Environmental Guideline Value ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Naphthalene reported as highest detection from the BTEXN or PAH suite, or if both results <PQL as lowest PQL

c EIL criteria applies to DDT only

Site Assessment Criteria (SAC):

SAC based on generic land use thresholds for Commercial/ industrial D

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

HIL	HIL-D (NEPC, 2013 or HEPA, 2020 (PFAS only))	EGV	EGV, all land uses, direct exposure (HEPA, 2020)
HSL (vapour intrusion)	HSL-D (NEPC, 2013)	ESL	Commercial and Industrial (NEPC, 2013)
DC	Direct contact HSL D Commercial/Industrial (CRC CARE, 2011)	ML	Commercial and Industrial (NEPC, 2013)
		EGV-Indir	EGV, all land uses, Indirect exposure (HEPA, 2020)

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Table I1: Summary of Laboratory Results – Soil

			Priority OCP									OCP							Priority OPP	OPP																
			DDT+DDE+DDD c	Aldrin + Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	Hexachlorobenzene	Methoxychlor	Mirex	Heptachlor Epoxide	Endrin Aldehyde	alpha-BHC	beta-BHC	delta-BHC	Lindane	Chlorpyriphos	Azinphos methyl (Guthion)	Bromophos-ethyl	Chlorpyriphos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Ronnel (fenchlorphos)	Fenitrothion	Fenthion	Malathion	Parathion	Parathion-methyl	Methidathion	Fenamiphos
		PQL	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	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
Sample ID	Depth	Sample Date	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
HIL D (NEPC 2013)			3600	45	530	2000	100	50	80	2500	100	-	-	-	-	-	-	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HSL D, Sand, 0-1 m (NEPC 2013)			640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EIL / ESL D (NEPC 2013)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limits (ML- D, NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Health Screening Levels for Direct Contact (DC- HSL D, CRC Care 2011)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Screening Levels of Intrsuive Maintenance Workers (DC-HSL-IMW, CRC Care 2011)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIL D for PFAS (HEPA 2020)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ecological Soil Guideline Values for PFAS (HEPA 2020) Direct Exposure / Indirect Exposure			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1 (2010)	0.1	19/10/2010	-	<0.1	<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	-	-	-	-	-	-	-	-	-
BH1	0.4 - 0.5 m	05/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	0.4 - 0.5 m	05/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	0.9 - 1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	0.9 - 1 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	0.4 - 0.5 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	0.9 - 1 m	06/08/24	<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	<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
BH5 - [TRIPLICATE]	0.9 - 1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	0.2 - 0.3 m	06/08/24	<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	<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
BH6	1.1 - 1.3 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	0.5 - 0.6 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	0 - 0.1 m	07/08/24	<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	<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
BD4/20240807 (BH7/0-0.1)	0 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	0.1 - 0.2 m	06/08/24	<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	<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
BD1/20240806 (BH8/0.1-	0 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1 - 1.1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1.7 - 1.8 m	06/08/24	<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	<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
BH9	0.2 - 0.3 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	1 - 1.1 m	06/08/24	<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	<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
BH10	0.5 - 0.6 m	06/08/24	<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	<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
BH10	1.5 - 1.6 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2.1 - 2.2 m	06/08/24	<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	<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
BH11	0.1 - 0.2 m	06/08/24	<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	<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
BD3/20240806 (BH11/0.1-	0.1 - 0.2 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	1.4 - 1.5 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	0.3 - 0.4 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	0.8 - 0.9 m	06/08/24	<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	<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
BD2/20240806 (BH12/0.8-	0.8 - 0.9 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	0.1 - 0.2 m	07/08/24	<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	<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
BH14	0.5 - 0.6 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	1.9 - 2 m	07/08/24	<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	<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
BH14 - [TRIPLICATE]	1.9 - 2 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	0.4 - 0.5 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lab result

HIL/HSL value EIL/ESL/EGV value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance **Red** = EGV-indirect exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Not limiting NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level EGV = Environmental Guideline Value ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Naphthalene reported as highest detection from the BTEXN or PAH suite, or if both results <PQL as lowest PQL

c EIL criteria applies to DDT only

Site Assessment Criteria (SAC):

SAC based on generic land use thresholds for Commercial/ industrial D

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

HIL	HIL-D (NEPC, 2013 or HEPA, 2020 (PFAS only))	EGV	EGV, all land uses, direct exposure (HEPA, 2020)
HSL (vapour intrusion)	HSL-D (NEPC, 2013)	ESL	Commercial and Industrial (NEPC, 2013)
DC	Direct contact HSL D Commercial/Industrial (CRC CARE, 2011)	ML	Commercial and Industrial (NEPC, 2013)
		EGV-Indir	EGV, all land uses, Indirect exposure (HEPA, 2020)

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Table I1: Summary of Laboratory Results – Soil

			PCB	Priority PFAS					PFAS		Asbestos (FA/AF)			Asbestos, Other								pH, EC and CEC	
			Total PCB	Total Positive PFAS	PFOA	PFOS + PFHxS	PFOS	PFHxS	6:2 FTS	8:2 FTS	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos ID in soil >0.1g/kg	Trace Analysis (AS)	Asbestos ID in soil >0.1g/kg	Asbestos ID in soil <0.1g/kg	Trace Analysis (NEPC)	Total Asbestos#1	Asbestos Summary	pH 1:5 soil:water	Cation Exchange Capacity
		PQL	0.1	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002			0.001						0.1	0.1		1
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	g	%(w/w)	-	-	-	-	-	g/kg		pH Units	cmol/kg
HIL D (NEPC 2013)			7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HSL D, Sand, 0-1 m (NEPC 2013)			-	-	50	20	-	-	-	-	-	-	0.001	-	-	-	-	-	-	-	-	-
EIL / ESL D (NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limits (ML- D, NEPC 2013)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Health Screening Levels for Direct Contact (DC- HSL D, CRC Care 2011)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Screening Levels of Intrsuive Maintenance Workers (DC-HSL-IMW, CRC Care 2011)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIL D for PFAS (HEPA 2020)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ecological Soil Guideline Values for PFAS (HEPA 2020) Direct Exposure / Indirect Exposure			-	-	10 / NC	-	1 / 0.01	NC / NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1 (2010)	0.1	19/10/2010	<0.7	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-	-	-
BH1	0.4 - 0.5 m	05/08/24	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-	-	-
BH2	0.4 - 0.5 m	05/08/24	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-	-	-
BH3	0.9 - 1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-	-	-
BH4	0.9 - 1 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-	-	-
BH5	0.4 - 0.5 m	06/08/24	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH5	0.9 - 1 m	06/08/24	<0.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	**7.4**	**2.5**
BH5 - [TRIPLICATE]	0.9 - 1 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	0.2 - 0.3 m	06/08/24	<0.1	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH6	1.1 - 1.3 m	06/08/24	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH7	0.5 - 0.6 m	07/08/24	-	-	-	-	-	-	-	-	-	**0.0047**	<0.001	-	-	NAD	**Detected**	NAD	<0.1	**Detected**	-	-
BH7	0 - 0.1 m	07/08/24	<0.1	**0.001**	**0.0002**	**0.0008**	**0.0008**	<0.0001	<0.0001	<0.0002	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	**7.3**	**9.9**
BD4/20240807 (BH7/0-0.1)	0 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	0.1 - 0.2 m	06/08/24	<0.1	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BD1/20240806 (BH8/0.1-	0 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1 - 1.1 m	06/08/24	-	-	-	-	-	-	-	-	-	**0.036**	**0.0053**	-	-	NAD	**Detected**	NAD	<0.1	**Detected**	-	-
BH8	1.7 - 1.8 m	06/08/24	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	0.2 - 0.3 m	06/08/24	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH9	1 - 1.1 m	06/08/24	<0.1	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH10	0.5 - 0.6 m	06/08/24	<0.1	**0.0002**	<0.0001	**0.0002**	**0.0002**	<0.0001	<0.0001	<0.0002	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH10	1.5 - 1.6 m	06/08/24	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH10	2.1 - 2.2 m	06/08/24	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	0.1 - 0.2 m	06/08/24	<0.1	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BD3/20240806 (BH11/0.1-	0.1 - 0.2 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	1.4 - 1.5 m	06/08/24	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH12	0.3 - 0.4 m	06/08/24	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH12	0.8 - 0.9 m	06/08/24	<0.1	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BD2/20240806 (BH12/0.8-	0.8 - 0.9 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	0.1 - 0.2 m	07/08/24	<0.1	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH14	0.5 - 0.6 m	07/08/24	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	**6.9**	**2.2**
BH14	1.9 - 2 m	07/08/24	<0.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-	-	-
BH14 - [TRIPLICATE]	1.9 - 2 m	07/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	0.4 - 0.5 m	06/08/24	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-	-	-

Lab result

HIL/HSL value EIL/ESL/EGV value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance **Red** = EGV-indirect exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Not limiting NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level EGV = Environmental Guideline Value ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Naphthalene reported as highest detection from the BTEXN or PAH suite, or if both results <PQL as lowest PQL

c EIL criteria applies to DDT only

Site Assessment Criteria (SAC):

SAC based on generic land use thresholds for Commercial/ industrial D

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

HIL	HIL-D (NEPC, 2013 or HEPA, 2020 (PFAS only))	EGV	EGV, all land uses, direct exposure (HEPA, 2020)
HSL (vapour intrusion)	HSL-D (NEPC, 2013)	ESL	Commercial and Industrial (NEPC, 2013)
DC	Direct contact HSL D Commercial/Industrial (CRC CARE, 2011)	ML	Commercial and Industrial (NEPC, 2013)
		EGV-Indir	EGV, all land uses, Indirect exposure (HEPA, 2020)

Table I2: Summary of Laboratory Results – Groundwater

		Metals - Dissolved								TRH				BTEX						PAH															
		Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	F1 (C6-C10) - BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene	Total Xylenes	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Naphthalene	Benzo(a)pyrene (B(a)P)	Benzo(b,j+k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Sum of detected PAH
PQL		1	0.1	1	1	1	0.05	1	1	10	50	100	100	1	1	1	1	2	1	0.1	0.1	0.1	0.1	1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ANZECC (2000) Irrigation Long Term Trigger Values		100	10	100	200	2,000	2	200	2,000																										
ANZECC (2000) Irrigation Short Term Trigger Values		2,000	50	1000	5,000	5,000	2	2,000	5,000																										
ANZG (2018) 95% LOP Fresh		13	0.2	1	1.4	3.4	**0.06**	11	8					950	180	80	350	75				**0.01**		16	**0.1**					**1**			**0.6**		
ANZG (2018) 95% LOP Fresh. Hardness Modified			**0.6**			**16.1**		**31.1**	**22.6**																										
HEPA (2020) 99% LOP Fresh																																			
NEPC (2013) HSL 2-4m										6,000	NL			5,000	NL	NL			NL					NL											
Sample ID	Sample Date	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW1	19/08/24	<1	<0.1	<1	2	<1	<0.05	**35**	14	<10	53	<100	<100	<1	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW2	19/08/24	1	<0.1	3	<1	<1	<0.05	12	18	<10	<50	<100	<100	<1	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BD	19/08/24	1	<0.1	3	<1	<1	<0.05	12	17	<10	<50	<100	<100	<1	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW4	19/08/24	<1	0.1	<1	8	<1	<0.05	**150**	**59**	<10	<50	<100	<100	<1	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

-	No criterion / not defined / not tested / not applicable
*	QA/QC replicate of sample listed directly below the primary sample
NL	Not limiting
PQL	Practical quantitation limit
	Shaded cell is exceedance of guideline value
	Where one or more guideline value is exceeded, the cell is shaded to the colour of the highest guideline value exceeded
	NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013), health screening level Sand 2-4m
	ANZG (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 95% level of protection of species for Fresh aquatic ecosystems [NB: 99% level of protection adopted for bioaccumulative chemicals]
	HEPA (2018) PFAS National Environmental Management Plan, Version 2 99% level of protection for Fresh water aquatic ecosystems
	ANZECC (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, irrigation water Short Term Trigger Values
	ANZECC (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, irrigation water Long Term Trigger Values
	ANZG (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, orange text is 'unknown' level of protection
	Underlining of ANZG (2018) criteria indicates a criteria with an 'unknown' level of protection.
	ANZG (2018) DGV adopted for most conservative species of following analytes: DGV for xylene (m) adopted for xylene (m+p); DGV for CrVI adopted for total chromium; DGV for AsV adopted for total arsenic
	ANZG (2018) DGV adopted for aluminium in freshwater is for receiving waters with pH >6.5. For receiving waters with pH <6.5 suitability of the more conservative, low reliability DGV of unknown LOP should be considered
	ANZG (2018) Ammonia DGV is pH and temperature dependant. DGV for a pH of 8 provided in table.
	Hardness modofied trigger value based on a average hardness of 102 mg/L

Table I2: Summary of Laboratory Results – Groundwater

		OCP																							OPP		PCB	VOC (excluding BTEX)		PFAS			Anions & Cations - Dissolved	
		DDE	DDT	DDD	Aldrin	Dieldrin	Aldrin + Dieldrin (calculated)	alpha-chlordane	gamma-Chlordane	Endosulfan I	Endosulfan II	Endosulfan Sulphate	Endrin	Endrin Aldehyde	Heptachlor	Heptachlor Epoxide	Hexachlorobenzene	Methoxychlor	alpha-BHC	beta-BHC	delta-BHC	Lindane	Sum of detected OCP	Azinphos methyl (Guthion)	Sum of detected OPP	Sum of detected PCB	Chloroform	Sum of detected VOC	PFOS	PFOA	Sum of detected PFAS	Calcium	Magnesium
	PQL	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	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	0.02	0.004	0.01	1	1	0.01	0.01	0.01	500	500
ANZECC (2000) Irrigation Long Term Trigger Values																																	
ANZECC (2000) Irrigation Short Term Trigger Values																																	
ANZG (2018) 95% LOP Fresh			**0.006**		**0.001**	**0.01**							**0.01**		**0.01**		0.1	**0.005**				0.2		0.02			770						
ANZG (2018) 95% LOP Fresh. Hardness Modified																																	
HEPA (2020) 99% LOP Fresh																													**0.00023**	**19**			
NEPC (2013) HSL 2-4m																																	
Sample ID	Sample Date	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW1	19/08/24	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<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	<0.02	<0.004	<0.01	4	4	<0.01	<0.01	<0.01	7,800	6,100
MW2	19/08/24	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<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	<0.02	<0.004	<0.01	<1	<1	<0.01	0.01	0.03	30,000	20,000
BD	19/08/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW4	19/08/24	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<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	<0.02	<0.004	<0.01	2	2	<0.01	<0.01	<0.01	18,000	14,000

Notes:

-	No criterion / not defined / not tested / not applicable
*	QA/QC replicate of sample listed directly below the primary sample
NL	Not limiting
PQL	Practical quantitation limit
	Shaded cell is exceedance of guideline value
	Where one or more guideline value is exceeded, the cell is shaded to the colour of the highest guideline value exceeded
	NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013), health screening level Sand 2-4m
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	ANZG (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, orange text is 'unknown' level of protection
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	ANZG (2018) DGV adopted for most conservative species of following analytes: DGV for xylene (m) adopted for xylene (m+p); DGV for CrVI adopted for total chromium; DGV for AsV adopted for total arsenic
	ANZG (2018) DGV adopted for aluminium in freshwater is for receiving waters with pH >6.5. For receiving waters with pH <6.5 suitability of the more conservative, low reliability DGV of unknown LOP should be considered
	ANZG (2018) Ammonia DGV is pH and temperature dependant. DGV for a pH of 8 provided in table.
	Hardness modofied trigger value based on a average hardness of 102 mg/L

