H1 LEVEL HYDROGEOLOGICAL ASSESSMENT

YATHROO WIND FARM WATER SUPPLY

DANDARAGAN

For

NEOEN AUSTRALIA

Water Direct Pty Ltd

PO Box 3135
Eats Perth WA 6892
Phone: 0417 916 131
www.wdl.com.au

Job No. WP/AWS/359
December 2025

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

1. INTRODUCTION

Neoen is planning to construct a 65 turbine wind farm on properties located south of Yathroo, and centred around 18 kilometres south of the Dandaragan townsite in Western Australia (Figure 1).

The properties involved have been used for the growing of broad-acre crops and the grazing of sheep and cattle and this will continue after the construction is completed.

The project will require a water supply primarily for the construction of access roads and the foundations for the wind turbines.

Groundwater supplies in the area are difficult to identify. In the past at least five exploratory holes have been drilled to depths of up to 300m to identify high permeability sand sections in and near the project area. Most of these have failed resulting in alternative water supplies being sourced or projects cancelled or postponed.

With the proposed project requirements and the low success rate of the previous exploratory drilling it was suggested that Neoen source their water requirement from an existing proven production bore on the east side of the project area. The owners of the production bore Gen Four Pty Ltd were approached to supply the water requirement via an amendment to their existing Section 5C Licence to Take Water.

The amendment to the existing Licence to Take Water will be for:
Year 1 – 200,000 kilolitres
Year 2 – 200,000 kilolitres
Year 3 – 50,000 kilolitres
At the end of construction there is a long-term requirement for 10,000 kilolitres per annum for road maintenance and dust suppression.

Groundwater is licensed in the project area by the Rights in Water and Irrigation Act (1914) as amended. The project is within the Gingin Management area. The aquifers, their potential and their management zones are listed below.

Table 1
Aquifers in the Project Area

Aquifer	Sub-area	Description	Location	Supply Potential
Surficial	Victoria Plains	Thin rainfall dependent sands which support groundwater dependent ecosystems	East of Brand Highway	Low
Superficial	Namming Lakes	Extensive shallow sand and clay aquifer. Supports groundwater dependent ecosystems	West of Brand Highway	High
Mirrabooka	Northern Scarp	Thin semi-confined to confined but unlikely to be in project area. Supports summer flows of the Moore River to the south	East of Brand Highway	Low
Leederville-Parmelia	Cowalla Confined	Confined aquifer, main aquifer	East of Brand Highway	High
Leederville	North Coastal	Major semi-confined to confined, semi-confined below superficial and therefore supports wetlands indirectly	West of Brand Highway	High
Yarragadee	Cataby	Major confined aquifer of Perth Basin, but deep in the project area	Both sides of Brand Highway	Unknown

This report has been prepared to support the Environmental Assessment with a description of the aquifer and determinations of the potential effects of the proposed abstraction on other users, groundwater dependent ecosystems and the aquifer.

The property is situated in the Cowalla Confined Sub-Area of the Gingin Groundwater Area and is located in the Shire of Dandaragan.

2. CLIMATE / RAINFALL & GEOMORPHOLOGY

2.1 Climate/Rainfall

The Dandaragan area experiences a typically Mediterranean climate, characterised by mild, wet winters and hot, dry summers. There are no nearby Bureau of Meteorology meteorological stations within 30 kilometres. The Department of Primary Industry and Regional Development have a short-term station at Dandaragan East, located in the northeast corner of the project area near the production bore and this has operated since 2020.

The short-term average annual rainfall at Dandaragan East is approximately 525.0 mm with most rainfall being recorded during the months of May through to September. Rainfall exceeds potential evaporation only during May to September. The monthly rainfall averages for the above sites are presented in Table 2.

Table 2
Average Rainfall Data

Month	Dandaragan East 2025 Rainfall (mm)	Dandaragan East Average Rainfall (mm)
January	1.0	4.5
February	0.4	12.4
March	4.2	17.2
April	15.2	25.6
May	23.4	48.2
June	74.8	86.8
July	189.0	129.5
August	157.8	103.3
September	50.6	44.6
October	24.6	33.7
November	23.8	16.5
December	3.6*	2.7
Total	**568.4**	**525.0**

* = not full month total but unlikely to change

2.2 Geomorphology

The majority of the property is located on the southern part of the Dandaragan Plateau and to the east of the Gingin Scarp. The western most portions of the property are located on

the Swan Coastal Plain on the western side of the Gingin Scarp. Elevations vary from 80m AHD on the coastal plain and up to 250m AHD of the Dandaragan Plateau. The eastern side of the Dandaragan Plateau is bounded by the Darling Fault.

2.3 Drainage

The majority of the project area was cleared in the 1950's and 1960's. The removal of the vegetation increased the rainfall infiltration into the Quaternary aged surficial sands. The surface drainage is poorly developed and much of the Dandaragan Plateau surface is undissected. Below the Quaternary surficial sediments lies a thick sequence of mainly clayey Mesozoic sediments. A series of small water dependent ecosystems occur in the project area. The water levels in these creeks and wetlands are sustained by winter rainfall and augmented by lateral flow of perched groundwater from the Quaternary surficial sands and the top of the Mesozoic sediments.

Ingarno Waterhole and Yangy Lake are examples of the perched wetlands. Ingarno Waterhole (No. 87) was described in Rutherford, 2005.

3. HYDROGEOLOGY

3.1 Regional Hydrogeology

The Yathroo Wind Farm property is located in the northern portion of the onshore Perth Basin some 120 km north of Perth. The Perth Basin is a deep linear trough of sedimentary rocks covered by a thin veneer of coastal plain sediments. It extends north-south for some 1,000 km in the southwest of Western Australia onshore beneath the coastal areas and offshore beneath the continental shelf and continental slope. The basin covers an area of 45,000 km^2 onshore and 55,000 km^2 offshore. The Perth Basin is essentially a half-graben (down faulted block) bounded on the east by the north trending Darling Fault, some 1,000 km long, which separates the Basin from Archaean crystalline rocks of the Yilgarn Block.

