

1. Refer to the Design Report submitted as part of the SSD application for further information.
2. Refer to DA-890-001 for further information in material & finishes descriptions.
3. Refer to Landscape Architect and Civil engineer documentation for Public Domain and Landscape areas



TURNER

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F +61 2 8968 0068
turnerstudio.com.au

URBIS

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Sydney NSW 2000
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27 Australia Street
Camperdown NSW 2057
T +61 413 006 094
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Berrima Gaol Adaptive Reuse

2-4 Argyle Street, Berrima NSW 2577, Australia

GA Site Sections
Section AA

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DLCS Quality Endorsed Company ISO 9001:2015, Registration Number 26476
 Notified Address: Nicholas Turner 6666, ABN 81 064 084 911

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3. Refer to Landscape Architect and Civil engineer documentation for Public Domain and Landscape areas

Lead Consultant / Architecture

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Berrima Gaol Adaptive Reuse

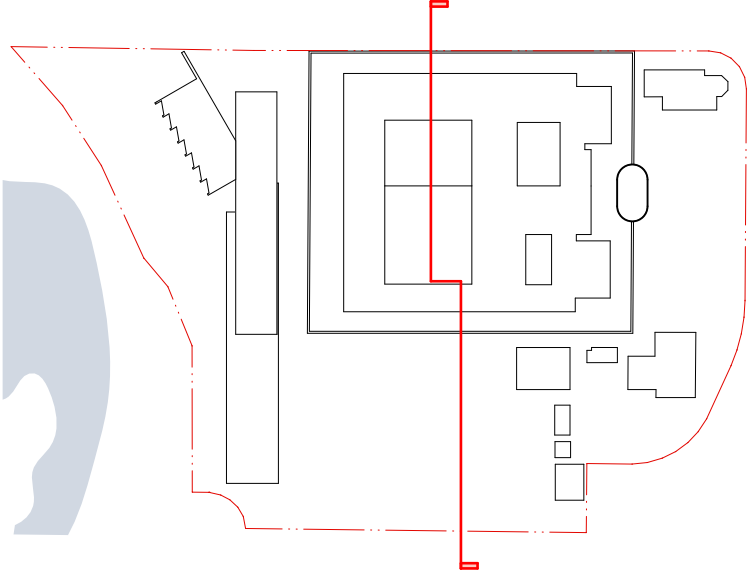
2-4 Argyle Street, Berrima NSW 2577, Australia

GA Site Sections
Section BB

Scale: 1:250 @ B1 Dwg No. DA-310-201

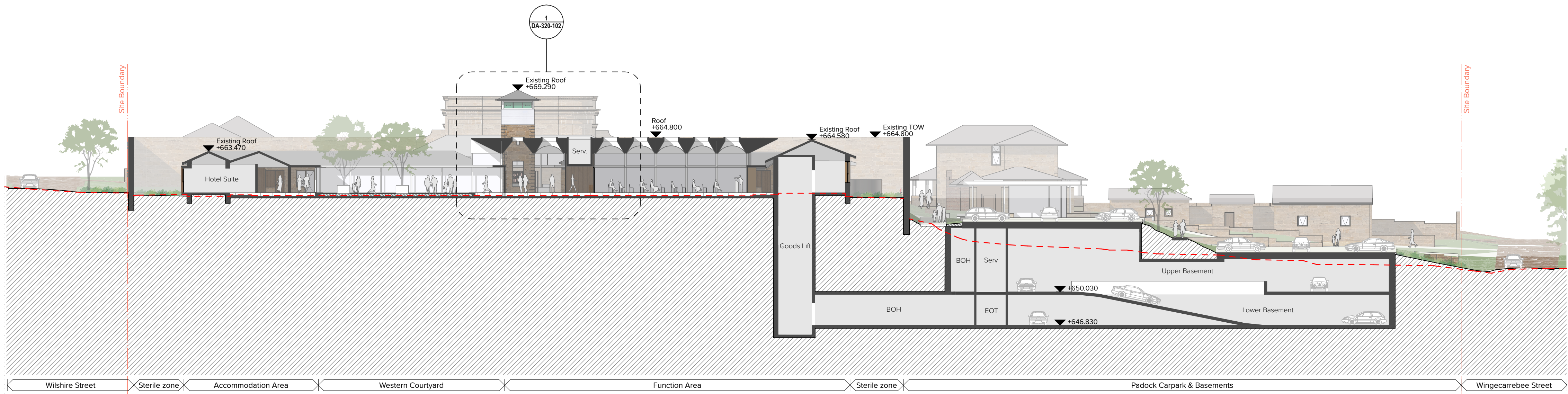


Key Plan



Notes

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1 Section DD
1:250

C	01.08.25	CM	Draft SSDA Package
B	25.07.25	CM	For Coordination
A	11.07.25	CM	For Coordination
Rev	Date	Approved by	Change Note

Lead Consultant / Architecture

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Landscape

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Heritage



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Client

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Project Title

Berrima Gaol Adaptive Reuse

2-4 Argyle Street, Berrima NSW 2577, Australia

Drawing Title

GA Site Sections

Section DD

Status	Project No.	Rev
For Information	23014	C

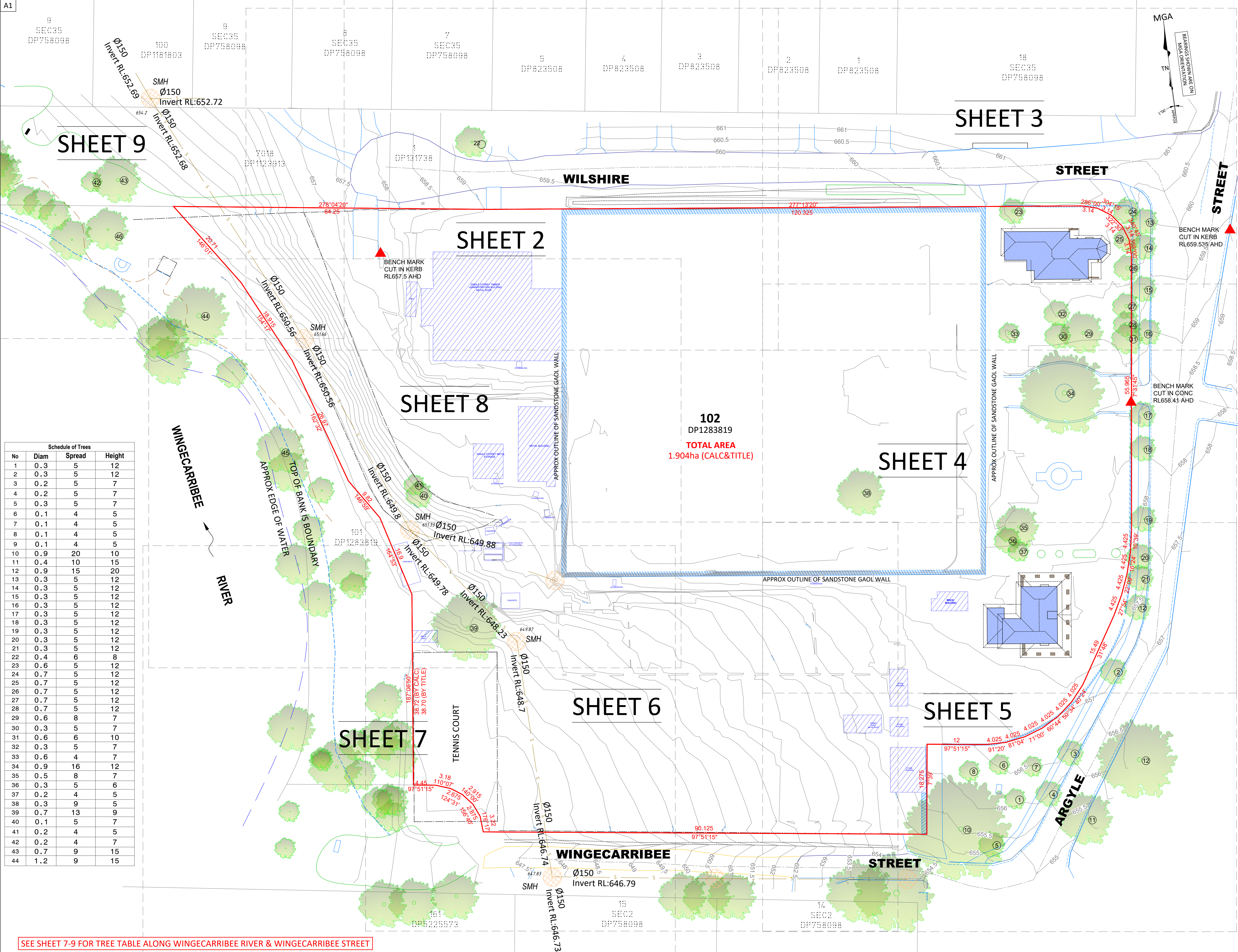
Scale	Dwg No.
1:250 @ B1	DA-310-401





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 Vennetland Architects: Nicholas Turner 0666, AEN 06 064 084 911



Schedule of Trees			
No	Diam	Spread	Height
1	0.3	5	12
2	0.3	5	12
3	0.2	5	7
4	0.2	5	7
5	0.3	5	7
6	0.1	4	5
7	0.1	4	5
8	0.1	4	5
9	0.1	4	5
10	0.9	20	10
11	0.4	10	15
12	0.9	15	20
13	0.3	5	12
14	0.3	5	12
15	0.3	5	12
16	0.3	5	12
17	0.3	5	12
18	0.3	5	12
19	0.3	5	12
20	0.3	5	12
21	0.3	5	12
22	0.4	6	8
23	0.6	5	12
24	0.7	5	12
25	0.7	5	12
26	0.7	5	12
27	0.7	5	12
28	0.7	5	12
29	0.6	8	7
30	0.3	5	7
31	0.6	6	10
32	0.3	5	7
33	0.6	4	7
34	0.9	16	12
35	0.5	8	7
36	0.3	5	6
37	0.2	4	5
38	0.3	9	5
39	0.7	13	9
40	0.1	5	7
41	0.2	4	5
42	0.2	4	7
43	0.7	9	15
44	1.2	9	15

SEE SHEET 7-9 FOR TREE TABLE ALONG WINGECARRIBEE RIVER & WINGECARRIBEE STREET

GENERAL NOTES

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CONTOURS ARE INDICATIVE AT GROUND FORM ONLY. SPOT LEVELS ONLY SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION.

LEVELS ARE ON AUSTRALIAN HEIGHT DATUM (AHD).

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BOUNDARY NOTES

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BOUNDARIES HAVE NOT BEEN MARKED.

SURVEY INFORMATION NOTES

THE ORIGIN OF COORDINATES COMES FROM PM17340 E 255 354 799 N 6180266.343 CLASS B POSITIONAL UNCERTAINTY (PU) 0.02 (MGA2020) ADOPTED FROM SCIMS DATED 26/07/2023.

THE ORIGIN OF LEVELS COMES FROM PM17340 RL658.278 CLASS LB POSITIONAL UNCERTAINTY (PU) 0.07 ADOPTED FROM SCIMS DATED 26/07/2023.

THE ORIENTATION OF THIS PLAN IS MGA NORTH WHICH HAS BEEN DETERMINED BY DP1283819.

CERTIFICATE OF TITLE NOTES

THE FOLLOWING INFORMATION RELATES TO THE RESPECTIVE CERTIFICATE OF TITLE OF EACH LOTS:

- LOT 102 IN DP1283819
(CT EDITION 2 DATED 24/02/2023 SEARCH DATE 11/08/2023)
- THERE ARE NO NOTATIONS ON THE CERTIFICATE OF TITLE

SERVICES NOTES

ONLY THOSE SERVICES VISIBLE AT THE TIME OF SURVEY HAVE BEEN LOCATED AND ARE QUALITY LEVEL A AS DEFINED BY AS 5488.1:2019.

ALL RELEVANT AUTHORITIES MUST BE CONTACTED TO DETERMINE THE FULL EXTENT OF SERVICES PRIOR TO ANY PLANNING OR WORKS NEAR THE SITE.

UNDERGROUND SERVICES LEGEND
QUALITY LEVEL A (AS 5488.1:2019)

CAUTION: FIBRE OPTIC CABLES ARE PRESENT IN THIS AREA

SERVICES NOTES:

1. ONLY THOSE SERVICES VISIBLE AT THE TIME OF SURVEY HAVE BEEN LOCATED AND IF SHOWN AS "A" ARE QUALITY LEVEL A AS DEFINED BY AS 5488.1:2019. LEVELS SHOWN ARE SURFACE LEVELS UNLESS NOTED OTHERWISE.

2. UNDERGROUND SERVICES HAVE BEEN LOCATED FOR POSITION AND DEPTH AND HAVE BEEN DETERMINED FROM USING EQUIPMENT ON REPORT PROVIDED BY ON POINT ON 31/07/2023. ALL RELEVANT AUTHORITIES MUST BE CONTACTED TO DETERMINE THE FULL EXTENT OF SERVICES PRIOR TO ANY PLANNING OR WORKS NEAR THE SITE.

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PROJECT:

DETAIL AND LEVEL SURVEY ADJACENT TO LOT 102 IN DP1283819

24 Old Hume Highway
Berrima

CLIENT: BLUE SOX INVESTMENTS NO.6 PTY LTD
FILE: 8994 24 Old Hume Highway Berrima DETAIL REV G

LGA: WINGECARRIBEE	
REF: 8994	CONTOURS: 0.5m
ISSUE: G	DATUM: AHD
SURVEY DATE: 26/09/2024	AZIMUTH: MGA2020
SCALE: 1:350	SHEET 1 OF 12 SHEETS

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2 1:350 35

ISSUE	DATE	AMENDMENT	SURV	CHK	ISSUE	DATE	AMENDMENT	SURV	CHK
E	23/07/24	NATURAL BOUNDARY ADDED	AZ	MP	A	31/07/23	ORIGINAL ISSUE	AZ	MP
F	20/09/24	DTM MERGE	AZ	MP	B	15/02/24	ADDITIONAL DETAILS	AZ	MP
G	26/03/24	DTM MERGE USING ORIGINAL DTM	AZ	MP	C	06/03/24	WATERTRAIL AND TREE SURVEY	AZ	MP
					D	26/03/24	CARDNO SURVEY INFO ADDED	AZ	MP

GENERAL NOTES

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BOUNDARY NOTES

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BOUNDARIES HAVE NOT BEEN MARKED.