Table 13: Summary of Laboratory Results – Preliminary Waste Classification

				Metals										TRH		BTEX				PAH		Phenols	OCP			
				Total Arsenic	Cadmium	Total Chromium	Copper	Lead	TCLP Lead	Mercury (inorganic)	Nickel	TCLP Nickel	Zinc	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Total Xylenes	Benzo(a)pyrene (BaP)	Total PAH	Total Phenolics	Scheduled Chemical Waste (standard)	Total Endosulfan	Total Analysed OCP	Mirex
		PQL		5	1	2		5	0.03	0.1	2	0.02		25	50	0.2	0.5	0.5	0.5	0.5	0.5	5	0.1	0.1	0.1	0.1
Sample ID	Depth	Sample Date	Soil Type	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/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	mg/kg	mg/kg
BH1 (2010)	0.1	19/10/2010	Fill	<4	<0.5	5	26	160	0.3	0.4	3	-	85	-	-	<0.5	<0.5	<1	<3	0.09	-	<5	-	<0.1	<0.1	-
BH1	0.4 - 0.5 m	5/08/2024	Fill	<4	<0.4	4	11	42	-	<0.1	2	-	36	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-
BH2	0.4 - 0.5 m	5/08/2024	Fill	4	<0.4	6	25	160	-	0.4	6	-	100	<25	<50	<0.2	<0.5	<1	<1	0.07	0.3	-	-	-	-	-
BH3	0.9 - 1 m	6/08/2024	Fill	<4	<0.4	5	22	160	-	0.3	3	-	100	<25	<50	<0.2	<0.5	<1	<1	0.2	1.9	-	-	-	-	-
BH4	0.9 - 1 m	7/08/2024	Fill	<4	<0.4	6	29	240	-	0.4	6	-	120	<25	<50	<0.2	<0.5	<1	<1	0.1	1.4	-	-	-	-	-
BH5	0.4 - 0.5 m	6/08/2024	Fill	<4	<0.4	5	26	130	-	0.3	4	-	80	<25	<50	<0.2	<0.5	<1	<1	0.5	5.5	-	-	-	-	-
BH5	0.9 - 1 m	6/08/2024	Fill	<4	<0.4	5	97	290	0.71	0.4	3	-	160	<25	<50	<0.2	<0.5	<1	<1	0.06	0.66	<5	<0.1	<0.1	<0.1	<0.1
BH5 - [TRIPLICATE]	0.9 - 1 m	6/08/2024	Fill	<4	<0.4	7	87	340	-	0.4	4	-	180	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	0.2 - 0.3 m	6/08/2024	Fill	<4	<0.4	7	25	98	-	0.2	10	-	74	<25	<50	<0.2	<0.5	<1	<1	0.3	3.3	<5	<0.1	<0.1	<0.1	<0.1
BH6	1.1 - 1.3 m	6/08/2024	Fill	<4	<0.4	3	12	49	-	0.1	2	-	31	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-
BH7	0 - 0.1 m	7/08/2024	Fill	<4	<0.4	12	26	82	-	<0.1	6	-	130	<25	110	<0.2	<0.5	<1	<1	0.53	8.9	<5	<0.1	<0.1	<0.1	<0.1
BD4/20240807 (BH7/0-0.1)	0 - 0.1 m	7/08/2024	Fill	6	<0.4	14	29	78	-	<0.1	12	-	96	-	-	<0.2	<0.5	<1	-	0.3	2.8	-	-	-	-	-
BH7	0.5 - 0.6 m	7/08/2024	Fill	<4	<0.4	7	41	460	0.2	0.3	8	-	110	<25	<50	<0.2	<0.5	<1	<1	0.2	1.5	-	-	-	-	-
BH8	0.1 - 0.2 m	6/08/2024	Fill	6	<0.4	6	40	220	-	0.3	6	-	110	<25	<50	<0.2	<0.5	<1	<1	<0.05	0.2	<5	<0.1	<0.1	<0.1	<0.1
BD1/20240806 (BH8/0.1-0.2)	0.1 - 0.2 m	6/08/2024	Fill	<5	<1	5	27	190	-	0.5	3	-	95	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
BH8	1 - 1.1 m	6/08/2024	Fill	24	<0.4	11	43	200	-	0.4	14	-	220	<25	<50	<0.2	<0.5	<1	<1	0.1	0.5	-	-	-	-	-
BH9	0.2 - 0.3 m	6/08/2024	Fill	<4	<0.4	5	28	160	-	0.4	3	-	100	<25	<50	<0.2	<0.5	<1	<1	0.1	1.5	-	-	-	-	-
BH9	1 - 1.1 m	6/08/2024	Fill	11	<0.4	11	83	370	0.3	0.5	11	-	300	<25	<50	<0.2	<0.5	<1	<1	0.4	4.1	<5	<0.1	<0.1	<0.1	<0.1
BH10	0.5 - 0.6 m	6/08/2024	Fill	<4	<0.4	10	43	120	-	0.2	30	-	84	<25	<50	<0.2	<0.5	<1	<1	0.08	0.78	<5	<0.1	<0.1	<0.1	<0.1
BH10	1.5 - 1.6 m	6/08/2024	Fill	<4	<0.4	25	28	91	-	0.1	25	-	78	<25	<50	<0.2	<0.5	<1	<1	0.06	0.06	-	-	-	-	-
BH11	0.1 - 0.2 m	6/08/2024	Fill	<4	<0.4	6	37	150	-	0.3	2	-	100	<25	<50	<0.2	<0.5	<1	<1	0.1	0.9	<5	<0.1	<0.1	<0.1	<0.1
BD3/20240806 (BH11/0.1-0.2)	0.1 - 0.2 m	6/08/2024	Fill	<4	<0.4	5	34	170	-	0.3	3	-	130	-	-	<0.2	<0.5	<1	-	0.1	0.74	-	-	-	-	-
BH11	1.4 - 1.5 m	6/08/2024	Fill	<4	<0.4	3	13	66	-	0.6	1	-	54	<25	<50	<0.2	<0.5	<1	<1	0.06	0.06	-	-	-	-	-
BH12	0.3 - 0.4 m	6/08/2024	Fill	<4	<0.4	6	58	190	-	0.4	3	-	130	<25	<50	<0.2	<0.5	<1	<1	0.1	0.85	-	-	-	-	-
BH12	0.8 - 0.9 m	6/08/2024	Fill	<4	<0.4	5	26	150	-	0.3	3	-	85	<25	<50	<0.2	<0.5	<1	<1	<0.05	0.5	<5	<0.1	<0.1	<0.1	<0.1
BD2/20240806 (BH12/0.8-0.9)	0.8 - 0.9 m	6/08/2024	Fill	<5	<1	4	23	114	-	0.3	2	-	66	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
BH13	0.1 - 0.2 m	7/08/2024	Fill	<4	<0.4	14	100	7	-	0.1	100	0.09	72	<25	<50	<0.2	<0.5	<1	<1	<0.05	0.1	<5	<0.1	<0.1	<0.1	<0.1
BH14	0.5 - 0.6 m	7/08/2024	Fill	4	0.6	9	82	460	4.3	0.6	7	-	430	<25	<50	<0.2	<0.5	<1	<1	0.2	2.1	-	-	-	-	-
BH14	1.9 - 2 m	7/08/2024	Fill	<4	<0.4	5	18	57	-	0.1	3	-	63	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1
BH14 - [TRIPLICATE]	1.9 - 2 m	7/08/2024	Fill	<4	<0.4	6	24	150	-	0.2	5	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	0.4 - 0.5 m	6/08/2024	Fill	<4	<0.4	5	41	230	-	0.4	4	-	140	<25	<50	<0.2	<0.5	<1	<1	0.2	2.5	-	-	-	-	-
Waste Classification Criteria [f]																										
CT1				100	20	100	-	100	-	4	40	-	-	650	10,000	10	288	600	1000	0.8	200	288	<50	60	-	-
SCC1				500	100	1,900	-	1,500	-	50	1,050	-	-	650	10,000	18	518	1,080	1,800	10	200	518	<50	108	-	-
TCLP1				-	-	-	-	-	5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CT2				400	80	400	-	400	-	16	160	-	-	2,600	40,000	40	1,152	2,400	4,000	3.2	800	1,152	<50	240	-	-
SCC2				2,000	400	7,600	-	6,000	-	200	4,200	-	-	2,600	40,000	72	2,073	4,320	7,200	23	800	2,073	<50	432	-	-
TCLP2				-	-	-	-	-	20	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Natural Soil Samples																										
BH8	1.7 - 1.8 m	6/08/2024	Sand	<4	<0.4	2	3	11	-	<0.1	<1	-	9	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1
BH10	2.1 - 2.2 m	6/08/2024	Sand	<4	<0.4	2	<1	1	-	<0.1	1	-	1	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1
VENM Reference Levels																										
NEPC (1999)				1-50	1	5-1000	2-100	2-200	-	0.03	5-500	-	10-300	-	-	-	-	-	-	-	-	-	-	-	-	-
ANZECC (1992)				0.2-30	0.04-2	0.5-110	1-190	<2-200	-	0.001-0.1	2-400	-	2-180	-	-	0.05 - 1	0.1 - 1	-	-	-	0.95-5	0.03 – 0.5	-	-	<0.001 - <0.97	-
ANZECC (2000)				1-53	0.016-0.78	2.5-673	0.4-412	2-81	-	-	1-517	-	1-263	-	-	-	-	-	-	-	-	-	-	-	-	-

CT1 exceedance TCLP1 and/or SCC1 exceedance CT2 exceedance TCLP2 and/or SCC2 exceedance Asbestos detection

- = Not tested, no criteria or not applicable NAD = no asbestos detected

Detection in natural sample > background or laboratory detection limit

Notes:

a	QA/QC replicate of sample listed directly below the primary sample
b	Total chromium used as initial screen for chromium(VI).
c	Total recoverable hydrocarbons (TRH) used as an initial screen for total petroleum hydrocarbons (TPH)
d	Criteria for scheduled chemicals used as an initial screen
e	Criteria for Chlorpyrifos used as initial screen
f	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste
PQL	Practical quantitation limit
CT1	Maximum values of specific contaminant concentration (SCC) for classification without TCLP: General solid waste
SCC1	Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
TCLP1	Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
CT2	Maximum values of specific contaminant concentration (SCC) for classification without TCLP: Restricted solid waste
SCC2	Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste
TCLP2	Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste
	NEPC (1999) National Environment Protection Measure (Assessment of Site Contamination) Schedule B1, Table 5-A, Background Ranges
	ANZECC/NHMRC (1992) Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites, Environmental Soil Quality Guidelines Background A [ANZECC A];
	ANZECC (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 3, Table 9.2.16 Datasets used to derive suggested upper background values for uncontaminated Australian soils

Table 13: Summary of Laboratory Results – Preliminary Waste Classification

				OPP	PCB	VOC														PFAS				Asbestos						
				Total Analysed OPP	Total PCB	carbon tetrachloride	Monochlorobenzene	Chloroform	1,2-dichlorobenzene	1,4-dichlorobenzene	1,2-dichloroethane	1,1-Dichloroethene	Styrene (vinylbenzene)	1,1,1,2-tetrachloroethane	1,1,2,2-tetrachloroethane	tetrachloroethene	1,1,1-trichloroethane	1,1,2-trichloroethane	1,1,2-trichloroethylene	Vinyl Chloride	PFOA	TCLP PFOA	PFOS + PFHxS	TCLP PFOS + PFHxS	Asbestos ID in soil >0.1g/kg	Trace Analysis (AS)	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Total Asbestos#1	Asbestos Summary
		PQL		0.1	0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.0001	0.00001	0.0001	0.00001					0.001	0.1	0.001
Sample ID	Depth	Sample Date	Soil Type	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/L	mg/kg	mg/L	-	-	g	g	%(w/w)	g/kg	
BH1 (2010)	0.1	19/10/2010	Fill	<0.1	<0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-
BH1	0.4 - 0.5 m	5/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-
BH2	0.4 - 0.5 m	5/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-
BH3	0.9 - 1 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-
BH4	0.9 - 1 m	7/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-
BH5	0.4 - 0.5 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BH5	0.9 - 1 m	6/08/2024	Fill	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.0001	-	<0.0001	-	-	-	–	–	<0.001	<0.1	-
BH5 - [TRIPLICATE]	0.9 - 1 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	0.2 - 0.3 m	6/08/2024	Fill	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BH6	1.1 - 1.3 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BH7	0 - 0.1 m	7/08/2024	Fill	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0002	<0.00001	0.0008	<0.00001	-	-	–	–	<0.001	<0.1	-
BD4/20240807 (BH7/0-0.1)	0 - 0.1 m	7/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	0.5 - 0.6 m	7/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00001	-	<0.00001	-	-	–	0.0047	<0.001	<0.1	Detected
BH8	0.1 - 0.2 m	6/08/2024	Fill	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BD1/20240806 (BH8/0.1-0.2)	0.1 - 0.2 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1 - 1.1 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	0.0360	0.0053	<0.1	Detected
BH9	0.2 - 0.3 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	-	<0.0001	-	-	-	–	–	<0.001	<0.1	-
BH9	1 - 1.1 m	6/08/2024	Fill	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BH10	0.5 - 0.6 m	6/08/2024	Fill	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.0001	<0.00001	0.0002	<0.00001	-	-	–	–	<0.001	<0.1	-
BH10	1.5 - 1.6 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BH11	0.1 - 0.2 m	6/08/2024	Fill	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BD3/20240806 (BH11/0.1-0.2)	0.1 - 0.2 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	1.4 - 1.5 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BH12	0.3 - 0.4 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BH12	0.8 - 0.9 m	6/08/2024	Fill	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BD2/20240806 (BH12/0.8-0.9)	0.8 - 0.9 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	0.1 - 0.2 m	7/08/2024	Fill	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BH14	0.5 - 0.6 m	7/08/2024	Fill	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	–	–	<0.001	<0.1	-
BH14	1.9 - 2 m	7/08/2024	Fill	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	-	<0.0001	-	-	-	–	–	<0.001	<0.1	-
BH14 - [TRIPLICATE]	1.9 - 2 m	7/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	0.4 - 0.5 m	6/08/2024	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-
Waste Classification Criteria [f]																														
CT1				4	<50	10	2,000	120	86	150	10	14	60	200	26	14	600	24	10	4	-	-	-	-	-	-	-	-	-	-	-
SCC1				7.5	<50	18	3,600	126	155	270	18	25	108	360	46.8	25.2	1,080	43.2	18	7.2	18	-	1.8	-	-	-	-	-	-	-	-
TCLP1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.05	-	-	-	-	-	-	-
CT2				16	<50	40	8,000	480	344	600	40	56	240	800	104	56	2,400	96	40	16	-	-	-	-	-	-	-	-	-	-	-
SCC2				30	<50	72	14,400	864	620	1,080	72	100	432	1,440	187.2	100.8	4,320	172.8	72	28.8	72	-	7.2	-	-	-	-	-	-	-	-
TCLP2				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	0.2	-	-	-	-	-	-	-
Natural Soil Samples																														
BH8	1.7 - 1.8 m	6/08/2024	Sand	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2.1 - 2.2 m	6/08/2024	Sand	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VENM Reference Levels																														
NEPC (1999)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANZECC (1992)				-	0.02 – 0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANZECC (2000)				-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CT1 exceedance TCLP1 and/or SCC1 exceedance CT2 exceedance TCLP2 and/or SCC2 exceedance Asbestos detection

- = Not tested, no criteria or not applicable NAD = no asbestos detected

Detection in natural sample > background or laboratory detection limit

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Total chromium used as initial screen for chromium(VI).

c Total recoverable hydrocarbons (TRH) used as an initial screen for total petroleum hydrocarbons (TPH)

d Criteria for scheduled chemicals used as an initial screen

e Criteria for Chlorpyrifos used as initial screen

f NSW EPA, 2014, Waste Classification Guidelines Part 1: Classifying Waste

PQL Practical quantitation limit

CT1 Maximum values of specific contaminant concentration (SCC) for classification without TCLP: General solid waste

SCC1 Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste

TCLP1 Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste

CT2 Maximum values of specific contaminant concentration (SCC) for classification without TCLP: Restricted solid waste

SCC2 Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste

TCLP2 Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted solid waste

NEPC (1999) National Environment Protection Measure (Assessment of Site Contamination) Schedule B1, Table 5-A, Background Ranges

ANZECC/NHMRC (1992) Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites, Environmental Soil Quality Guidelines Background A [ANZECC A];

ANZECC (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 3, Table 9.2.16 Datasets used to derive suggested upper background values for uncontaminated Australian soils

Acid Sulfate Soil Test Results v1.2

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Table I4: Summary of acid sulfate soils analysis

Project No: 227492.04

Project Name: UNSW G25 Education Building

Location: 8 High Street, Kensington NSW 2033

Sample Information						Screening Test Results				Laboratory Analysis Results (Acid Base Accounting)								
Location ID	Depth from (m)	Depth to (m)	Reduced level (AHD)	Sample Description	Adopted Texture	pH_F (pH units)	pH_{FOX} (pH units)	Reaction Strength	pH change (pH units)	pH_{KCl} (pH units)	S_{KCl} (%S)	S_{HCl} (%S)	Scr (%S)	TAA (%S)	S_{NAS} (%S)	ANC_{BT} (%S)	ANC Corroborated (Y/N)	Net Acidity (%S)
												Coarse texture: sands to loamy sands and peats						0.03
				Assessment Criteria (pH units)		**<4**	**<3**	-	**1.0**	Action Criteria (%S)		Medium texture: clayey sand to light clays						0.06[a]/0.03[b]
												Fine texture: light medium to heavy clays						0.1[a]/0.03[b]
BH1	1.00	1.45	55.00 to 54.55	Sand, pale grey and brown	C	7.3	5.3	Low reaction	**2.0**									
BH1	1.90	2.00	54.10 to 54.00	Sand, pale grey and brown	C	6.1	5.0	Low reaction	**1.1**									
BH1	2.40	2.50	53.60 to 53.50	Sandstone, paly grey and brown	C	5.4	4.8	Low reaction	0.6									
BH2	1.50	1.60	54.20 to 54.10	Sand and ripped sandstone, pale grey and brown	C	6.4	5.1	Low reaction	**1.3**									
BH2	1.90	2.00	53.80 to 53.70	Sand and ripped sandstone, pale grey and brown	C	8.9	5.9	Low reaction	**3.0**									
BH2	2.40	2.50	53.30 to 53.20	Sand, orange-brown	C	8.1	5.4	Low reaction	**2.7**									
BH2	2.50	2.95	53.20 to 52.75	Sand, orange-brown	C	5.8	5.0	Low reaction	0.8									
BH3	2.50	2.95	53.40 to 52.95	Sand, pale grey then brown	C	5.7	5.0	Low reaction	0.7									
BH4	1.50	1.60	54.80 to 54.70	Sand, grey	C	6.6	5.1	Low reaction	**1.5**									
BH4	1.90	2.00	54.40 to 54.30	Sand, grey	C	7.0	5.0	Low reaction	**2.0**									
BH4	2.50	2.95	53.80 to 53.35	Sand, pale grey	C	6.4	5.0	Low reaction	**1.4**									
BH4	3.00	3.10	53.30 to 53.20	Clayey sand, red-brown	C	6.4	5.0	Low reaction	**1.4**									
BH15	1.50	1.60	52.20 to 52.10	Sand, pale grey	C	6.4	5.0	Low reaction	**1.4**									
BH15	1.90	2.00	51.80 to 51.70	Clayey sand, pale brown to orange-brown	C	6.6	5.0	Low reaction	**1.6**									

Notes:
Adopted texutre - C = coarse, M = medium, F = fine
pH_F - Soil pH in water
pH_{FOX} - Soil pH in peroxide
Reaction strength: L - Low , M - Medium, H - High, X - Extreme, V - Volcanic, F - Frothing (indicative of organic material)
pH change = pH_F - pH_{FOX}
pH_{KCL} - KCl extractable pH
S_{KCl} - KCl extractable sulfur
S_{HCl} - HCl extractable sulfur
S_{cr} - potential sulfidic acidity
TAA - titratable actual acidity (reported if pH_{KCL}<6.5)
S_{NAS} – retained acidity (reported if pHkCl < 4.5)
ANC_{BT} – acid neutralising capacity (reported if pH_{KCl} ≥ 6.5)
NT - Not tested
Blue depths indicate where samples have been collected at or below the groundwater table
Bold results are indicators of ASS conditions, noting:
- Assessment criteria are considered a reasonable initial screening for AASS or PASS
- pH_F<4 is indicative of the presence of Actual ASS (AASS), although it is not conclusive of ASS on its own as naturally occurring non ASS soils can have pH_F<5
- pH_{FOX}<3 or pH Change ≥1 may indicate potential ASS (PASS), although exception apply. Laboratory testing required to confirm presence of Reduced Inorganic Sulfur (RIS)
- Refer to Table 5.1, A2, A3 of Sullivan,L. et al (2018) for further details

Shaded results trigger action (i.e. equal to or exceed the action criteria). Criteria is specific for soil texture and anticpated tonnage of soil disturbed.
Net Acidity can only include the measured ANC where the ANC has been corroborated by other data (for example slab incubation data) that demonstrates the soil material does not experience acidification during complete oxidation under field conditions.
a - Action criterion for disturbance of 1-1000 tonnes of material
b - Action criterion for disturbance of more than 1000 tonnes of material
The action criteria apply only to ASS materials and not to other acidic soils such as acidic peatlands and coastal heaths.

