

12 August 2026

Commercial-in-confidence

Ben
Lacour Energy Pty Ltd
7/140 St Georges Terrace
Perth WA 6000

Dear Ben,

Re. West Arthur Wind Farm Water Supply Study

1.0 Introduction

West Arthur Energy Pty Ltd (WAE) a wholly owned subsidiary of Lacour Energy Developments Pty Ltd) is seeking to develop, fund, construct and operate an onshore wind farm located south of Darkan, Western Australia (WA). The proposed development is strategically located within relative proximity to Collie and the South West Interconnected System (SWIS) electricity grid. The West Arthur Wind Farm (WAWF) project area shown on Figure 1 is situated approximately 10 km south of Darkan, within the Shire of West Arthur, on Gnaala Karla Booja Country.

Once fully developed, the West Arthur Wind Farm will include up to 92 Wind Turbine Generators (WTGs), each standing up to 160 metres high. With a rotor diameter of up to 182 m, the turbines will have a maximum tip height of up to 250 metres. The initial estimated capacity of the wind farm is expected to generate up to 600 MW.

In addition to the turbines, the project includes the development of various essential infrastructure elements such as an electricity substation and battery energy storage system (BESS). The WTGs will be positioned at least 500 metres apart and will be connected to an onsite substation. The WAWF will connect into Western Power's proposed Substation referred to as T6, which will be connected to the existing transmission network (SWIS). Temporary facilities will likely be required to enable construction of the wind farm, which include a construction compound, concrete batching plant, laydown areas, borrow pits/quarries and accommodation village.

This memorandum has been prepared to provide a desktop review of the availability of groundwater in the project area that could be developed to provide a source of water to facilitate construction of the proposed development.

1.1 Study objectives

The objective for this desktop hydrogeological study is to identify suitable areas for future groundwater exploration purposes to provide a suitable groundwater resource with sufficient quantities of water for construction of the project.

AECOM's initial estimates of water needs for the project, along with additional levels of contingency, are summarised in Table 1. Typical water quality requirements for concrete are summarised in Table 2.

1.2 Approach

The desktop review included the following:

- Review of existing hydrogeological literature of the region, inclusive of both alluvial and fractured rock environments for potential groundwater sources.
- Review of land access and current tenure for future groundwater resource developments.
- Identification of relevant regulatory licencing requirements.
- Development of a priority list of potential groundwater resource areas that warrant groundwater drilling investigations to assess suitability.
- Identification of information gaps.