SURVEY INFORMATION NOTES

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CERTIFICATE OF TITLE NOTES

THE FOLLOWING INFORMATION RELATES TO THE RESPECTIVE CERTIFICATE OF TITLE OF EACH LOT:

- LOT 102 IN DP1283819
(CT EDITION 2 DATED 24/02/2023 SEARCH DATE 11/08/2023)
- THERE ARE NO NOTATIONS ON THE CERTIFICATE OF TITLE

SERVICES NOTES

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LEGEND

TAG	DESCRIPTION
COM	COMMUNICATIONS PIT
GR	GRATE
PP	POWER POLE
SV	STOP VALVE
EOB	EDGE OF BITUMEN

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PROJECT:

DETAIL AND LEVEL SURVEY ADJACENT TO LOT 102 IN DP1283819

24 Old Hume Highway
Berrima

CLIENT: BLUE SOX INVESTMENTS NO.6 PTY LTD
FILE: 8994 24 Old Hume Highway Berrima DETAIL REV G

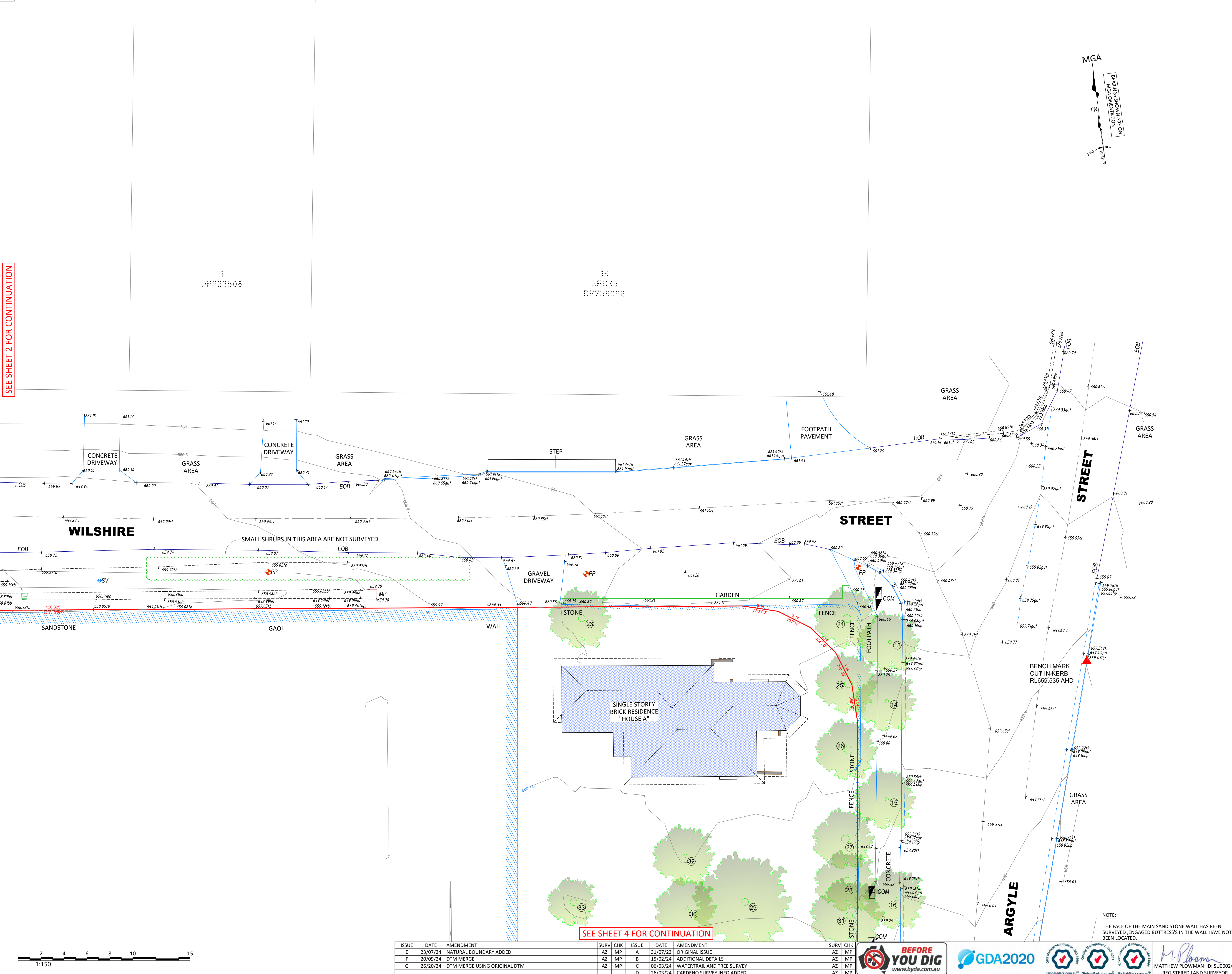
LGA: WINGECARRIBEE

REF: 8994	CONTOURS: 0.5m
ISSUE: G	DATUM: AHD
SURVEY DATE: 26/09/2024	AZIMUTH: MGA2020
SCALE: 1:150	SHEET 3 OF 12 SHEETS



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SEE SHEET 2 FOR CONTINUATION



SEE SHEET 4 FOR CONTINUATION

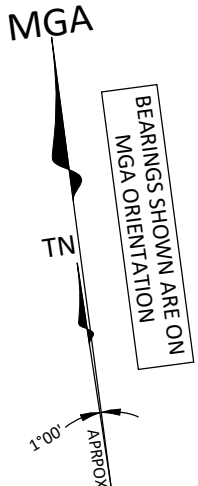
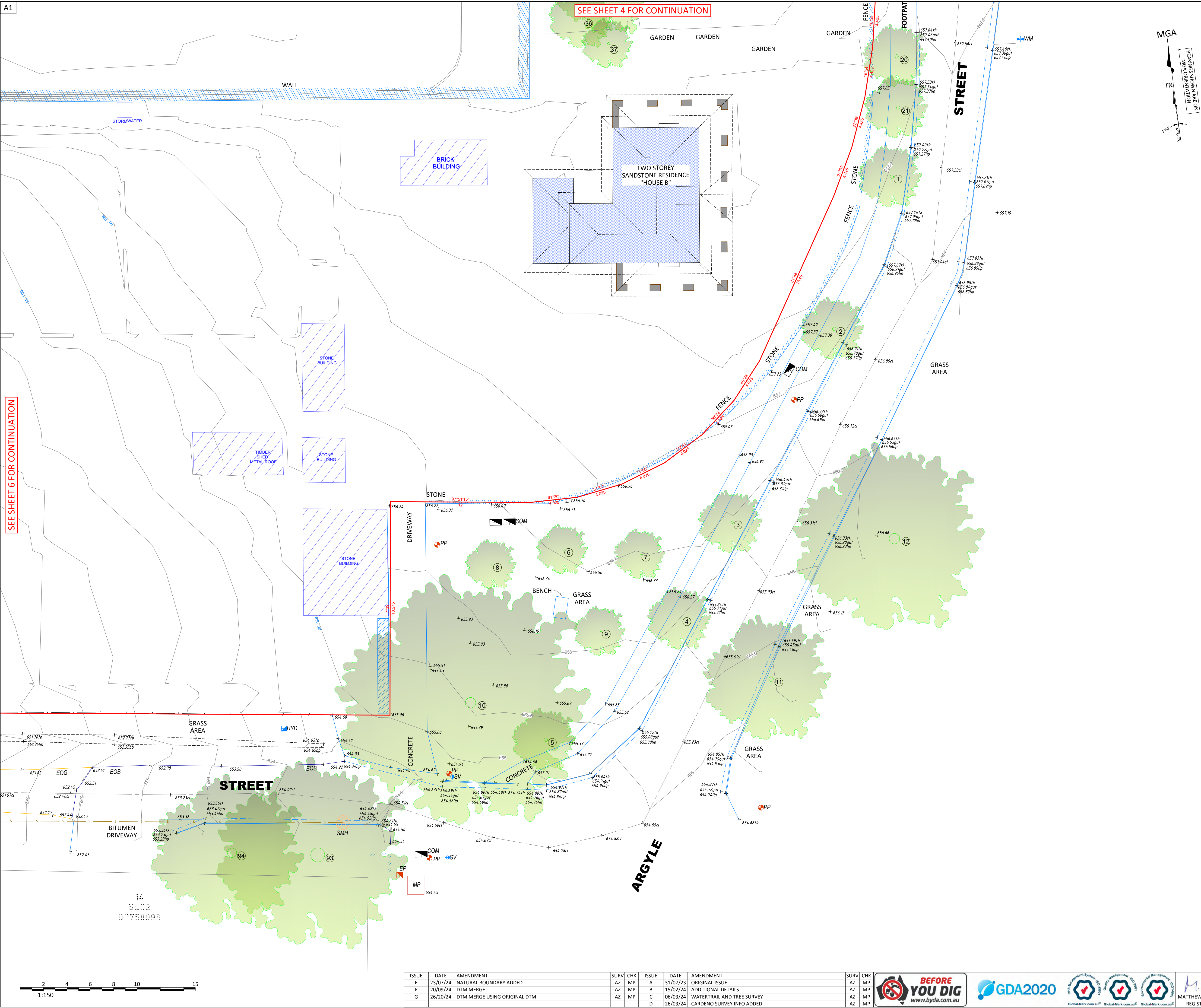
ISSUE	DATE	AMENDMENT	SURV	CHK	ISSUE	DATE	AMENDMENT	SURV	CHK
E	23/07/24	NATURAL BOUNDARY ADDED	AZ	MP	A	31/07/23	ORIGINAL ISSUE	AZ	MP
F	20/09/24	DTM MERGE	AZ	MP	B	15/02/24	ADDITIONAL DETAILS	AZ	MP
G	26/20/24	DTM MERGE USING ORIGINAL DTM	AZ	MP	C	06/03/24	WATERTRAIL AND TREE SURVEY	AZ	MP
					D	26/03/24	CARDENO SURVEY INFO ADDED	AZ	MP

SEE SHEET 1 FOR TREE TABLE



Matthew PLOWMAN ID: SU000248
REGISTERED LAND SURVEYOR

A1



GENERAL NOTES

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BOUNDARY NOTES

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SURVEY INFORMATION NOTES

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(CT EDITION 2 DATED 24/02/2023 SEARCH DATE 11/08/2023)
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TAG	DESCRIPTION
COM	COMMUNICATIONS PIT
EP	ELECTRICITY PIT
HYD	HYDRANT
PP	POWER POLE
SMH	SEWER MANHOLE
SV	STOP VALVE
WM	WATER METER
EOB	EDGE OF BITUMEN

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PROJECT:

DETAIL AND LEVEL SURVEY ADJACENT TO LOT 102 IN DP1283819

24 Old Hume Highway
Berrima

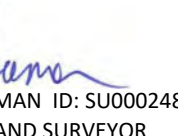
CLIENT: BLUE SOX INVESTMENTS NO.6 PTY LTD
FILE: 8994 24 Old Hume Highway Berrima DETAIL REV G

LGA: WINGECARRIBEE	
REF: 8994	CONTOURS: 0.5m
ISSUE: G	DATUM: AHD
SURVEY DATE: 26/09/2024	AZIMUTH: MGA2020
SCALE: 1:150	SHEET 5 OF 12 SHEETS



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ISSUE	DATE	AMENDMENT	SURV	CHK	ISSUE	DATE	AMENDMENT	SURV	CHK
E	23/07/24	NATURAL BOUNDARY ADDED	AZ	MP	A	31/07/23	ORIGINAL ISSUE	AZ	MP
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					D	26/03/24	CARDNO SURVEY INFO ADDED	AZ	MP



M. Plover
MATTHEW PLOWMAN ID: SU000248
REGISTERED LAND SURVEYOR

SEE SHEET 1 FOR TREE TABLE

SEE SHEET 8 FOR CONTINUATION

SEE SHEET 7 FOR CONTINUATION

SEE SHEET 5 FOR CONTINUATION

GENERAL NOTES

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TAG	DESCRIPTION
GAS	GAS MARKER / LID
GR	GRATE
PP	POWER POLE
SMH	SEWER MANHOLE
EOB	EDGE OF BITUMEN
SPMP	5 PLAIN WIRES FENCE METAL POST
SPSF	5 PLAIN WIRES STARPICKET FENCE

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PROJECT:

DETAIL AND LEVEL SURVEY ADJACENT TO LOT 102 IN DP1283819

24 Old Hume Highway
Berrima

CLIENT: BLUE SOX INVESTMENTS NO.6 PTY LTD
FILE: 8994 24 Old Hume Highway Berrima DETAIL REV G

LGA: WINGECARRIBEE

REF: 8994	CONTOURS: 0.5m
ISSUE: G	DATUM: AHD
SURVEY DATE: 26/09/2024	AZIMUTH: MGA2020
SCALE: 1:150	SHEET 6 OF 12 SHEETS



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Schedule of Trees			
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46	0.2	6	10
47	0.2	6	10
48	0.2	6	10
55	0.2	8	10
56	0.2	8	10
58	0.2	6	10
61	0.2	7	13
93	1.2	15	17
94	0.8	12	17
95	0.3	9	7
96	0.3	9	7
97	0.3	9	7
98	0.7	9	18
99	0.7	9	18
100	0.7	9	18

WINGECARRIBEE

STREET

ISSUE	DATE	AMENDMENT
E	23/07/24	NATURAL BOUNDARY ADDED
F	20/09/24	DTM MERGE
G	26/20/24	DTM MERGE USING ORIGINAL DTM

SURV	CHK	ISSUE	DATE	AMENDMENT
AZ	MP	A	31/07/23	ORIGINAL ISSUE
AZ	MP	B	15/02/24	ADDITIONAL DETAILS
AZ	MP	C	06/03/24	WATERTRAIL AND TREE SURVEY
AZ	MP	D	26/03/24	CARDNO SURVEY INFO ADDED



M. PLOWMAN
REGISTERED LAND SURVEYOR

SEE SHEET 8 FOR CONTINUATION

SEE SHEET 6 FOR CONTINUATION

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BOUNDARY NOTES

A BASIC BOUNDARY SURVEY HAS BEEN DONE SUITABLE FOR DA LODGEMENT PURPOSES.

BOUNDARIES HAVE NOT BEEN MARKED.

SURVEY INFORMATION NOTES

THE ORIGIN OF COORDINATES COMES FROM PM17340 E 255 354.799 N 6180266.343 CLASS 8 POSITIONAL UNCERTAINTY (PU) 0.02 (MGA2020) ADOPTED FROM SCIMS DATED 26/07/2023.

THE ORIGIN OF LEVELS COMES FROM PM17340 RL658.278 CLASS LB POSITIONAL UNCERTAINTY (PU) 0.07 ADOPTED FROM SCIMS DATED 26/07/2023.

THE ORIENTATION OF THIS PLAN IS MGA NORTH WHICH HAS BEEN DETERMINED BY DP1283819.

CERTIFICATE OF TITLE NOTES

THE FOLLOWING INFORMATION RELATES TO THE RESPECTIVE CERTIFICATE OF TITLE OF EACH LOT:

- LOT 102 IN DP1283819
(CT EDITION 2 DATED 24/02/2023 SEARCH DATE 11/08/2023)
- THERE ARE NO NOTATIONS ON THE CERTIFICATE OF TITLE

SERVICES NOTES

ONLY THOSE SERVICES VISIBLE AT THE TIME OF SURVEY HAVE BEEN LOCATED AND ARE QUALITY LEVEL A AS DEFINED BY AS 5488.1:2019.

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TAG	DESCRIPTION
GAS	GAS MARKER/LID
GR	GRATE
PP	POWER POLE
SMH	SEWER MANHOLE
EOB	EDGE OF BITUMEN
SPMP	S PLAIN WIRES
SPSF	FENCE METAL POST
	S PLAIN WIRES
	STARPICKET FENCE

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PROJECT:

DETAIL AND LEVEL SURVEY ADJACENT TO LOT 102 IN DP1283819

24 Old Hume Highway
Berrima

CLIENT: BLUE SOX INVESTMENTS NO.6 PTY LTD
FILE: 8994 24 Old Hume Highway Berrima DETAIL REV G

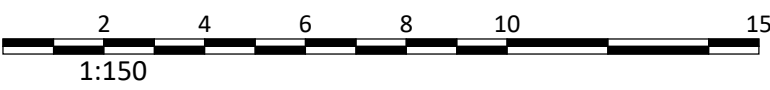
LGA: WINGECARRIBEE

REF: 8994	CONTOURS: 0.5m
ISSUE: G	DATUM: AHD
SURVEY DATE: 26/09/2024	AZIMUTH: MGA2020
SCALE: 1:150	SHEET 7 OF 12 SHEETS

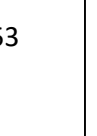
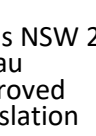
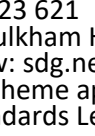
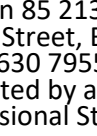
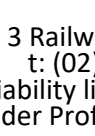
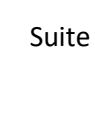
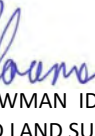