In the Yathroo Wind Farm area, the total thickness of sediments in the Perth Basin varies between 6,000 and 10,000 m. Structurally the Yathroo Wind Farm property is on the western side of the Dandaragan Trough (Commander, 1978) with the western most portions in the southern-most portion of the Coomallo Trough. The Dandaragan Trough is bounded to the east by the Darling Fault. The two troughs are separated by the Eneabba Fault. Exposure of rock outcrop is poor throughout the Perth Basin with much of the geological information based on interpretation of exploratory drilling, boreholes and geophysical data. There is extensive Quaternary sand cover (sand, laterite and alluvium) over the Basin, which masks much of the underlying geology. For a detailed description of the geology of the Perth Basin the reader is directed to Department of Water (2017).

Regionally the area is topped by Quaternary aged surficial sediments composed of laterite and aeolian, alluvial and colluvial sands. The recharge for this aquifer is direct rainfall onto the sands. These discharge into small lakes and creek systems and support perched groundwater dependent wetlands.

Just to the north of the project area is the Capitela Palaeochannel which trends to the east southeast to the Darling Fault and cuts up to 40m into the surficial and underlying sediments. Recharge is via direct rainfall recharge with discharge likely to be to the east near the Darling Fault and possibly into the Moore River.

Immediately below the surficial sediments is weathered to fresh Cretaceous sediments of the upper Coolyeena Group consisting mainly of the Molecap Greensand of the Lancelin Formation which is an aquitard. Below these in the lower part of the Coolyena Group is the Kardinya Shale aquitard of the Osborne Formation which acts as a confining layer.

Underlying the Coolyeena Group is the Warnbro Group. The upper part of the Warnbro Group consists of the Leederville Formation being the upper Pinjar Member, the Wanneroo Member and the basal Mariginiup Member. The Leederville Formation sits on the South Perth Shale and the Gage Sandstone also of the Warnbro Group. The formation can be up to 500 metres thick but thins to the west. This formation is confined in the Yathroo area by the Coolyena Group and the Lancelin Formation. Recharge of the aquifer is mainly by direct rainfall on outcrop to the north in the Agaton area. Throughflow from Agaton is southwards towards Muchea. Discharge is to the south with a small amount to the west and upwards into the superficial formations. The Leederville and Parmelia formations are hydraulically connected and to the north of the project area are considered to be one aquifer by the Department of Water and Environmental Regulation. In the project area the Leederville becomes thin and the Parmelia Formation is siltstone and shales.

Below the Warnbro Group is the Parmelia Group consisting of the undifferentiated Parmelia Formation, the Carnac Formation (aquitard) and the basal Otorowiri Member which is an aquitard. The Parmelia is a major aquifer 50 kilometres to the north of the area. In the project area it is a weak aquitard. Recharge is by direct rainfall recharge in the Agaton area 100 kilometres to the north with throughflow to the south. The Otorowiri Member is the basal Member and a strong aquitard.

Underlying the Parmelia Group is the Yarragadee Formation. This unit extends over most of the Perth Basin and in the central and southern portions of the Perth Basin is confined.

The lithologies are presented in the table below.

Table 3
Summary of Regional Lithologies

Age	Group	Formation	Member	Description
Quaternary	-	surficial	-	Aeolian, alluvial and colluvial sands with some laterite.
Cretaceous	Coolyena	Lancelin	Poison Hill Greensand/Gingin Chalk/Molecap Greensand	Sandstone, siltstone and clay, glauconitic
		Osborne	Kardinya Shale	Green to black siltstone and shale with minor very fine grained sand interbeds
	Warnbro	Leederville	Pinjar	Interbedded sandstone (50%), siltstone and shale
		Leederville	Wanneroo	Interbedded sandstone, minor siltstone and shale
		Leederville	Mariginiup	Thinly interbedded siltstones and shales with very thin beds of sandstone
Early Cretaceous		South Perth Shale	-	Thinly bedded grey, brown-black or black siltstone and shale with minor thin sandy and calcareous beds
	Parmelia	Undifferentiated	-	Sandstone, siltstone and shale
		Carnac	-	Dark brownish grey, siltstone, shale and claystone
Jurassic		Otorowiri	-	Shale and siltstone
	-	Yarragadee	Unit D	Shale, siltstone and clayey sandstone

Description from Department of Water (2017)

The main aquifer in the area is the Leederville-Parmelia. The Parmelia or lower parts of the aquifer become very sandy to the north of Dandaragan and become the predominant aquifer.

3.2 Site Hydrogeology

There have been three holes drilled near the site of the production bore and one was geophysically logged through the rods and another was geologically logged. An amalgamation of the data has been used to determine a site lithology as shown below.

Table 4
Summary of Site Lithologies

Depth (m)	Formation	Member	Description
0 - 25	surficial	-	Sands with some laterite
25 - 72	Lancelin	Poison Hill Greensand/Gingin Chalk/Molecap Greensand	Siltstone and clay
72 - 94	Osborne	Kardinya Shale	Green-yellow, grey and white clays and sands
94 - 123	Leederville	Pinjar, Wanneroo & Mariginiup	Siltstone and thin sand beds
123 - 175	Parmelia	Parmelia	Siltstone and sandstone
175 - 204	South Perth Shale	-	Grey to black bands of siltstone

The production bore (BG2) to be used to supply water to the Yathroo Windfarm during development is screened between 100 and 154m in the Leederville and Parmelia

Formations. The Leederville Formation is confined by up to 70 metres of the Osborne and Lancelin Formations. In this area the Leederville-Parmelia aquifer is about 80 metres thick with about 50 metres thickness being the Parmelia Formation, however it thins to the west towards the Gingin Scarp.

3.3 Regional Water Levels

Water levels in the Leederville-Parmelia aquifer have been recorded in Department of Water and Environmental Regulation bores in the Moora Line, 23 kilometres north and Gillingarra Line, 17 kilometres south of the project area, since the late 1970' to early 1980's.

Moora Line bore ML3C is the closest bore to the east of the Dandaragan Scarp screened in the Leederville-Parmelia aquifer. A plot of the long-term water levels is shown in Appendix A and indicates that the water level has risen from about 149 m Australian Height Datum (AHD) in 1975 to over 164m AHD in 2025.

Gillingarra Line bore GL6LW is closest bore to the east of the Gingin Scarp and screened in the Leederville-Parmelia aquifer. A plot of the long-term water levels is shown in Appendix A and indicates that the water level has risen from 111 m AHD in 1981 to over 118 m AHD in 2025.