Bonded ACM in Soil v1.0.1

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Calculation of Bonded ACM in Soil [Asbestos % w/w]

Project:	UNSW E25	**ACM Asbestos Content % (w/w):**	15
Project No:	227492.04	**Land Use:**	**HSL-D Commercial / Industrial**
Location:	8 High Street, Kensington NSW	**Criterion:**	**0.05**

Table 1: Summary Results for Bonded Asbestos-Containing Material (ACM) in Soil

Sample ID / Test Location ID	Sample Depth Range (m bgl)	Weight of 10L Bulk Sample (g)	Approx. No. Fragments > 7mm	Condition of Fragments (good/poor)	Approx. Size of Largest Fragment (mm)	Weight of Screened ACM (g)	Concentration of Asbestos in Soil (% w/w)
BH5	0.4-0.9	14552	0	n/a	none detected	0	-
BH5	1.3-1.6	14435	0	n/a	none detected	0	-
BH6	0.2-0.7	15800	0	n/a	none detected	0	-
BH6	0.8-1.3	15216	0	n/a	none detected	0	-
BH6	1.3-1.6	14240	0	n/a	none detected	0	-
BH7	0.4-1	14217	0	n/a	none detected	0	-
BH7	0-0.4	15439	0	n/a	none detected	0	-
BH8	0.1-0.5	15839	0	n/a	none detected	0	-
BH8	1.1-1.6	14156	0	n/a	none detected	0	-
BH9	0.2-0.5	15099	0	n/a	none detected	0	-
BH9	0.5-1.0	15993	0	n/a	none detected	0	-
BH9	1.3-1.6	15244	0	n/a	none detected	0	-
BH10	0.1-0.5	13998	0	n/a	none detected	0	-
BH10	1.0-1.5	14337	0	n/a	none detected	0	-
BH11	0.1-0.5	16145	0	n/a	none detected	0	-
BH11	1.0-1.5	14042	0	n/a	none detected	0	-
BH12	0.2-0.7	16179	0	n/a	none detected	0	-
BH12	1.3-1.8	14483	0	n/a	none detected	0	-
BH12	1.8-2	15981	0	n/a	none detected	0	-
BH13	0.1-0.4	16799	0	n/a	none detected	0	-
BH14	0.1-0.5	15856	0	n/a	none detected	0	-
BH14	1.8-2	14572	0	n/a	none detected	0	-
BH14	1-1.5	14945	0	n/a	none detected	0	-

Appendix J

Laboratory Reports and Chain of Custody

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12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
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CERTIFICATE OF ANALYSIS 358721

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	**227492.04 Kensington**
Number of Samples	49 Soil
Date samples received	08/08/2024
Date completed instructions received	08/08/2024

Analysis Details

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

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

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

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	15/08/2024
Date of Issue	15/08/2024

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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Nyovan Moonean, Sneha Shakya
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Jenny He, Senior Chemist
Josh Williams, Senior R&D Chemist
Lucy Zhu, Asbestos Supervisor
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

VOCs in soil				
Our Reference		358721-2	358721-23	358721-41
Your Reference	UNITS	BH5	BH10	BH14
Depth		0.9-1	0.5-0.6	0.5-0.6
Date Sampled		6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil
Date Extracted	-	09/08/2024	09/08/2024	09/08/2024
Date Analysed	-	12/08/2024	12/08/2024	12/08/2024
Dichlorodifluoromethane	mg/kg	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1
trans-1,2-Dichloroethene	mg/kg	<1	<1	<1
1,1-Dichloroethane	mg/kg	<1	<1	<1
cis-1,2-Dichloroethene	mg/kg	<1	<1	<1
Bromochloromethane	mg/kg	<1	<1	<1
Chloroform	mg/kg	<1	<1	<1
2,2-Dichloropropane	mg/kg	<1	<1	<1
1,2-Dichloroethane	mg/kg	<1	<1	<1
1,1,1-Trichloroethane	mg/kg	<1	<1	<1
1,1-Dichloropropene	mg/kg	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1
Carbon Tetrachloride	mg/kg	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2
Dibromomethane	mg/kg	<1	<1	<1
1,2-Dichloropropane	mg/kg	<1	<1	<1
Trichloroethene	mg/kg	<1	<1	<1
Bromodichloromethane	mg/kg	<1	<1	<1
trans-1,3-Dichloropropene	mg/kg	<1	<1	<1
cis-1,3-Dichloropropene	mg/kg	<1	<1	<1
1,1,2-Trichloroethane	mg/kg	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5
1,3-Dichloropropane	mg/kg	<1	<1	<1
Dibromochloromethane	mg/kg	<1	<1	<1
1,2-Dibromoethane	mg/kg	<1	<1	<1
Tetrachloroethene	mg/kg	<1	<1	<1
1,1,1,2-Tetrachloroethane	mg/kg	<1	<1	<1
Chlorobenzene	mg/kg	<1	<1	<1

VOCs in soil				
Our Reference		358721-2	358721-23	358721-41
Your Reference	UNITS	BH5	BH10	BH14
Depth		0.9-1	0.5-0.6	0.5-0.6
Date Sampled		6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil
Ethylbenzene	mg/kg	<1	<1	<1
Bromoform	mg/kg	<1	<1	<1
m+p-Xylene	mg/kg	<2	<2	<2
Styrene	mg/kg	<1	<1	<1
1,1,2,2-Tetrachloroethane	mg/kg	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1
1,2,3-Trichloropropane	mg/kg	<1	<1	<1
Isopropylbenzene	mg/kg	<1	<1	<1
Bromobenzene	mg/kg	<1	<1	<1
n-Propylbenzene	mg/kg	<1	<1	<1
2-Chlorotoluene	mg/kg	<1	<1	<1
4-Chlorotoluene	mg/kg	<1	<1	<1
1,3,5-Trimethylbenzene	mg/kg	<1	<1	<1
tert-Butylbenzene	mg/kg	<1	<1	<1
1,2,4-Trimethylbenzene	mg/kg	<1	<1	<1
1,3-Dichlorobenzene	mg/kg	<1	<1	<1
sec-Butylbenzene	mg/kg	<1	<1	<1
1,4-Dichlorobenzene	mg/kg	<1	<1	<1
4-Isopropyltoluene	mg/kg	<1	<1	<1
1,2-Dichlorobenzene	mg/kg	<1	<1	<1
n-Butylbenzene	mg/kg	<1	<1	<1
1,2-Dibromo-3-chloropropane	mg/kg	<1	<1	<1
1,2,4-Trichlorobenzene	mg/kg	<1	<1	<1
Hexachlorobutadiene	mg/kg	<1	<1	<1
1,2,3-Trichlorobenzene	mg/kg	<1	<1	<1
Surrogate Dibromofluoromethane	%	106	104	106
Surrogate aaa-Trifluorotoluene	%	105	105	103
Surrogate Toluene-d_8	%	103	102	102
Surrogate 4-Bromofluorobenzene	%	94	94	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		358721-1	358721-2	358721-5	358721-7	358721-9
Your Reference	UNITS	BH5	BH5	BH6	BH6	BH7
Depth		0.4-0.5	0.9-1	0.2-0.3	1.1-1.3	0-0.1
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	106	105	99	105	92

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		358721-10	358721-12	358721-14	358721-16	358721-17
Your Reference	UNITS	BH7	BH8	BH8	BH8	BH9
Depth		0.5-0.6	0.1-0.2	1-1.1	1.7-1.8	0.2-0.3
Date Sampled		7/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	102	101	95	104	91

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		358721-19	358721-23	358721-25	358721-27	358721-28
Your Reference	UNITS	BH9	BH10	BH10	BH10	BH11
Depth		1-1.1	0.5-0.6	1.5-1.6	2.1-2.2	0.1-0.2
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	100	105	96	94	95

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		358721-31	358721-34	358721-35	358721-39	358721-41
Your Reference	UNITS	BH11	BH12	BH12	BH13	BH14
Depth		1.4-1.5	0.3-0.4	0.8-0.9	0.1-0.2	0.5-0.6
Date Sampled		6/08/24	6/08/24	6/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	94	88	99	97	103

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		358721-44	358721-46	358721-47	358721-48	358721-49
Your Reference	UNITS	BH14	BD3/20240806	BD4/20240807	TS	TB
Depth		1.9-2	-	-	-	-
Date Sampled		7/08/24	6/08/24	7/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
TRH C_6 - C_9	mg/kg	<25	[NA]	[NA]	[NA]	[NA]
TRH C_6 - C_{10}	mg/kg	<25	[NA]	[NA]	[NA]	[NA]
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	[NA]	[NA]	[NA]	[NA]
Benzene	mg/kg	<0.2	<0.2	<0.2	96%	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	96%	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	96%	<1
m+p-xylene	mg/kg	<2	<2	<2	96%	<2
o-Xylene	mg/kg	<1	<1	<1	96%	<1
Naphthalene	mg/kg	<1	[NA]	[NA]	[NA]	[NA]
Total +ve Xylenes	mg/kg	<1	[NA]	[NA]	[NA]	[NA]
Surrogate aaa-Trifluorotoluene	%	88	98	93	94	93

svTRH (C10-C40) in Soil						
Our Reference		358721-1	358721-2	358721-5	358721-7	358721-9
Your Reference	UNITS	BH5	BH5	BH6	BH6	BH7
Depth		0.4-0.5	0.9-1	0.2-0.3	1.1-1.3	0-0.1
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	10/08/2024	10/08/2024	10/08/2024	10/08/2024	10/08/2024
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	110
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	110
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	110	<100	150
TRH >C_{34} -C_{40}	mg/kg	<100	<100	100	<100	130
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	220	<50	290
Surrogate o-Terphenyl	%	87	81	82	82	88

svTRH (C10-C40) in Soil						
Our Reference		358721-10	358721-12	358721-14	358721-16	358721-17
Your Reference	UNITS	BH7	BH8	BH8	BH8	BH9
Depth		0.5-0.6	0.1-0.2	1-1.1	1.7-1.8	0.2-0.3
Date Sampled		7/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	10/08/2024	10/08/2024	10/08/2024	10/08/2024	10/08/2024
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	83	83	80	83	79

svTRH (C10-C40) in Soil						
Our Reference		358721-19	358721-23	358721-25	358721-27	358721-28
Your Reference	UNITS	BH9	BH10	BH10	BH10	BH11
Depth		1-1.1	0.5-0.6	1.5-1.6	2.1-2.2	0.1-0.2
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	10/08/2024	10/08/2024	10/08/2024	10/08/2024	10/08/2024
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	81	79	80	83	78

svTRH (C10-C40) in Soil						
Our Reference		358721-31	358721-34	358721-35	358721-39	358721-41
Your Reference	UNITS	BH11	BH12	BH12	BH13	BH14
Depth		1.4-1.5	0.3-0.4	0.8-0.9	0.1-0.2	0.5-0.6
Date Sampled		6/08/24	6/08/24	6/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	10/08/2024	10/08/2024	10/08/2024	10/08/2024	10/08/2024
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	110	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	110	<50
Surrogate o-Terphenyl	%	78	79	81	80	78

svTRH (C10-C40) in Soil		
Our Reference		358721-44
Your Reference	UNITS	BH14
Depth		1.9-2
Date Sampled		7/08/24
Type of sample		Soil
Date extracted	-	09/08/2024
Date analysed	-	10/08/2024
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	82

PAHs in Soil						
Our Reference		358721-1	358721-2	358721-5	358721-7	358721-9
Your Reference	UNITS	BH5	BH5	BH6	BH6	BH7
Depth		0.4-0.5	0.9-1	0.2-0.3	1.1-1.3	0-0.1
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	0.2	<0.1	0.2
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.6	<0.1	<0.1	<0.1	0.8
Anthracene	mg/kg	0.2	<0.1	<0.1	<0.1	0.2
Fluoranthene	mg/kg	1	0.1	0.4	<0.1	1.6
Pyrene	mg/kg	0.9	0.1	0.5	<0.1	1.4
Benzo(a)anthracene	mg/kg	0.6	<0.1	0.2	<0.1	0.8
Chrysene	mg/kg	0.4	0.1	0.2	<0.1	0.6
Benzo(b,j+k)fluoranthene	mg/kg	0.7	0.3	1	<0.2	2.1
Benzo(a)pyrene	mg/kg	0.5	0.06	0.3	<0.05	0.53
Indeno(1,2,3-c,d)pyrene	mg/kg	0.3	<0.1	0.2	<0.1	0.3
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.3	<0.1	0.3	<0.1	0.4
Total +ve PAH's	mg/kg	5.5	0.66	3.3	<0.05	8.9
Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.6	<0.5	<0.5	<0.5	0.9
Benzo(a)pyrene TEQ calc(half)	mg/kg	0.7	<0.5	<0.5	<0.5	0.9
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.7	<0.5	0.5	<0.5	1
Surrogate p-Terphenyl-d14	%	109	92	109	93	99

PAHs in Soil						
Our Reference		358721-10	358721-12	358721-14	358721-16	358721-17
Your Reference	UNITS	BH7	BH8	BH8	BH8	BH9
Depth		0.5-0.6	0.1-0.2	1-1.1	1.7-1.8	0.2-0.3
Date Sampled		7/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.2	<0.1	0.1	<0.1	0.2
Pyrene	mg/kg	0.2	<0.1	0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	0.2	<0.1	0.1	<0.1	0.1
Chrysene	mg/kg	0.2	<0.1	<0.1	<0.1	0.2
Benzo(b,j+k)fluoranthene	mg/kg	0.3	0.2	<0.2	<0.2	0.6
Benzo(a)pyrene	mg/kg	0.2	<0.05	0.1	<0.05	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1
Total +ve PAH's	mg/kg	1.5	0.2	0.5	<0.05	1.5
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	101	81	104	81	80

PAHs in Soil						
Our Reference		358721-19	358721-23	358721-25	358721-27	358721-28
Your Reference	UNITS	BH9	BH10	BH10	BH10	BH11
Depth		1-1.1	0.5-0.6	1.5-1.6	2.1-2.2	0.1-0.2
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.4	0.1	<0.1	<0.1	0.1
Pyrene	mg/kg	0.5	0.1	<0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.4	0.1	<0.1	<0.1	0.1
Benzo(b,j+k)fluoranthene	mg/kg	1	0.3	<0.2	<0.2	0.4
Benzo(a)pyrene	mg/kg	0.4	0.08	0.06	<0.05	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	4.1	0.78	0.06	<0.05	0.90
Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	0.7	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.7	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	86	88	96	89	89

PAHs in Soil						
Our Reference		358721-31	358721-34	358721-35	358721-39	358721-41
Your Reference	UNITS	BH11	BH12	BH12	BH13	BH14
Depth		1.4-1.5	0.3-0.4	0.8-0.9	0.1-0.2	0.5-0.6
Date Sampled		6/08/24	6/08/24	6/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.1	0.1	0.1	0.3
Pyrene	mg/kg	<0.1	0.1	0.1	<0.1	0.3
Benzo(a)anthracene	mg/kg	<0.1	0.1	<0.1	<0.1	0.2
Chrysene	mg/kg	<0.1	0.1	<0.1	<0.1	0.2
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	0.2	<0.2	0.4
Benzo(a)pyrene	mg/kg	0.06	0.1	<0.05	<0.05	0.2
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	0.1	<0.1	<0.1	0.2
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	0.1	<0.1	<0.1	0.2
Total +ve PAH's	mg/kg	0.06	0.85	0.5	0.1	2.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	102	100	86	93	100

PAHs in Soil				
Our Reference		358721-44	358721-46	358721-47
Your Reference	UNITS	BH14	BD3/20240806	BD4/20240807
Depth		1.9-2	-	-
Date Sampled		7/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.1	0.4
Pyrene	mg/kg	<0.1	0.2	0.4
Benzo(a)anthracene	mg/kg	<0.1	0.1	0.4
Chrysene	mg/kg	<0.1	0.1	0.3
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	0.5
Benzo(a)pyrene	mg/kg	<0.05	0.1	0.3
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	0.2
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	0.1	0.2
Total +ve PAH's	mg/kg	<0.05	0.74	2.8
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	86	102	102

Organochlorine Pesticides in soil						
Our Reference		358721-2	358721-5	358721-9	358721-12	358721-16
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH8
Depth		0.9-1	0.2-0.3	0-0.1	0.1-0.2	1.7-1.8
Date Sampled		6/08/24	6/08/24	7/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	95	93	94	96	91
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1

Organochlorine Pesticides in soil						
Our Reference		358721-19	358721-23	358721-27	358721-28	358721-35
Your Reference	UNITS	BH9	BH10	BH10	BH11	BH12
Depth		1-1.1	0.5-0.6	2.1-2.2	0.1-0.2	0.8-0.9
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	93	88	65	94	79
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1

Organochlorine Pesticides in soil			
Our Reference		358721-39	358721-44
Your Reference	UNITS	BH13	BH14
Depth		0.1-0.2	1.9-2
Date Sampled		7/08/24	7/08/24
Type of sample		Soil	Soil
Date extracted	-	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024
alpha-BHC	mg/kg	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	87	87
Total Positive Aldrin+Dieldrin	mg/kg	<0.1	<0.1

Organophosphorus Pesticides in Soil						
Our Reference		358721-2	358721-5	358721-9	358721-12	358721-16
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH8
Depth		0.9-1	0.2-0.3	0-0.1	0.1-0.2	1.7-1.8
Date Sampled		6/08/24	6/08/24	7/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	95	93	94	96	91

Organophosphorus Pesticides in Soil						
Our Reference		358721-19	358721-23	358721-27	358721-28	358721-35
Your Reference	UNITS	BH9	BH10	BH10	BH11	BH12
Depth		1-1.1	0.5-0.6	2.1-2.2	0.1-0.2	0.8-0.9
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	93	88	65	94	79

Organophosphorus Pesticides in Soil			
Our Reference		358721-39	358721-44
Your Reference	UNITS	BH13	BH14
Depth		0.1-0.2	1.9-2
Date Sampled		7/08/24	7/08/24
Type of sample		Soil	Soil
Date extracted	-	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024
Dichlorvos	mg/kg	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	87	87

PCBs in Soil						
Our Reference		358721-2	358721-5	358721-9	358721-12	358721-16
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH8
Depth		0.9-1	0.2-0.3	0-0.1	0.1-0.2	1.7-1.8
Date Sampled		6/08/24	6/08/24	7/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	76	76	78	67	66

PCBs in Soil						
Our Reference		358721-19	358721-23	358721-27	358721-28	358721-35
Your Reference	UNITS	BH9	BH10	BH10	BH11	BH12
Depth		1-1.1	0.5-0.6	2.1-2.2	0.1-0.2	0.8-0.9
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	71	69	84	71	67

PCBs in Soil			
Our Reference		358721-39	358721-44
Your Reference	UNITS	BH13	BH14
Depth		0.1-0.2	1.9-2
Date Sampled		7/08/24	7/08/24
Type of sample		Soil	Soil
Date extracted	-	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	72	84

Misc Soil - Inorg						
Our Reference		358721-2	358721-5	358721-9	358721-12	358721-16
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH8
Depth		0.9-1	0.2-0.3	0-0.1	0.1-0.2	1.7-1.8
Date Sampled		6/08/24	6/08/24	7/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		358721-19	358721-23	358721-27	358721-28	358721-35
Your Reference	UNITS	BH9	BH10	BH10	BH11	BH12
Depth		1-1.1	0.5-0.6	2.1-2.2	0.1-0.2	0.8-0.9
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg			
Our Reference		358721-39	358721-44
Your Reference	UNITS	BH13	BH14
Depth		0.1-0.2	1.9-2
Date Sampled		7/08/24	7/08/24
Type of sample		Soil	Soil
Date prepared	-	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024
Total Phenolics (as Phenol)	mg/kg	<5	<5

Acid Extractable metals in soil						
Our Reference		358721-1	358721-2	358721-5	358721-7	358721-9
Your Reference	UNITS	BH5	BH5	BH6	BH6	BH7
Depth		0.4-0.5	0.9-1	0.2-0.3	1.1-1.3	0-0.1
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	5	5	7	3	12
Copper	mg/kg	26	97	25	12	26
Lead	mg/kg	130	290	98	49	82
Mercury	mg/kg	0.3	0.4	0.2	0.1	<0.1
Nickel	mg/kg	4	3	10	2	6
Zinc	mg/kg	80	160	74	31	130

Acid Extractable metals in soil						
Our Reference		358721-10	358721-12	358721-14	358721-16	358721-17
Your Reference	UNITS	BH7	BH8	BH8	BH8	BH9
Depth		0.5-0.6	0.1-0.2	1-1.1	1.7-1.8	0.2-0.3
Date Sampled		7/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
Arsenic	mg/kg	<4	6	24	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	6	11	2	5
Copper	mg/kg	41	40	43	3	28
Lead	mg/kg	460	220	200	11	160
Mercury	mg/kg	0.3	0.3	0.4	<0.1	0.4
Nickel	mg/kg	8	6	14	<1	3
Zinc	mg/kg	110	110	220	9	100

Acid Extractable metals in soil						
Our Reference		358721-19	358721-23	358721-25	358721-27	358721-28
Your Reference	UNITS	BH9	BH10	BH10	BH10	BH11
Depth		1-1.1	0.5-0.6	1.5-1.6	2.1-2.2	0.1-0.2
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
Arsenic	mg/kg	11	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	10	25	2	6
Copper	mg/kg	83	43	28	<1	37
Lead	mg/kg	370	120	91	1	150
Mercury	mg/kg	0.5	0.2	0.1	<0.1	0.3
Nickel	mg/kg	11	30	25	1	2
Zinc	mg/kg	300	84	78	1	100

Acid Extractable metals in soil						
Our Reference		358721-31	358721-34	358721-35	358721-39	358721-41
Your Reference	UNITS	BH11	BH12	BH12	BH13	BH14
Depth		1.4-1.5	0.3-0.4	0.8-0.9	0.1-0.2	0.5-0.6
Date Sampled		6/08/24	6/08/24	6/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
Arsenic	mg/kg	<4	<4	<4	<4	4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	0.6
Chromium	mg/kg	3	6	5	14	9
Copper	mg/kg	13	58	26	100	82
Lead	mg/kg	66	190	150	7	460
Mercury	mg/kg	0.6	0.4	0.3	0.1	0.6
Nickel	mg/kg	1	3	3	100	7
Zinc	mg/kg	54	130	85	72	430