Table 1 Estimated construction water supply requirements

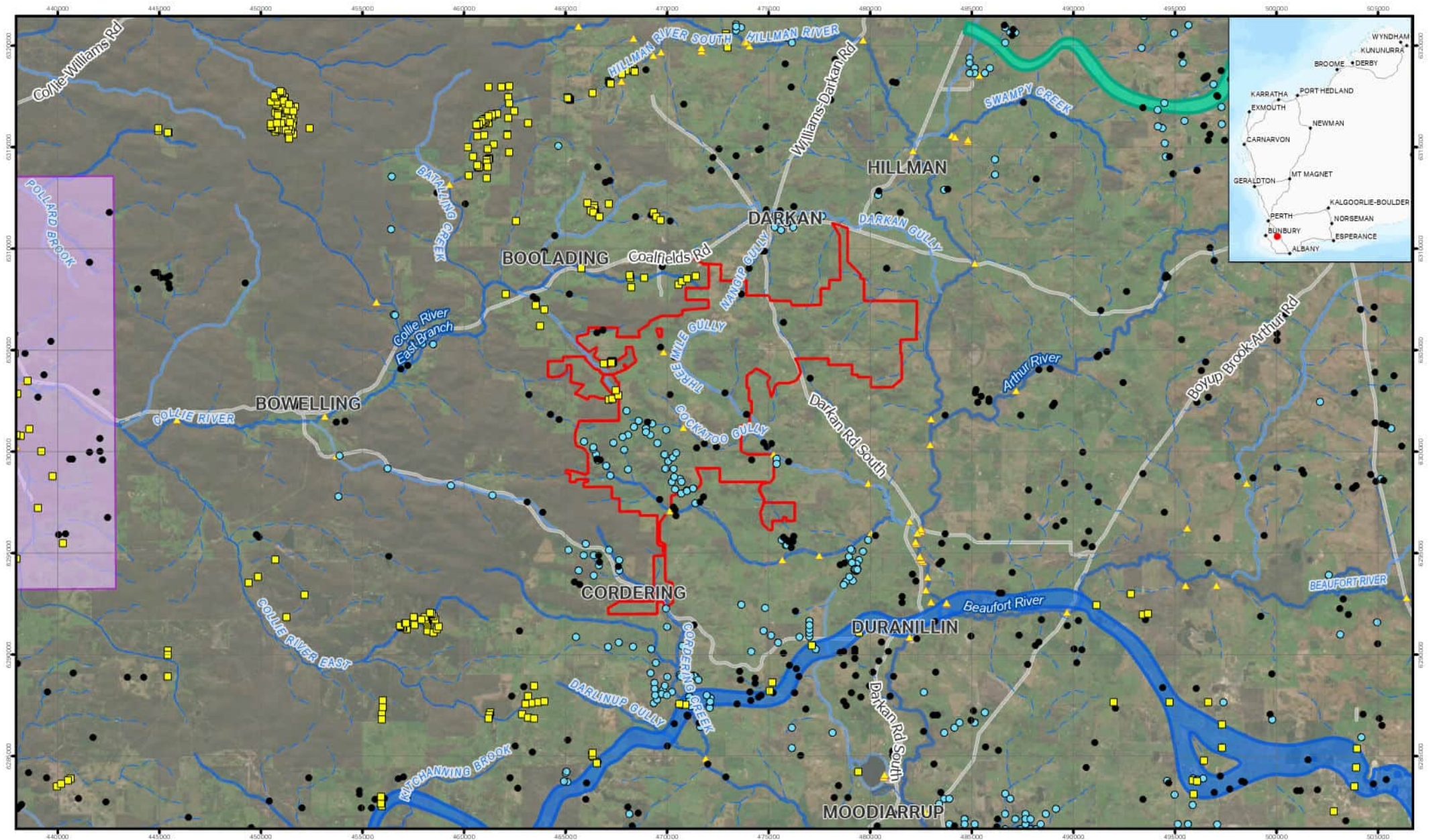
Item	Requirement assumptions	Estimated rates (kL/day)		Year 1	Year 2
		(incl. 20% contingency)	(incl. 50% contingency)	(kL/year) ³	
Foundations	Assume 195 L per m ³ or 117kL for 600m ³ of concrete. Assume two foundations per week (92 turbines av. 16.7kL/d/turbine).	212	264	92,495 ²	0
Dust Suppression	Assume 1 ML/km for 120km of wind farm track and 0.5 ML for hardstand (formation and dust suppression).	197 (395 ¹)	247 (493 ¹)	180,000	90,000 ⁴
Camp and Site Office Water Supply	Assume 250 construction people at site will require 37.5 kL/day.	45	56	20,531	14,372 ⁵
Estimated totals		470	587	293,026	104,372
1 – Daily rate for 12-hours per day, 7-days per week. 2 – Based on 92 foundations being constructed in 11.5 months. 3 – Based on the rates including 50% contingency. 4 – Based on a six-month requirement. 5 – Based on an assumed 30% reduction of personnel in Year 2.					

Table 2 Typical water quality limits for mixing concrete

Parameter	Maximum concentration (mg/L)
Salinity (as total dissolved solids – TDS)	2,000
Chloride (as Cl ⁻)	100
Sulphate (as SO ₄)	1,000
Total Alkalinity (CO ₃ + HCO ₃)	1,000
Sodium Equivalent (as NaO ₂ equivalent)	1,500
Oil and Grease	50

Water quality limits for use in dust suppression are not specifically regulated. Compared to fresh water, the use of saline water is often beneficial to suppressing dust because the salt tends to bind the soil once evaporated. However, saline water can also lead to adverse changes to vegetation and/or water storage dams in runoff areas. While using fresh or brackish water for dust suppression poses lower risks to downstream runoff areas, its residual effect in managing dust generation is less than saline water. In these circumstances, a “binder” is often added to the water being sprayed to bind the soil particles, hence reduce dust generation and the necessity for frequency applications.