Approximately 1.5km to the northwest of the production bore BG2 is Department of Water and Environmental Regulation bore NGG4A. This bore was drilled as an investigation bore in 2018 to further understand the Leederville-Parmelia aquifer in the Dandaragan area. The bore was screened in the Leederville-Parmelia aquifer between 182 and 188 metres below ground level. The bore was equipped with water level logging equipment in 2018 and a plot of the short -term water levels is shown in Appendix A and indicates that the water level has risen over 1 metre since 2018.

3.4 Bore Construction and Testing

The production bore BG2 was drilled in June 2008 at the site of a failed 2000 exploratory bore. The exploratory bore had a geophysical log to with the gamma readings indicating some sands between 100 and 150 metres below ground level. The bore was cased from surface to 100m depth with 210 mm internal diameter PVC casing. The hole annulus was cemented from surface to 100 m to seal off shallower aquifers. Stainless steel wire wound screens with an outside diameter of 168 millimetres were then installed from 100 – 154m.

The completed bore was developed using airlift methods. The static water level was 29.5 m below the casing top.

A test pumping of the bore was carried out on 3rd September 2008 for 6 hours at a pump rate of 2,920 kilolitres per day. The drawdown at the end of the first minute was 11.80 metres and the drawdown at the end of test was 15.3 metres.

Analysis of the available test pump data using AquiferTest indicates a confined aquifer with a transmissivity of 395 m^2/d and a storativity of 1.66 x 10^{-7} using the Theis method. The hydraulic parameter data was inserted into a Theis predictive water level formula using a pump rate of 550 kilolitres per day for periods of one and two years to determine a predicted drawdown.

Table 5
Predicted Distance Drawdown (Leederville-Parmelia aquifer)

Distance	1 year Predicted Drawdown	2 Year Predicted Drawdown
300m	2.0m	2.1m
1,000m	1.7m	1.8m
3,000m	1.5m	1.6m
5,000m	1.4m	1.4m

The predicted drawdowns show that minimal drawdown would occur due to the proposed abstraction. It should be noted that as the tested aquifer is confined that no actual drawdown would be observed, just a reduction of the potentiometric surface.

3.5 Groundwater Chemistry

The proposed abstraction bore BG2 was sampled annually from 2009 to 2019. A summary of the results, tabled below, indicated that the groundwater was a sodium chloride water with a salinity of about 600 – 700 mg/L total dissolved salts and a slightly acidic pH.

Table 6.
Groundwater Chemistry BG2

Analyte	Apr-09	Jan-10	Jul-11	Aug-12	Aug-13	Sep-14	Aug-15	3-Oct-16	Sep-17	Jul-18	Sep-19	Drinking Water Guidelines
pH	**5.94**	**5.43**	**6.1**	**5.57**	**5.61**	**5.58**	**5.51**	**5.45**	**6.25**	**6.22**	6.56	6.5 – 8.5 (2)
Electrical Conductivity (uS/cm)	**1,500**	**1,500**	**1,500**	**1,400**	**1,400**	**1,400**	**1,300**	**1,300**	**1,400**	**1,300**	**1,200**	<0.85 (2)
Total Dissolved Salts	**800**	**700**	**960**	**700**	**700**	**700**	**500**	**700**	**675**	**600**	**618**	600 (2)
Sodium	**200**	**200**	**189**	**233**	**212**	**206**	**200**	**201**	**200**	**200**	**194**	<180 (2)
Calcium	19.6	17	18	19	15	16	18	53	17	15	3.8	<200 (1)
Magnesium	24.1	21.8	21	12	21	21	22	21.4	17	16	16.8	<150 (1)
Potassium	11.8	11.6	11	10.7	11	12	11	10.6	12	10	19	
Carbonate	0	0	-	0	0	0	0	0	0	-	-	
Bicarbonate	40	35	-	49	67	69	33	33	54	48	42	
Chloride	**400**	**410**	-	**430**	**400**	**400**	**400**	**400**	**377**	**380**	**420**	<250 (2)
Sulphate	36	34	36	29	31	31	34	37	30	25	13	<250 (2)
Nitrate	-	-	8.94	-	-	-	-	-	-	-	-	<50 (1,2)
Phosphate	-	-	0	-	-	-	-	-	-	-	-	
Iron	<0.1	<0.1	**4.62**	**10.5**	**0.5**	**0.3**	<0.1	**5.3**	**3.4**	<0.1	**0.9**	<0.3 (2)
Manganese	-	-	**0.45**	-	-	-	-	-	-	-	-	<0.1 (2)
Dissolved Carbon Dioxide	74	211	-	218	270	297	166	190	50	48	19	
Boron	-	-	0.09	-	-	-	-	-	-	-	-	

Bold indicates outside drinking water guidelines. Concentrations reported as ppm (mg/L) unless otherwise stated. 1 = World Health Authority 2 = NHMRC/NRMMC Australian Drinking Water Guidelines

4. EXISTING GROUNDWATER USE

Within an approximate radius of 10km of the centre of the project area there are five licensed groundwater users as summarised in the table below.

Table 7
Summary of Licensed Groundwater Users

GWL No.	Name	Allocation (kL/annum)	Aquifer
95965	Gen Four Pty Ltd	62,750	Perth - Leederville-Parmelia
110835	Lawson Grains Pty Ltd	672,000	Perth - Leederville-Parmelia
166962	RM Smith	1,500	Perth - Leederville-Parmelia
175697	Iluka Resources Limited	14,000,000	Perth - Superficial Swan
203672	Esther Zoe Coole	1,500	Perth - Leederville-Parmelia

None of these licensees would be affected by the Leederville-Parmelia abstraction for this project because they are outside the zone of influence of the abstraction. The Iluka Resources Limited abstraction is licensed to the superficial formations aquifer which is recharged by rainfall.

Lawson Grains Pty Ltd do not appear to have not used their allocation for over 10 years.

GWL166962 and GWL175697 are for domestic water supplies.

There are numerous unlicensed groundwater users in and around the project area that require small supplies of water mainly for stock use. These are mostly shallow small diameter bores and springs perched near the surface.

There are numerous groundwater dependent ecosystems in the project area. They have been discussed above and rely on rainfall and shallow subsurface movement of groundwater mainly in perched systems.