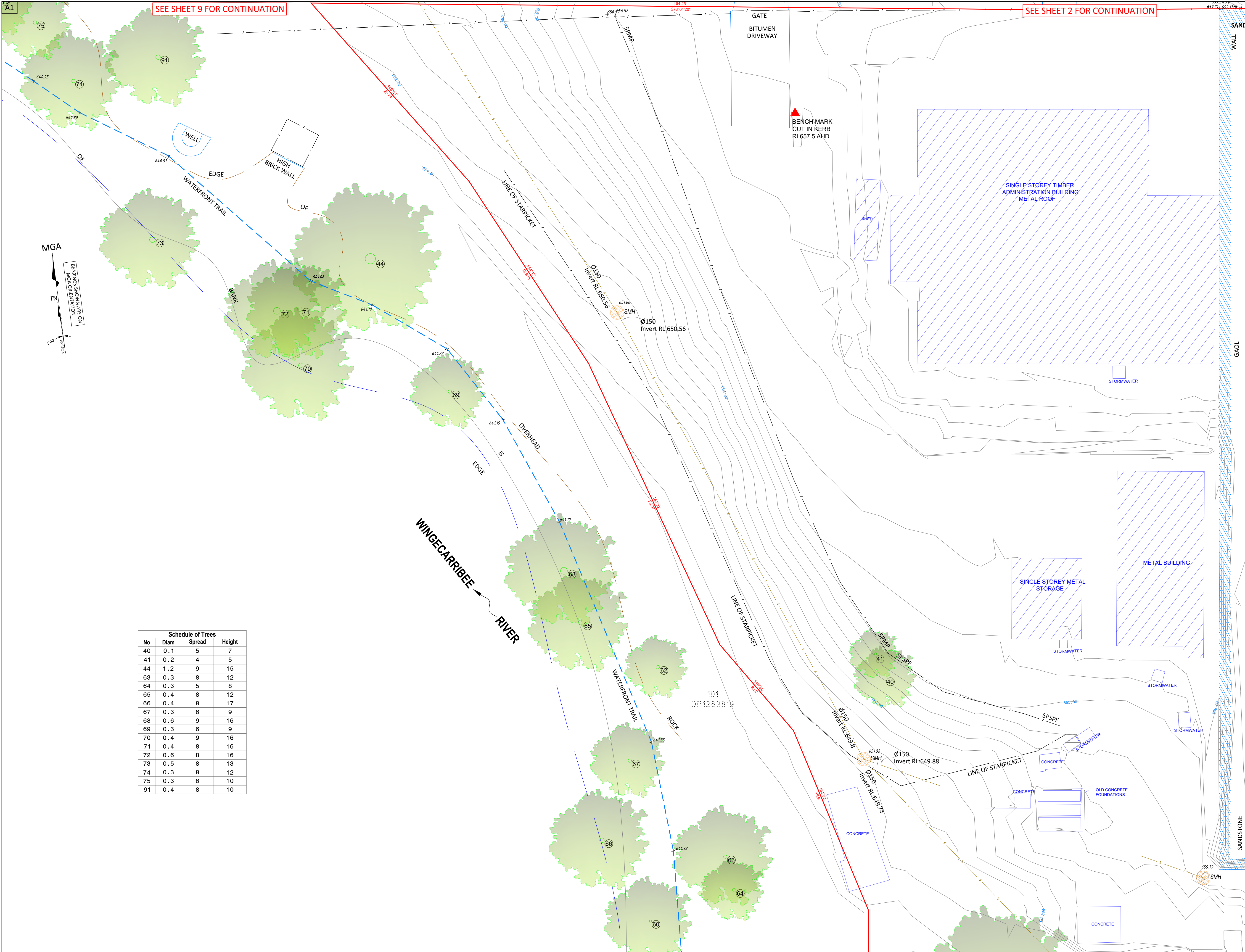
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Schedule of Trees			
No	Diam	Spread	Height
39	0.7	13	9
45	0.2	6	10
46	0.2	6	10
47	0.2	6	10
48	0.2	6	10
49	0.2	6	10
50	0.5	10	17
51	0.2	4	10
52	0.2	4	10
53	0.2	4	10
54	0.2	4	10
55	0.2	8	10
56	0.2	8	10
57	0.2	6	10
58	0.2	6	10
59	0.3	9	15
60	0.2	7	13
61	0.2	7	13
62	0.3	5	9
63	0.3	8	12
64	0.3	5	8
65	0.4	8	12
66	0.4	8	17
67	0.3	6	9
97	0.3	9	7
98	0.7	9	18
99	0.7	9	18
100	0.7	9	18



ISSUE	DATE	AMENDMENT	SURV	CHK	ISSUE	DATE	AMENDMENT	SURV	CHK
E	23/07/24	NATURAL BOUNDARY ADDED	AZ	MP	A	31/07/23	ORIGINAL ISSUE	AZ	MP
F	20/09/24	DTM MERGE	AZ	MP	B	15/02/24	ADDITIONAL DETAILS	AZ	MP
G	26/20/24	DTM MERGE USING ORIGINAL DTM	AZ	MP	C	06/03/24	WATERTRAIL AND TREE SURVEY	AZ	MP
					D	26/03/24	CARDENO SURVEY INFO ADDED	AZ	MP





SEE SHEET 9 FOR CONTINUATION

SEE SHEET 2 FOR CONTINUATION

GENERAL NOTES

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BOUNDARIES HAVE NOT BEEN MARKED.

SURVEY INFORMATION NOTES

THE ORIGIN OF COORDINATES COMES FROM PM17340 E 255 354.799 N 6180266.343 CLASS 8 POSITIONAL UNCERTAINTY (PU) 0.02 (MGA2020) ADOPTED FROM SCIMS DATED 26/07/2023.

THE ORIGIN OF LEVELS COMES FROM PM17340 RL658.278 CLASS LB POSITIONAL UNCERTAINTY (PU) 0.07 ADOPTED FROM SCIMS DATED 26/07/2023.

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CERTIFICATE OF TITLE NOTES

THE FOLLOWING INFORMATION RELATES TO THE RESPECTIVE CERTIFICATE OF TITLE OF EACH LOT:

- LOT 102 IN DP1283819
- (CT EDITION 2 DATED 24/02/2023 SEARCH DATE 11/08/2023)
- THERE ARE NO NOTATIONS ON THE CERTIFICATE OF TITLE

SERVICES NOTES

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GR	GRATE
PP	POWER POLE
SMH	SEWER MANHOLE
EOB	EDGE OF BITUMEN
SPMP	5 PLAIN WIRES
SPSF	5 PLAIN WIRES
SPSF	STARPICKET FENCE

Schedule of Trees			
No	Diam	Spread	Height
40	0.1	5	7
41	0.2	4	5
44	1.2	9	15
63	0.3	8	12
64	0.3	5	8
65	0.4	8	12
66	0.4	8	17
67	0.3	6	9
68	0.6	9	16
69	0.3	6	9
70	0.4	9	16
71	0.4	8	16
72	0.6	8	16
73	0.5	8	13
74	0.3	8	12
75	0.3	6	10
91	0.4	8	10

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PROJECT:

DETAIL AND LEVEL SURVEY ADJACENT TO LOT 102 IN DP1283819

24 Old Hume Highway
Berrima

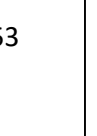
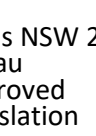
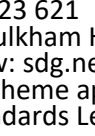
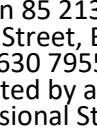
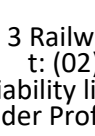
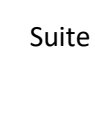
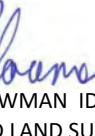
CLIENT: BLUE SOX INVESTMENTS NO.6 PTY LTD
FILE: 8994 24 Old Hume Highway Berrima DETAIL REV G

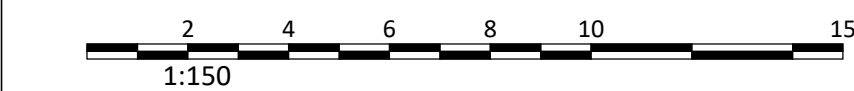
LGA: WINGECARRIBEE	
REF: 8994	CONTOURS: 0.5m
ISSUE: G	DATUM: AHD
SURVEY DATE: 26/09/2024	AZIMUTH: MGA2020
SCALE: 1:150	SHEET 8 OF 12 SHEETS



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ISSUE	DATE	AMENDMENT	SURV	CHK	ISSUE	DATE	AMENDMENT	SURV	CHK
E	23/07/24	NATURAL BOUNDARY ADDED	AZ	MP	A	31/07/23	ORIGINAL ISSUE	AZ	MP
F	20/09/24	DTM MERGE	AZ	MP	B	15/02/24	ADDITIONAL DETAILS	AZ	MP
G	26/20/24	DTM MERGE USING ORIGINAL DTM	AZ	MP	C	06/03/24	WATERTRAIL AND TREE SURVEY	AZ	MP
					D	26/03/24	CARDNO SURVEY INFO ADDED	AZ	MP



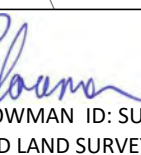


ISSUE	DATE	AMENDMENT
E	23/07/24	NATURAL BOUNDARY ADDED
F	20/09/24	DTM MERGE
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SURV	CHK	ISSUE	DATE	AMENDMENT
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AZ	MP	B	15/02/24	ADDITIONAL DETAILS
AZ	MP	C	06/03/24	WATERTRAIL AND TREE SURVEY
		D	26/03/24	CARDENO SURVEY INFO ADDED

SEE SHEET 8 FOR CONTINUATION

	SURV	CHK
	AZ	MP
	AZ	MP
	AZ	MP
	AZ	MP



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ADOPTED FROM SCIMS DATED 26/07/2023.

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(CT EDITION 2 DATED 24/02/2023 SEARCH DATE 11/08/2023)
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PP	POWER POLE
SMH	SEWER MANHOLE
EOB	EDGE OF BITUMEN
5PMP	5 PLAIN WIRES FENCE METAL POST
5PSF	5 PLAIN WIRES STARCKPICK FENCE

SEE SHEET 2 FOR CONTINUATION

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PROJECT:

DETAIL AND LEVEL SURVEY ADJACENT TO
LOT 102 IN DP1283819

24 Old Hume Highway
Berrima

CLIENT: BLUE SOX INVESTMENTS NO.6 PTY LTD

FILE: 8994 24 Old Hume Highway Berrima DETAIL REV G

LGA: WINGECARRIBEE

REF: 8994	CONTOURS: 0.5m
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ISSUE: G	DATUM: AHD
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SURVEY DATE: 26/09/2024	AZIMUTH: MGA2020
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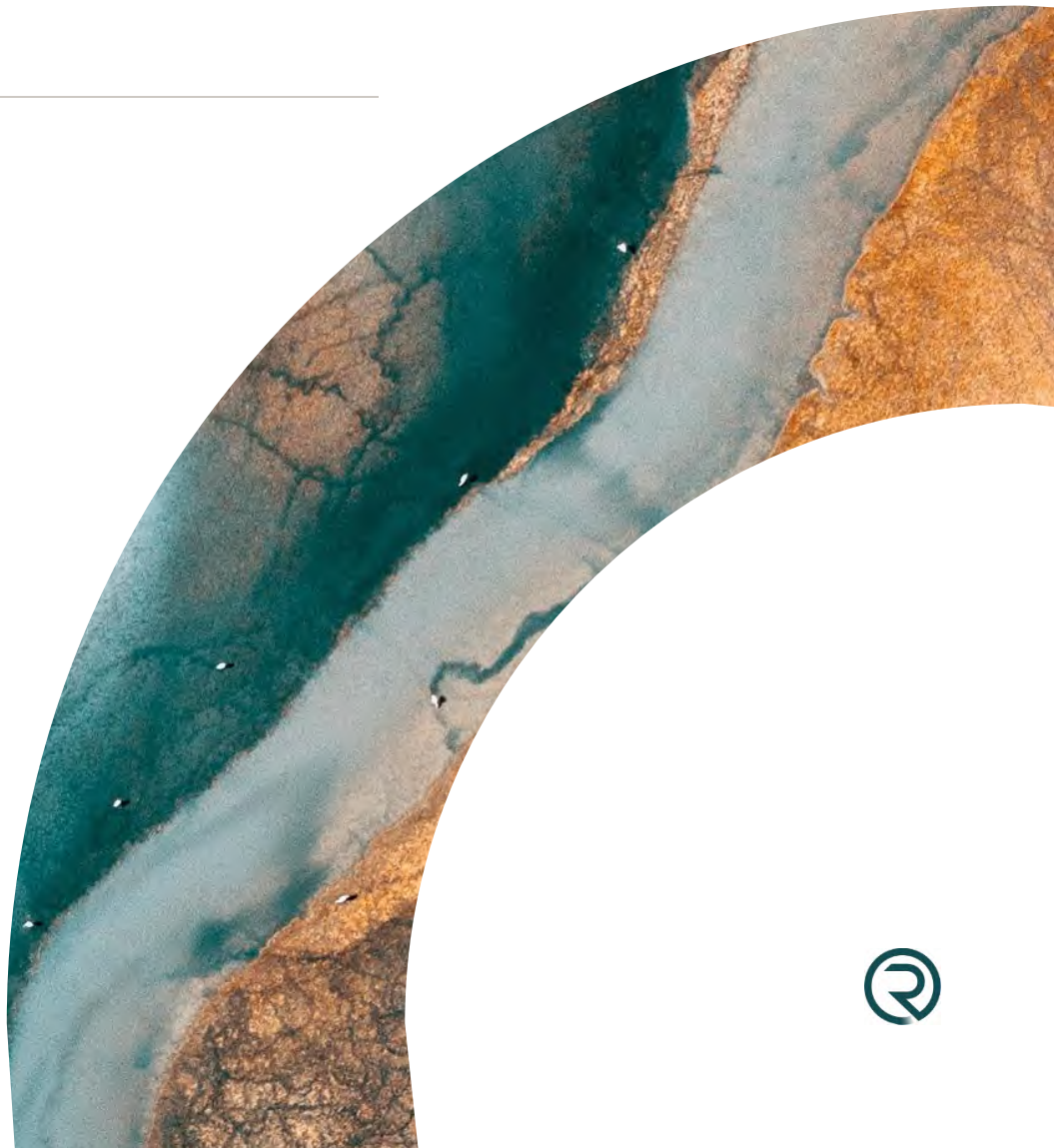
SCALE: 1:150	SHEET 9 OF 12 SHEETS
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C

Borehole & Monitoring Well Logs



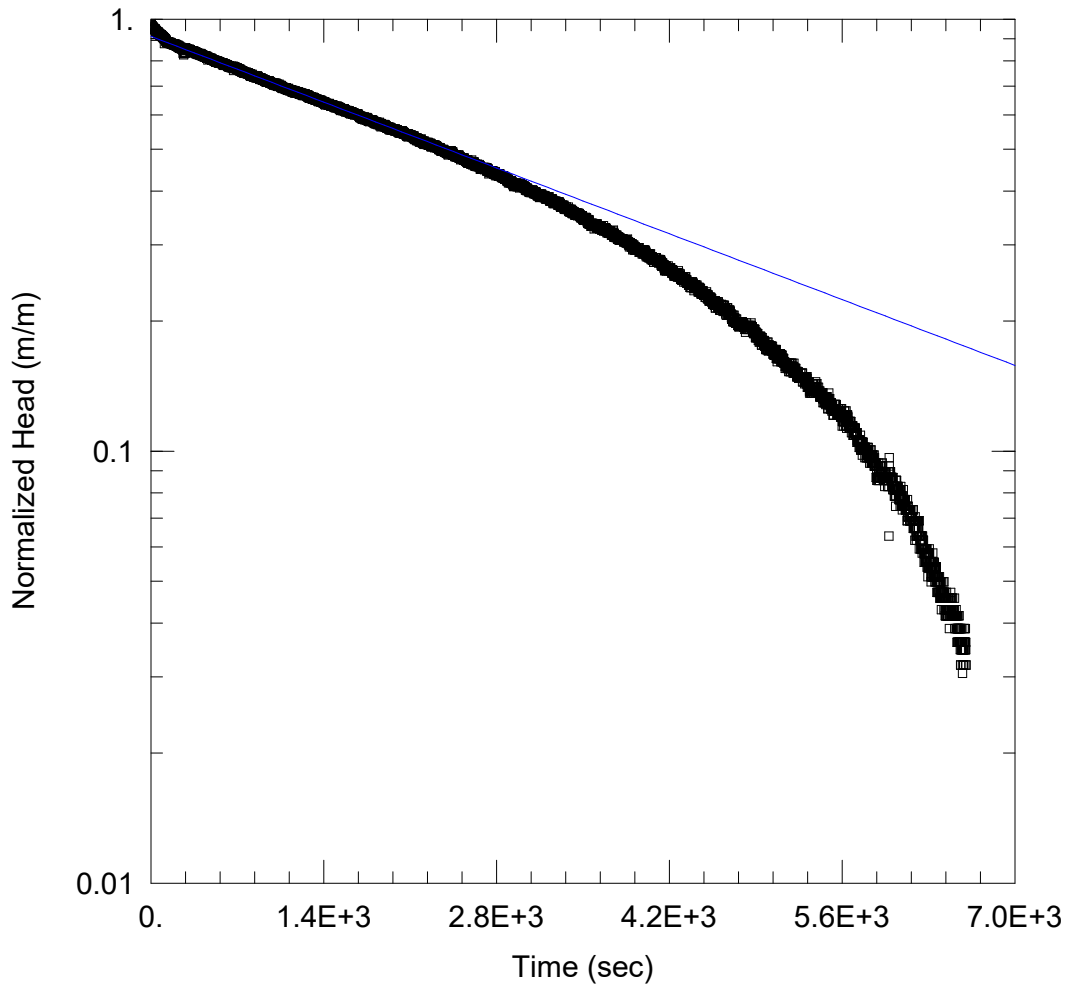
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PROJECT		Geotechnical and Groundwater Investigation		LOGGED		AK		CHECKED				Sheet 1 OF 1															
SITE		Berrimba Gaol Hotel Resort - Argyle Street, Berrima, NSW		GEOLOGY		Hawkesbury Sandstone		VEGETATION		Nil		PROJECT NO. P2410244															
EQUIPMENT		4WD truck-mounted hydraulic drill rig		LONGITUDE		150.33573		RL SURFACE		655 m		DATUM		AHD													
EXCAVATION DIMENSIONS		10.30 m depth		LATITUDE		-34.4883		ASPECT		SW		SLOPE		<5%													
Drilling				Sampling			Field Material Description																				
METHOD		PENETRATION RESISTANCE		WATER		DEPTH (metres)		DEPTH RL		SAMPLE OR FIELD TEST		RECOVERED		GRAPHIC LOG		USCS / ASCS CLASSIFICATION		SOIL/ROCK MATERIAL DESCRIPTION		MOISTURE CONDITION		CONSISTENCY DENSITY		PIEZOMETER DETAILS			
AD/V		L-M				0.30		654.70		0.2-0.3/S/1 D 0.20-0.30 m		SP		CL		Concrete.								ID MW101			
AD/T		L-M				0.70		654.30		0.3-0.6/S/1 D 0.30-0.60 m						FILL; Clayey SAND; medium to coarse grained; dark brown; with medium to coarse gravels; trace silt.								Concrete			
		H				1.10		653.90		0.8-1.0/S/1 D 0.80-1.00 m						Sandy CLAY; low plasticity; pale brown, reddish brown; trace fine to coarse gravels. becoming with fine to corase gravels; grading to increased pale grey.								Cuttings			
										1.2-1.5/S/1 D 1.20-1.50 m						SANDSTONE; medium to coarse grained; reddish brown and pale grey; with fine to coarse quartz gravels.								Bentonite			
										C 2.00-10.30 m																Casing	