Acid Extractable metals in soil						
Our Reference		358721-44	358721-46	358721-47	358721-50	358721-51
Your Reference	UNITS	BH14	BD3/20240806	BD4/20240807	BH5 - [TRIPLICATE]	BH14 - [TRIPLICATE]
Depth		1.9-2	-	-	0.9-1	1.9-2
Date Sampled		7/08/24	6/08/24	7/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
Arsenic	mg/kg	<4	<4	6	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	5	5	14	7	6
Copper	mg/kg	18	34	29	87	24
Lead	mg/kg	57	170	78	340	150
Mercury	mg/kg	0.1	0.3	<0.1	0.4	0.2
Nickel	mg/kg	3	3	12	4	5
Zinc	mg/kg	63	130	96	180	80

Moisture						
Our Reference		358721-1	358721-2	358721-5	358721-7	358721-9
Your Reference	UNITS	BH5	BH5	BH6	BH6	BH7
Depth		0.4-0.5	0.9-1	0.2-0.3	1.1-1.3	0-0.1
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
Moisture	%	8.0	5.7	12	6.2	26

Moisture						
Our Reference		358721-10	358721-12	358721-14	358721-16	358721-17
Your Reference	UNITS	BH7	BH8	BH8	BH8	BH9
Depth		0.5-0.6	0.1-0.2	1-1.1	1.7-1.8	0.2-0.3
Date Sampled		7/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
Moisture	%	13	10	8.4	7.2	6.6

Moisture						
Our Reference		358721-19	358721-23	358721-25	358721-27	358721-28
Your Reference	UNITS	BH9	BH10	BH10	BH10	BH11
Depth		1-1.1	0.5-0.6	1.5-1.6	2.1-2.2	0.1-0.2
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
Moisture	%	8.8	6.9	8.0	3.7	5.5

Moisture						
Our Reference		358721-31	358721-34	358721-35	358721-39	358721-41
Your Reference	UNITS	BH11	BH12	BH12	BH13	BH14
Depth		1.4-1.5	0.3-0.4	0.8-0.9	0.1-0.2	0.5-0.6
Date Sampled		6/08/24	6/08/24	6/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024	12/08/2024	12/08/2024
Moisture	%	7.6	6.6	7.5	9.0	9.9

Moisture				
Our Reference		358721-44	358721-46	358721-47
Your Reference	UNITS	BH14	BD3/20240806	BD4/20240807
Depth		1.9-2	-	-
Date Sampled		7/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024
Moisture	%	8.2	5.9	15

Asbestos ID - soils NEPM						
Our Reference		358721-1	358721-2	358721-5	358721-7	358721-9
Your Reference	UNITS	BH5	BH5	BH6	BH6	BH7
Depth		0.4-0.5	0.9-1	0.2-0.3	1.1-1.3	0-0.1
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	13/08/2024	13/08/2024	13/08/2024	13/08/2024	13/08/2024
Sample mass tested	g	649.62	719.4	741.25	684.41	383.5
Sample Description	-	Brown sandy soil & rocks	Brown sandy soil & rocks	Grey coarse-grained soil & rocks	Grey sandy soil & rocks	Brown mulch & debris
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos comments	-	Nil	Nil	Nil	Nil	Nil

Asbestos ID - soils NEPM						
Our Reference		358721-10	358721-12	358721-14	358721-17	358721-19
Your Reference	UNITS	BH7	BH8	BH8	BH9	BH9
Depth		0.5-0.6	0.1-0.2	1-1.1	0.2-0.3	1-1.1
Date Sampled		7/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	13/08/2024	13/08/2024	13/08/2024	13/08/2024	13/08/2024
Sample mass tested	g	683.48	735.72	675.2	751.15	725.71
Sample Description	-	Brown coarse-grained soil & rocks	Brown sandy soil & rocks	Brown sandy soil & rocks	Brown sandy soil & rocks	Brown sandy soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	Amosite	No visible asbestos detected	Chrysotile	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	0.0047	–	0.0360	–	–
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	0.0053	<0.001	<0.001
Asbestos comments	-	YES	Nil	YES	Nil	Nil

Asbestos ID - soils NEPM						
Our Reference		358721-23	358721-25	358721-28	358721-31	358721-34
Your Reference	UNITS	BH10	BH10	BH11	BH11	BH12
Depth		0.5-0.6	1.5-1.6	0.1-0.2	1.4-1.5	0.3-0.4
Date Sampled		6/08/24	6/08/24	6/08/24	6/08/24	6/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	13/08/2024	13/08/2024	13/08/2024	13/08/2024	13/08/2024
Sample mass tested	g	739.79	684.14	709.26	734.13	717.46
Sample Description	-	Brown sandy soil & rocks	Brown coarse-grained soil & rocks	Brown sandy soil & rocks	Brown sandy soil & rocks	Brown sandy soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos comments	-	Nil	Nil	Nil	Nil	Nil

Asbestos ID - soils NEPM					
Our Reference		358721-35	358721-39	358721-41	358721-44
Your Reference	UNITS	BH12	BH13	BH14	BH14
Depth		0.8-0.9	0.1-0.2	0.5-0.6	1.9-2
Date Sampled		6/08/24	7/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil
Date analysed	-	13/08/2024	13/08/2024	13/08/2024	13/08/2024
Sample mass tested	g	562.46	975.29	736.41	629.55
Sample Description	-	Brown sandy soil & rocks	Grey coarse-grained soil & rocks	Brown sandy soil & rocks	Brown sandy soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–
FA and AF Estimation*	g	–	–	–	–
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001
Asbestos comments	-	Nil	Nil	Nil	Nil

PFAS in Soils Short						
Our Reference		358721-2	358721-9	358721-17	358721-23	358721-44
Your Reference	UNITS	BH5	BH7	BH9	BH10	BH14
Depth		0.9-1	0-0.1	0.2-0.3	0.5-0.6	1.9-2
Date Sampled		6/08/24	7/08/24	6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024	09/08/2024	09/08/2024
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	0.8	<0.1	0.2	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	0.2	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	109	103	108	99	109
Surrogate $^{13}C_2$ *PFOA*	%	104	103	103	102	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	94	86	102	103	103
Extracted ISTD $^{13}C_4$ *PFOS*	%	92	88	106	113	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	101	73	110	112	109
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	106	61	107	111	108
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	114	68	122	122	122
Total Positive PFHxS & PFOS	µg/kg	<0.1	0.8	<0.1	0.2	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	1.0	<0.1	0.2	<0.1
Total Positive PFAS	µg/kg	<0.1	1.0	<0.1	0.2	<0.1

Misc Inorg - Soil				
Our Reference		358721-2	358721-9	358721-41
Your Reference	UNITS	BH5	BH7	BH14
Depth		0.9-1	0-0.1	0.5-0.6
Date Sampled		6/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil
Date prepared	-	08/08/2024	08/08/2024	08/08/2024
Date analysed	-	09/08/2024	09/08/2024	09/08/2024
pH 1:5 soil:water	pH Units	7.4	7.3	6.9

CEC				
Our Reference		358721-2	358721-9	358721-41
Your Reference	UNITS	BH5	BH7	BH14
Depth		0.9-1	0-0.1	0.5-0.6
Date Sampled		6/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil
Date prepared	-	12/08/2024	12/08/2024	12/08/2024
Date analysed	-	12/08/2024	12/08/2024	12/08/2024
Exchangeable Ca	meq/100g	2.3	8.6	2.0
Exchangeable K	meq/100g	<0.1	0.1	<0.1
Exchangeable Mg	meq/100g	0.1	1.0	<0.1
Exchangeable Na	meq/100g	<0.1	<0.1	<0.1
Cation Exchange Capacity	meq/100g	2.5	9.9	2.2

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. NOTE#1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF relative to the sample mass tested) NOTE#2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-001	pH - Measured using pH meter and electrode. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
Metals-021	Determination of Mercury by Cold Vapour AAS.

Method ID	Methodology Summary
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021/022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD and/or GC-MS/GC-MSMS. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
Date Extracted	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date Analysed	-			12/08/2024	2	12/08/2024	12/08/2024		12/08/2024	12/08/2024
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
trans-1,2-Dichloroethene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,1-Dichloroethane	mg/kg	1	Org-023	<1	2	<1	<1	0	92	83
cis-1,2-Dichloroethene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Bromochloromethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Chloroform	mg/kg	1	Org-023	<1	2	<1	<1	0	94	85
2,2-Dichloropropane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2-Dichloroethane	mg/kg	1	Org-023	<1	2	<1	<1	0	103	93
1,1,1-Trichloroethane	mg/kg	1	Org-023	<1	2	<1	<1	0	97	85
1,1-Dichloropropene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Carbon Tetrachloride	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	2	<0.2	<0.2	0	89	79
Dibromomethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2-Dichloropropane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Trichloroethene	mg/kg	1	Org-023	<1	2	<1	<1	0	85	76
Bromodichloromethane	mg/kg	1	Org-023	<1	2	<1	<1	0	93	84
trans-1,3-Dichloropropene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
cis-1,3-Dichloropropene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,1,2-Trichloroethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	2	<0.5	<0.5	0	92	81
1,3-Dichloropropane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Dibromochloromethane	mg/kg	1	Org-023	<1	2	<1	<1	0	86	77
1,2-Dibromoethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Tetrachloroethene	mg/kg	1	Org-023	<1	2	<1	<1	0	102	91
1,1,1,2-Tetrachloroethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Chlorobenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	93	82
Bromoform	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
m+p-Xylene	mg/kg	2	Org-023	<2	2	<2	<2	0	95	85
Styrene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,1,2,2-Tetrachloroethane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
o-Xylene	mg/kg	1	Org-023	<1	2	<1	<1	0	94	84
1,2,3-Trichloropropane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Isopropylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Bromobenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
n-Propylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
2-Chlorotoluene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
4-Chlorotoluene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,3,5-Trimethylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
tert-Butylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2,4-Trimethylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,3-Dichlorobenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
sec-Butylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,4-Dichlorobenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
4-Isopropyltoluene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2-Dichlorobenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
n-Butylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2-Dibromo-3-chloropropane	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2,4-Trichlorobenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2,3-Trichlorobenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	106	2	106	104	2	97	98
Surrogate aaa-Trifluorotoluene	%		Org-023	102	2	105	89	16	92	82
Surrogate Toluene-d_8	%		Org-023	101	2	103	101	2	94	94
Surrogate 4-Bromofluorobenzene	%		Org-023	95	2	94	94	0	98	99

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
Date extracted	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			12/08/2024	2	12/08/2024	12/08/2024		12/08/2024	12/08/2024
TRH C_6 - C_9	mg/kg	25	Org-023	<25	2	<25	<25	0	93	82
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	2	<25	<25	0	93	82
Benzene	mg/kg	0.2	Org-023	<0.2	2	<0.2	<0.2	0	89	79
Toluene	mg/kg	0.5	Org-023	<0.5	2	<0.5	<0.5	0	92	81
Ethylbenzene	mg/kg	1	Org-023	<1	2	<1	<1	0	93	82
m+p-xylene	mg/kg	2	Org-023	<2	2	<2	<2	0	95	85
o-Xylene	mg/kg	1	Org-023	<1	2	<1	<1	0	94	84
Naphthalene	mg/kg	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	110	2	105	89	16	92	82

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	358721-35
Date extracted	-			[NT]	27	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			[NT]	27	12/08/2024	12/08/2024		12/08/2024	12/08/2024
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	27	<25	<25	0	99	98
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	27	<25	<25	0	99	98
Benzene	mg/kg	0.2	Org-023	[NT]	27	<0.2	<0.2	0	95	95
Toluene	mg/kg	0.5	Org-023	[NT]	27	<0.5	<0.5	0	95	94
Ethylbenzene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	100	99
m+p-xylene	mg/kg	2	Org-023	[NT]	27	<2	<2	0	102	102
o-Xylene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	102	101
Naphthalene	mg/kg	1	Org-023	[NT]	27	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	27	94	90	4	96	94

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Date analysed	-			[NT]	44	12/08/2024	12/08/2024		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	44	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	44	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	44	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	44	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	44	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	44	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	44	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	44	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	44	88	89	1	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
Date extracted	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			10/08/2024	2	10/08/2024	10/08/2024		10/08/2024	10/08/2024
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	2	<50	<50	0	114	93
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	2	<100	<100	0	108	90
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	2	<100	<100	0	100	76
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	2	<50	<50	0	114	93
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	2	<100	<100	0	108	90
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	2	<100	<100	0	100	76
Surrogate o-Terphenyl	%		Org-020	82	2	81	82	1	88	83

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	358721-35
Date extracted	-			[NT]	27	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			[NT]	27	10/08/2024	10/08/2024		10/08/2024	10/08/2024
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	27	<50	<50	0	115	98
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	27	<100	<100	0	106	93
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	27	<100	<100	0	100	108
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	27	<50	<50	0	115	98
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	27	<100	<100	0	106	93
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	27	<100	<100	0	100	108
Surrogate o-Terphenyl	%		Org-020	[NT]	27	83	79	5	94	84

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Date analysed	-			[NT]	44	10/08/2024	10/08/2024		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	44	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	44	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	44	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	44	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	44	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	44	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	44	82	80	2	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
Date extracted	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	86	92
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	96	99
Fluorene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	86	85
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	90	102
Anthracene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	2	0.1	0.1	0	96	107
Pyrene	mg/kg	0.1	Org-022/025	<0.1	2	0.1	0.2	67	92	104
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	2	0.1	0.1	0	84	98
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	2	0.3	0.3	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	2	0.06	0.09	40	106	99
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	90	2	92	94	2	92	111

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	358721-35
Date extracted	-			[NT]	27	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			[NT]	27	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	96	90
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	98	99
Fluorene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	96	85
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	90	110
Anthracene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	94	119
Pyrene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	90	116
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	98	80
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	27	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	27	<0.05	<0.05	0	68	99
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	27	89	86	3	89	90

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Date analysed	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	44	<0.2	0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	44	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	44	86	87	1	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
Date extracted	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	94	92
HCB	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	104	86
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	88	90
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	84	94
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	90	114
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	78	101
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	70	124
Endrin	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	76	121
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	76	88
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	74	97
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	89	2	95	98	3	92	87

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	358721-35
Date extracted	-			[NT]	27	09/08/2024	09/08/2024		[NT]	09/08/2024
Date analysed	-			[NT]	27	09/08/2024	09/08/2024		[NT]	09/08/2024
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	82
HCB	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	94
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	90
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	90
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	100
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	88
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	94
Endrin	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	86
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	72
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	68
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	27	65	86	28	[NT]	89

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Date analysed	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	44	87	88	1	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
Date extracted	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	86	96
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	84	88
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	68	96
Malathion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	90	110
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	86	93
Fenthion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	65	95
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	92	105
Phosalone	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	89	2	95	98	3	92	87

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	358721-35
Date extracted	-			[NT]	27	09/08/2024	09/08/2024		[NT]	09/08/2024
Date analysed	-			[NT]	27	09/08/2024	09/08/2024		[NT]	09/08/2024
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	96
Mevinphos	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	88
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	103
Malathion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	115
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	94
Fenthion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	96
Bromophos-ethyl	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	116
Phosalone	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	27	65	86	28	[NT]	89

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Date analysed	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Mevinphos	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Fenthion	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Phosalone	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	[NT]	44	87	88	1	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
Date extracted	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Aroclor 1016	mg/kg	0.1	Org-021/022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	<0.1	2	<0.1	<0.1	0	105	100
Aroclor 1260	mg/kg	0.1	Org-021/022/025	<0.1	2	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	79	2	76	77	1	76	65

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	358721-35
Date extracted	-			[NT]	27	09/08/2024	09/08/2024		[NT]	09/08/2024
Date analysed	-			[NT]	27	09/08/2024	09/08/2024		[NT]	09/08/2024
Aroclor 1016	mg/kg	0.1	Org-021/022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	[NT]	27	<0.1	<0.1	0	[NT]	100
Aroclor 1260	mg/kg	0.1	Org-021/022/025	[NT]	27	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	[NT]	27	84	65	26	[NT]	85

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Date analysed	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021/022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021/022/025	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	[NT]	44	84	82	2	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
Date prepared	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	2	<5	<5	0	101	97

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	27	09/08/2024	09/08/2024		[NT]	[NT]
Date analysed	-			[NT]	27	09/08/2024	09/08/2024		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	27	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	358721-23
Date prepared	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			12/08/2024	2	12/08/2024	12/08/2024		12/08/2024	12/08/2024
Arsenic	mg/kg	4	Metals-020	<4	2	<4	<4	0	117	116
Cadmium	mg/kg	0.4	Metals-020	<0.4	2	<0.4	<0.4	0	111	104
Chromium	mg/kg	1	Metals-020	<1	2	5	6	18	111	104
Copper	mg/kg	1	Metals-020	<1	2	97	110	13	114	104
Lead	mg/kg	1	Metals-020	<1	2	290	570	65	113	#
Mercury	mg/kg	0.1	Metals-021	<0.1	2	0.4	0.5	22	91	95
Nickel	mg/kg	1	Metals-020	<1	2	3	4	29	112	93
Zinc	mg/kg	1	Metals-020	<1	2	160	160	0	115	103

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	358721-35
Date prepared	-			[NT]	27	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			[NT]	27	12/08/2024	12/08/2024		12/08/2024	12/08/2024
Arsenic	mg/kg	4	Metals-020	[NT]	27	<4	<4	0	113	117
Cadmium	mg/kg	0.4	Metals-020	[NT]	27	<0.4	<0.4	0	107	108
Chromium	mg/kg	1	Metals-020	[NT]	27	2	2	0	106	111
Copper	mg/kg	1	Metals-020	[NT]	27	<1	<1	0	110	126
Lead	mg/kg	1	Metals-020	[NT]	27	1	1	0	108	#
Mercury	mg/kg	0.1	Metals-021	[NT]	27	<0.1	<0.1	0	92	#
Nickel	mg/kg	1	Metals-020	[NT]	27	1	1	0	107	112
Zinc	mg/kg	1	Metals-020	[NT]	27	1	1	0	110	126

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	44	09/08/2024	09/08/2024		[NT]	[NT]
Date analysed	-			[NT]	44	12/08/2024	12/08/2024		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	44	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	44	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	44	5	4	22	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	44	18	19	5	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	44	57	91	46	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	44	0.1	0.7	150	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	44	3	5	50	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	44	63	49	25	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	358721-23
Date prepared	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Date analysed	-			09/08/2024	2	09/08/2024	09/08/2024		09/08/2024	09/08/2024
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	106	97
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	109	96
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	103	92
6:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	96	97
8:2 FTS	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	102	89
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	108	2	109	106	3	103	101
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	100	2	104	103	1	99	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	95	2	94	98	4	101	99
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	97	2	92	99	7	100	116
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	105	2	101	105	4	105	107
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	107	2	106	106	0	112	104
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	114	2	114	118	3	109	116

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			08/08/2024	[NT]	[NT]	[NT]	[NT]	08/08/2024	[NT]
Date analysed	-			09/08/2024	[NT]	[NT]	[NT]	[NT]	09/08/2024	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	358721-9
Date prepared	-			12/08/2024	2	12/08/2024	12/08/2024		12/08/2024	12/08/2024
Date analysed	-			12/08/2024	2	12/08/2024	12/08/2024		12/08/2024	12/08/2024
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	2	2.3	1.9	19	94	120
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	2	<0.1	<0.1	0	105	103
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	2	0.1	0.1	0	90	92
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	2	<0.1	<0.1	0	93	93

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Report Comments

Acid Extractable Metals in Soil:
- The laboratory RPD acceptance criteria has been exceeded for 358721-2 for Pb. Therefore a triplicate result has been issued as laboratory sample number 358721-50.
- The laboratory RPD acceptance criteria has been exceeded for 358721-44 for Pb. Therefore a triplicate result has been issued as laboratory sample number 358721-51.
- # Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Factual description of asbestos identified in the soil samples: NEPM
Sample 358721-10; Amosite asbestos identified in 0.0047g of loose fibre bundles
Sample 358721-14; Chrysotile asbestos identified in 0.0450g of fibrous matted material

updated COC 8/8/24, 1232

Douglas PARTNERS

CHAIN OF CUSTODY DESPATCH SHEET

Project No: 227492.04	**Suburb:** Kensington		**To:** Envirolab Services
Project Manager: Kurt Plambeck	**Order Number:**	**Sampler:** SAF	12 Ashley St, Chatswood NSW 2067
Email: Kurt.Plambeck@douglaspartners.com.au			**Attn:** Sample Receipt
Turnaround time ☑ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day			(02) 9910 6200 samplereceipt@envirolab.com
Prior Storage ☑ Fridge ☐ Freezer ☑ Esky ☑ Shelf	**Do samples contain 'potential' HBM?** ☐ No ☐ (If YES, handle, transport, store in accordance with FPM HAZID)		