The Leederville-Parmelia aquifer is confined and groundwater abstraction from it does not have any adverse effects on the groundwater dependent ecosystems.

5. ASSESSMENT OF POTENTIAL IMPACTS

The impacts of abstracting 450,000 kilolitres per annum over three years from the Leederville-Parmelia aquifer will have very minimal impacts on the aquifer, environment or other users.

The hydrogeology of the project area indicated that the groundwater dependent ecosystems were sustained by winter rainfall and shallow subsurface groundwater movement in the surficial aquifer perched above the Lancelin Formation.

The hydrogeology of the project area near production bore BG2 shows that the Leederville-Parmelia aquifer is confined by the overlying Osborne Formation and members of the Lancelin Formation.

The pump test data from BG2 enabled a determination of the transmissivity of 395 $m^3/d/m$ and a confined storativity of 1.66×10^{-7} for the aquifer. This was then used to determine a predicted drawdown or cone of depression of the potentiometric surface. The cone of depression would have no actual effect on groundwater dependent ecosystems as they are isolated from the aquifer by confining lithologies.

Bore BG2 and the nearby BG1 have been previously used to abstract groundwater for the irrigation of fodder crops and vegetables. Over a six year period between 2006 and 2012 they yielded 1,312, 250 kilolitres with a peak in 2008 – 2009 of 333,681 kilolitres. Monitoring during the period showed no changes to water quality or water level.

Recent monitoring of the nearest Department of Water and Environmental Regulation bore NGG14A shows that the water level in the area has been recorded as rising since 2018. Long term water level monitoring on the Moora and Gillingarra Line bores shows that the water levels have been recorded as rising for over 40 years.

Groundwater licences in the area show that two are for domestic supplies and are at a significant distance from BG2 and therefore any water table decline will be negligible. Lawson Farms do not appear to have used their allocation for approximately 10 years and any influences due to the cone of depression are likely to be likely to be minimal due to the distance.

Overall, it is considered that there will be negligible adverse effects on the Leederville-Parmelia aquifer, groundwater dependent ecosystems and other users by the proposed short-term abstraction of BG2.

6. MANAGEMENT APPROACH / CONCLUSIONS

The impacts on the proposed short-term abstraction of groundwater from BG2 would be regarded as acceptable.

However, it would be necessary to measure, record and report monthly abstraction volumes, monthly rest water levels and annual groundwater chemistry to identify any potential problems.

The monitoring program should be formalised with a water supply Operating Strategy.

6. REFERENCES

Briese, E.H., 1979(a). *The geology and hydrogeology of the Moora borehole line*: Western Australia Geological Survey, Annual Report 1978, p.16-22.

Briese, E.H., 1979(b). *The geology and hydrogeology of the Moora borehole line and adjacent area, Perth Basin:* Western Australian Geological Survey Record 1979/12.

Commander, D.P., 1978. *Geology and hydrogeology of the Eneabba Borehole Line*: West. Australia Geol. Survey Rec. 1978/7.

Department of Water, 2017. *North Perth Basin Geology, hydrogeology and groundwater resources*, Hydrogeological bulletin series, report no. HB1, Department of Water, Government of Western Australia, Perth.

Playford, P.E., Cockbain, A.E., and Low, G.H., 1976, *Geology of the Perth Basin, Western Australia*: West. Australia Geol. Survey Bull. 124.

Rutherford, J., Roy, V. and Johnson, S.L., 2005, *The Hydrogeology of Groundwater Dependent Ecosystems in the Northern Perth Basin***,** Department of Environment, Hydrogeological Record Series, HG11.

7. LIMITATIONS OF REPORT

LIMITATIONS ON INTERPRETATION, USE AND LIABILITY OF THIS REPORT

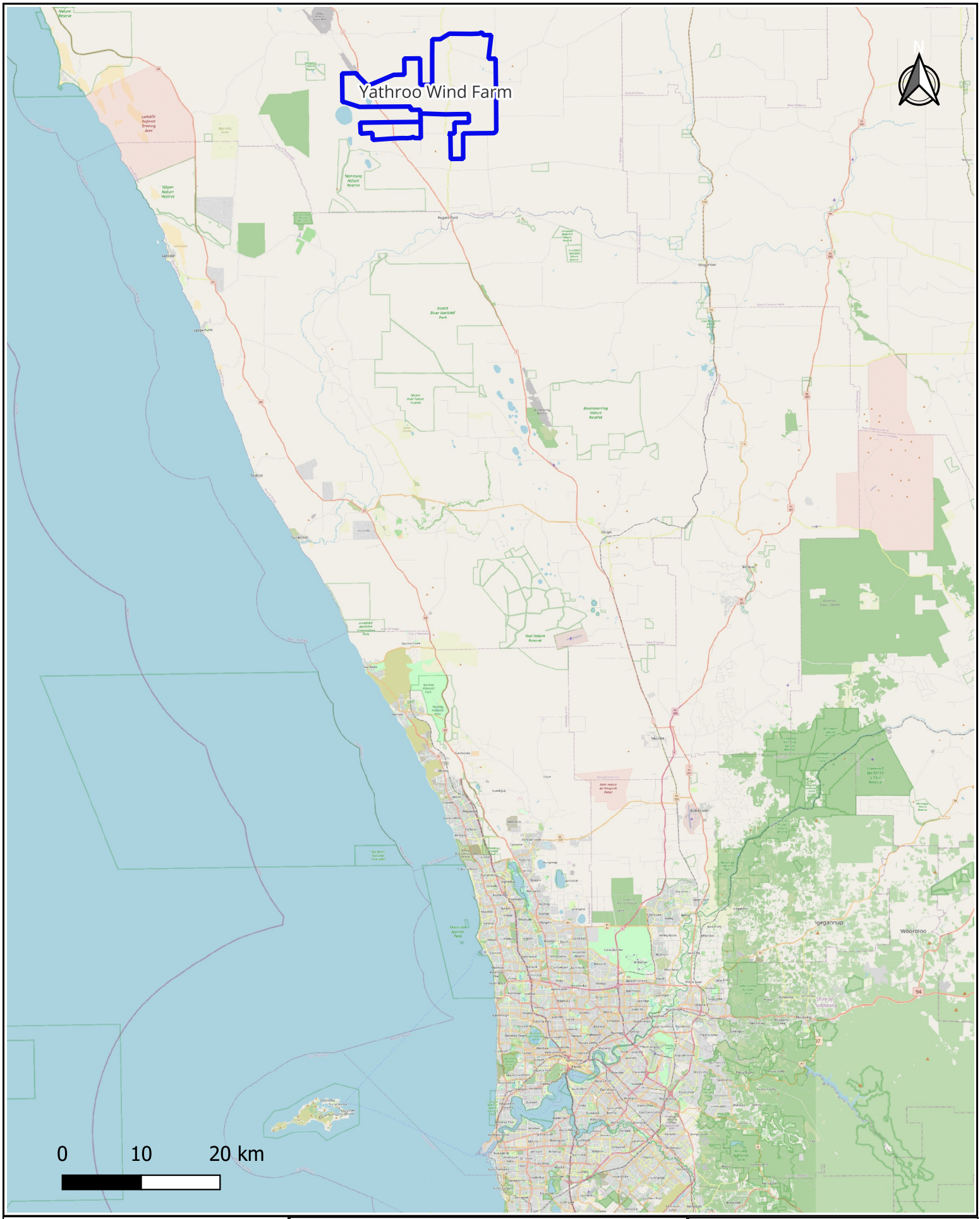
Water Direct Pty Ltd has prepared this report exclusively for Neoen, in accordance with generally accepted consulting practice. The work has been undertaken for the client and for review by regulatory agencies.