The suitability of a water source (groundwater or surface water) should be reviewed once the quality is known and the proximity to sites that may be impacted are known. This review may also include the suitability and benefits of artificial binding agents. Many of these are chemically inert and biodegradable.



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PROJECT ID 60768478 CREATED BY JOHNSTONES2
DATE MODIFIED 11 AUG 2026 APPROVED BY R.WALLIS

1:250,000
GDA2020 MGA ZONE 50

LEGEND

- Indicative Project Boundary
- Indicative Beaufort Paleochannel (DPIRD)
- Indicative Darkan Paleochannel (DPIRD)
- Collier Groundwater Area
- Sealed Road
- Major River
- Minor River
- Significant Stream
- Minor Watercourse

Groundwater bores

- Private bores
- DWER-owned bores
- DPIRD-owned bores

Surface water bores

- ▲ DWER-owned surface water bores

Regional Locality Plan

LACOUR

WEST ARTHUR WIND FARM
WATER SUPPLY STUDY

Figure
1

2.0 Literature and data review

AECOM has reviewed the following previous studies relevant to the hydrogeology of the site:

- *Newly Recognised Eocene Sediments in the Beaufort River Palaeochannel* (Waterhouse et al. 1995).
- *Hydrogeology of the Blackwood River Catchment, Western Australia* (De Silva et al. 2000).
- Geologically related variations in saturated hydraulic conductivity in the regolith of the western wheatbelt of Western Australia and its implications for the development of dryland salinity (Clarke et al. 2000).
- *Geology, Physiography and Soils of Wheatbelt Valleys*. (Commander et al. 2001).
- *Hidden Menace or Opportunity – Groundwater Hydrology, Playas and Commercial Options for Salinity in Wheatbelt Valleys* (George and Coleman 2001).
- Water Supply Security Strategy: Stage 1 - Review of Demand and Current Supplies (Water Technology 2022).
- Interactive online groundwater database (DPIRD 2026).
- *Wellington Reservoir Catchment Special Control Area* managed under the *Country Areas Water Supply Act 1947*.

A summary of the key information from the above documents is provided below.

2.1 Newly Recognised Eocene Sediment in the Beaufort River Palaeochannel

This paper discusses the discovery of Eocene palaeochannels that were named the Beaufort and Darkan palaeochannels (Waterhouse 1995). The palaeochannels were part of a palaeodrainage system that probably discharged across the Darling Scarp into the Perth Basin and was a precursor to either the Preston or Collie rivers. The channel contains up to 65 m of alluvium including sand, silt and clay. The upward fining sequence (sand to clay) suggests a transition from an active riverine system to lacustrine (low energy) alluvial conditions.

The extent of the palaeodrainage system is shown in Plate 1. The typical palaeochannel infill sequence is shown on Plate 2.