CLIENT			Bluesox		COMMENCED		16/09/2024		COMPLETED		17/09/2024		REF BH102/MW02	
PROJECT			Geotechnical and Groundwater Investigation		LOGGED		AK		CHECKED				Sheet 1 OF 1	
SITE			Berrimba Gaol Hotel Resort - Argyle Street, Berrima, NSW		GEOLOGY		Hawkesbury Sandstone		VEGETATION		Nil		PROJECT NO. P2410244	
EQUIPMENT			4WD truck-mounted hydraulic drill rig		LONGITUDE		150.33588		RL SURFACE		657.5 m		DATUM	AHD
EXCAVATION DIMENSIONS			14.66 m depth		LATITUDE		-34.48808		ASPECT		SW		SLOPE	<5%
Drilling			Sampling			Field Material Description								
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS / ASCS CLASSIFICATION	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS ID Static Water Level MW02		
ADV	M	L-M	0.30 657.20	0.1-0.2/S/1 D 0.10-0.20 m	0.1-0.2/S/1 D 0.10-0.20 m			GP	FILL; Silty Sandy GRAVEL; fine to coarse mixed gravels; dark grey, pale grey; subrounded and subangular.	D		Concrete		
			0.90 656.60	0.3-0.4/S/1 D 0.30-0.40 m	0.3-0.4/S/1 D 0.30-0.40 m			SP	FILL; Silty SAND; fine to medium grained; dark grey; trace clay and medium to coarse gravels.	M				
ADT	H		1.50 656.00	0.5-0.8/S/1 D 0.50-0.80 m	0.5-0.8/S/1 D 0.50-0.80 m			CL	Sandy CLAY; low plasticity; orange brown and pale grey.	M (<PL)		Bentonite		
NMLC		Not Observed		0.9-1.0/S/1 D 0.90-1.00 m	0.9-1.0/S/1 D 0.90-1.00 m				SANDSTONE; medium to coarse grained; reddish brown and pale grey; with medium to coarse quartz gravels.			Casing		
			5.76 651.50	C 1.66-14.66 m	C 1.66-14.66 m							Screen		
			6.00 651.50						CORE LOSS			Sand		
			7.30 650.20						SANDSTONE; medium to coarse grained; reddish brown and pale grey; with medium to coarse quartz gravels.					
			9.60 647.90						pale grey minor reddish orange and pinkish red, quartz gravels decreasing			Sump		
			11.20 646.30						reddish orange and pale grey					
			14.66						pale grey minor reddish orange			Cuttings		
									Hole Terminated at 14.66 m (Target depth reached)					
EXCAVATION LOG TO BE READ IN CONJUNCTION WITH ACCOMPANYING REPORT NOTES AND ABBREVIATIONS														
					MARTENS & ASSOCIATES PTY LTD Suite 201, 20 George St. Hornsby, NSW 2077 Australia Phone: (02) 9476 9999 Fax: (02) 9476 8767 mail@martens.com.au WEB: http://www.martens.com.au					Engineering Log - TEST				

D

Rising Head Test Analysis





WELL TEST ANALYSIS

Data Set: C:\...\MW101 (RHT-1) - Bouwer-Rice.aqt

Date: 10/16/24

Time: 09:38:26

PROJECT INFORMATION

Client: Bluesox

Project: 24150

Location: Berrima Gaol

Test Date: 27/09/2024

AQUIFER DATA

Saturated Thickness: 1.38 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW101)

Initial Displacement: -0.6676 m

Static Water Column Height: 1.38 m

Total Well Penetration Depth: 6. m

Screen Length: 6. m

Casing Radius: 0.025 m

Well Radius: 0.025 m

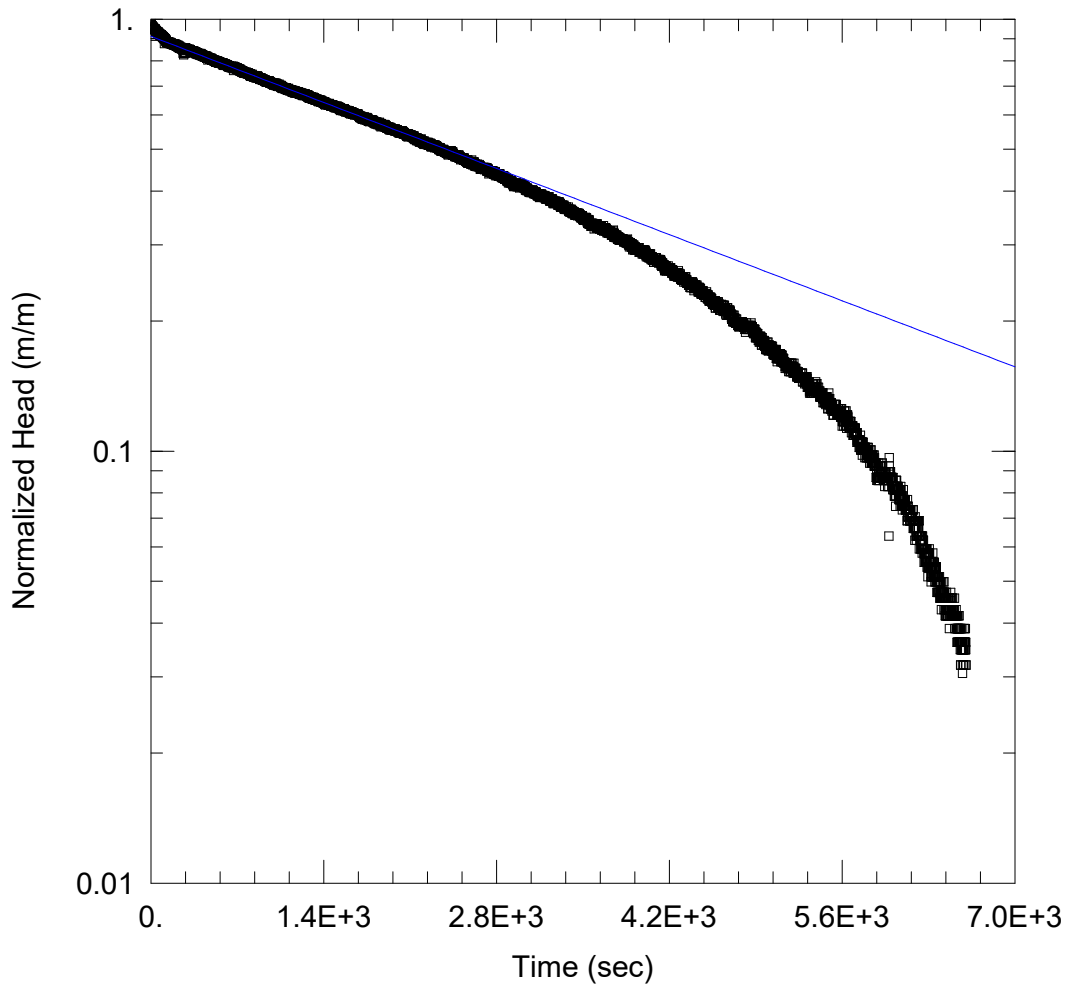
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 2.253E-7$ m/sec

$y_0 = -0.609$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW101 (RHT-1) - Bouwer-Rice.aqt

Date: 10/16/24

Time: 09:37:49

PROJECT INFORMATION

Client: Bluesox

Project: 24150

Location: Berrima Gaol

Test Date: 27/09/2024

AQUIFER DATA

Saturated Thickness: 1.38 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW101)

Initial Displacement: -0.6676 m

Static Water Column Height: 1.38 m

Total Well Penetration Depth: 6. m

Screen Length: 6. m

Casing Radius: 0.025 m

Well Radius: 0.025 m

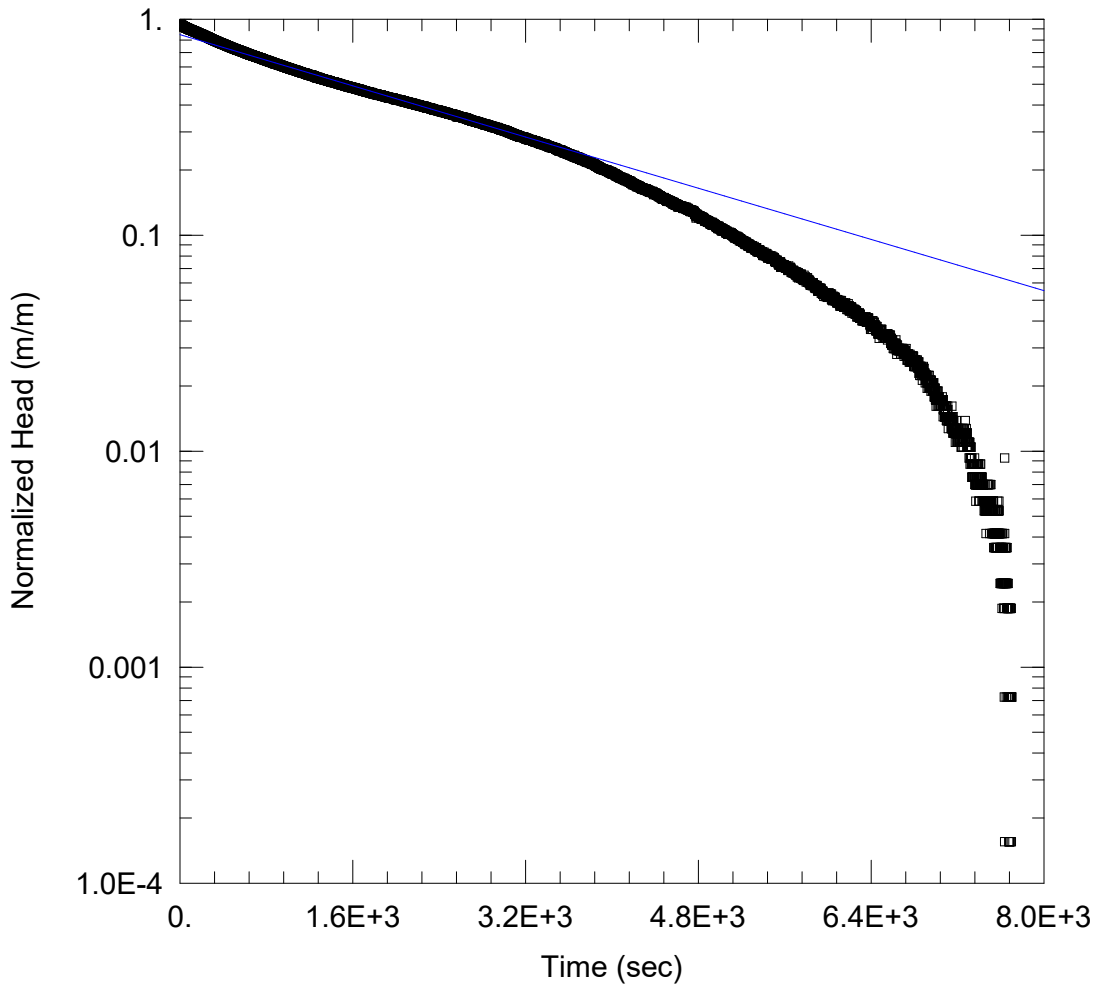
SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

K = 3.02E-7 m/sec

y0 = -0.6091 m



WELL TEST ANALYSIS

Data Set: C:\...\MW102 (RHT-1) - Bouwer-Rice.aqt

Date: 10/16/24

Time: 09:40:37

PROJECT INFORMATION

Client: Bluesox

Project: 24150

Location: Berrima Gaol

Test Date: 27/09/2024

AQUIFER DATA

Saturated Thickness: 4.13 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW102)

Initial Displacement: -1.607 m

Static Water Column Height: 4.13 m

Total Well Penetration Depth: 6. m

Screen Length: 6. m

Casing Radius: 0.025 m

Well Radius: 0.025 m

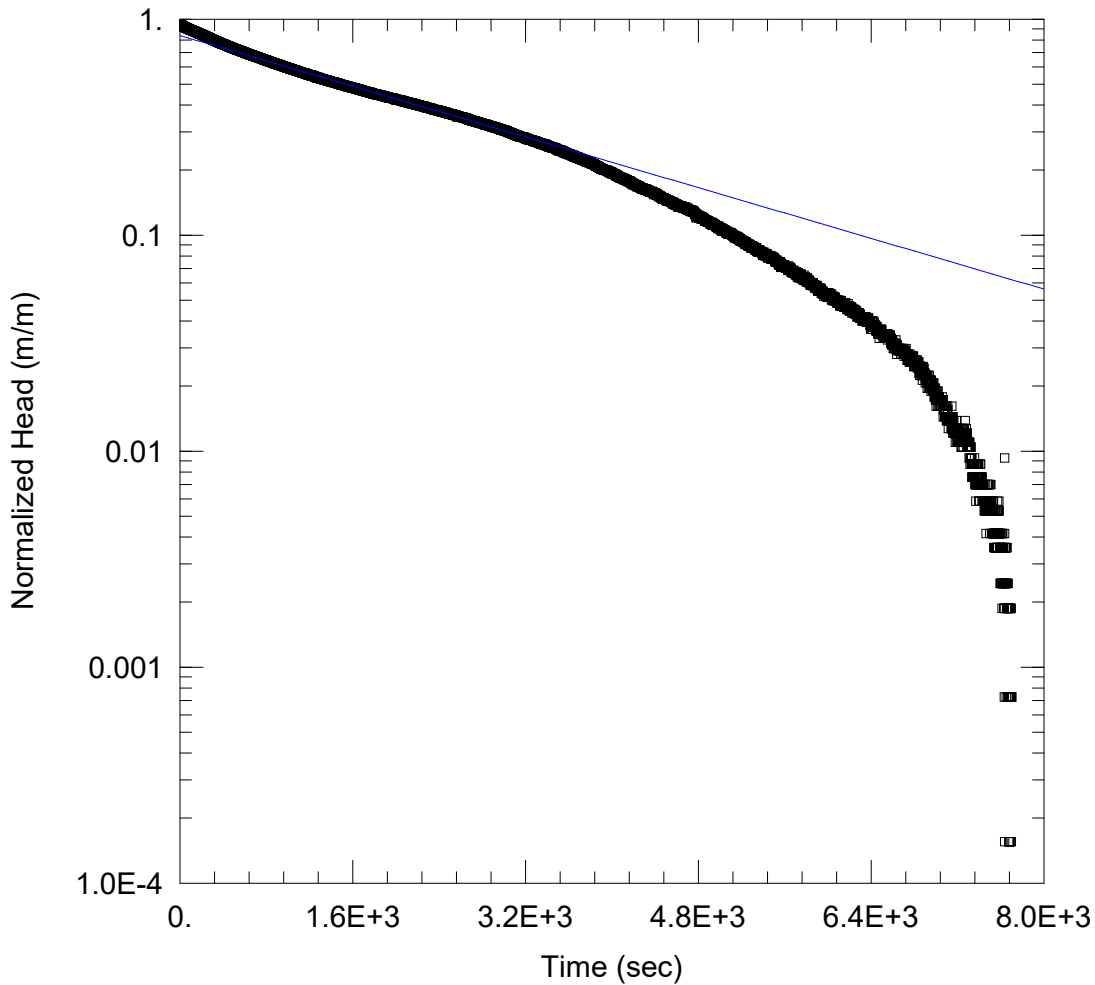
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 1.085E-7$ m/sec