Aquifer materials and groundwater flow systems are a product of continuing natural and manmade processes and thus exhibit a variety of characteristics and properties that vary from place to place and can change with time. Geology/hydrogeology involves gathering and assimilating limited facts about these characteristics and properties in order to understand and predict the behaviour of the ground on a particular site under certain conditions. This report may contain such facts obtained by inspection, drilling, excavation, probing, sampling, testing or other means of investigation, particularly pumping and drawdown data. If so, they are directly relevant only to the groundwater system at the place where, and the time when the investigation was carried out. Any groundwater modelling predictions presented should not be regarded as matters of fact.

This report and other reports referred to may contain comments on works being carried out by others. The Company cannot and will not take responsibility for works carried out by others on site to date. We do not guarantee the performance of the project in any respect, only that our work and judgement meet the standard of care of our profession at this time.

Any interpretation or recommendation given in this report shall be understood to be based on judgement and experience, not on greater knowledge of facts other than those reported.

FIGURES



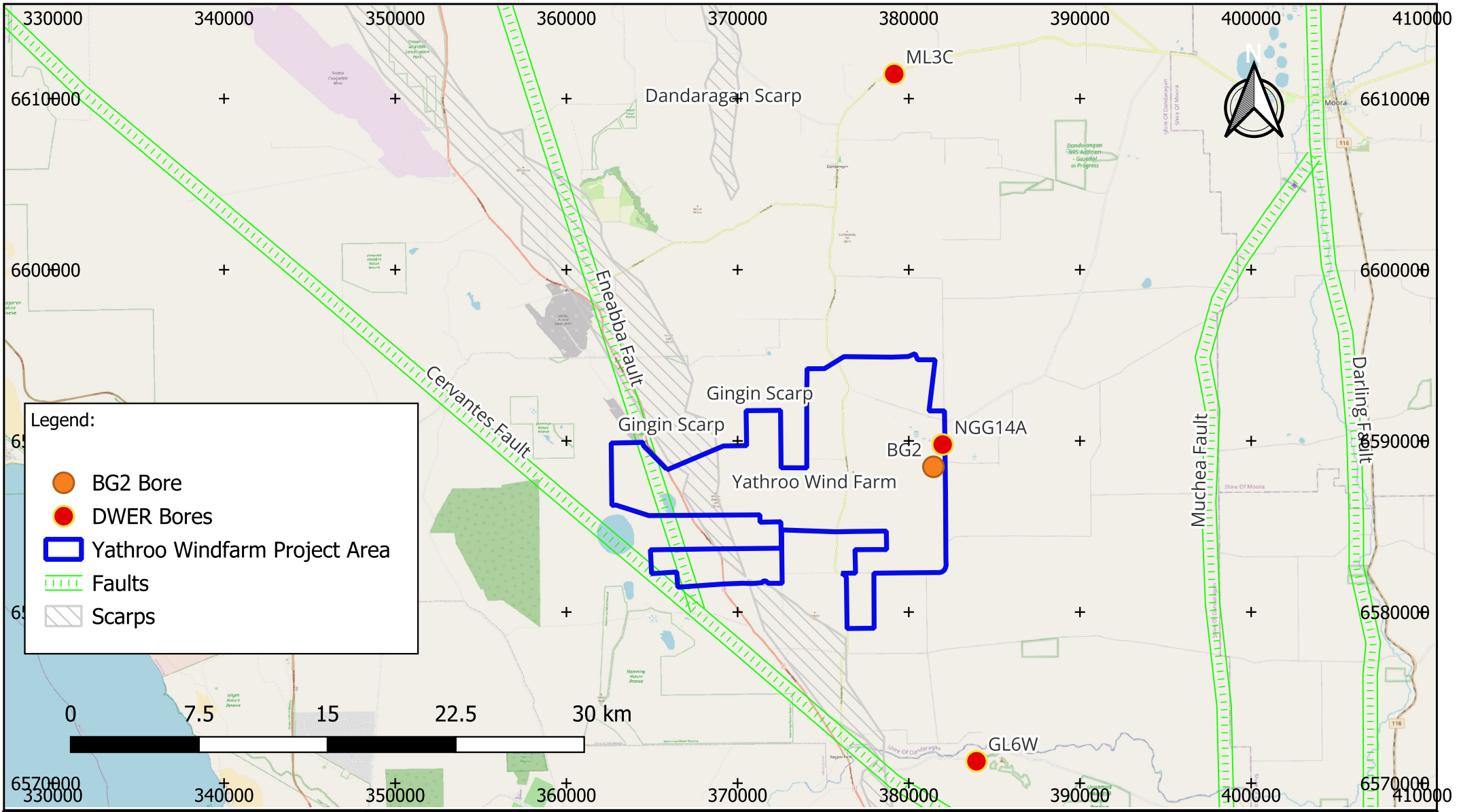
REVISION: Final	DRAWN:
SCALE: 1:600,000	STATUS:
DRAW NO: Layout 208	SOURCE: Open Street Map
JOB NO: 359	
DATE: 19-Dec-25	
DESIGNED:	