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water M - Material	Container Type: G - glass P - plastic	Analytes: 8 AFFA	3 AFFA	HM PAH BTEX	BTEX	VOC	PFAS short suite	Combo 8	CEC / pH				Notes/ Preservation/ Additional Requirements
1	BH5	0.4	0.5	6/08/24	S	G/P		X										
2	BH5	0.9	1	6/08/24	S	G/P	X				X	X		X				
3	BH5	1.4	1.5	6/08/24	S	G/P												On hold
4	BH5	1.6	1.7	6/08/24	S	G/P												On hold
5	BH6	0.2	0.3	6/08/24	S	G/P	X											
6	BH6	0.8	0.9	6/08/24	S	G/P												On hold
7	BH6	1.1	1.3	6/08/24	S	G/P		X										
8	BH6	1.5	1.6	6/08/24	S	G/P												On hold
9	BH7	0	0.1	7/08/24	S	G/P	X					X		X				
10	BH7	0.5	0.6	7/08/24	S	G/P		X										
11	BH7	1	1.1	7/08/24	S	G/P												On hold
12	BH8	0.1	0.2	6/08/24	S	G/P	X											
13	BH8	0.6	0.7	6/08/24	S	G/P												On hold
14	BH8	1	1.1	6/08/24	S	G/P		X										

ENVIROLAB — Envirolab Services, 12 Ashley St, Chatswood NSW 2067, Ph: (02) 9910 6200
Job No: 35872i
Date Received: 8/8/24
Time Received: 1300
Received By: KW
Temp: Cool/Ambient 12°C
Cooling: Ice/Icepack
Security: Intact/Broken/None

Metals to analyse:
Number of samples in container:
Transported to laboratory by:
Send results to: Douglas Partners Pty Ltd
Address: 96 Hermitage Road, West Ryde NSW 211 **Phone:** (02) 9809 0666
Relinquished by: KDP **Date:** 08.08.2024 **Signed:**

LAB RECEIPT
Lab Ref. No: 35872i
Received by: Katy Wayne
Date & Time 8/8/24 1300
Signed:

Douglas PARTNERS

CHAIN OF CUSTODY DESPATCH SHEET

Project No: 227492.04	**Suburb:** Kensington	**To:** Envirolab Services	
Project Manager: Kurt Plambeck		**Dispatch date:** 08.08.2024	

Lab ID	Sample ID			Date Sampled	Sample Type	Container Type	Analytes											Notes/ Preservation/ Additional Requirements
	Location / Other ID	Depth From	Depth To		S - soil W - water M -	G - glass P - plastic	8 AFFA	3 AFFA	HM PAH BTEX	BTEX	VOC	PFAS short suite	Combo 8	CEC / pH				
15	BH8	1.5	1.6	6/08/24	S	G/P												On hold
16	BH8	1.7	1.8	6/08/24	S	G/P							X					
17	BH9	0.2	0.3	6/08/24	S	G/P		X				X						
18	BH9	0.5	0.6	6/08/24	S	G/P												On hold
19	BH9	1	1.1	6/08/24	S	G/P	X							#35 8/8	8720 KW			
20	BH9	1.3	1.4	6/08/24	S	G/P												On hold
21	BH9	1.6	1.7	6/08/24	S	G/P												On hold
22	BH10	0.1	0.2	6/08/24	S	G/P												On hold
23	BH10	0.5	0.6	6/08/24	S	G/P	X				X	X						
24	BH10	1	1.1	6/08/24	S	G/P												On hold
25	BH10	1.5	1.6	6/08/24	S	G/P		X										
26	BH10	2	2.1	6/08/24	S	G/P												On hold
27	BH10	2.1	2.2	6/08/24	S	G/P							X					On hold
28	BH11	0.1	0.2	6/08/24	S	G/P	X											
29	BH11	0.5	0.6	6/08/24	S	G/P												On hold
30	BH11	0.9	1	6/08/24	S	G/P												On hold
31	BH11	1.4	1.5	6/08/24	S	G/P		X										
32	BH11	1.9	2	6/08/24	S	G/P												On hold

Douglas PARTNERS

CHAIN OF CUSTODY DESPATCH SHEET

Project No: 227492.04 **Suburb:** Kensington **To:** Envirolab Services

Project Manager: Kurt Plambeck **Dispatch date:** 08.08.2024

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water M -	Container Type: G - glass P - plastic	Analytes: 8 AFFA	3 AFFA	HM PAH BTEX	BTEX	VOC	PFAS short suite	Combo 8	CEC / pH				Notes/ Preservation/ Additional Requirements
33	BH11	2	2.1	6/08/24	S	G/P												On hold
34	BH12	0.3	0.4	6/08/24	S	G/P		X										
35	BH12	0.8	0.9	6/08/24	S	G/P	X											
36	BH12	1.4	1.5	6/08/24	S	G/P												On hold
37	BH12	1.8	1.9	6/08/24	S	G/P							#358724					On hold
38	BH12	2	2.1	6/08/24	S	G/P								8/8	KW			On hold
39	BH13	0.1	0.2	7/08/24	S	G/P	X											
40	BH14	0.1	0.2	7/08/24	S	G/P												On hold
41	BH14	0.5	0.6	7/08/24	S	G/P		X			X			X				
42	BH14	1	1.1	7/08/24	S	G/P												On hold
43	BH14	1.5	1.6	7/08/24	S	G/P												On hold
44	BH14	1.9	2	7/08/24	S	G/P	X					X						
45	BH14	2	2.1	7/08/24	S	G/P												On hold
S10	BD1/20240806			6/08/24	S	G/P			X									Interlab
S10	BD2/20240806			6/08/24	S	G/P			X									Interlab
46	BD3/20240806			6/08/24	S	G/P			X									intralab
47	BD4/20240807			7/08/24	S	G/P			X									intralab
48	TS				S	G/P				X								
49	TB				S	G/P				X								

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12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck

Sample Login Details

Your reference	227492.04 Kensington
Envirolab Reference	358721
Date Sample Received	08/08/2024
Date Instructions Received	08/08/2024
Date Results Expected to be Reported	15/08/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	49 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	12
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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Sample ID	VOCs in soil	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Misc Soil - Inorg	Acid Extractable metalsin soil	Asbestos ID - soils NEPM	PFAS in Soils Short	Misc Inorg - Soil	CEC	On Hold
BH5-0.4-0.5		✓	✓	✓					✓	✓				
BH5-0.9-1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH5-1.4-1.5														✓
BH5-1.6-1.7														✓
BH6-0.2-0.3		✓	✓	✓	✓	✓	✓	✓	✓	✓				
BH6-0.8-0.9														✓
BH6-1.1-1.3		✓	✓	✓					✓	✓				
BH6-1.5-1.6														✓
BH7-0-0.1		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BH7-0.5-0.6		✓	✓	✓					✓	✓				
BH7-1-1.1														✓
BH8-0.1-0.2		✓	✓	✓	✓	✓	✓	✓	✓	✓				
BH8-0.6-0.7														✓
BH8-1-1.1		✓	✓	✓					✓	✓				
BH8-1.5-1.6														✓
BH8-1.7-1.8		✓	✓	✓	✓	✓	✓	✓	✓					
BH9-0.2-0.3		✓	✓	✓					✓	✓	✓			
BH9-0.5-0.6														✓
BH9-1-1.1		✓	✓	✓	✓	✓	✓	✓	✓	✓				
BH9-1.3-1.4														✓
BH9-1.6-1.7														✓
BH10-0.1-0.2														✓
BH10-0.5-0.6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH10-1-1.1														✓
BH10-1.5-1.6		✓	✓	✓					✓	✓				
BH10-2-2.1														✓
BH10-2.1-2.2		✓	✓	✓	✓	✓	✓	✓	✓					
BH11-0.1-0.2		✓	✓	✓	✓	✓	✓	✓	✓	✓				
BH11-0.5-0.6														✓
BH11-0.9-1														✓
BH11-1.4-1.5		✓	✓	✓					✓	✓				
BH11-1.9-2														✓

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Sample ID	VOCs in soil	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Misc Soil - Inorg	Acid Extractable metalsin soil	Asbestos ID - soils NEPM	PFAS in Soils Short	Misc Inorg - Soil	CEC	On Hold
BH11-2-2.1														✓
BH12-0.3-0.4		✓	✓	✓					✓	✓				
BH12-0.8-0.9		✓	✓	✓	✓	✓	✓	✓	✓	✓				
BH12-1.4-1.5														✓
BH12-1.8-1.9														✓
BH12-2-2.1														✓
BH13-0.1-0.2		✓	✓	✓	✓	✓	✓	✓	✓	✓				
BH14-0.1-0.2														✓
BH14-0.5-0.6	✓	✓	✓	✓					✓	✓		✓	✓	
BH14-1-1.1														✓
BH14-1.5-1.6														✓
BH14-1.9-2		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH14-2-2.1														✓
BD3/20240806		✓		✓					✓					
BD4/20240807		✓		✓					✓					
TS		✓												
TB		✓												

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

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CERTIFICATE OF ANALYSIS 359400

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	**227492.04 Kensington**
Number of Samples	5 Soil
Date samples received	16/08/2024
Date completed instructions received	16/08/2024

Analysis Details

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

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

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

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	23/08/2024
Date of Issue	23/08/2024

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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Nyovan Moonean
Authorised by Asbestos Approved Signatory: Nyovan Moonean

Results Approved By
Jack Wallis, Chemist (FAS)
Loren Bardwell, Development Chemist
Nyovan Moonean, Asbestos Approved Identifier/Counter
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		359400-1	359400-2	359400-3	359400-4	359400-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH15
Depth		0.4-0.5	0.4-0.5	0.9-1	0.9-1	0.4-0.5
Date Sampled		05/08/2024	05/08/2024	06/08/2024	07/08/2024	06/08/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2024	19/08/2024	19/08/2024	19/08/2024	19/08/2024
Date analysed	-	21/08/2024	21/08/2024	21/08/2024	21/08/2024	21/08/2024
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	77	96	78	84	84

svTRH (C10-C40) in Soil						
Our Reference		359400-1	359400-2	359400-3	359400-4	359400-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH15
Depth		0.4-0.5	0.4-0.5	0.9-1	0.9-1	0.4-0.5
Date Sampled		05/08/2024	05/08/2024	06/08/2024	07/08/2024	06/08/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2024	19/08/2024	19/08/2024	19/08/2024	19/08/2024
Date analysed	-	20/08/2024	20/08/2024	20/08/2024	20/08/2024	20/08/2024
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	86	88	87	85	87

PAHs in Soil						
Our Reference		359400-1	359400-2	359400-3	359400-4	359400-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH15
Depth		0.4-0.5	0.4-0.5	0.9-1	0.9-1	0.4-0.5
Date Sampled		05/08/2024	05/08/2024	06/08/2024	07/08/2024	06/08/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2024	19/08/2024	19/08/2024	19/08/2024	19/08/2024
Date analysed	-	21/08/2024	21/08/2024	21/08/2024	21/08/2024	21/08/2024
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.1	0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	0.2	0.2	0.4
Pyrene	mg/kg	<0.1	<0.1	0.3	0.2	0.3
Benzo(a)anthracene	mg/kg	<0.1	<0.1	0.2	0.1	0.2
Chrysene	mg/kg	<0.1	<0.1	0.2	0.1	0.2
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	0.2	0.6	0.5	0.7
Benzo(a)pyrene	mg/kg	<0.05	0.07	0.2	0.1	0.2
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	0.1	<0.1	0.2
Total +ve PAH's	mg/kg	<0.05	0.3	1.9	1.4	2.5
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	100	104	98	98	105

Acid Extractable metals in soil						
Our Reference		359400-1	359400-2	359400-3	359400-4	359400-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH15
Depth		0.4-0.5	0.4-0.5	0.9-1	0.9-1	0.4-0.5
Date Sampled		05/08/2024	05/08/2024	06/08/2024	07/08/2024	06/08/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/08/2024	19/08/2024	19/08/2024	19/08/2024	19/08/2024
Date analysed	-	20/08/2024	20/08/2024	20/08/2024	20/08/2024	20/08/2024
Arsenic	mg/kg	<4	4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	4	6	5	6	5
Copper	mg/kg	11	25	22	29	41
Lead	mg/kg	42	160	160	240	230
Mercury	mg/kg	<0.1	0.4	0.3	0.4	0.4
Nickel	mg/kg	2	6	3	6	4
Zinc	mg/kg	36	100	100	120	140

Moisture						
Our Reference		359400-1	359400-2	359400-3	359400-4	359400-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH15
Depth		0.4-0.5	0.4-0.5	0.9-1	0.9-1	0.4-0.5
Date Sampled		05/08/2024	05/08/2024	06/08/2024	07/08/2024	06/08/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/08/2024	19/08/2024	19/08/2024	19/08/2024	19/08/2024
Date analysed	-	20/08/2024	20/08/2024	20/08/2024	20/08/2024	20/08/2024
Moisture	%	7.6	6.4	8.3	8.3	6.9

Asbestos ID - soils						
Our Reference		359400-1	359400-2	359400-3	359400-4	359400-5
Your Reference	UNITS	BH1	BH2	BH3	BH4	BH15
Depth		0.4-0.5	0.4-0.5	0.9-1	0.9-1	0.4-0.5
Date Sampled		05/08/2024	05/08/2024	06/08/2024	07/08/2024	06/08/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
Sample mass tested	g	Approx. 40g	Approx. 40g	Approx. 40g	Approx. 40g	Approx. 40g
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Asbestos comments	-	Nil	Nil	Nil	Nil	Nil
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date extracted	-			19/08/2024	[NT]	[NT]	[NT]	[NT]	19/08/2024	[NT]
Date analysed	-			21/08/2024	[NT]	[NT]	[NT]	[NT]	21/08/2024	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	84	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	84	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	79	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	81	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	87	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	92	[NT]	[NT]	[NT]	[NT]	92	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date extracted	-			19/08/2024	[NT]	[NT]	[NT]	[NT]	19/08/2024	[NT]
Date analysed	-			20/08/2024	[NT]	[NT]	[NT]	[NT]	20/08/2024	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	96	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	129	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	96	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	129	[NT]
Surrogate o-Terphenyl	%		Org-020	90	[NT]	[NT]	[NT]	[NT]	86	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date extracted	-			19/08/2024	[NT]	[NT]	[NT]	[NT]	19/08/2024	[NT]
Date analysed	-			21/08/2024	[NT]	[NT]	[NT]	[NT]	21/08/2024	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	86	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	102	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	[NT]
Date prepared	-			19/08/2024	[NT]	[NT]	[NT]	[NT]	19/08/2024	[NT]
Date analysed	-			20/08/2024	[NT]	[NT]	[NT]	[NT]	20/08/2024	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	110	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	102	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Report Comments

Asbestos: A portion of the supplied sample was sub-sampled for asbestos according to ASB-001 asbestos subsampling procedure. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab/MPL recommends supplying 40-60g or 500ml of sample in its own container.
Note: Samples requested for testing were sub-sampled from jars provided by the client.

Douglas PARTNERS

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	227492.04	**Suburb:**	Kensington	**To:**	Envirolab Services
Project Manager:	Kurt Plambeck	**Order Number:**		**Sampler:** SAF	12 Ashley St, Chatswood NSW 2067
Email:	Kurt.Plambeck@douglaspartners.com.au			**Attn:**	Sample Receipt
Turnaround time	☑ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day				(02) 9910 6200 samplereceipt@envirolab.com
Prior Storage	☑ Fridge ☐ Freezer ☑ Esky ☑ Shelf	**Do samples contain 'potential' HBM?**	☐ No	☐ (If YES, handle, transport, store in accordance with FPM HAZID)	

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water M - Material	Container Type: G - glass P - plastic	Analytes: Combo 3A										Notes/ Preservation/ Additional Requirements
1	BH1	0.4	0.5	5/08/24	S	G	X										
2	BH2	0.4	0.5	5/08/24	S	G	X										
3	BH3	0.9	1	6/08/24	S	G	X										
4	BH4	0.9	1	7/08/24	S	G	X										
5	BH15	0.4	0.5	6/08/24	S	G	X										

ENVIROLAB GROUP

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 359400
Date Received: 16/8/24
Time Received: 1430
Received By: DL
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Metals to analyse:		**LAB RECEIPT**	
Number of samples in container:	**Transported to laboratory by:**	**Lab Ref. No:**	359400
Send results to:	Douglas Partners Pty Ltd	**Received by:**	Da Hyun Lee
Address:	96 Hermitage Road, West Ryde NSW 211 **Phone:** (02) 9809 0666	**Date & Tim**	16/8/24 1430
Relinquished by:	KDP **Date:** 16.08.2024 **Signed:**	**Signed:**	

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck

Sample Login Details

Your reference	227492.04 Kensington
Envirolab Reference	359400
Date Sample Received	16/08/2024
Date Instructions Received	16/08/2024
Date Results Expected to be Reported	23/08/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	5 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	8
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils
BH1-0.4-0.5	✓	✓	✓	✓	✓
BH2-0.4-0.5	✓	✓	✓	✓	✓
BH3-0.9-1	✓	✓	✓	✓	✓
BH4-0.9-1	✓	✓	✓	✓	✓
BH15-0.4-0.5	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Envirolab Services Pty Ltd
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12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 358721-A

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	**227492.04 Kensington**
Number of Samples	Additional analysis
Date samples received	08/08/2024
Date completed instructions received	16/08/2024

Analysis Details

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

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

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

Report Details

Date results requested by	26/08/2024
Date of Issue	26/08/2024

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

Results Approved By
Loren Bardwell, Development Chemist
Sean McAlary, Senior Chemist
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

TCLP Preparation - Acid						
Our Reference		358721-A-2	358721-A-10	358721-A-19	358721-A-23	358721-A-39
Your Reference	UNITS	BH5	BH7	BH9	BH10	BH13
Depth		0.9-1	0.5-0.6	1-1.1	0.5-0.6	0.1-0.2
Date Sampled		6/08/24	7/08/24	6/08/24	6/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
pH of soil for fluid# determ.	pH units	8.3	7.3	7.3	8.5	9.4
pH of soil TCLP (after HCl)	pH units	1.8	2.0	1.9	1.9	2.1
Extraction fluid used		1	1	1	1	1
pH of final Leachate	pH units	5.0	5.0	5.0	5.0	5.3

TCLP Preparation - Acid		
Our Reference		358721-A-41
Your Reference	UNITS	BH14
Depth		0.5-0.6
Date Sampled		7/08/24
Type of sample		Soil
pH of soil for fluid# determ.	pH units	8.9
pH of soil TCLP (after HCl)	pH units	2.0
Extraction fluid used		1
pH of final Leachate	pH units	5.0

Metals from Leaching Fluid pH 2.9 or 5						
Our Reference		358721-A-2	358721-A-10	358721-A-19	358721-A-39	358721-A-41
Your Reference	UNITS	BH5	BH7	BH9	BH13	BH14
Depth		0.9-1	0.5-0.6	1-1.1	0.1-0.2	0.5-0.6
Date Sampled		6/08/24	7/08/24	6/08/24	7/08/24	7/08/24
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	26/08/2024	22/08/2024	22/08/2024	22/08/2024	22/08/2024
Date analysed	-	26/08/2024	22/08/2024	22/08/2024	22/08/2024	22/08/2024
Lead	mg/L	0.71	0.2	0.3	[NA]	4.3
Nickel	mg/L	[NA]	[NA]	[NA]	0.09	[NA]