$y_0 = -1.36$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW102 (RHT-1) - Bouwer-Rice.aqt

Date: 10/16/24

Time: 09:41:17

PROJECT INFORMATION

Client: Bluesox

Project: 24150

Location: Berrima Gaol

Test Date: 27/09/2024

AQUIFER DATA

Saturated Thickness: 4.13 m

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW102)

Initial Displacement: -1.607 m

Static Water Column Height: 4.13 m

Total Well Penetration Depth: 6. m

Screen Length: 6. m

Casing Radius: 0.025 m

Well Radius: 0.025 m

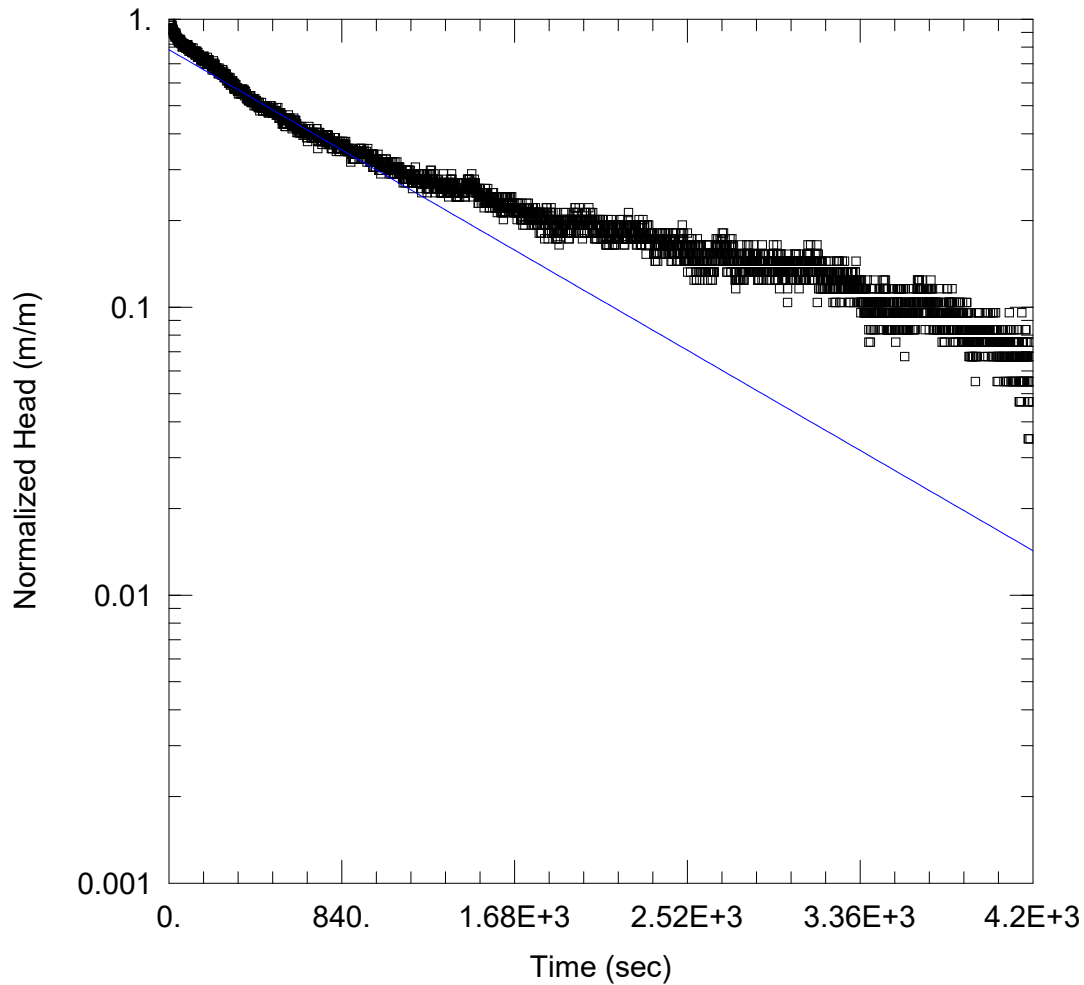
SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

$K = 1.355E-7$ m/sec

$y_0 = -1.35$ m



WELL TEST ANALYSIS

Data Set: C:\...\MW103 (RHT-1) 0 Bouwer-Rice.aqt

Date: 10/16/24

Time: 10:03:53

PROJECT INFORMATION

Client: Bluesox

Project: 24150

Location: Berrima Gaol

Test Date: 27/09/2024

AQUIFER DATA

Saturated Thickness: 0.83 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW103)

Initial Displacement: -0.4727 m

Static Water Column Height: 0.83 m

Total Well Penetration Depth: 3. m

Screen Length: 3. m

Casing Radius: 0.025 m

Well Radius: 0.025 m

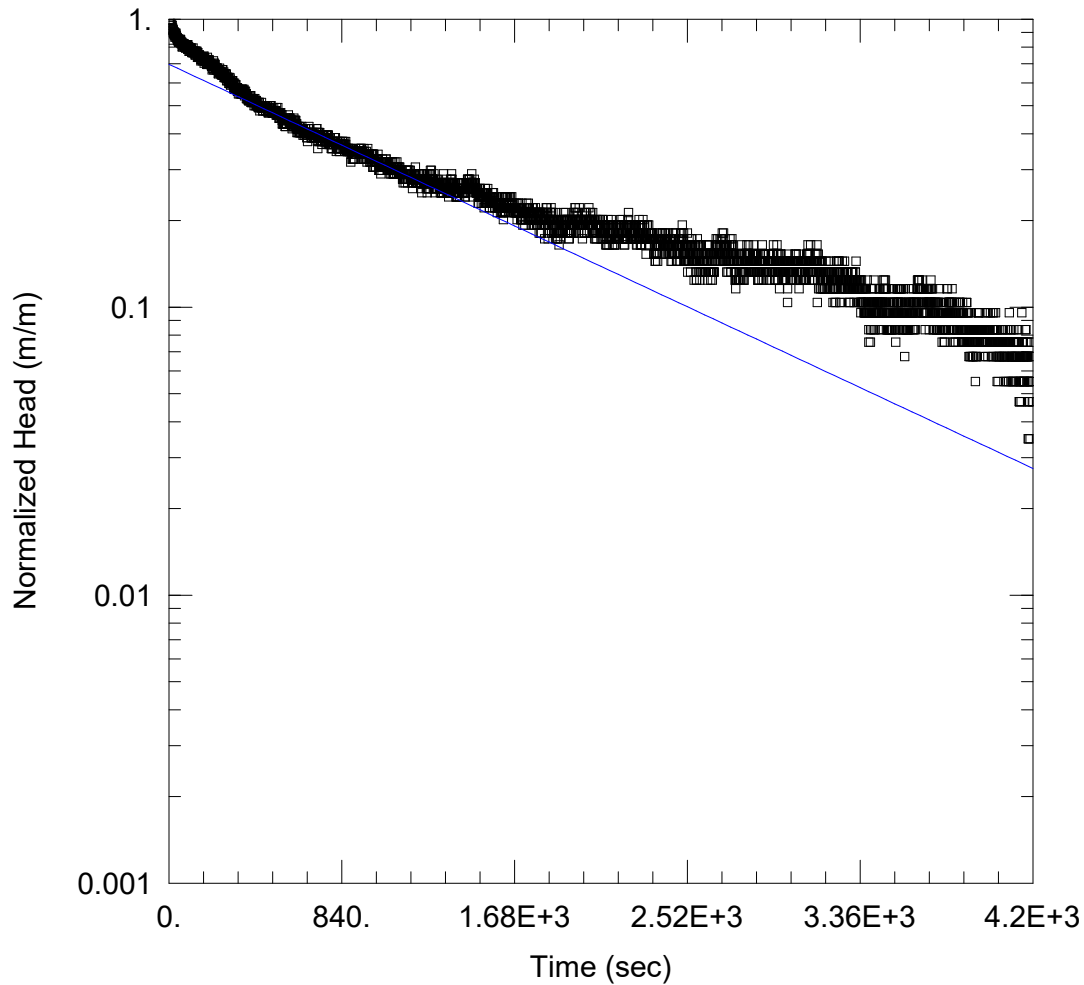
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 1.229E-6 m/sec

y0 = -0.3702 m



WELL TEST ANALYSIS

Data Set: C:\...\MW103 (RHT-1) 0 Bouwer-Rice.aqt

Date: 10/16/24

Time: 10:03:19

PROJECT INFORMATION

Client: Bluesox

Project: 24150

Location: Berrima Gaol

Test Date: 27/09/2024

AQUIFER DATA

Saturated Thickness: 0.83 m

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW103)

Initial Displacement: -0.4727 m

Static Water Column Height: 0.83 m

Total Well Penetration Depth: 3. m

Screen Length: 3. m

Casing Radius: 0.025 m

Well Radius: 0.025 m

SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

K = 1.535E-6 m/sec

y0 = -0.3294 m

E

Tabulated Groundwater & Surface Water Analytical Data

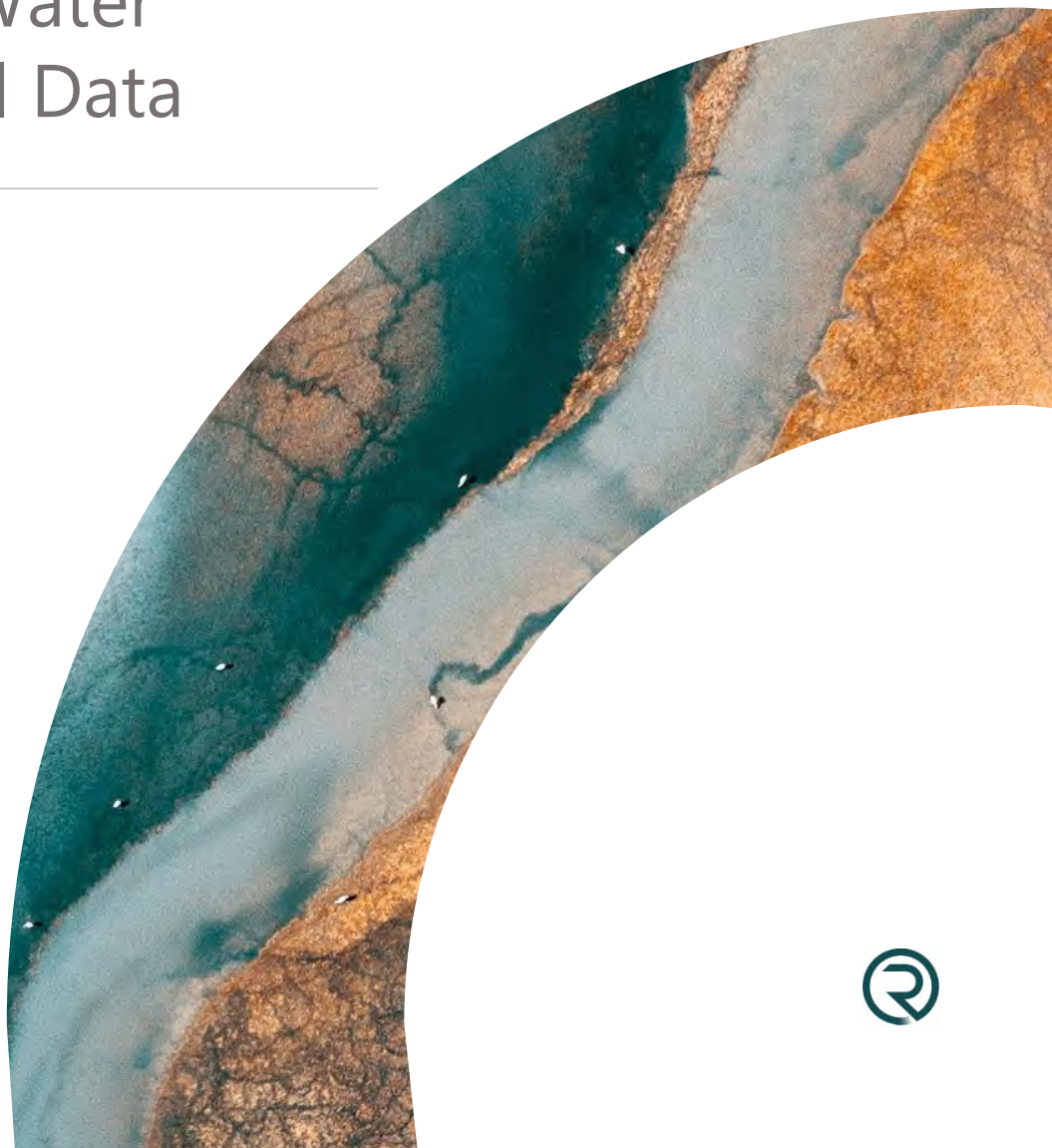


Table 1
Groundwater Surface water Analytical Results Summary



	BTEX						TRH							Other	Biological	
	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Phosalone	Faecal Coliforms	E. Coli
	mg/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	mg/L	CFU/100mL	cfu/100 ml
EQL	0.001	1	1	1	2	1	10	10	50	50	100	100	50	0.0002	1	1
ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)	0.016	950	180	80		350										
ADWG 2022 Health		1	800	300												> 0
PFAS NEMP 2020 Freshwater 95%																
ANZECC 2000 SE Aust - Upland River																

Field ID	Date																
MW101	27 Sep 2024	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	<0.0002	<10	<10
MW102	27 Sep 2024	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	<0.0002	<10	<10
MW103	27 Sep 2024	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	<0.0002	<10	<10
SW-1	27 Sep 2024	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	<0.0002	200	200

Statistics																
Number of Results	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Minimum Concentration	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	<0.0002	<10	<10
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	200
Maximum Concentration	<0.001	<1	<1	<1	<2	<1	<10	<10	<50	<50	<100	<100	<50	<0.0002	200	200
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	200
Average Concentration *	0.0005	0.5	0.5	0.5	1	0.5	5	5	25	25	50	50	25	0.0001	54	54
Median Concentration *	0.0005	0.5	0.5	0.5	1	0.5	5	5	25	25	50	50	25	0.0001	5	5

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

ANZG, July 2023, ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)
NHMRC, May 2022, ADWG 2022 Health
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust - Upland River

* A Non Detect Multiplier of 0.5 has been applied.