CLIENT: Neoen

PROJECT: Yathroo Wind Farm

TITLE: Project Location

FIGURE: 1



REVISION: Final	DESIGNED: rrm
SCALE: 1:300,000	DRAWN: rrm
DRAW NO: Layout 209	SOURCE: Open Street Map.
JOB NO: 359	
DATE: 19-Dec-25	

CLIENT: Neoen

PROJECT: Yathroo Wind Farm

TITLE: Site Location, Scarps, Faults and Bores

FIGURE: 2

APPENDICES

APPENDIX A

DEPARTMENT OF WATER AND ENVIRONMENTAL REGULATION

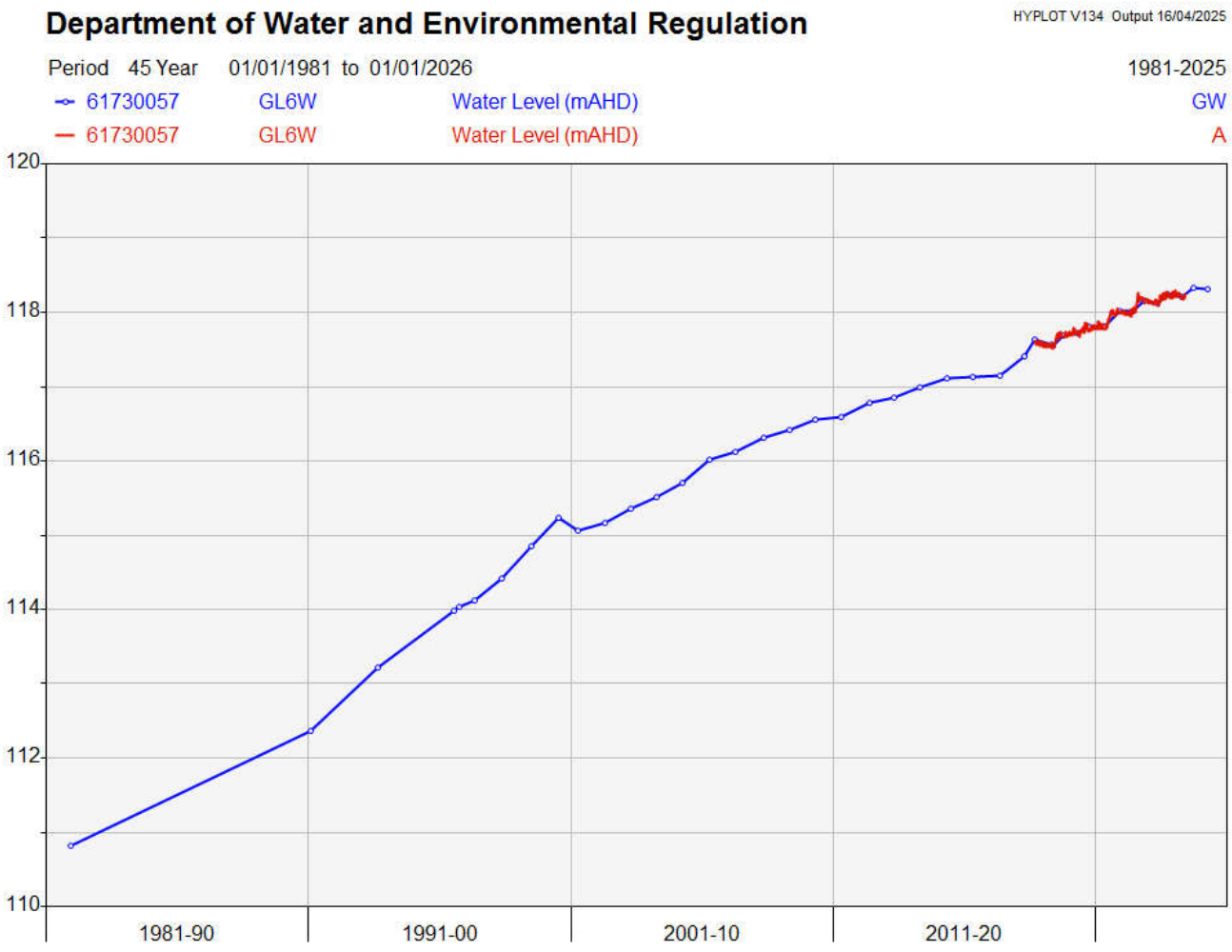
WATER LEVEL PLOTS

Government of Western Australia
Department of Water and Environmental Regulation

ROYALTIES FOR REGIONS

Water Information Reporting

Should you require further information or technical assistance, please contact one of our water information officers.