PFAS in TCLP Short			
Our Reference		358721-A-10	358721-A-23
Your Reference	UNITS	BH7	BH10
Depth		0.5-0.6	0.5-0.6
Date Sampled		7/08/24	6/08/24
Type of sample		Soil	Soil
Date prepared	-	20/08/2024	20/08/2024
Date analysed	-	20/08/2024	20/08/2024
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	107	106
Surrogate $^{13}C_2$ *PFOA*	%	101	110
Extracted ISTD $^{18}O_2$ *PFHxS*	%	81	84
Extracted ISTD $^{13}C_4$ *PFOS*	%	81	81
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	99	94
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	112	107
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01
Total Positive PFOS & PFOA	µg/L	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01

Method ID	Methodology Summary
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using AS 4439. Please note that the mass used may be scaled down from default based on sample mass available. Samples are stored at 2-6oC before and after leachate preparation.
Metals-020	Determination of various metals by ICP-AES following buffer determination as per USEPA 1311 and hence AS 4439.3. Extraction Fluid 1 refers to the pH 5.0 buffer and Extraction Fluid 2 is the pH 2.9 buffer.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: Metals from Leaching Fluid pH 2.9 or 5					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			26/08/2024	2	26/08/2024	26/08/2024		26/08/2024	[NT]
Date analysed	-			26/08/2024	2	26/08/2024	26/08/2024		26/08/2024	[NT]
Lead	mg/L	0.03	Metals-020	<0.03	2	0.71	0.69	3	101	[NT]
Nickel	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: PFAS in TCLP Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			20/08/2024	[NT]	[NT]	[NT]	[NT]	20/08/2024	[NT]
Date analysed	-			20/08/2024	[NT]	[NT]	[NT]	[NT]	20/08/2024	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	117	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	109	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	110	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	113	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	104	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	81	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	83	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	95	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	109	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Anna Bui

From: Kurt Plambeck <kurt.plambeck@douglaspartners.com.au>
Sent: Friday, 16 August 2024 4:15 PM
To: Stuart Chen
Cc: Samplereceipt
Subject: RE: Results for Registration 358721 227492.04 Kensington

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Hi Stuart,

Can you please run the following TCLP

Lead
2 BH5/0.9-1
10 BH7/0.5-0.6
19 BH9/1-1.1
41 BH14/0.5-0.6

Ni
39 BH13/0.1-0.2

PFAS (short)
10 BH7/0.5-0.6
23 BH10/0.5-0.6

EW REF: 358721 - A
TAT: STANDARD
DUE: 23/8/24
AB

Standard turnaround

Kurt Plambeck | Senior Associate/Environmental Scientist

02 9809 0666 +61 402 057 147 kurt.plambeck@douglaspartners.com.au

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PO Box 472, West Ryde, NSW 1685

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From: Stuart Chen <SChen2@envirolab.com.au>
Sent: Thursday, August 15, 2024 6:23 PM
To: Kurt Plambeck <kurt.plambeck@douglaspartners.com.au>
Subject: Results for Registration 358721 227492.04 Kensington

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the COC/paperwork received from you
ESDAT Extracts
an Excel or .csv file containing the results

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck

Sample Login Details

Your reference	227492.04 Kensington
Envirolab Reference	358721-A
Date Sample Received	08/08/2024
Date Instructions Received	16/08/2024
Date Results Expected to be Reported	23/08/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	Additional analysis
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	12
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
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12 Ashley St Chatswood NSW 2067
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customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	TCLP Preparation - Acid	Lead	Nickel	PFAS in TCLP Short	On Hold
BH5-0.4-0.5					✓
BH5-0.9-1	✓	✓			
BH5-1.4-1.5					✓
BH5-1.6-1.7					✓
BH6-0.2-0.3					✓
BH6-0.8-0.9					✓
BH6-1.1-1.3					✓
BH6-1.5-1.6					✓
BH7-0-0.1					✓
BH7-0.5-0.6	✓	✓		✓	
BH7-1-1.1					✓
BH8-0.1-0.2					✓
BH8-0.6-0.7					✓
BH8-1-1.1					✓
BH8-1.5-1.6					✓
BH8-1.7-1.8					✓
BH9-0.2-0.3					✓
BH9-0.5-0.6					✓
BH9-1-1.1	✓	✓			
BH9-1.3-1.4					✓
BH9-1.6-1.7					✓
BH10-0.1-0.2					✓
BH10-0.5-0.6	✓			✓	
BH10-1-1.1					✓
BH10-1.5-1.6					✓
BH10-2-2.1					✓
BH10-2.1-2.2					✓
BH11-0.1-0.2					✓
BH11-0.5-0.6					✓
BH11-0.9-1					✓
BH11-1.4-1.5					✓
BH11-1.9-2					✓

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12 Ashley St Chatswood NSW 2067
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www.envirolab.com.au

Sample ID	TCLP Preparation - Acid	Lead	Nickel	PFAS in TCLP Short	On Hold
BH11-2-2.1					✓
BH12-0.3-0.4					✓
BH12-0.8-0.9					✓
BH12-1.4-1.5					✓
BH12-1.8-1.9					✓
BH12-2-2.1					✓
BH13-0.1-0.2	✓		✓		
BH14-0.1-0.2					✓
BH14-0.5-0.6	✓	✓			
BH14-1-1.1					✓
BH14-1.5-1.6					✓
BH14-1.9-2					✓
BH14-2-2.1					✓
BD3/20240806					✓
BD4/20240807					✓
TS					✓
TB					✓
BH5 - [TRIPLICATE]-0.9-1					✓
BH14 - [TRIPLICATE]-1.9-2					✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

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CERTIFICATE OF ANALYSIS 358721-B

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	**227492.04 Kensington**
Number of Samples	Additional analysis
Date samples received	08/08/2024
Date completed instructions received	21/08/2024

Analysis Details

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

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

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

Report Details

Date results requested by	28/08/2024
Date of Issue	28/08/2024

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Results Approved By
Sean McAlary, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

PFAS in TCLP Short		
Our Reference		358721-B-9
Your Reference	UNITS	BH7
Depth		0-0.1
Date Sampled		7/08/24
Type of sample		Soil
Date prepared	-	26/08/2024
Date analysed	-	26/08/2024
pH of soil for fluid# determ.	pH units	9.4
pH of soil TCLP (after HCl)	pH units	1.7
Extraction fluid used		1
pH of final Leachate	pH units	5.0
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01
6:2 FTS	µg/L	<0.01
8:2 FTS	µg/L	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	99
Surrogate $^{13}C_2$ *PFOA*	%	96
Extracted ISTD $^{18}O_2$ *PFHxS*	%	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	90
Extracted ISTD $^{13}C_4$ *PFOA*	%	96
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	69
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	75
Total Positive PFHxS & PFOS	µg/L	<0.01
Total Positive PFOS & PFOA	µg/L	<0.01
Total Positive PFAS	µg/L	<0.01

Method ID	Methodology Summary
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using AS 4439. Please note that the mass used may be scaled down from default based on sample mass available. Samples are stored at 2-6oC before and after leachate preparation.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: PFAS in TCLP Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			26/08/2024	[NT]	[NT]	[NT]	[NT]	26/08/2024	[NT]
Date analysed	-			26/08/2024	[NT]	[NT]	[NT]	[NT]	26/08/2024	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	97	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	108	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	109	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	95	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	73	[NT]	[NT]	[NT]	[NT]	76	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	76	[NT]	[NT]	[NT]	[NT]	85	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Anna Bui

From: Kurt Plambeck <kurt.plambeck@douglaspartners.com.au>
Sent: Wednesday, 21 August 2024 1:17 PM
To: Stuart Chen
Cc: Samplereceipt; LC NSW
Subject: RE: 358721-A

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

No standard is fine

Kurt Plambeck | Senior Associate/Environmental Scientist

02 9809 0666 +61 402 057 147 kurt.plambeck@douglaspartners.com.au

www.douglaspartners.com.au 96 Hermitage Road, West Ryde
NSW 2114 | Wallumedegal Country
PO Box 472, West Ryde, NSW 1685

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From: Stuart Chen <SChen2@envirolab.com.au>
Sent: Wednesday, August 21, 2024 1:16 PM
To: Kurt Plambeck <kurt.plambeck@douglaspartners.com.au>
Cc: Samplereceipt <Samplereceipt@envirolab.com.au>; LC NSW <LCNSW@envirolab.com.au>
Subject: RE: 358721-A

No worries, did you need this one urgently?

ELS REF: 358721-B
TAT: STANDARD
DUE: 28/8/24
AB.

Kind Regards,

Stuart Chen | Reporting Coordinator | Envirolab Services

Great Science. Great Service.

12 Ashley Street Chatswood NSW 2067
T 612 9910 6200
E SChen2@envirolab.com.au | **W** www.envirolab.com.au

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Samples will be analysed per our T&C's.

From: Kurt Plambeck <kurt.plambeck@douglaspartners.com.au>
Sent: Wednesday, August 21, 2024 1:13 PM
To: Stuart Chen <SChen2@envirolab.com.au>
Subject: RE: 358721-A

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Hi Stuart,

I have messed that up please test Sample 9 for TCLP PFAS

Kurt Plambeck | Senior Associate/Environmental Scientist

02 9809 0666 +61 402 057 147 kurt.plambeck@douglaspartners.com.au

www.douglaspartners.com.au 96 Hermitage Road, West Ryde
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From: Stuart Chen <SChen2@envirolab.com.au>
Sent: Wednesday, August 21, 2024 1:10 PM
To: Kurt Plambeck <kurt.plambeck@douglaspartners.com.au>
Subject: 358721-A

Hi Kurt,

We're finalizing our runs for PFAS TCLP and noticed that #10 did not have non leachate testing. Did you mean to have sample 9 tested for TCLP PFAS instead or is this intentional?

Kind Regards,

Stuart Chen | Reporting Coordinator | Envirolab Services

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12 Ashley Street Chatswood NSW 2067
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Price Increase: We will be having a CPI increase July 2024. Your on-line price list will be updated automatically.

Please consider the environment before printing this email.

Samples will be analysed per our T&C's.

CERTIFICATE OF ANALYSIS

Work Order	: **ES2426262**	Page	: 1 of 5
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR KURT PLAMBECK	Contact	: Customer Services ES
Address	: 96 HERMITAGE ROAD WEST RYDE NSW, AUSTRALIA 2114	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9809 0666	Telephone	: +61 2 8784 8555
Project	: 227492.04	Date Samples Received	: 09-Aug-2024 15:43
Order number	: ----	Date Analysis Commenced	: 13-Aug-2024
C-O-C number	: ----	Issue Date	: 16-Aug-2024 16:05
Sampler	: SAF		
Site	: KENSINGTON		
Quote number	: EN/222		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Rassem Ayoubi	Senior Organic Chemist	Sydney Organics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

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

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

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

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

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BD1/20240806	BD2/20240806	---	----	----
			Sampling date / time	06-Aug-2024 00:00	06-Aug-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2426262-001	ES2426262-002	-------	--------	--------
				Result	Result	---	---	---
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**8.0**	**8.3**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	**5**	**4**	----	----	----
Copper	7440-50-8	5	mg/kg	**27**	**23**	----	----	----
Lead	7439-92-1	5	mg/kg	**190**	**114**	----	----	----
Nickel	7440-02-0	2	mg/kg	**3**	**2**	----	----	----
Zinc	7440-66-6	5	mg/kg	**95**	**66**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.5**	**0.3**	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BD1/20240806	BD2/20240806	---	---	---
			Sampling date / time	06-Aug-2024 00:00	06-Aug-2024 00:00	---	---	---
Compound	CAS Number	LOR	Unit	ES2426262-001	ES2426262-002	-------	-------	--------
				Result	Result	---	---	---
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**101**	**104**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**90.6**	**89.3**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**77.6**	**79.6**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**99.0**	**102**	----	----	----
Anthracene-d10	1719-06-8	0.5	%	**97.8**	**109**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**102**	**104**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**79.2**	**82.4**	----	----	----
Toluene-D8	2037-26-5	0.2	%	**83.9**	**95.2**	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**88.2**	**98.3**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131

QUALITY CONTROL REPORT

Work Order	: **ES2426262**	Page	: 1 of 5
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR KURT PLAMBECK	Contact	: Customer Services ES
Address	: 96 HERMITAGE ROAD WEST RYDE NSW, AUSTRALIA 2114	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9809 0666	Telephone	: +61 2 8784 8555
Project	: 227492.04	Date Samples Received	: 09-Aug-2024
Order number	: ----	Date Analysis Commenced	: 13-Aug-2024
C-O-C number	: ----	Issue Date	: 16-Aug-2024
Sampler	: SAF		
Site	: KENSINGTON		
Quote number	: EN/222		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Rassem Ayoubi	Senior Organic Chemist	Sydney Organics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5989737)									
ES2426159-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	100	103	2.6	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	85	89	5.5	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	28	28	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	11	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	67	83	21.5	0% - 50%
ES2425171-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	20	37.6	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	10	19	62.7	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	7	33.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	31	74.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	27	111	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	21	43	67.1	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5989748)									
ES2426097-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	9.4	9.2	2.0	No Limit
ES2426290-002	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	11.2	11.6	3.4	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5989736)									
ES2426288-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2425171-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5983397)									
ES2426261-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: BTEXN (QC Lot: 5984515)									
ES2426287-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES2426292-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5989737)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	109	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	109	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	125	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	106	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	107	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	105	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	101	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5989736)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	107	70.0	125
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5983397)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	99.1	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	95.0	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	98.4	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	99.4	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	101	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	93.0	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	94.3	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	94.3	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	91.2	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	98.1	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	89.4	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	95.3	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	92.5	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	95.4	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	95.6	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	92.4	63.0	121
EP080: BTEXN (QCLot: 5984515)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	89.7	76.0	124
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	83.8	78.5	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	85.6	77.4	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 5984515) - continued								
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	85.0	78.2	121
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	83.1	81.3	121
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	89.2	78.8	122

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5989737)							
ES2425171-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	95.3	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	94.7	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	113	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	97.1	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.9	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	111	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5989736)							
ES2425171-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	94.9	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5983397)							
ES2426261-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	92.6	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	97.9	70.0	130
EP080: BTEXN (QCLot: 5984515)							
ES2426287-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	78.0	62.1	122
		EP080: Toluene	108-88-3	2.5 mg/kg	75.2	66.6	119
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	80.6	67.4	123
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	78.3	66.4	121
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	79.4	70.7	121
		EP080: Naphthalene	91-20-3	2.5 mg/kg	80.3	61.1	115

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2426262**	Page	: 1 of 4
Client	: **DOUGLAS PARTNERS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR KURT PLAMBECK	Telephone	: +61 2 8784 8555
Project	: 227492.04	Date Samples Received	: 09-Aug-2024
Site	: KENSINGTON	Issue Date	: 16-Aug-2024
Sampler	: SAF	No. of samples received	: 2
Order number	: ----	No. of samples analysed	: 2

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
BD1/20240806, BD2/20240806	**06-Aug-2024**	**----**	----	----	**15-Aug-2024**	20-Aug-2024	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
BD1/20240806, BD2/20240806	**06-Aug-2024**	**15-Aug-2024**	02-Feb-2025	✓	**15-Aug-2024**	02-Feb-2025	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
BD1/20240806, BD2/20240806	**06-Aug-2024**	**15-Aug-2024**	03-Sep-2024	✓	**16-Aug-2024**	03-Sep-2024	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
BD1/20240806, BD2/20240806	**06-Aug-2024**	**13-Aug-2024**	20-Aug-2024	✓	**14-Aug-2024**	22-Sep-2024	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
BD1/20240806, BD2/20240806	**06-Aug-2024**	**13-Aug-2024**	20-Aug-2024	✓	**13-Aug-2024**	20-Aug-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **SOIL**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

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CERTIFICATE OF ANALYSIS 359805

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	**227492.04 Kensington**
Number of Samples	14 Soil
Date samples received	22/08/2024
Date completed instructions received	22/08/2024

Analysis Details

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

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

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

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	29/08/2024
Date of Issue	29/08/2024

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Results Approved By
Jenny He, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

sPOCAS field test						
Our Reference		359805-1	359805-2	359805-3	359805-4	359805-5
Your Reference	UNITS	BH1	BH1	BH1	BH2	BH2
Depth		1-1.45	1.9-2	2.4-2.5	1.5-1.6	1.9-2
Date Sampled		02/08/2024	02/08/2024	02/08/2024	05/08/2024	05/08/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/08/2024	22/08/2024	22/08/2024	22/08/2024	22/08/2024
Date analysed	-	23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
pH_F (field pH test)	pH Units	7.3	6.1	5.4	6.4	8.9
pH_{FOX} (field peroxide test)	pH Units	5.3	5.0	4.8	5.1	5.9
Reaction Rate*	-	Low reaction	Low reaction	Low reaction	Low reaction	Low reaction

sPOCAS field test						
Our Reference		359805-6	359805-7	359805-8	359805-9	359805-10
Your Reference	UNITS	BH2	BH2	BH4	BH4	BH4
Depth		2.4-2.5	2.5-2.95	1.5-1.6	1.9-2	2.5-2.95
Date Sampled		05/08/2024	05/08/2024	07/08/2024	07/08/2024	07/08/2024
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/08/2024	22/08/2024	22/08/2024	22/08/2024	22/08/2024
Date analysed	-	23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
pH_F (field pH test)	pH Units	8.1	5.8	6.6	7.0	6.4
pH_{FOX} (field peroxide test)	pH Units	5.4	5.0	5.1	5.0	5.0
Reaction Rate*	-	Low reaction	Low reaction	Low reaction	Low reaction	Low reaction

sPOCAS field test					
Our Reference		359805-11	359805-12	359805-13	359805-14
Your Reference	UNITS	BH4	BH15	BH15	BH3
Depth		3-3.1	1.5-1.6	1.9-2	2.5-2.95
Date Sampled		07/08/2024	06/08/2024	06/08/2024	06/08/2024
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	22/08/2024	22/08/2024	22/08/2024	22/08/2024
Date analysed	-	23/08/2024	23/08/2024	23/08/2024	23/08/2024
pH_F (field pH test)	pH Units	6.4	6.4	6.6	5.7
pH_{FOX} (field peroxide test)	pH Units	5.0	5.0	5.0	5.0
Reaction Rate*	-	Low reaction	Low reaction	Low reaction	Low reaction

Method ID	Methodology Summary
Inorg-063	pH- measured using pH meter and electrode. Soil is oxidised with Hydrogen Peroxide or extracted with water. To ensure accurate results these tests are recommended to be done in the field as pH may change with time thus these results may not be representative of true field conditions.