ANZG, July 2023, ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)
NHMRC, May 2022, ADWG 2022 Health
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust - Upland River

Table 1
Groundwater Surface water Analytical Results Summary



	Halogenated					(n:2)		Perfluoroalkan		PFAS			Inorganics																		MAH											
	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	Sum of PFAS	Sum of PFAS (PFOS + PFOA)	Hardness (filtered)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Ammonia as N (filtered)	Bromide	Chloride	Fluoride	Ionic Balance	Nitrate (as N) (filtered)	Nitrogen (Total Oxidised)	Nitrogen (Total)	Total Phosphorus (Organic Phosphate)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Sodium (filtered)	Sodium Absorption Ratio	Sulphate	Total Suspended Solids (Lab)	Turbidity (Lab)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	
	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	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	-	mg/L	mg/L	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
EQL	1	10	10	10	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	3	5	5	5	5	0.005	500	1	0.1		0.005	0.005	0.1	0.05	0.005	0.5	0.01	1	5	0.1		1	1	1	1	1	1	1	1	1
ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)																		0.9																	30							
ADWG 2022 Health	1	1			0.56					0.07											1.5																			30		
PFAS NEMP 2020 Freshwater 95%					220				0.13																																	
ANZECC 2000 SE Aust - Upland River																								0.015	0.25	0.02	0.015					50	25									

Field ID	Date	<1	<10	<10	<10	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	26	<5	<5	<5	<5	<0.005	<500	16	<0.1	-4.0	1.9	1.9	2.0	<0.05	<0.005	22	1.9	72	40	51	<1	<1	<1	<1	<1	<1	<1	<1	<1	
MW101	27 Sep 2024	<1	<10	<10	<10	<0.01	<0.01	<0.02	0.02	0.01	0.03	0.03	0.01	36	7	<5	<5	7	<0.005	<500	11	<0.1	18	14	14	15	<0.05	<0.005	19	1.4	36	140	100	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW102	27 Sep 2024	<1	<10	<10	<10	<0.01	<0.01	<0.02	0.02	0.01	0.03	0.03	0.01	36	7	<5	<5	7	<0.005	<500	11	<0.1	18	14	15	<0.05	<0.005	19	1.4	36	140	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	
MW103	27 Sep 2024	<1	<10	<10	<10	<0.01	<0.01	<0.02	<0.01	0.05	0.05	0.05	0.05	71	80	<5	<5	80	0.29	<500	6	<0.1	-7.0	0.16	0.2	0.5	0.05	<0.005	11	0.58	28	30	26	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW-1	27 Sep 2024	<1	<10	<10	<10	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	73	64	<5	<5	64	0.077	<500	51	0.1	-7.0	0.20	0.2	0.7	<0.05	<0.005	23	1.2	13	9	8.9	<1	<1	<1	<1	<1	<1	<1	<1	<1

Statistics																																									
Number of Results	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects	0	0	0	0	0	0	0	1	2	2	2	2	4	3	0	0	3	2	0	4	1	4	4	4	4	1	0	4	4	4	4	4	0	0	0	0	0	0	0	0	0
Minimum Concentration	<1	<10	<10	<10	<0.01	<0.01	<0.02	<0.01	0.01	<0.01	<0.01	0.01	26	<5	<5	<5	<5	<0.005	<500	6	0.1	-7	0.16	0.2	0.5	0.05	<0.005	11	0.58	13	9	8.9	<1	<1	<1	<1	<1	<1	<1	<1	<1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	0.02	0.01	0.03	0.03	0.01	26	7	ND	ND	7	0.077	ND	6	0.1	-7	0.16	0.2	0.5	0.05	ND	11	0.58	13	9	8.9	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<1	<10	<10	<10	<0.01	<0.01	<0.02	0.02	0.05	0.05	0.05	0.05	73	80	<5	<5	80	0.29	<500	51	0.1	18	14	14	15	0.05	<0.005	23	1.9	72	140	100	<1	<1	<1	<1	<1	<1	<1	<1	<1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	0.02	0.05	0.05	0.05	0.05	73	80	ND	ND	80	0.29	ND	51	0.1	18	14	14	15	0.05	ND	23	1.9	72	140	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *	0.5	5	5	5	0.005	0.005	0.01	0.0088	0.018	0.022	0.022	0.018	52	38	2.5	2.5	38	0.093	250	21	0.062	0	4.1	4.1	4.6	0.031	0.0025	19	1.3	37	55	46	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Median Concentration *	0.5	5	5	5	0.005	0.005	0.01	0.005	0.0075	0.0175	0.0175	0.0075	53.5	35.5	2.5	2.5	35.5	0.03975	250	13.5	0.05	-5.5	1.05	1.05	1.35	0.025	0.0025	20.5	1.3	32	35	38.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)
NHMRC, May 2022, ADWG 2022 Health
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust - Upland River

Table 1
Groundwater Surface water Analytical Results Summary



		Metals																																	
		Aluminium	Aluminium (filtered)	Arsenic	Arsenic (filtered)	Barium	Barium (filtered)	Beryllium	Beryllium (filtered)	Boron	Boron (filtered)	Cadmium	Cadmium (filtered)	Calcium (filtered)	Chromium (III+VI)	Chromium (III+VI) (filtered)	Cobalt	Cobalt (filtered)	Copper	Copper (filtered)	Iron	Iron (filtered)	Lead	Lead (filtered)	Lithium	Lithium (filtered)	Magnesium (filtered)	Manganese	Manganese (filtered)	Mercury	Mercury (filtered)	Molybdenum	Molybdenum (filtered)	Nickel	Nickel (filtered)
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		0.01	0.01	0.001	0.001	0.001	0.001	0.0005	0.0005	0.02	0.02	0.0001	0.0001	0.5	0.001	0.001	0.001	0.001	0.001	0.001	0.01	0.01	0.001	0.001	0.001	0.001	0.5	0.005	0.005	0.00005	0.00005	0.001	0.001	0.001	0.001
ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)		0.055	0.0008		0.013					0.94	0.94	0.0002	0.0002	0		0.01			0.0014	0.0014			0.0034	0.0034				1.9	1.9	0.0006	0.0006		0.034	0.011	0.011
ADWG 2022 Health				0.01	0.01	2	2	0.06	0.06	4	4	0.002	0.002						2	2			0.01	0.01				0.5	0.5	0.001	0.001	0.05	0.05	0.02	0.02
PFAS NEMP 2020 Freshwater 95%																																			
ANZECC 2000 SE Aust - Upland River																																			

Field ID	Date	-	0.72	-	<0.001	-	0.038	-	<0.0005	-	0.03	-	<0.0001	7.0	-	<0.001	-	0.005	-	0.007	-	0.02	-	0.003	-	<0.001	2	-	0.11	-	<0.00005	-	<0.001	-	0.001
MW101	27 Sep 2024	-	0.72	-	<0.001	-	0.038	-	<0.0005	-	0.03	-	<0.0001	7.0	-	<0.001	-	0.005	-	0.007	-	0.02	-	0.003	-	<0.001	2	-	0.11	-	<0.00005	-	<0.001	-	0.001
MW102	27 Sep 2024	-	0.08	-	<0.001	-	0.14	-	<0.0005	-	0.04	-	<0.0001	7.6	-	<0.001	-	0.008	-	0.011	-	0.21	-	<0.001	-	0.001	4	-	0.34	-	<0.00005	-	<0.001	-	0.01
MW103	27 Sep 2024	-	0.01	-	<0.001	-	0.2	-	<0.0005	-	0.03	-	<0.0001	21	-	<0.001	-	0.007	-	0.004	-	0.02	-	<0.001	-	<0.001	4	-	2.9	-	<0.00005	-	<0.001	-	0.004
SW-1	27 Sep 2024	0.43	0.18	<0.001	<0.001	0.044	0.037	<0.0005	<0.0005	0.05	<0.02	<0.0001	<0.0001	15	<0.001	<0.001	<0.001	<0.001	0.003	0.001	0.56	0.17	<0.001	<0.001	<0.001	<0.001	8.5	0.075	0.05	<0.00005	<0.00005	<0.001	<0.001	0.002	<0.001

Statistics																																			
Number of Results	1	4	1	4	1	4	1	4	1	4	1	4	4	1	4	1	4	1	4	1	4	1	4	1	4	4	1	4	1	4	1	4	1	4	
Number of Detects	1	4	0	0	1	4	0	0	1	3	0	0	4	0	0	0	3	1	4	1	4	0	1	0	1	4	1	4	0	0	0	0	0	1	3
Minimum Concentration	0.43	0.01	<0.001	<0.001	0.044	0.037	<0.0005	<0.0005	0.05	<0.02	<0.0001	<0.0001	7	<0.001	<0.001	<0.001	<0.001	0.003	0.001	0.56	0.02	<0.001	<0.001	<0.001	0.001	2	0.075	0.05	<0.00005	<0.00005	<0.001	<0.001	0.002	0.001	
Minimum Detect	0.43	0.01	ND	ND	0.044	0.037	ND	ND	0.05	0.03	ND	ND	7	ND	ND	ND	0.005	0.003	0.001	0.56	0.02	ND	0.003	ND	0.001	2	0.075	0.05	ND	ND	ND	ND	0.002	0.001	
Maximum Concentration	0.43	0.72	<0.001	<0.001	0.044	0.2	<0.0005	<0.0005	0.05	0.04	<0.0001	<0.0001	21	<0.001	<0.001	<0.001	0.008	0.003	0.011	0.56	0.21	<0.001	0.003	<0.001	0.001	8.5	0.075	2.9	<0.00005	<0.00005	<0.001	<0.001	0.002	0.01	
Maximum Detect	0.43	0.72	ND	ND	0.044	0.2	ND	ND	0.05	0.04	ND	ND	21	ND	ND	ND	0.008	0.003	0.011	0.56	0.21	ND	0.003	ND	0.001	8.5	0.075	2.9	ND	ND	ND	ND	0.002	0.01	
Average Concentration *		0.25		0.0005		0.1		0.00025		0.028		0.00005	13		0.0005		0.0051		0.0058		0.1		0.0011		0.00062	4.6		0.85		0.000025		0.0005		0.0039	
Median Concentration *	0.43	0.13	0.0005	0.0005	0.044	0.089	0.00025	0.00025	0.05	0.03	0.00005	0.00005	11.3	0.0005	0.0005	0.0005	0.006	0.003	0.0055	0.56	0.095	0.0005	0.0005	0.0005	0.0005	4	0.075	0.225	0.000025	0.000025	0.0005	0.0005	0.002	0.0025	

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

ANZG, July 2023, ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)
NHMRC, May 2022, ADWG 2022 Health
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust - Upland River

Table 1
Groundwater Surface water Analytical Results Summary



																	Organic	Organochlorine Pesticides																			
	Potassium (filtered)	Selenium	Selenium (filtered)	Silicon	Silver	Silver (filtered)	Strontium	Strontium (filtered)	Tin	Tin (filtered)	Uranium	Uranium (filtered)	Vanadium	Vanadium (filtered)	Zinc	Zinc (filtered)		4,4-DDE	α-BHC	Aldrin	β-BHC	Chlordane (cis)	Chlordane (trans)	δ-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	γ-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	
	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L		mg/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	
EQL	0.5	0.001	0.001	200	0.001	0.001	0.001	0.001	0.001	0.001	0.5	0.5	0.001	0.001	0.001	0.001	1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)		0.011	0.011		0.00005	0.00005									0.008	0.008									0.01						0.02		0.2	0.09			
ADWG 2022 Health		0.01	0.01		0.1	0.1					20	20													9								10	0.3			
PFAS NEMP 2020 Freshwater 95%																																					
ANZECC 2000 SE Aust - Upland River																																					

Field ID	Date	12	-	<0.001	3,900	-	<0.001	-	0.02	-	<0.001	-	<0.5	-	<0.001	-	0.021	4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW101	27 Sep 2024	12	-	<0.001	3,900	-	<0.001	-	0.02	-	<0.001	-	<0.5	-	<0.001	-	0.021	4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
MW102	27 Sep 2024	6.7	-	<0.001	5,500	-	<0.001	-	0.05	-	<0.001	-	<0.5	-	<0.001	-	0.028	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
MW103	27 Sep 2024	5.0	-	<0.001	1,800	-	<0.001	-	0.068	-	<0.001	-	<0.5	-	<0.001	-	0.015	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
SW-1	27 Sep 2024	4	<0.001	<0.001	400	<0.001	<0.001	0.088	0.081	<0.001	<0.001	<0.5	<0.5	<0.001	<0.001	0.004	0.002	9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	

Statistics		4	1	4	4	1	4	1	4	1	4	1	4	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Results		4	1	4	4	1	4	1	4	1	4	1	4	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects		4	0	0	4	0	0	1	4	0	0	0	0	0	0	1	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration		4	<0.001	<0.001	400	<0.001	<0.001	0.088	0.02	<0.001	<0.001	<0.5	<0.5	<0.001	<0.001	0.004	0.002	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Minimum Detect		4	ND	ND	400	ND	ND	0.088	0.02	ND	ND	ND	ND	ND	ND	0.004	0.002	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration		12	<0.001	<0.001	5,500	<0.001	<0.001	0.088	0.081	<0.001	<0.001	<0.5	<0.5	<0.001	<0.001	0.004	0.028	9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Maximum Detect		12	ND	ND	5,500	ND	ND	0.088	0.081	ND	ND	ND	ND	ND	ND	0.004	0.028	9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *		6.9		0.0005	2,900		0.0005	0.055		0.0005		0.25		0.0005		0.016	4.5	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	0.1	0.1	0.1	0.1	
Median Concentration *		5.85	0.0005	0.0005	2,850	0.0005	0.0005	0.088	0.059	0.0005	0.0005	0.25	0.25	0.0005	0.0005	0.004	0.018	3.5	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	0.1	0.1	0.1	

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

ANZG, July 2023, ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)
NHMRC, May 2022, ADWG 2022 Health
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust - Upland River

Table 1
Groundwater Surface water Analytical Results Summary



		Organophosphorous Pesticides																	PAH																	
		Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenitrothion	Fenthion	Malathion	Metidathion	Methyl parathion	Mevinphos (Phosdrin)	Phorate	Ronnel	Benzo(b,j,k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ	PAHs (Sum of positives)
		µg/L	µg/L	µg/L	mg/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	mg/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	mg/L	mg/L	
EQL		0.2	0.2	0.2	0.0002	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0002	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0005	0.0001
ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)		0.02		0.01			0.01		0.15			0.2		0.05									0.4		0.2					1.4		16	2			
ADWG 2022 Health		30	10	10			4	5	7	4	4	7	7	70	6	0.7	5								0.01											
PFAS NEMP 2020 Freshwater 95%																																				
ANZECC 2000 SE Aust - Upland River																																				

Field ID	Date	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001
MW101	27 Sep 2024	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001
MW102	27 Sep 2024	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001
MW103	27 Sep 2024	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001
SW-1	27 Sep 2024	<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001

Statistics		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Results		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects		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	0	0	0	0	0	0	0	0	0
Minimum Concentration		<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001
Minimum Detect		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration		<0.2	<0.2	<0.2	<0.0002	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0005	<0.0001
Maximum Detect		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *		0.1	0.1	0.1	0.0001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0001	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00025	0.00005
Median Concentration *		0.1	0.1	0.1	0.0001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0001	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00025	0.00005

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards
ANZG, July 2023, ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)
NHMRC, May 2022, ADWG 2022 Health
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust - Upland River

Table 1
Groundwater Surface water Analytical Results Summary



	PCBs							Pesticides			Solvents	TPH				
	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Fenamiphos	Mirex	Parathion	Cyclohexane	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	2	2	2	2	2	2	2	0.2	0.2	0.2	0.001	10	50	100	100	50
ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)				0.6	0.03					0.004						
ADWG 2022 Health								0.5		20						
PFAS NEMP 2020 Freshwater 95%																
ANZECC 2000 SE Aust - Upland River																

Field ID	Date															
MW101	27 Sep 2024	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<50	<100	<100	<50
MW102	27 Sep 2024	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<50	<100	<100	<50
MW103	27 Sep 2024	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<50	<100	<100	<50
SW-1	27 Sep 2024	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<50	<100	<100	<50

Statistics																
Number of Results	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Minimum Concentration	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.2	<0.2	0.001	<10	<50	<100	<100	<50
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.001	ND	ND	ND	ND	ND
Maximum Concentration	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.2	<0.2	0.001	<10	<50	<100	<100	<50
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.001	ND	ND	ND	ND	ND
Average Concentration *	1	1	1	1	1	1	1	0.1	0.1	0.1	0.00062	5	25	50	50	25
Median Concentration *	1	1	1	1	1	1	1	0.1	0.1	0.1	0.0005	5	25	50	50	25