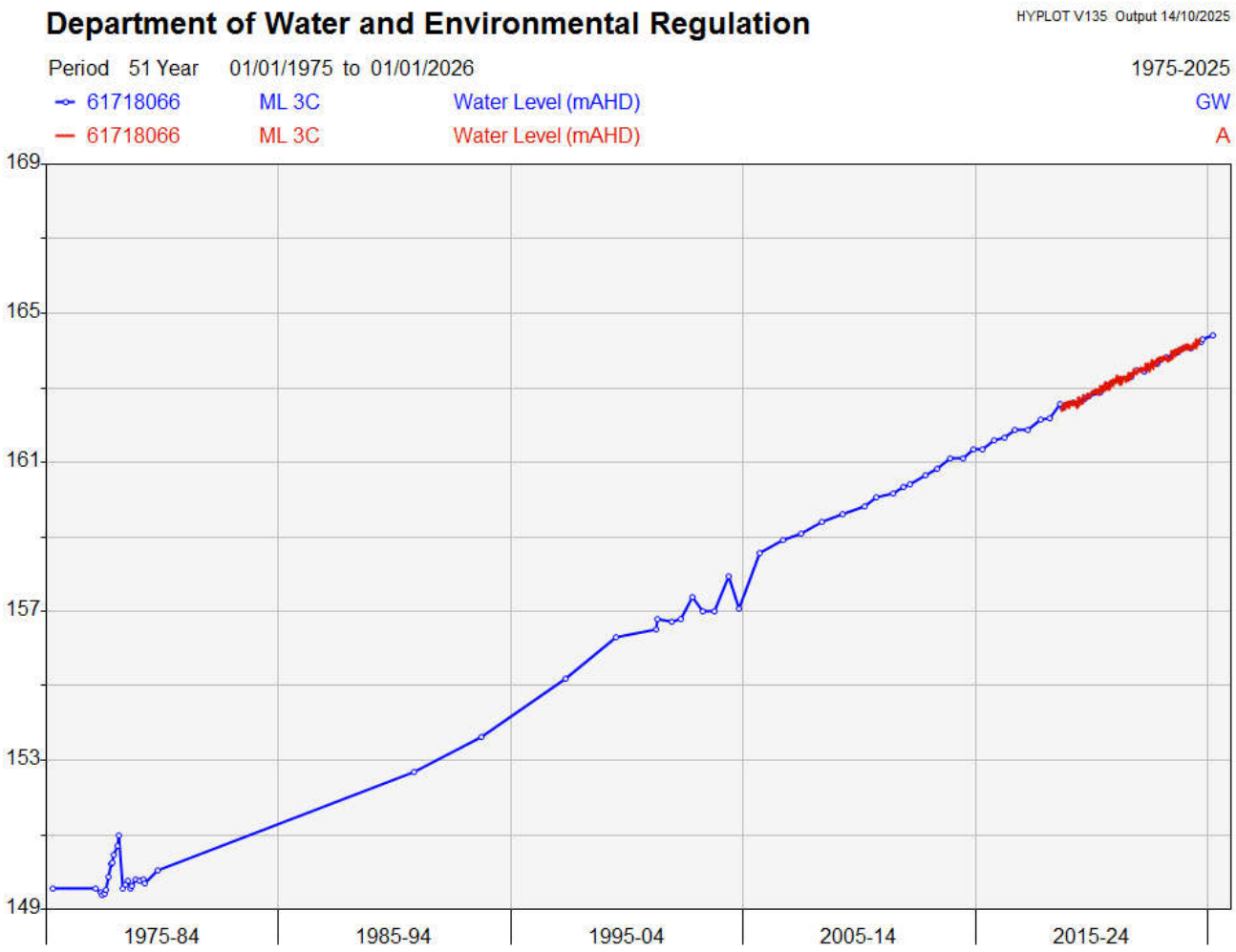


Internet browser last refresh: Wed Dec 17 2025 09:26:46 GMT+0800 (Australian Western Standard Time)

Government of Western Australia
Department of Water and Environmental Regulation

Water Information Reporting

Should you require further information or technical assistance, please contact one of our water information officers.

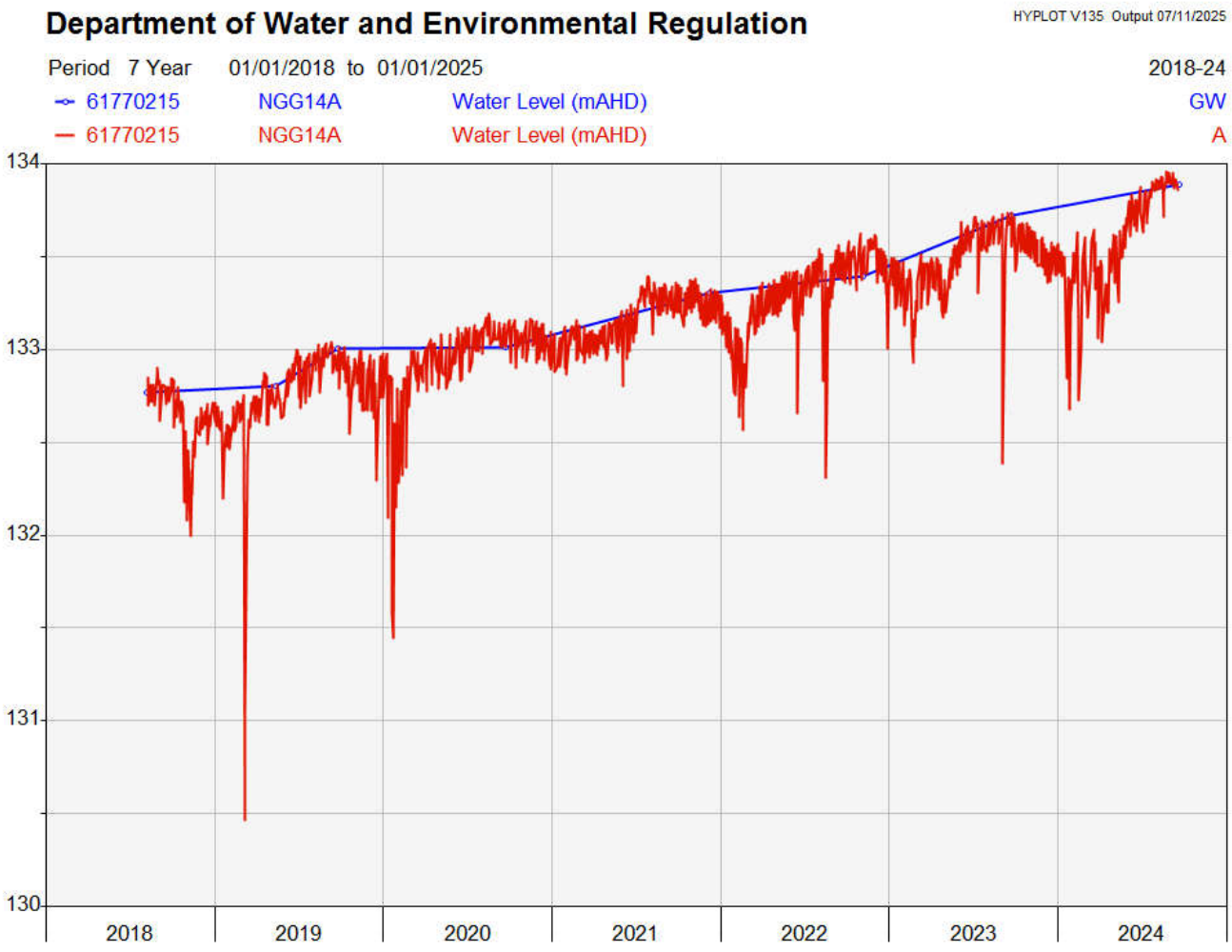


Internet browser last refresh: Wed Dec 17 2025 09:33:52 GMT+0800 (Australian Western Standard Time)

Government of Western Australia
Department of Water and Environmental Regulation

Water Information Reporting

Should you require further information or technical assistance, please contact one of our water information officers.