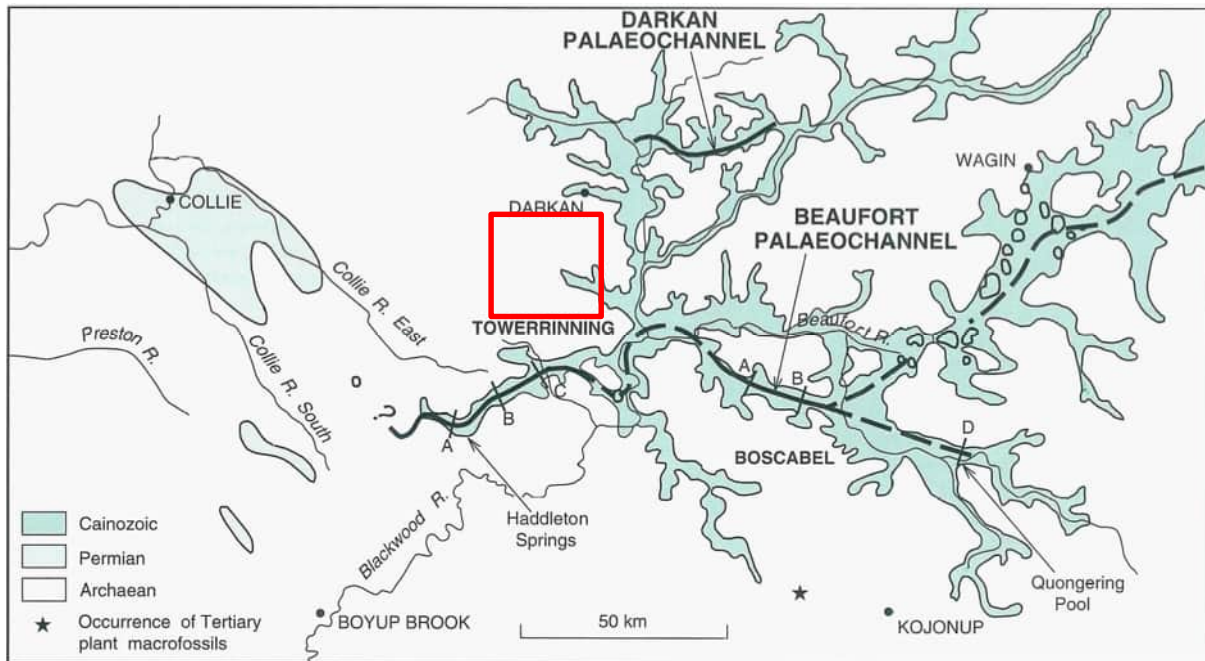


Plate 1 Location of the Beaufort and Darkan palaeochannels after Waterhouse et al., 1995). West Arthur study area outlined in red (approx.).

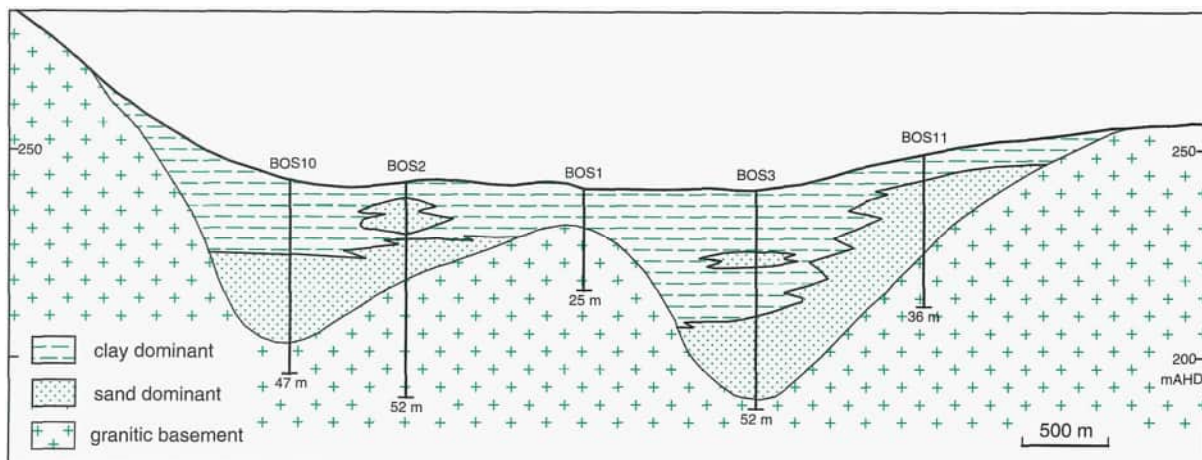


Plate 2 Geological cross section across the Beaufort Palaeochannel (after Waterhouse et al., 1995)

2.2 Hydrogeology of the Blackwood River Catchment, Western Australia

As part of an evolving understanding of the hydrogeology of Western Australia, the Water and Rivers Commission (now Department of Water and Environmental Regulation (DWER)) evaluated the hydrogeology of the Blackwood River Catchment (De Silva et al. 2000) that encompasses most of the West Arthur study area.