QUALITY CONTROL: sPOCAS field test						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			22/08/2024	[NT]	[NT]	[NT]	[NT]	22/08/2024	[NT]
Date analysed	-			23/08/2024	[NT]	[NT]	[NT]	[NT]	23/08/2024	[NT]
pH_F (field pH test)	pH Units		Inorg-063	[NT]	[NT]	[NT]	[NT]	[NT]	101	[NT]
pH_{FOX} (field peroxide test)	pH Units		Inorg-063	[NT]	[NT]	[NT]	[NT]	[NT]	101	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

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

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

Report Comments

Samples received in good order: Holding time exceedance

CHAIN OF CUSTODY DESPATCH SHEET

Douglas PARTNERS

Project No:	227492.04	**Suburb:**	Kensington	**To:**	Envirolab Services
Project Manager:	Kurt Plambeck	**Order Number:**		**Sampler:** SAF	12 Ashley St, Chatswood NSW 2067
Email:	Kurt.Plambeck@douglaspartners.com.au			**Attn:**	Sample Receipt
Turnaround time	☑ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day				(02) 9910 6200 samplereceipt@envirolab.com
Prior Storage	☑ Fridge ☑ Freezer ☑ Esky ☐ Shelf	**Do samples contain 'potential' HBM?**	☐ No ☐ Yes (If YES, handle, transport, store in accordance with FPM HAZID)		

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water M - Material	Container Type: G - glass P - plastic	Analytes: ASS Screening											Notes/ Preservation/ Additional Requirements
1	BH1	1	1.45	2/08/24	S	P	X											
2	BH1	1.9	2	2/08/24	S	P	X											
3	BH1	2.4	2.5	2/08/24	S	P	X											
4	BH2	1.5	1.6	5/08/24	S	P	X											
5	BH2	1.9	2	5/08/24	S	P	X											
6	BH2	2.4	2.5	5/08/24	S	P	X											
7	BH2	2.5	2.95	5/08/24	S	P	X											
8	BH4	1.5	1.6	7/08/24	S	P	X											
9	BH4	1.9	2	7/08/24	S	P	X											
10	BH4	2.5	2.95	7/08/24	S	P	X											
11	BH4	3	3.1	7/08/24	S	P	X											
12	BH15	1.5	1.6	6/08/24	S	P	X											
13	BH15	1.9	2	6/08/24	S	P	X											
14	BH3 QC	2.5	2.95															

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 359805
Date Received: 22/8/24
Time Received: 1300
Received By: KC
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Metals to analyse:			**LAB RECEIPT**
Number of samples in container:		**Transported to laboratory by:**	**Lab Ref. No:**
Send results to:	Douglas Partners Pty Ltd		**Received by:**
Address:	96 Hermitage Road, West Ryde NSW 2114	**Phone:** (02) 9809 0666	**Date & Time**
Relinquished by:	KDP	**Date:** 22.08.2024 **Signed:**	**Signed:**

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck

Sample Login Details

Your reference	227492.04 Kensington
Envirolab Reference	359805
Date Sample Received	22/08/2024
Date Instructions Received	22/08/2024
Date Results Expected to be Reported	29/08/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	14 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	7
Cooling Method	Ice
Sampling Date Provided	YES

Comments

received an extra sample BH3 (2.5-2.95).

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	sPOCAS field test
BH1-1-1.45	✓
BH1-1.9-2	✓
BH1-2.4-2.5	✓
BH2-1.5-1.6	✓
BH2-1.9-2	✓
BH2-2.4-2.5	✓
BH2-2.5-2.95	✓
BH4-1.5-1.6	✓
BH4-1.9-2	✓
BH4-2.5-2.95	✓
BH4-3-3.1	✓
BH15-1.5-1.6	✓
BH15-1.9-2	✓
BH3-2.5-2.95	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

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CERTIFICATE OF ANALYSIS 359721

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	**227492.04, Kensington**
Number of Samples	8 Water
Date samples received	21/08/2024
Date completed instructions received	21/08/2024

Analysis Details

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

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

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

Report Details

Date results requested by	28/08/2024
Date of Issue	28/08/2024

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

Results Approved By
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Loren Bardwell, Development Chemist
Sean McAlary, Senior Chemist
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

VOCs in water				
Our Reference		359721-1	359721-2	359721-3
Your Reference	UNITS	MW1	MW2	MW4
Date Sampled		19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water
Date Extracted	-	23/08/2024	23/08/2024	23/08/2024
Date Analysed	-	23/08/2024	23/08/2024	23/08/2024
Dichlorodifluoromethane	µg/L	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Chloroform	µg/L	4	<1	2
2,2-dichloropropane	µg/L	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Benzene	µg/L	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1

VOCs in water				
Our Reference		359721-1	359721-2	359721-3
Your Reference	UNITS	MW1	MW2	MW4
Date Sampled		19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water
Bromoform	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
Styrene	µg/L	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1
o-xylene	µg/L	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	93	93	94
Surrogate Toluene-d8	%	100	100	102
Surrogate 4-Bromofluorobenzene	%	108	107	106

vTRH(C6-C10)/BTEXN in Water						
Our Reference		359721-1	359721-2	359721-3	359721-4	359721-5
Your Reference	UNITS	MW1	MW2	MW4	BD	Trip Spike
Date Sampled		19/08/2024	19/08/2024	19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
Date analysed	-	23/08/2024	23/08/2024	23/08/2024	23/08/2024	23/08/2024
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	[NA]
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	[NA]
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	[NA]
Benzene	µg/L	<1	<1	<1	<1	93%
Toluene	µg/L	<1	<1	<1	<1	97%
Ethylbenzene	µg/L	<1	<1	<1	<1	108%
m+p-xylene	µg/L	<2	<2	<2	<2	107%
o-xylene	µg/L	<1	<1	<1	<1	109%
Naphthalene	µg/L	<1	<1	<1	<1	[NA]
Surrogate Dibromofluoromethane	%	93	93	94	94	93
Surrogate Toluene-d8	%	100	100	102	100	101
Surrogate 4-Bromofluorobenzene	%	108	107	106	106	110

vTRH(C6-C10)/BTEXN in Water		
Our Reference		359721-6
Your Reference	UNITS	Trip Blank
Date Sampled		19/08/2024
Type of sample		Water
Date extracted	-	23/08/2024
Date analysed	-	23/08/2024
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	91
Surrogate Toluene-d8	%	102
Surrogate 4-Bromofluorobenzene	%	107

svTRH (C10-C40) in Water					
Our Reference		359721-1	359721-2	359721-3	359721-4
Your Reference	UNITS	MW1	MW2	MW4	BD
Date Sampled		19/08/2024	19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water	Water
Date extracted	-	26/08/2024	26/08/2024	26/08/2024	26/08/2024
Date analysed	-	26/08/2024	26/08/2024	26/08/2024	26/08/2024
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	53	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	53	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	50	<50	<50	<50
Surrogate o-Terphenyl	%	96	78	82	86

PAHs in Water					
Our Reference		359721-1	359721-2	359721-3	359721-4
Your Reference	UNITS	MW1	MW2	MW4	BD
Date Sampled		19/08/2024	19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water	Water
Date extracted	-	26/08/2024	26/08/2024	26/08/2024	26/08/2024
Date analysed	-	27/08/2024	27/08/2024	27/08/2024	27/08/2024
Naphthalene	µg/L	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	µg/L	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	<0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	<0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	µg/L	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d14	%	108	87	99	72

OCPs in Water - Trace Level				
Our Reference	UNITS	359721-1	359721-2	359721-3
Your Reference		MW1	MW2	MW4
Date Sampled		19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water
Date extracted	-	26/08/2024	26/08/2024	28/08/2024
Date analysed	-	27/08/2024	27/08/2024	28/08/2024
alpha-BHC	µg/L	<0.001	<0.001	<0.001
HCB	µg/L	<0.001	<0.001	<0.001
beta-BHC	µg/L	<0.001	<0.001	<0.001
gamma-BHC	µg/L	<0.001	<0.001	<0.001
Heptachlor	µg/L	<0.001	<0.001	<0.001
delta-BHC	µg/L	<0.001	<0.001	<0.001
Aldrin	µg/L	<0.001	<0.001	<0.001
Heptachlor Epoxide	µg/L	<0.001	<0.001	<0.001
gamma-Chlordane	µg/L	<0.001	<0.001	<0.001
alpha-Chlordane	µg/L	<0.001	<0.001	<0.001
Endosulfan I	µg/L	<0.002	<0.002	<0.002
pp-DDE	µg/L	<0.001	<0.001	<0.001
Dieldrin	µg/L	<0.001	<0.001	<0.001
Endrin	µg/L	<0.001	<0.001	<0.001
Endosulfan II	µg/L	<0.002	<0.002	<0.002
pp-DDD	µg/L	<0.001	<0.001	<0.001
Endrin Aldehyde	µg/L	<0.001	<0.001	<0.001
pp-DDT	µg/L	<0.001	<0.001	<0.001
Endosulfan Sulphate	µg/L	<0.001	<0.001	<0.001
Methoxychlor	µg/L	<0.001	<0.001	<0.001
Surrogate 4-Chloro-3-NBTF	%	108	87	99

OP in water LL ANZECCF/ADWG				
Our Reference	UNITS	359721-1	359721-2	359721-3
Your Reference		MW1	MW2	MW4
Date Sampled		19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water
Date extracted	-	26/08/2024	26/08/2024	26/08/2024
Date analysed	-	27/08/2024	27/08/2024	27/08/2024
Dichlorvos	µg/L	<0.05	<0.05	<0.05
Mevinphos	µg/L	<0.05	<0.05	<0.05
Phorate	µg/L	<0.05	<0.05	<0.05
Dimethoate	µg/L	<0.1	<0.1	<0.1
Diazinon	µg/L	<0.01	<0.01	<0.01
Disulfoton	µg/L	<0.05	<0.05	<0.05
Chlorpyriphos-methyl	µg/L	<0.05	<0.05	<0.05
Parathion-Methyl	µg/L	<0.05	<0.05	<0.05
Ronnel	µg/L	<0.05	<0.05	<0.05
Fenitrothion	µg/L	<0.05	<0.05	<0.05
Malathion	µg/L	<0.05	<0.05	<0.05
Chlorpyriphos	µg/L	<0.009	<0.009	<0.009
Fenthion	µg/L	<0.05	<0.05	<0.05
Parathion	µg/L	<0.004	<0.004	<0.004
Bromophos ethyl	µg/L	<0.05	<0.05	<0.05
Methidathion	µg/L	<0.05	<0.05	<0.05
Fenamiphos	µg/L	<0.05	<0.05	<0.05
Ethion	µg/L	<0.05	<0.05	<0.05
Phosalone	µg/L	<0.05	<0.05	<0.05
Azinphos-methyl (Guthion)	µg/L	<0.02	<0.02	<0.02
Coumaphos	µg/L	<0.05	<0.05	<0.05
Surrogate 4-Chloro-3-NBTF	%	108	87	99

PCBs in Water - Trace Level				
Our Reference	UNITS	359721-1	359721-2	359721-3
Your Reference		MW1	MW2	MW4
Date Sampled		19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water
Date extracted	-	26/08/2024	26/08/2024	26/08/2024
Date analysed	-	27/08/2024	27/08/2024	27/08/2024
Aroclor 1016	µg/L	<0.01	<0.01	<0.01
Aroclor 1221	µg/L	<0.01	<0.01	<0.01
Aroclor 1232	µg/L	<0.01	<0.01	<0.01
Aroclor 1242	µg/L	<0.01	<0.01	<0.01
Aroclor 1248	µg/L	<0.01	<0.01	<0.01
Aroclor 1254	µg/L	<0.01	<0.01	<0.01
Aroclor 1260	µg/L	<0.01	<0.01	<0.01
Surrogate TCMX	%	132	101	116

HM in water - dissolved					
Our Reference	UNITS	359721-1	359721-2	359721-3	359721-4
Your Reference		MW1	MW2	MW4	BD
Date Sampled		19/08/2024	19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water	Water
Date prepared	-	26/08/2024	26/08/2024	26/08/2024	26/08/2024
Date analysed	-	26/08/2024	26/08/2024	26/08/2024	26/08/2024
Arsenic-Dissolved	µg/L	<1	1	<1	1
Cadmium-Dissolved	µg/L	<0.1	<0.1	0.1	<0.1
Chromium-Dissolved	µg/L	<1	3	<1	3
Copper-Dissolved	µg/L	2	<1	8	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	35	12	150	12
Zinc-Dissolved	µg/L	14	18	59	17

Metals in Waters - Acid extractable		
Our Reference		359721-7
Your Reference	UNITS	R1/202408019
Date Sampled		19/08/2024
Type of sample		Water
Date prepared	-	23/08/2024
Date analysed	-	26/08/2024
Arsenic - Total	mg/L	<0.05
Cadmium - Total	mg/L	<0.01
Chromium - Total	mg/L	<0.01
Copper - Total	mg/L	<0.01
Lead - Total	mg/L	<0.03
Mercury - Total	mg/L	<0.0005
Nickel - Total	mg/L	<0.02
Zinc - Total	mg/L	<0.02

PFAS in Waters Short				
Our Reference	UNITS	359721-1	359721-2	359721-3
Your Reference		MW1	MW2	MW4
Date Sampled		19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water
Date prepared	-	22/08/2024	22/08/2024	22/08/2024
Date analysed	-	22/08/2024	22/08/2024	22/08/2024
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.02	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	106	97	111
Surrogate $^{13}C_2$ *PFOA*	%	95	97	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%	136	145	134
Extracted ISTD $^{13}C_4$ *PFOS*	%	68	75	60
Extracted ISTD $^{13}C_4$ *PFOA*	%	136	139	125
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	119	130	102
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	144	136	126
Total Positive PFHxS & PFOS	µg/L	<0.01	0.02	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.01	<0.01
Total Positive PFAS	µg/L	<0.01	0.03	<0.01

Cations in water Dissolved				
Our Reference	UNITS	359721-1	359721-2	359721-3
Your Reference		MW1	MW2	MW4
Date Sampled		19/08/2024	19/08/2024	19/08/2024
Type of sample		Water	Water	Water
Date digested	-	28/08/2024	28/08/2024	28/08/2024
Date analysed	-	28/08/2024	28/08/2024	28/08/2024
Calcium - Dissolved	mg/L	7.8	30	18
Magnesium - Dissolved	mg/L	6.1	20	14
Hardness (calc) equivalent $CaCO_3$	mg/L	45	160	100

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS. Please note for Bromine and Iodine, any forms of these elements that are present are included together in the one result reported for each of these two elements. Salt forms (e.g. FeO, PbO, ZnO) are determined stoichiometrically from the base metal concentration.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021/022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD and/or GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date Extracted	-			23/08/2024	1	23/08/2024	23/08/2024		23/08/2024	[NT]
Date Analysed	-			23/08/2024	1	23/08/2024	23/08/2024		23/08/2024	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	84	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	4	5	22	83	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	80	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	77	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	85	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	90	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	74	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	87	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	88	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	92	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	90	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	90	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	92	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	93	1	93	96	3	100	[NT]
Surrogate Toluene-d8	%		Org-023	100	1	100	100	0	105	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	107	1	108	107	1	114	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			23/08/2024	1	23/08/2024	23/08/2024		23/08/2024	[NT]
Date analysed	-			23/08/2024	1	23/08/2024	23/08/2024		23/08/2024	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	88	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	88	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	85	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	87	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	90	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	90	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	92	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	93	1	93	96	3	100	[NT]
Surrogate Toluene-d8	%		Org-023	100	1	100	100	0	105	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	107	1	108	107	1	114	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			26/08/2024	[NT]	[NT]	[NT]	[NT]	26/08/2024	[NT]
Date analysed	-			26/08/2024	[NT]	[NT]	[NT]	[NT]	26/08/2024	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate o-Terphenyl	%		Org-020	64	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			26/08/2024	[NT]	[NT]	[NT]	[NT]	26/08/2024	[NT]
Date analysed	-			27/08/2024	[NT]	[NT]	[NT]	[NT]	27/08/2024	[NT]
Naphthalene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Acenaphthylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Fluorene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	66	[NT]
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Benzo(a)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	72	[NT]
Benzo(b,j+k)fluoranthene	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	70	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	106	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: OCPs in Water - Trace Level						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			26/08/2024	[NT]	[NT]	[NT]	[NT]	26/08/2024	[NT]
Date analysed	-			27/08/2024	[NT]	[NT]	[NT]	[NT]	27/08/2024	[NT]
alpha-BHC	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	89	[NT]
HCB	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]
gamma-BHC	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	89	[NT]
delta-BHC	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	81	[NT]
Heptachlor Epoxide	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	91	[NT]
gamma-Chlordane	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.002	Org-022/025	<0.002	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	78	[NT]
Dieldrin	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	88	[NT]
Endrin	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]
Endosulfan II	µg/L	0.002	Org-022/025	<0.002	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	90	[NT]
Endrin Aldehyde	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	94	[NT]
Methoxychlor	µg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	83	[NT]	[NT]	[NT]	[NT]	60	[NT]

QUALITY CONTROL: OP in water LL ANZECCF/ADWG						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			26/08/2024	[NT]	[NT]	[NT]	[NT]	26/08/2024	[NT]
Date analysed	-			27/08/2024	[NT]	[NT]	[NT]	[NT]	27/08/2024	[NT]
Dichlorvos	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	97	[NT]
Mevinphos	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	0.01	Org-022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-Methyl	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	82	[NT]
Fenitrothion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	108	[NT]
Malathion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	88	[NT]
Chlorpyriphos	µg/L	0.009	Org-022/025	<0.009	[NT]	[NT]	[NT]	[NT]	82	[NT]
Fenthion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion	µg/L	0.004	Org-022/025	<0.004	[NT]	[NT]	[NT]	[NT]	118	[NT]
Bromophos ethyl	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	89	[NT]
Phosalone	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos-methyl (Guthion)	µg/L	0.02	Org-022/025	<0.02	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos	µg/L	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	83	[NT]	[NT]	[NT]	[NT]	60	[NT]

QUALITY CONTROL: PCBs in Water - Trace Level						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			26/08/2024	[NT]	[NT]	[NT]	[NT]	26/08/2024	[NT]
Date analysed	-			27/08/2024	[NT]	[NT]	[NT]	[NT]	27/08/2024	[NT]
Aroclor 1016	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	92	[NT]
Aroclor 1260	µg/L	0.01	Org-021/022/025	<0.01	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-021/022/025	113	[NT]	[NT]	[NT]	[NT]	118	[NT]

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	359721-2
Date prepared	-			26/08/2024	1	26/08/2024	26/08/2024		26/08/2024	26/08/2024
Date analysed	-			26/08/2024	1	26/08/2024	26/08/2024		26/08/2024	26/08/2024
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		102	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	[NT]		101	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		103	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	[NT]		101	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		101	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	111	85
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	35	[NT]		103	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	14	[NT]		105	[NT]

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	2	26/08/2024	26/08/2024		[NT]	[NT]
Date analysed	-			[NT]	2	26/08/2024	26/08/2024		[NT]	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	[NT]	2	1	1	0	[NT]	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	[NT]	2	<0.1	<0.1	0	[NT]	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	[NT]	2	3	3	0	[NT]	[NT]
Copper-Dissolved	µg/L	1	Metals-022	[NT]	2	<1	<1	0	[NT]	[NT]
Lead-Dissolved	µg/L	1	Metals-022	[NT]	2	<1	<1	0	[NT]	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	[NT]	2	<0.05	[NT]		[NT]	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	[NT]	2	12	12	0	[NT]	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	[NT]	2	18	19	5	[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			23/08/2024	[NT]	[NT]	[NT]	[NT]	23/08/2024	[NT]
Date analysed	-			26/08/2024	[NT]	[NT]	[NT]	[NT]	26/08/2024	[NT]
Arsenic - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	108	[NT]
Cadmium - Total	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
Chromium - Total	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	98	[NT]
Copper - Total	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	99	[NT]
Lead - Total	mg/L	0.03	Metals-020	<0.03	[NT]	[NT]	[NT]	[NT]	99	[NT]
Mercury - Total	mg/L	0.0005	Metals-021	<0.0005	[NT]	[NT]	[NT]	[NT]	108	[NT]
Nickel - Total	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	99	[NT]
Zinc - Total	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	104	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	359721-2
Date prepared	-			22/08/2024	1	22/08/2024	22/08/2024		22/08/2024	22/08/2024
Date analysed	-			22/08/2024	1	22/08/2024	22/08/2024		22/08/2024	22/08/2024
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	112	114
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	116	124
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	107
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	109	120
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	113	112
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	107	1	106	105	1	95	109
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	95	1	95	94	1	94	92
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	126	1	136	141	4	119	150
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	55	1	68	70	3	60	72
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	111	1	136	131	4	116	140
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	105	1	119	115	3	110	123
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	123	1	144	143	1	121	142

QUALITY CONTROL: Cations in water Dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date digested	-			28/08/2024	[NT]	[NT]	[NT]	[NT]	28/08/2024	[NT]
Date analysed	-			28/08/2024	[NT]	[NT]	[NT]	[NT]	28/08/2024	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	94	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	93	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