Internet browser last refresh: Wed Dec 17 2025 09:49:20 GMT+0800 (Australian Western Standard Time)

APPENDIX B

TEST PUMPING RAW DATA & ANALYSIS

Waterdirect Pty Ltd

Pumping Test - Water Level Data

Project: JAV Brown

Number: 245

Client: JAV Brown

Location: Bidgerabbie	Pumping Test: Pumping Test 1	Pumping Well: BG2
Test Conducted by: JW	Test Date: 03-Sep-08	Discharge Rate: 33.8 [l/s]
Observation Well: BG2	Static Water Level [m]: 29.50	Radial Distance to PW [m]: -

	Time [min]	Water Level [m]	Drawdown [m]
1	1	41.30	11.80
2	1.5	41.65	12.15
3	2	41.74	12.24
4	2.5	41.92	12.42
5	3	42.00	12.50
6	4	42.18	12.68
7	5	42.25	12.75
8	6	42.35	12.85
9	7	42.43	12.93
10	8	42.51	13.01
11	9	42.59	13.09
12	10	42.64	13.14
13	12.5	42.76	13.26
14	15	42.85	13.35
15	17.5	42.97	13.47
16	20	43.00	13.50
17	25	43.16	13.66
18	30	43.26	13.76
19	35	43.38	13.88
20	40	43.45	13.95
21	45	43.50	14.00
22	50	43.59	14.09
23	60	43.70	14.20
24	70	43.75	14.25
25	80	43.85	14.35
26	90	43.94	14.44
27	100	44.00	14.50
28	110	44.09	14.59
29	120	44.12	14.62
30	140	44.23	14.73
31	160	44.32	14.82
32	180	44.40	14.90
33	210	44.50	15.00
34	270	44.67	15.17
35	300	44.76	15.26
36	360	44.80	15.30

Waterdirect Pty Ltd

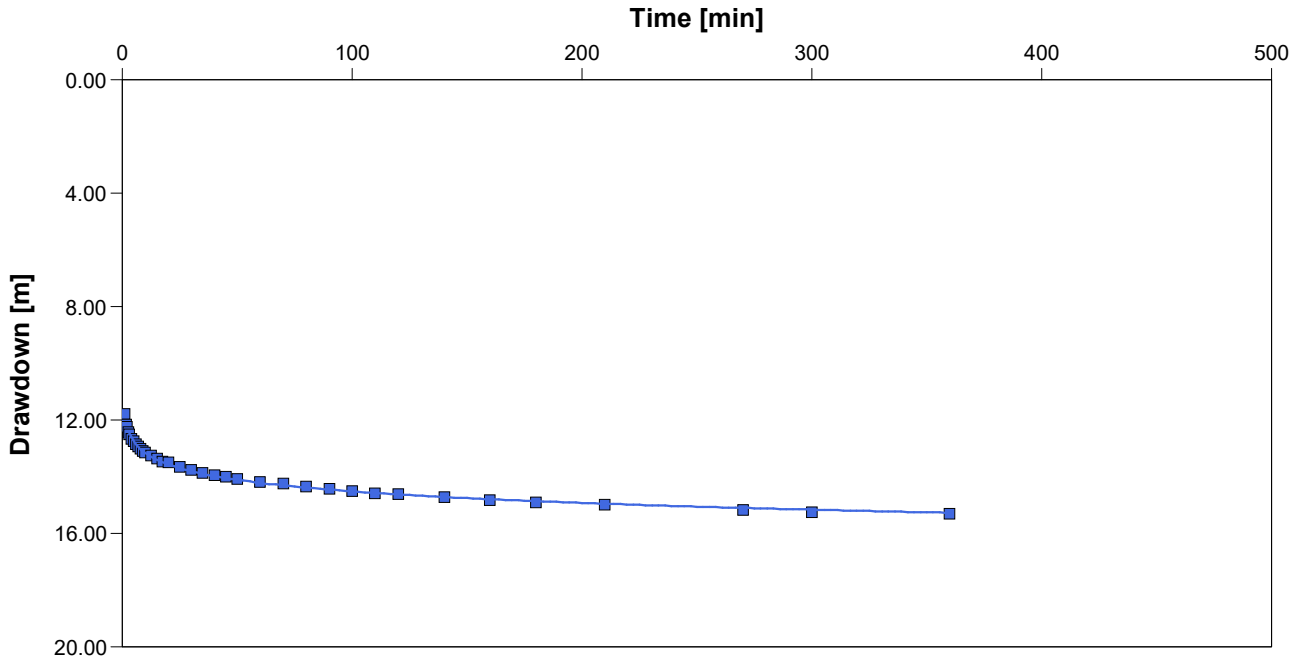
Pumping Test Analysis Report

Project: JAV Brown

Number: 245

Client: JAV Brown

Location: Bidgerabbie	Pumping Test: Pumping Test 1	Pumping Well: BG2
Test Conducted by: JW		Test Date: 03-Sep-08
Analysis Performed by: rrm	BG2 Theis	Analysis Date: 15-Dec-25
Aquifer Thickness: 60.00 m	Discharge Rate: 33.8 [l/s]	



Calculation using Theis

Observation Well	Transmissivity [m²/d]	Hydraulic Conductivity [m/d]	Storage coefficient	Radial Distance to PW [m]	
BG2	3.95×10^{2}	6.58×10^{0}	1.68×10^{-7}	0.08	

Waterdirect Pty Ltd

Pumping Test Analysis Report

Project: JAV Brown

Number: 245

Client: JAV Brown

Location: Bidgerabbie	Pumping Test: Pumping Test 1	Pumping Well: BG2
Test Conducted by: JW		Test Date: 03-Sep-08
Aquifer Thickness: 60.00 m	Discharge Rate: 33.8 [l/s]	

	Analysis Name	Analysis Performed	Analysis Date	Method name	Well	T [m²/d]	K [m/d]	S
1	BG2 Theis	rrm	15-Dec-25	Theis	BG2	3.95×10^{2}	6.58×10^{0}	1.68×10^{-7}