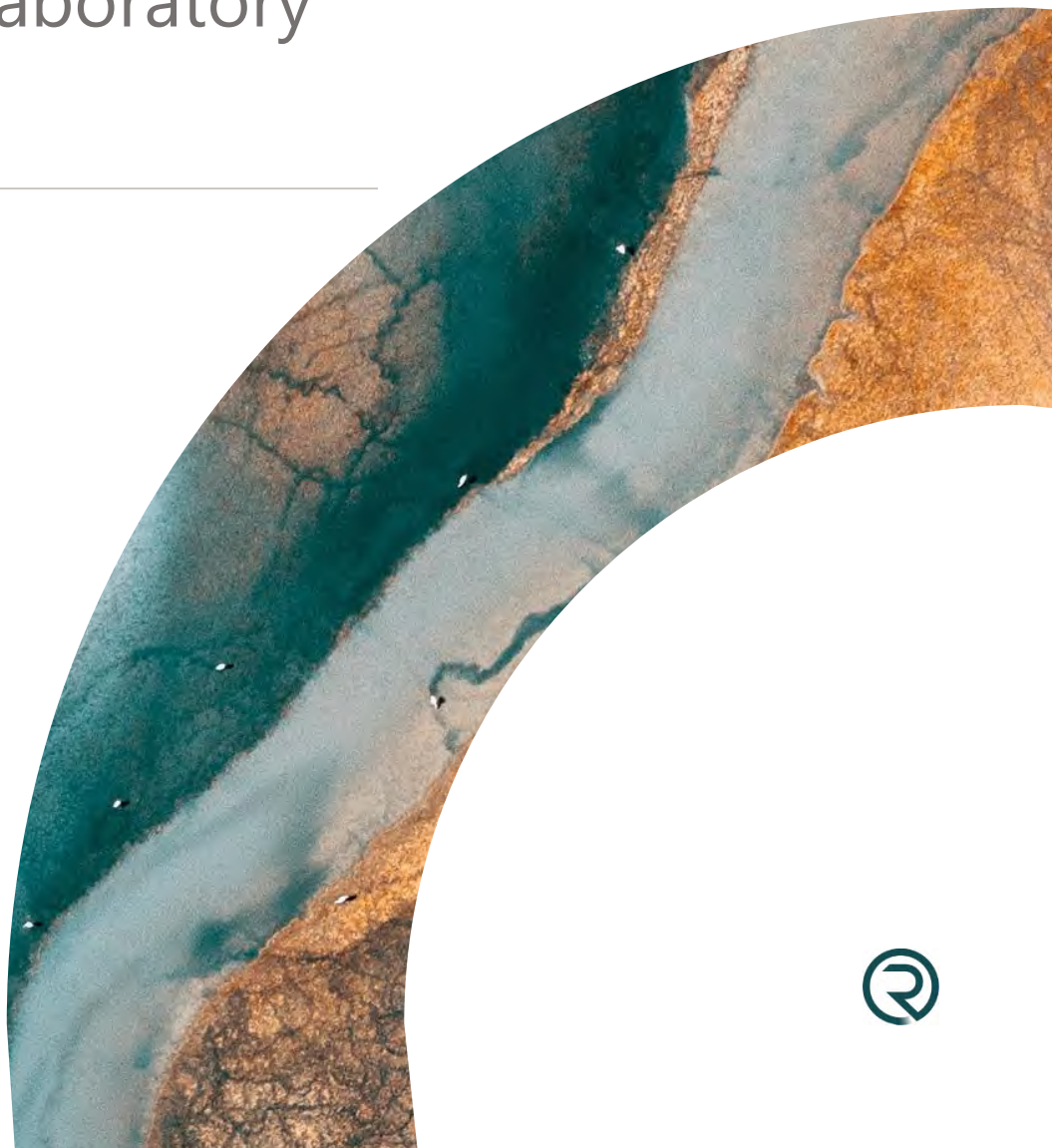
* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

ANZG, July 2023, ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)
NHMRC, May 2022, ADWG 2022 Health
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust - Upland River

F

Groundwater & Surface Water Sample Laboratory Reports





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Client: Reditus Consulting
Contact Person: Natasha Pasley
Project Mgr: Natasha Pasley
Sampler: Evan Jacobson
Address: Unit 1A, Level 1, 26-33 Waratah Street Kirrawee NSW

Client Project Name/Number/Site etc (ie report title):
24150

PO No.: 24150

Envirolab Quote No. :
Date results required:

Or choose: standard

Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Phone:	02.9521 6567	Mob:	0488 496 526
		accounts@reditusconsulting.com	
		natashapaslev@reditus.com.au	

Email Invoice To:	natashapasley@reditus.com.au
Email Results To:	natashapasley@reditus.com.au evaniacobson@reditus.com.au

Additional report format: esdat

Lab Comments:

Sample Information

Tests Required

Comments

[illegible]

Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis

Relinquished by (Company): Reditus

Received by {Company}:

Print Name: Evan Jacobson

Print Name: _____

Date & Time: 30/09/2024

Date & Time:

Signature: E. Jacobson

Signature:

Lab Use Only

Job number: 362948

Cooling: Ice / Ice pack / None

Temperature:

Security seal: Intact / Broken / None

TAT Req: - SAME day / 1 / 2 / 3 / 4 / STD

SAMPLE RECEIPT ADVICE

Client Details

Client	Reditus Consulting
Attention	Natasha Pasley

Sample Login Details

Your reference	24150
Envirolab Reference	362948
Date Sample Received	30/09/2024
Date Instructions Received	30/09/2024
Date Results Expected to be Reported	08/10/2024

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	4 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	10
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Sample ID	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water	Organochlorine Pesticides in Water	OP Pesticides in Water	PCBs in Water	HM in water - dissolved	Metals in Water - Dissolved	All metals in water - total	Metals in Waters -Acid extractable	Calcium - Dissolved	Potassium - Dissolved	Sodium - Dissolved	Magnesium - Dissolved	Hardness (calc) equivalent CaCO3	Hydroxide Alkalinity (OH-) as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Sulphate, SO4	Chloride, Cl	Ionic Balance	Total Suspended Solids	Turbidity	Total Organic Carbon	Sodium Adsorption Ratio	Ammonia as N in water	Nitrate as N in water	NOx as N in water	Total Nitrogen in water	Phosphate as P in water	Fluoride, F	Bromide, Br	Metals in Waters -Acid extractable	PFAS in Waters Short	Microbiological Testing
MW101	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MW102	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MW103	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SW-1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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.

CERTIFICATE OF ANALYSIS 362948

Client Details

Client	Reditus Consulting
Attention	Natasha Pasley
Address	Shop 1, 29-33 Waratah St, KIRRAWEE, NSW, 2232

Sample Details

Your Reference	<u>24150</u>
Number of Samples	4 Water
Date samples received	30/09/2024
Date completed instructions received	30/09/2024

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	08/10/2024
Date of Issue	08/10/2024
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Results Approved By

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Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date Extracted	-	04/10/2024	04/10/2024	04/10/2024	04/10/2024
Date Analysed	-	08/10/2024	08/10/2024	08/10/2024	08/10/2024
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1
Cyclohexane	µg/L	1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1

VOCs in water					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	98	96	95	98
Surrogate Toluene-d8	%	98	96	97	98
Surrogate 4-Bromofluorobenzene	%	102	84	101	101

vTRH(C6-C10)/BTEXN in Water					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date extracted	-	04/10/2024	04/10/2024	04/10/2024	04/10/2024
Date analysed	-	08/10/2024	08/10/2024	08/10/2024	08/10/2024
TRH C ₆ - C ₉	µg/L	<10	<10	<10	<10
TRH C ₆ - C ₁₀	µg/L	<10	<10	<10	<10
TRH C ₆ - C ₁₀ less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	98	96	95	98
Surrogate Toluene-d8	%	98	96	97	98
Surrogate 4-Bromofluorobenzene	%	102	84	101	101

svTRH (C10-C40) in Water					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date extracted	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	02/10/2024	02/10/2024	02/10/2024	02/10/2024
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	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	<50	<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	%	86	93	96	87

PAHs in Water					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date extracted	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	02/10/2024	02/10/2024	02/10/2024	02/10/2024
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 <i>p</i> -Terphenyl-d14	%	81	90	94	87

Organochlorine Pesticides in Water					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date extracted	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	02/10/2024	02/10/2024	02/10/2024	02/10/2024
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2
Mirex	ug/L	<0.2	<0.2	<0.2	<0.2
Surrogate 4-Chloro-3-NBTF	%	73	84	95	72

OP Pesticides in Water					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date extracted	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	02/10/2024	02/10/2024	02/10/2024	02/10/2024
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Mevinphos	µg/L	<0.2	<0.2	<0.2	<0.2
Phorate	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2
Disulfoton	µg/L	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2
Parathion-Methyl	µg/L	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos	µg/L	<0.2	<0.2	<0.2	<0.2
Fenthion	µg/L	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2
Methidathion	µg/L	<0.2	<0.2	<0.2	<0.2
Fenamiphos	µg/L	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2
Phosalone	µg/L	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2
Coumaphos	µg/L	<0.2	<0.2	<0.2	<0.2
Surrogate 4-Chloro-3-NBTF	%	73	84	95	72

PCBs in Water					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date extracted	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	02/10/2024	02/10/2024	02/10/2024	02/10/2024
Aroclor 1016	µg/L	<2	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2	<2
Surrogate 2-Fluorobiphenyl	%	78	83	92	79

HM in water - dissolved					
Our Reference	UNITS	362948-1	362948-2	362948-3	362948-4
Your Reference		MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date prepared	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Arsenic-Dissolved	µg/L	<1	<1	<1	<1
Barium-Dissolved	µg/L	38	140	200	37
Beryllium-Dissolved	µg/L	<0.5	<0.5	<0.5	<0.5
Boron-Dissolved	µg/L	30	40	30	<20
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1
Cobalt-Dissolved	µg/L	5	8	7	<1
Chromium-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	7	11	4	1
Lead-Dissolved	µg/L	3	<1	<1	<1
Manganese-Dissolved	µg/L	110	340	2,900	50
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Molybdenum-Dissolved	µg/L	<1	<1	<1	<1
Nickel-Dissolved	µg/L	1	10	4	<1
Selenium-Dissolved	µg/L	<1	<1	<1	<1
Silver-Dissolved	µg/L	<1	<1	<1	<1
Tin-Dissolved	µg/L	<1	<1	<1	<1
Zinc-Dissolved	µg/L	21	28	15	2
Aluminium-Dissolved	µg/L	720	80	10	180
Iron-Dissolved	µg/L	20	210	20	170
Lithium-Dissolved	µg/L	<1	1	<1	<1
Strontium-Dissolved	µg/L	20	50	68	81
Uranium-Dissolved	µg/L	<0.5	<0.5	<0.5	<0.5
Vanadium-Dissolved	µg/L	<1	<1	<1	<1

Metals in Water - Dissolved					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date digested	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Silicon*- Dissolved	mg/L	3.9	5.5	1.8	0.4

All metals in water - total		
Our Reference		362948-4
Your Reference	UNITS	SW-1
Date Sampled		27/09/2024
Type of sample		Water
Date prepared	-	01/10/2024
Date analysed	-	01/10/2024
Arsenic-Total	µg/L	<1
Boron-Total	µg/L	50
Barium-Total	µg/L	44
Beryllium-Total	µg/L	<0.5
Cadmium-Total	µg/L	<0.1
Cobalt-Total	µg/L	<1
Chromium-Total	µg/L	<1
Copper-Total	µg/L	3
Lead-Total	µg/L	<1
Manganese-Total	µg/L	75
Mercury-Total	µg/L	<0.05
Molybdenum-Total	µg/L	<1
Nickel-Total	µg/L	2
Selenium-Total	µg/L	<1
Silver-Total	µg/L	<1
Tin-Total	µg/L	<1
Zinc-Total	µg/L	4
Aluminium-Total	µg/L	430
Iron-Total	µg/L	560
Lithium-Total	µg/L	<1
Strontium-Total	µg/L	88
Uranium-Total	µg/L	<0.5
Vanadium-Total	µg/L	<1

Metals in Waters - Acid extractable		
Our Reference		362948-4
Your Reference	UNITS	SW-1
Date Sampled		27/09/2024
Type of sample		Water
Date prepared	-	01/10/2024
Date analysed	-	01/10/2024
Silicon*- Total	mg/L	1

Ion Balance					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date prepared	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Calcium - Dissolved	mg/L	7.0	7.6	21	15
Potassium - Dissolved	mg/L	12	6.7	5.0	4
Sodium - Dissolved	mg/L	22	19	11	23
Magnesium - Dissolved	mg/L	2	4	4	8.5
Hardness (calc) equivalent CaCO ₃	mg/L	26	36	71	73
Hydroxide Alkalinity (OH ⁻) as CaCO ₃	mg/L	<5	<5	<5	<5
Bicarbonate Alkalinity as CaCO ₃	mg/L	<5	7	80	64
Carbonate Alkalinity as CaCO ₃	mg/L	<5	<5	<5	<5
Total Alkalinity as CaCO ₃	mg/L	<5	7	80	64
Sulphate, SO ₄	mg/L	72	36	28	13
Chloride, Cl	mg/L	16	11	6	51
Ionic Balance	%	-4.0	18	-7.0	-7.0

Miscellaneous Inorganics					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date prepared	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Total Suspended Solids	mg/L	40	140	30	9
Turbidity	NTU	51	100	26	8.9
Total Organic Carbon	mg/L	4	2	3	9
Sodium Adsorption Ratio	-	1.9	1.4	0.58	1.2
Ammonia as N in water	mg/L	<0.005	<0.005	0.29	0.077
Nitrate as N in water	mg/L	1.9	14	0.16	0.20
NOx as N in water	mg/L	1.9	14	0.2	0.2
Total Nitrogen in water	mg/L	2.0	15	0.5	0.7
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005	<0.005
Fluoride, F	mg/L	<0.1	<0.1	<0.1	0.1
Bromide, Br	mg/L	<0.5	<0.5	<0.5	<0.5

Metals in Waters - Acid extractable					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date prepared	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Phosphorus - Total	mg/L	<0.05	<0.05	0.05	<0.05

PFAS in Waters Short					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date prepared	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Date analysed	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.02	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.01	0.05	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate ¹³ C ₈ PFOS	%	102	98	100	98
Surrogate ¹³ C ₂ PFOA	%	96	99	102	98
Extracted ISTD ¹⁸ O ₂ PFHxS	%	91	84	90	82
Extracted ISTD ¹³ C ₄ PFOS	%	89	91	92	90
Extracted ISTD ¹³ C ₄ PFOA	%	99	89	94	91
Extracted ISTD ¹³ C ₂ 6:2FTS	%	103	92	100	94
Extracted ISTD ¹³ C ₂ 8:2FTS	%	112	105	107	102
Total Positive PFHxS & PFOS	µg/L	<0.01	0.03	0.05	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.01	0.05	<0.01
Total Positive PFAS	µg/L	<0.01	0.03	0.05	<0.01

Microbiological Testing					
Our Reference		362948-1	362948-2	362948-3	362948-4
Your Reference	UNITS	MW101	MW102	MW103	SW-1
Date Sampled		27/09/2024	27/09/2024	27/09/2024	27/09/2024
Type of sample		Water	Water	Water	Water
Date of testing	-	01/10/2024	01/10/2024	01/10/2024	01/10/2024
E. coli	cfu/100mL	<10	<10	<10	200
Faecal Coliforms	cfu/100mL	<10	<10	<10	200
Enterococci	cfu/100mL	<10	<10	<10	50 A

Method ID	Methodology Summary
Ext-008	Subcontracted to Sonic Food & Water Testing. NATA Accreditation No. 4034.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-019	Suspended Solids - determined gravimetrically by filtration of the sample. The samples are dried at 104+/-5°C.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-026	Fluoride determined by ion selective electrode (ISE) in accordance with APHA latest edition, 4500-F-C.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-079	TOC determined using a TOC analyser using the combustion method. Dissolved requires filtering prior to determination. Analysis using APHA latest edition 5310B.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-020	Calcium and Magnesium analysed by ICP-AES and SAR calculated.
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. 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.