As a regional study it characterised the West Arthur area as an Archaean granitic basement faulted with a fractured bedrock aquifer, and incised with a surficial aquifer network containing Cainozoic alluvium described as sand, silt, clay and gravel and brackish to hypersaline groundwater. The regional and local geology and hydrogeology is displayed on Plate 3, Plate 4, Plate 5 and Plate 6.

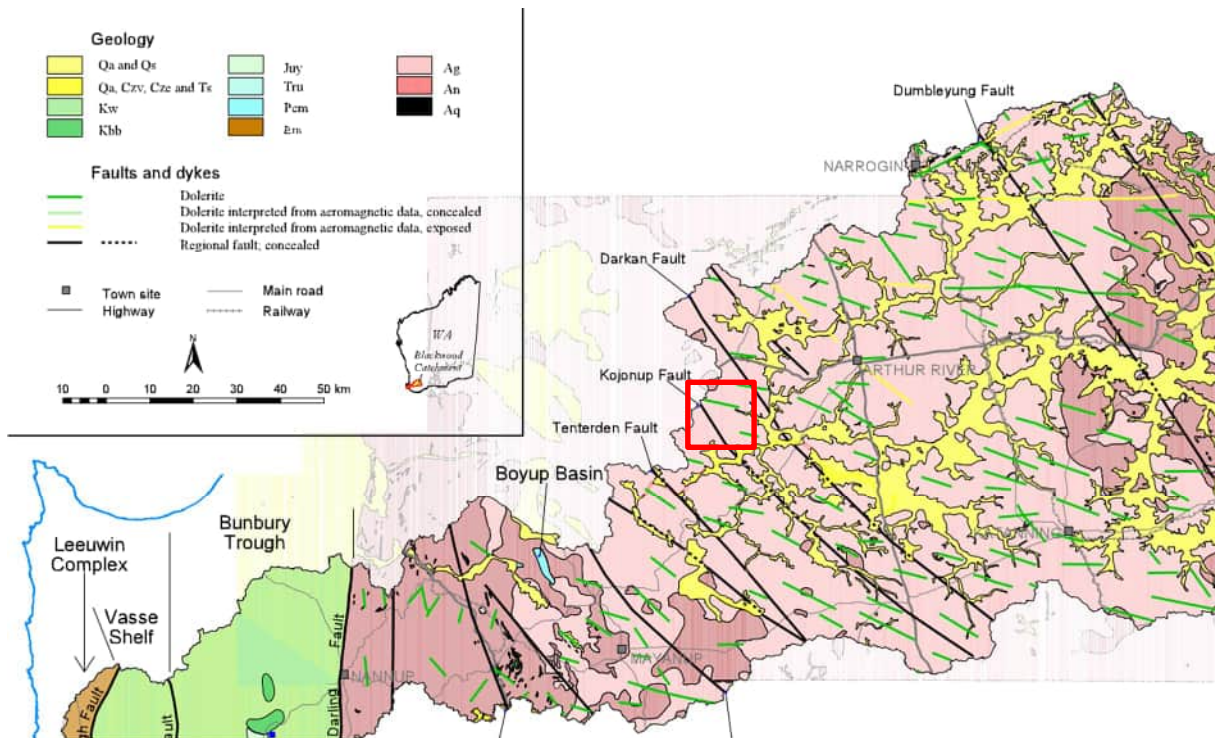


Plate 3 Regional geology (after De Silva et al., 2000). West Arthur study area outlined in red (approx.)