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

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

CHAIN OF CUSTODY DESPATCH SHEET

Douglas PARTNERS

Project No:	227492.04	**Suburb:**	Kensington	**To:**	Envirolab Services
Project Manager:	Kurt Plambeck	**Order Number:**		**Sampler:** SAF	12 Ashley St, Chatswood NSW 2067
Email:	Kurt.Plambeck@douglaspartners.com.au			**Attn:**	Sample Receipt
Turnaround time	☑ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day				(02) 9910 6200 samplereceipt@envirolab.com
Prior Storage	☑ Fridge ☐ Freezer ☑ Esky ☑ Shelf	**Do samples contain 'potential' HBM?**	☐ No	☐ Yes (If YES, handle, transport, store in accordance with FPM HAZID)	

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water M - Material	Container Type: G - glass P - plastic	Analytes: HM, TRH, BTEX	PAH (low)	Trace (OCP, OPP, PCB)	VOC	PFAS short suite	BTEX	HM					Notes/ Preservation/ Additional Requirements
1	MW1			19/08/24	W	G/P	X	X	X	X	X							
2	MW2			19/08/24	W	G/P	X	X	X	X	X							
3	MW4			19/08/24	W	G/P	X	X	X	X	X							
4	BD			19/08/24	W	G/P	X	X										
5	Trip spike			19/08/24	W	G						X						
6	Trip Blank			19/08/24	W	G						X						
7	R1/20240819			19/08/24	W	G/P												
8	T1/20240819																	Hold

ENVIROLAB X — Envirolab Services, 12 Ashley St, Chatswood NSW 2067, Ph: (02) 9910 6200

Job No: 359721

Date Received: 21/8/24

Time Received: 1545

Received By: V.C

Temp: ~~Cool~~/Ambient

Cooling: ~~Ice~~/Icepack

Security: Intact/~~Broken~~/None

Metals to analyse:			**LAB RECEIPT**
Number of samples in container:		**Transported to laboratory by:**	**Lab Ref. No:**
Send results to:	Douglas Partners Pty Ltd		**Received by:**
Address:	96 Hermitage Road, West Ryde NSW 2114	**Phone:** (02) 9809 0666	**Date & Time**
Relinquished by:	KDP	**Date:** 21.08.2024 **Signed:**	**Signed:**

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Kurt Plambeck

Sample Login Details

Your reference	227492.04, Kensington
Envirolab Reference	359721
Date Sample Received	21/08/2024
Date Instructions Received	21/08/2024
Date Results Expected to be Reported	28/08/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	8 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	16
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water	OCPs in Water - Trace Level	OP in water LL ANZECCF/ADWG	PCBs in Water - Trace Level	HM in water - dissolved	Metals in Waters -Acid extractable	PFAS in Waters Short	On Hold
MW1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
MW2	✓	✓	✓	✓	✓	✓	✓	✓		✓	
MW4	✓	✓	✓	✓	✓	✓	✓	✓		✓	
BD		✓	✓	✓				✓			
Trip Spike		✓									
Trip Blank		✓									
R1/202408019									✓		
T1/20240819											✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

1				UCL Statistics for Uncensored Full Data Sets							
2											
3		User Selected Options									
4		Date/Time of Computation	ProUCL 5.2 13/09/2024 10:37:23 AM								
5		From File	WorkSheet.xls								
6		Full Precision	OFF								
7		Confidence Coefficient	95%								
8		Number of Bootstrap Operations	2000								
9											
10											
11	Nickel										
12											
13				General Statistics							
14			Total Number of Observations	27			Number of Distinct Observations	13			
15							Number of Missing Observations	0			
16			Minimum	1			Mean	9.889			
17			Maximum	100			Median	4			
18			SD	19.28			Std. Error of Mean	3.711			
19			Coefficient of Variation	1.95			Skewness	4.268			
20											
21				Normal GOF Test							
22			Shapiro Wilk Test Statistic	0.443			Shapiro Wilk GOF Test				
23			1% Shapiro Wilk Critical Value	0.894			Data Not Normal at 1% Significance Level				
24			Lilliefors Test Statistic	0.329			Lilliefors GOF Test				
25			1% Lilliefors Critical Value	0.194			Data Not Normal at 1% Significance Level				
26				Data Not Normal at 1% Significance Level							
27											
28				Assuming Normal Distribution							
29			95% Normal UCL				95% UCLs (Adjusted for Skewness)				
30			95% Student's-t UCL	16.22			95% Adjusted-CLT UCL (Chen-1995)	19.25			
31							95% Modified-t UCL (Johnson-1978)	16.73			
32											
33				Gamma GOF Test							
34			A-D Test Statistic	1.887			Anderson-Darling Gamma GOF Test				
35			5% A-D Critical Value	0.781			Data Not Gamma Distributed at 5% Significance Level				
36			K-S Test Statistic	0.217			Kolmogorov-Smirnov Gamma GOF Test				
37			5% K-S Critical Value	0.174			Data Not Gamma Distributed at 5% Significance Level				
38				Data Not Gamma Distributed at 5% Significance Level							
39											
40				Gamma Statistics							
41			k hat (MLE)	0.817			k star (bias corrected MLE)	0.751			
42			Theta hat (MLE)	12.11			Theta star (bias corrected MLE)	13.17			
43			nu hat (MLE)	44.1			nu star (bias corrected)	40.53			
44			MLE Mean (bias corrected)	9.889			MLE Sd (bias corrected)	11.41			
45							Approximate Chi Square Value (0.05)	26.94			
46			Adjusted Level of Significance	0.0401			Adjusted Chi Square Value	26.24			
47											
48				Assuming Gamma Distribution							
49			95% Approximate Gamma UCL	14.88			95% Adjusted Gamma UCL	15.28			
50											
51				Lognormal GOF Test							
52			Shapiro Wilk Test Statistic	0.931			Shapiro Wilk Lognormal GOF Test				
53			10% Shapiro Wilk Critical Value	0.935			Data Not Lognormal at 10% Significance Level				

Lilliefors Test Statistic	0.151	Lilliefors Lognormal GOF Test
10% Lilliefors Critical Value	0.153	Data appear Lognormal at 10% Significance Level

Data appear Approximate Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	0	Mean of logged Data	1.567
Maximum of Logged Data	4.605	SD of logged Data	1.066

Assuming Lognormal Distribution

95% H-UCL	14.6	90% Chebyshev (MVUE) UCL	14.04
95% Chebyshev (MVUE) UCL	16.68	97.5% Chebyshev (MVUE) UCL	20.35
99% Chebyshev (MVUE) UCL	27.56		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	15.99	95% BCA Bootstrap UCL	21.93
95% Standard Bootstrap UCL	15.91	95% Bootstrap-t UCL	31.27
95% Hall's Bootstrap UCL	36.73	95% Percentile Bootstrap UCL	16.63
90% Chebyshev(Mean, Sd) UCL	21.02	95% Chebyshev(Mean, Sd) UCL	26.07
97.5% Chebyshev(Mean, Sd) UCL	33.07	99% Chebyshev(Mean, Sd) UCL	46.81

Suggested UCL to Use

95% H-UCL	14.6

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Appendix K

Data Quality Assurance and Quality Control

1. Field and laboratory data quality assurance and quality control

The field and laboratory data quality assurance and quality control (QA / QC) procedures and results are summarised in the following Table 1. Reference should be made to the field work methodology and the laboratory results / certificates of analysis for further details. The relative percentage difference (RPD) results, along with the other field QC samples are included at the end of this appendix.

Table 1: Field and laboratory quality control

Item	Evaluation / acceptance criteria	Compliance
Analytical laboratories used	NATA accreditation	PC
Holding times	Various based on type of analysis	PC
Intra-laboratory replicates (soil and groundwater) Table QA1 and QA4	5% of primary samples; <30% RPD	PC
Inter-Laboratory Duplicates (soil) Table QA1	5% of primary samples; <30% RPD	
Trip Spikes Table QA3 and QA6	1 per sampling event; 60-140% recovery	C
Trip Blanks Table QA2 and QA5	1 per sampling event; <PQL	C
Rinsate Sample Table QA7	1 per sampling event (groundwater). Tested contaminants <PQL	C
Laboratory / Reagent Blanks	1 per batch; <PQL	C
Laboratory Duplicate	1 per lab batch; As laboratory certificate	C
Matrix Spikes	1 per lab batch; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Surrogate Spikes	All organics analysis; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Control Samples	1 per lab batch; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Standard Operating Procedures (SOP)	Adopting SOP for all aspects of the sampling field work	C

Notes:
C = compliance; PC = partial compliance; NC = non-compliance

The RPD results were all within the acceptable range, with the exception of those soil replicates indicated in Table QA1 (results in bold). All RPD results for the groundwater replicate (Table QA4) were within the acceptable limits. The exceedances are not, however, considered to be of concern given that:

- The actual differences in the concentrations of the replicate pairs where RPD exceedances occurred were typically low;
- The replicate soil pairs were collected from fill soils which by its nature are heterogeneous;
- Replicates for soil, rather than homogenised duplicates, were used to minimise risk of volatile loss, hence greater analytical variability between replicate pairs can be expected;
- Most of the recorded concentrations were relatively close to the PQL;
- The majority of RPD results from a replicate pair were within the acceptable limits; and
- All other QA / QC parameters met the data quality indicators.

All analysis was conducted within recommended holding times with the following exceptions:

- Envirolab report no. 359400 – date issued 23 August 2024: PAH, and TRH; and
- Envirolab report no. 359805 – date issued 29 August 2024: for ASS screening testing.

The exceedance of holding times is not considered to be of concern given that:

- The TRH and PAH were extracted within the recommended 14 day holding time. As such the potential impact on results is considered to be negligible;
- The samples were extracted for pH analysis approximately 20 days or less after collection, compared to the recommended holding time of 7 days. The samples were frozen prior to transportation to the analytical lab, and therefore, were kept in ideal preservation conditions prior to analysis. Furthermore, it is noted that the samples were analysed to further confirm the low risk of ASS, noting the risk of ASS is considered low based the assessment in Section 5.4.

In summary, the QC data is determined to be of sufficient quality to be considered acceptable for the assessment.

2. Data quality indicators

The reliability of field procedures and analytical results was assessed against the following data quality indicators (DQI) as outlined in NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013):

- Completeness: a measure of the amount of usable data from a data collection activity;
- Comparability: the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event;
- Representativeness: the confidence (qualitative) of data representativeness of media present on-site;
- Precision: a measure of variability or reproducibility of data; and
- Accuracy: a measure of closeness of the data to the 'true' value.

Table 2: Data quality indicators

Data quality indicator	Method(s) of achievement
Completeness	Selected target locations sampled.
	Preparation of borehole logs, sample location plan and chain of custody records.
	Preparation of field groundwater sampling sheet.
	Laboratory sample receipt information received confirming receipt of samples intact and appropriateness of the chain of custody.
	Samples analysed for contaminants of potential concern (COPC) identified in the conceptual site model (CSM).
	Completion of chain of custody (COC) documentation.
	NATA accredited laboratory results certificates provided by the laboratory.
	Satisfactory frequency and results for field and laboratory quality control (QC) samples as discussed in Section 1.
Comparability	Using appropriate techniques for sample recovery, storage and transportation, which were the same for the duration of the project.
	Experienced sampler(s) used.
	Use of NATA registered laboratories, with test methods the same or similar between laboratories.
	Satisfactory results for field and laboratory QC samples.
Representativeness	Target media sampled.
	Sample numbers recovered and analysed are considered to be representative of the target media and complying with DQO.
	Samples were extracted and analysed within holding times.
	Samples were analysed in accordance with the COC.
Precision	Field staff followed standard operating procedures.
	Acceptable RPD between original samples and replicates.
	Satisfactory results for all other field and laboratory QC samples.
Accuracy	Field staff followed standard operating procedures.
	Satisfactory results for all field and laboratory QC samples.

It is noted that the following data gaps were identified for the investigation:

- The use of boreholes as the main excavation methodology for the investigation given that boreholes are not an efficient method of assessing for asbestos, therefore, potential presence of asbestos in fill has not been sufficiently characterised to conclude that asbestos is below the SAC; and

- Restrictions on placement of sampling locations in the northern and eastern sides of the site due to access restrictions.

However, it is recommended that further delineation, assessment and / or remediation of fill is conducted to better define the extent of asbestos impacts throughout the site.

Based on the above, it is considered that the DQI have been generally complied with.

3. Conclusion

Based on the results of the field QA and field and laboratory QC, and evaluation against the DQI it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

4. References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

Table QA1: Relative Percentage Difference Results – Soil Sampling

Lab Report No	Sample ID	Depth	Sample Date	Sample Type	Units	Priority metals								Priority PAH			
						Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	Naphthalene [b]	Benzo(a)pyrene (B(a)P)	Benzo(a)pyrene TEQ (B(a)P TEQ)	Total PAH
358721	BH11	0.1 - 0.2 m	06/08/24	Soil	mg/kg	<4	<0.4	**6**	**37**	**150**	**0.3**	**2**	**100**	<1	**0.1**	<0.5	**0.9**
358721	BD3/20240806	0 m	06/08/24	Soil	mg/kg	<4	<0.4	**5**	**34**	**170**	**0.3**	**3**	**130**	<0.1	**0.1**	<0.5	**0.74**
			Difference		mg/kg	0	0	1	3	20	0	1	30	0.9	0	0	0.16
			RPD		%	0%	0%	18%	8%	13%	0%	**40%**	26%	**164%**	0%	0%	20%
358721	BH12	0.8 - 0.9 m	06/08/24	Soil	mg/kg	<4	<0.4	**5**	**26**	**150**	**0.3**	**3**	**85**	<1	<0.05	<0.5	**0.5**
ES2426262	BD2/20240806	0 m	06/08/24	Soil	mg/kg	<5	<1	**4**	**23**	**114**	**0.3**	**2**	**66**	<1	<0.5	<0.5	<0.5
			Difference		mg/kg	1	0.6	1	3	36	0	1	19	0	0.45	0	0
			RPD		%	22%	**86%**	22%	12%	27%	0%	**40%**	25%	0%	**164%**	0%	0%
358721	BH7	0 - 0.1 m	07/08/24	Soil	mg/kg	<4	<0.4	**12**	**26**	**82**	<0.1	**6**	**130**	<1	**0.53**	**0.9**	**8.9**
358721	BD4/20240807	0 m	07/08/24	Soil	mg/kg	**6**	<0.4	**14**	**29**	**78**	<0.1	**12**	**96**	<0.1	**0.3**	<0.5	**2.8**
			Difference		mg/kg	2	0	2	3	4	0	6	34	0.9	0.23	0.4	6.1
			RPD		%	**40%**	0%	15%	11%	5%	0%	**67%**	**30%**	**164%**	**55%**	**57%**	**104%**
358721	BH8	0.1 - 0.2 m	06/08/24	Soil	mg/kg	**6**	<0.4	**6**	**40**	**220**	**0.3**	**6**	**110**	<1	<0.05	<0.5	**0.2**
ES2426262	BD1/20240806	0 m	06/08/24	Soil	mg/kg	<5	<1	**5**	**27**	**190**	**0.5**	**3**	**95**	<1	<0.5	<0.5	<0.5
			Difference		mg/kg	1	0.6	1	13	30	0.2	3	15	0	0.45	0	0.3
			RPD		%	18%	**86%**	18%	**39%**	15%	**50%**	**67%**	15%	0%	**164%**	0%	**86%**

Table QA1: Relative Percentage Difference Results –

Lab Report No	Sample ID	Depth	Sample Date	Sample Type	Units	PAH												BTEX				Additional PhysChem
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(g,h,i)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Benzene	Toluene	Ethylbenzene	Total Xylenes	Moisture
358721	BH11	0.1 - 0.2 m	06/08/24	Soil	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.2**	<0.2	<0.5	<1	<1	**55,000**
358721	BD3/20240806	0 m	06/08/24	Soil	mg/kg	<0.1	<0.1	<0.1	**0.1**	**0.1**	**0.1**	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.2**	<0.2	<0.5	<1	**-**	**59,000**
			Difference		mg/kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	4,000
			RPD		%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	7%
358721	BH12	0.8 - 0.9 m	06/08/24	Soil	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**	<0.2	<0.5	<1	<1	**75,000**
ES2426262	BD2/20240806	0 m	06/08/24	Soil	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	**83,000**
			Difference		mg/kg	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0	0	0.5	0.5	8,000
			RPD		%	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	0%	0%	**67%**	**67%**	10%
358721	BH7	0 - 0.1 m	07/08/24	Soil	mg/kg	<0.1	**0.2**	**0.2**	**0.8**	**0.4**	**0.6**	<0.1	**1.6**	<0.1	**0.3**	**0.8**	**1.4**	<0.2	<0.5	<1	<1	**260,000**
358721	BD4/20240807	0 m	07/08/24	Soil	mg/kg	<0.1	<0.1	<0.1	**0.4**	**0.2**	**0.3**	<0.1	**0.4**	<0.1	**0.2**	**0.2**	**0.4**	<0.2	<0.5	<1	**-**	**150,000**
			Difference		mg/kg	0	0.1	0.1	0.4	0.2	0.3	0	1.2	0	0.1	0.6	1	0	0	0	-	110,000
			RPD		%	0%	**67%**	**67%**	**67%**	**67%**	**67%**	0%	**120%**	0%	**40%**	**120%**	**111%**	0%	0%	0%	-	**54%**
358721	BH8	0.1 - 0.2 m	06/08/24	Soil	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	<0.2	<0.5	<1	<1	**100,000**
ES2426262	BD1/20240806	0 m	06/08/24	Soil	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	**80,000**
			Difference		mg/kg	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0	0	0.5	0.5	20,000
			RPD		%	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	**133%**	0%	0%	**67%**	**67%**	22%

Table QA2: Trip Blank Results - Soil Sampling

Sample ID	Sample Date	Media Being Sampled	Sample Type	Units	BTEX			Lab Report No
					Benzene	Toluene	Ethylbenzene	
TB	07/08/24	Soil	Soil	mg/kg	<0.2	<0.5	<1	358721

Table QA3: Trip Spike Results – Soil Sampling (% Recovery)

Sample ID	Sample Date	Media Being Sampled	Sample Type	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene	Lab Report No
TS	07/08/24	Soil	Soil	96	96	96	96	96	358721

Table QA4: Relative Percentage Difference Results – Water Sampling

Lab Report No	Sample ID	Sample Date	Sample Type	Units	Metals - Dissolved								TRH				BTEX						PAH															
					Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene	Total Xylenes	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Naphthalene	Benzo(a)pyrene (BaP)	Benzo(b,j+k)fluoranthene	Benzo(ghi)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Sum of detected PAH
359721	MW2	19/08/24	Water	µg/L	1	<0.1	3	<1	<1	<0.05	12	18	<10	<50	<100	<100	<1	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
359721	BD	19/08/24	Water	µg/L	1	<0.1	3	<1	<1	<0.05	12	17	<10	<50	<100	<100	<1	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
		Difference		µg/L	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD		%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table QA5: Trip Blank Results - Water Sampling

Sample ID	Sample Date	Media Being Sampled	Sample Type	Units	TRH	BTEX						PAH	Lab Report No
					F1 ((C6-C10)-BTEX)	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene	Total Xylenes	Naphthalene	
Trip Blank	19/08/24	Water	Water	µg/L	<10	<1	<1	<1	<1	<2	<1	<1	359721

Table QA6: Trip Spike Results – Water Sampling (% Recovery)

Sample ID	Sample Date	Media Being Sampled	Sample Type	Benzene	Toluene	Ethylbenzene	o-Xylene	m+p-Xylene	Lab Report No
Trip Spike	19/08/24	Water	Water	93	97	108	109	107	359721

Table QA7: Rinsate Results – Water Sampling

Sample ID	Sample Date	Media Being Sampled	Units	Metals								Lab Report No
				Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	
R1/202408019	19/08/24	Water	µg/L	<50	<10	<10	<10	<30	<0.5	<20	<20	359721