Method ID	Methodology Summary
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-W2	[NT]
Date Extracted	-			04/10/2024	1	04/10/2024	04/10/2024		04/10/2024	[NT]
Date Analysed	-			08/10/2024	1	08/10/2024	08/10/2024		08/10/2024	[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	99	[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	<1	<1	0	97	[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	92	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	93	[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	102	[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	98	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	96	[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	99	[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	94	[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	96	[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	105	[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	105	[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-W2	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	105	[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	98	1	98	98	0	98	[NT]
Surrogate Toluene-d8	%		Org-023	99	1	98	100	2	103	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	101	1	102	106	4	116	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			04/10/2024	1	04/10/2024	04/10/2024		04/10/2024	[NT]
Date analysed	-			08/10/2024	1	08/10/2024	08/10/2024		08/10/2024	[NT]
TRH C ₆ - C ₉	µg/L	10	Org-023	<10	1	<10	<10	0	103	[NT]
TRH C ₆ - C ₁₀	µg/L	10	Org-023	<10	1	<10	<10	0	103	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	102	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	99	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	105	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	105	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	105	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	98	1	98	98	0	98	[NT]
Surrogate Toluene-d8	%		Org-023	99	1	98	100	2	103	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	101	1	102	106	4	116	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date extracted	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	[NT]
Date analysed	-			02/10/2024	1	02/10/2024	02/10/2024		02/10/2024	[NT]
TRH C ₁₀ - C ₁₄	µg/L	50	Org-020	<50	1	<50	<50	0	110	[NT]
TRH C ₁₅ - C ₂₈	µg/L	100	Org-020	<100	1	<100	<100	0	110	[NT]
TRH C ₂₉ - C ₃₆	µg/L	100	Org-020	<100	1	<100	<100	0	114	[NT]
TRH >C ₁₀ - C ₁₆	µg/L	50	Org-020	<50	1	<50	<50	0	110	[NT]
TRH >C ₁₆ - C ₃₄	µg/L	100	Org-020	<100	1	<100	<100	0	110	[NT]
TRH >C ₃₄ - C ₄₀	µg/L	100	Org-020	<100	1	<100	<100	0	114	[NT]
Surrogate o-Terphenyl	%		Org-020	81	1	86	90	5	97	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	362948-2
Date extracted	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Date analysed	-			02/10/2024	1	02/10/2024	02/10/2024		02/10/2024	02/10/2024
Naphthalene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	70	62
Acenaphthylene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	75	69
Fluorene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	74	70
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	79	75
Anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	84	75
Pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	83	71
Benzo(a)anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	88
Benzo(b,j+k)fluoranthene	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	66	65
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	68	1	81	90	11	87	85

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	362948-2
Date extracted	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Date analysed	-			02/10/2024	1	02/10/2024	02/10/2024		02/10/2024	02/10/2024
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	77	74
HCB	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	74	76
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	86	73
delta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	89	75
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	96	78
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	82	71
Dieldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	88	74
Endrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	82	83
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	90	79
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	82	71
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Mirex	ug/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	57	1	73	78	7	65	77

QUALITY CONTROL: OP Pesticides in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	362948-2
Date extracted	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Date analysed	-			02/10/2024	1	02/10/2024	02/10/2024		02/10/2024	02/10/2024
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	72	66
Mevinphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Phorate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Disulfoton	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Chlorpyrifos-methyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Parathion-Methyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	72	62
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	77	68
Malathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	78	71
Chlorpyrifos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	79	66
Fenthion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	70	63
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Methidathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Fenamiphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	73	64
Phosalone	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Coumaphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	57	1	73	78	7	65	77

QUALITY CONTROL: PCBs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	362948-2
Date extracted	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Date analysed	-			02/10/2024	1	02/10/2024	02/10/2024		02/10/2024	02/10/2024
Aroclor 1016	µg/L	2	Org-021/022/025	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-021/022/025	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-021/022/025	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-021/022/025	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-021/022/025	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-021/022/025	<2	1	<2	<2	0	92	76
Aroclor 1260	µg/L	2	Org-021/022/025	<2	1	<2	<2	0	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	67	1	78	81	4	79	110

QUALITY CONTROL: HM in water - dissolved					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date prepared	-			01/10/2024	2	01/10/2024	01/10/2024		01/10/2024	[NT]
Date analysed	-			01/10/2024	2	01/10/2024	01/10/2024		01/10/2024	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	2	<1	<1	0	96	[NT]
Barium-Dissolved	µg/L	1	Metals-022	<1	2	140	140	0	95	[NT]
Beryllium-Dissolved	µg/L	0.5	Metals-022	<0.5	2	<0.5	<0.5	0	106	[NT]
Boron-Dissolved	µg/L	20	Metals-022	<20	2	40	30	29	91	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	2	<0.1	<0.1	0	94	[NT]
Cobalt-Dissolved	µg/L	1	Metals-022	<1	2	8	8	0	98	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	2	<1	<1	0	101	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	2	11	11	0	98	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	2	<1	<1	0	99	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	2	340	350	3	100	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	2	<0.05	[NT]		109	[NT]
Molybdenum-Dissolved	µg/L	1	Metals-022	<1	2	<1	<1	0	97	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	2	10	9	11	104	[NT]
Selenium-Dissolved	µg/L	1	Metals-022	<1	2	<1	<1	0	97	[NT]
Silver-Dissolved	µg/L	1	Metals-022	<1	2	<1	<1	0	100	[NT]
Tin-Dissolved	µg/L	1	Metals-022	<1	2	<1	<1	0	97	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	2	28	28	0	98	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	2	80	80	0	116	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	2	210	210	0	96	[NT]
Lithium-Dissolved	µg/L	1	Metals-022	<1	2	1	2	67	95	[NT]
Strontium-Dissolved	µg/L	1	Metals-022	<1	2	50	50	0	97	[NT]
Uranium-Dissolved	µg/L	0.5	Metals-022	<0.5	2	<0.5	<0.5	0	99	[NT]
Vanadium-Dissolved	µg/L	1	Metals-022	<1	2	<1	<1	0	100	[NT]

QUALITY CONTROL: Metals in Water - Dissolved					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date digested	-			01/10/2024	2	01/10/2024	01/10/2024		01/10/2024	[NT]
Date analysed	-			01/10/2024	2	01/10/2024	01/10/2024		01/10/2024	[NT]
Silicon*- Dissolved	mg/L	0.2	Metals-020	<0.2	2	5.5	5.5	0	96	[NT]

QUALITY CONTROL: All metals in water - total					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	[NT]
Date prepared	-			01/10/2024	[NT]	[NT]	[NT]	[NT]	01/10/2024	[NT]
Date analysed	-			01/10/2024	[NT]	[NT]	[NT]	[NT]	01/10/2024	[NT]
Arsenic-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Boron-Total	µg/L	20	Metals-022	<20	[NT]	[NT]	[NT]	[NT]	93	[NT]
Barium-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Beryllium-Total	µg/L	0.5	Metals-022	<0.5	[NT]	[NT]	[NT]	[NT]	95	[NT]
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Cobalt-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Chromium-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Copper-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Lead-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Manganese-Total	µg/L	5	Metals-022	<5	[NT]	[NT]	[NT]	[NT]	94	[NT]
Mercury-Total	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	107	[NT]
Molybdenum-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Nickel-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Selenium-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Silver-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Tin-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Zinc-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Aluminium-Total	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]
Iron-Total	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	98	[NT]
Lithium-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Strontium-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Uranium-Total	µg/L	0.5	Metals-022	<0.5	[NT]	[NT]	[NT]	[NT]	105	[NT]
Vanadium-Total	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	96	[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	-			01/10/2024	[NT]	[NT]	[NT]	[NT]	01/10/2024	[NT]
Date analysed	-			01/10/2024	[NT]	[NT]	[NT]	[NT]	01/10/2024	[NT]
Silicon*- Total	mg/L	0.2	Metals-020	<0.2	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	362948-2
Date prepared	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Date analysed	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	7.0	[NT]		96	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	12	[NT]		96	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	22	[NT]		99	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	2	[NT]		95	[NT]
Hardness (calc) equivalent CaCO ₃	mg/L	3	Metals-020	[NT]	1	26	[NT]		[NT]	[NT]
Hydroxide Alkalinity (OH ⁻) as CaCO ₃	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as CaCO ₃	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Carbonate Alkalinity as CaCO ₃	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Total Alkalinity as CaCO ₃	mg/L	5	Inorg-006	<5	1	<5	[NT]		115	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	72	71	1	113	86
Chloride, Cl	mg/L	1	Inorg-081	<1	1	16	15	6	105	101
Ionic Balance	%		Inorg-040	[NT]	1	-4.0	[NT]		[NT]	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	2	01/10/2024	01/10/2024		[NT]	[NT]
Date analysed	-			[NT]	2	01/10/2024	01/10/2024		[NT]	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	7.6	7.6	0	[NT]	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	6.7	6.7	0	[NT]	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	19	19	0	[NT]	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	4	4	0	[NT]	[NT]
Hardness (calc) equivalent CaCO ₃	mg/L	3	Metals-020	[NT]	2	36	36	0	[NT]	[NT]
Hydroxide Alkalinity (OH ⁻) as CaCO ₃	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as CaCO ₃	mg/L	5	Inorg-006	[NT]	2	7	[NT]		[NT]	[NT]
Carbonate Alkalinity as CaCO ₃	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Total Alkalinity as CaCO ₃	mg/L	5	Inorg-006	[NT]	2	7	[NT]		[NT]	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	[NT]	2	36	[NT]		[NT]	[NT]
Chloride, Cl	mg/L	1	Inorg-081	[NT]	2	11	[NT]		[NT]	[NT]
Ionic Balance	%		Inorg-040	[NT]	2	18	[NT]		[NT]	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	3	01/10/2024	01/10/2024		[NT]	[NT]
Date analysed	-			[NT]	3	01/10/2024	01/10/2024		[NT]	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	[NT]	3	21	[NT]		[NT]	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	[NT]	3	5.0	[NT]		[NT]	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	[NT]	3	11	[NT]		[NT]	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	[NT]	3	4	[NT]		[NT]	[NT]
Hardness (calc) equivalent CaCO ₃	mg/L	3	Metals-020	[NT]	3	71	[NT]		[NT]	[NT]
Hydroxide Alkalinity (OH ⁻) as CaCO ₃	mg/L	5	Inorg-006	[NT]	3	<5	<5	0	[NT]	[NT]
Bicarbonate Alkalinity as CaCO ₃	mg/L	5	Inorg-006	[NT]	3	80	82	2	[NT]	[NT]
Carbonate Alkalinity as CaCO ₃	mg/L	5	Inorg-006	[NT]	3	<5	<5	0	[NT]	[NT]
Total Alkalinity as CaCO ₃	mg/L	5	Inorg-006	[NT]	3	80	82	2	[NT]	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	[NT]	3	28	[NT]		[NT]	[NT]
Chloride, Cl	mg/L	1	Inorg-081	[NT]	3	6	[NT]		[NT]	[NT]
Ionic Balance	%		Inorg-040	[NT]	3	-7.0	[NT]		[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	362948-1
Date prepared	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Date analysed	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Total Suspended Solids	mg/L	5	Inorg-019	<5	1	40	[NT]		90	[NT]
Turbidity	NTU	0.1	Inorg-022	<0.1	1	51	49	4	98	[NT]
Total Organic Carbon	mg/L	1	Inorg-079	<1	1	4	[NT]		100	101
Sodium Adsorption Ratio	-	0.01	Metals-020	[NT]	1	1.9	[NT]		101	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	<0.005	[NT]		104	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	1.9	[NT]		109	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	1.9	[NT]		109	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	2.0	[NT]		100	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	[NT]		114	[NT]
Fluoride, F	mg/L	0.1	Inorg-026	<0.1	1	<0.1	<0.1	0	102	[NT]
Bromide, Br	mg/L	0.5	Inorg-081	<0.5	1	<0.5	<0.5	0	96	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	362948-2
Date prepared	-			[NT]	2	01/10/2024	01/10/2024		[NT]	01/10/2024
Date analysed	-			[NT]	2	01/10/2024	01/10/2024		[NT]	01/10/2024
Total Suspended Solids	mg/L	5	Inorg-019	[NT]	2	140	[NT]		[NT]	[NT]
Turbidity	NTU	0.1	Inorg-022	[NT]	2	100	[NT]		[NT]	[NT]
Total Organic Carbon	mg/L	1	Inorg-079	[NT]	2	2	[NT]		[NT]	[NT]
Sodium Adsorption Ratio	-	0.01	Metals-020	[NT]	2	1.4	1.4	0	[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	2	<0.005	[NT]		[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	2	14	[NT]		[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	2	14	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	2	15	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	2	<0.005	[NT]		[NT]	[NT]
Fluoride, F	mg/L	0.1	Inorg-026	[NT]	2	<0.1	[NT]		[NT]	105
Bromide, Br	mg/L	0.5	Inorg-081	[NT]	2	<0.5	[NT]		[NT]	93

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	3	01/10/2024	01/10/2024		[NT]	[NT]
Date analysed	-			[NT]	3	01/10/2024	01/10/2024		[NT]	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	[NT]	3	30	[NT]		[NT]	[NT]
Turbidity	NTU	0.1	Inorg-022	[NT]	3	26	[NT]		[NT]	[NT]
Total Organic Carbon	mg/L	1	Inorg-079	[NT]	3	3	[NT]		[NT]	[NT]
Sodium Adsorption Ratio	-	0.01	Metals-020	[NT]	3	0.58	[NT]		[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	3	0.29	[NT]		[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	3	0.16	[NT]		[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	3	0.2	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	3	0.5	0.5	0	[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	3	<0.005	[NT]		[NT]	[NT]
Fluoride, F	mg/L	0.1	Inorg-026	[NT]	3	<0.1	[NT]		[NT]	[NT]
Bromide, Br	mg/L	0.5	Inorg-081	[NT]	3	<0.5	[NT]		[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	4	01/10/2024	01/10/2024		[NT]	[NT]
Date analysed	-			[NT]	4	01/10/2024	01/10/2024		[NT]	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	[NT]	4	9	11	20	[NT]	[NT]
Turbidity	NTU	0.1	Inorg-022	[NT]	4	8.9	[NT]		[NT]	[NT]
Total Organic Carbon	mg/L	1	Inorg-079	[NT]	4	9	9	0	[NT]	[NT]
Sodium Adsorption Ratio	-	0.01	Metals-020	[NT]	4	1.2	[NT]		[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	4	0.077	[NT]		[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	4	0.20	[NT]		[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	4	0.2	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	4	0.7	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	4	<0.005	[NT]		[NT]	[NT]
Fluoride, F	mg/L	0.1	Inorg-026	[NT]	4	0.1	[NT]		[NT]	[NT]
Bromide, Br	mg/L	0.5	Inorg-081	[NT]	4	<0.5	[NT]		[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	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	[NT]
Date analysed	-			01/10/2024	1	01/10/2024	01/10/2024		01/10/2024	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	<0.05	<0.05	0	95	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	362948-4
Date prepared	-			01/10/2024	3	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Date analysed	-			01/10/2024	3	01/10/2024	01/10/2024		01/10/2024	01/10/2024
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	3	<0.01	<0.01	0	110	112
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	3	0.05	0.05	0	105	108
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	3	<0.01	<0.01	0	104	98
6:2 FTS	µg/L	0.01	Org-029	<0.01	3	<0.01	<0.01	0	98	101
8:2 FTS	µg/L	0.02	Org-029	<0.02	3	<0.02	<0.02	0	99	107
Surrogate ¹³ C ₈ PFOS	%		Org-029	101	3	100	93	7	103	103
Surrogate ¹³ C ₂ PFOA	%		Org-029	97	3	102	98	4	99	95
Extracted ISTD ¹⁸ O ₂ PFHxS	%		Org-029	82	3	90	85	6	79	86
Extracted ISTD ¹³ C ₄ PFOS	%		Org-029	77	3	92	93	1	74	92
Extracted ISTD ¹³ C ₄ PFOA	%		Org-029	91	3	94	94	0	87	96
Extracted ISTD ¹³ C ₂ 6:2FTS	%		Org-029	98	3	100	101	1	91	99
Extracted ISTD ¹³ C ₂ 8:2FTS	%		Org-029	101	3	107	106	1	101	104

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

Turbidity/Nitrate as N in water/NOx as N in water/Phosphate as P in water: Samples were out of the recommended holding time for this analysis.

Microbiology analysed by Sonic Food & Water Testing. Report No. W2423651 & W2423652

A: Approximate

The time between collection and the commencement of testing should not exceed 24 hours. Samples tested outside this time may have their results compromised



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