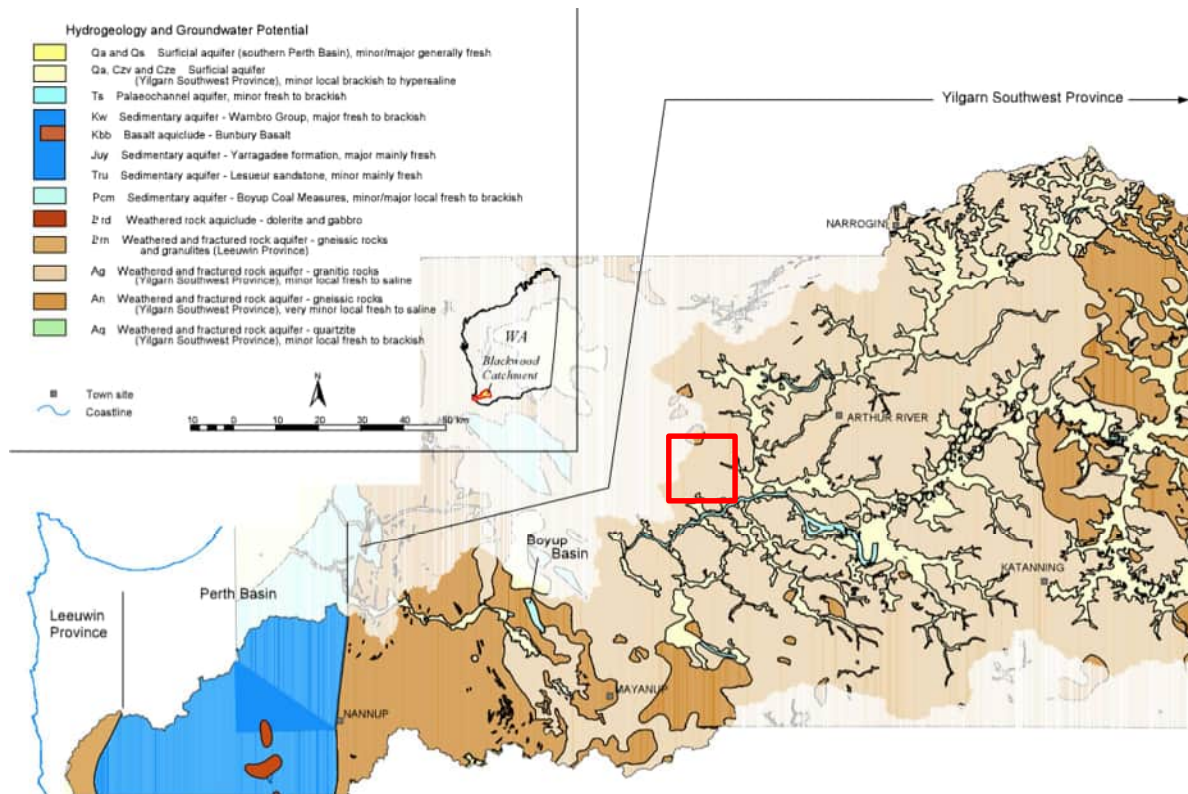


Plate 4 Regional hydrogeology (after De Silva et al., 2000). West Arthur study area outlined in red (approx.)

Groundwater sources in the Tertiary sediments are described (for the Towerrinning area) as being from sand layers between 4 and 28 m in thickness within a succession of between 8 and 39 m of alluvium. The sand becomes coarser towards the bottom. Bore yields from the investigation holes ranged from 12 to 187 kL/day. The yield was found to have no relationship to the thickness of the sand unit.

Bores constructed in the Beaufort Palaeochannel have indicative yields of 40 to 280 kL/day of groundwater with between 1,000 and 7,500 mg/L total dissolved solids (TDS). The Darkan Palaeochannel contains up to between 25 and 30 m of alluvium with indicative yields of 230 to 302 kL/day with salinities ranging between 450 and 26,000 mg/L TDS.

Groundwater sources in the Archaean bedrock in the Project area may include fractured and slightly to moderately permeable zones associated with regional faults such as the Kojonup Fault and possibly the Darkan Fault (Plate 3). Yields from bores vary widely because of the intensity, connectedness and submergence (below the water table) of the fractures. The salinity tends to be lower (fresh to brackish) in elevated areas and higher (brackish to saline) in low-lying areas.

The bedrock is also traversed by Proterozoic dolerite dykes that occur as a regional swarm. In this region, dolerite dykes can be associated with permeable zones along weathered and fractured contact margins but can also be associated with clayey and/or impermeable deposits with low groundwater prospects.

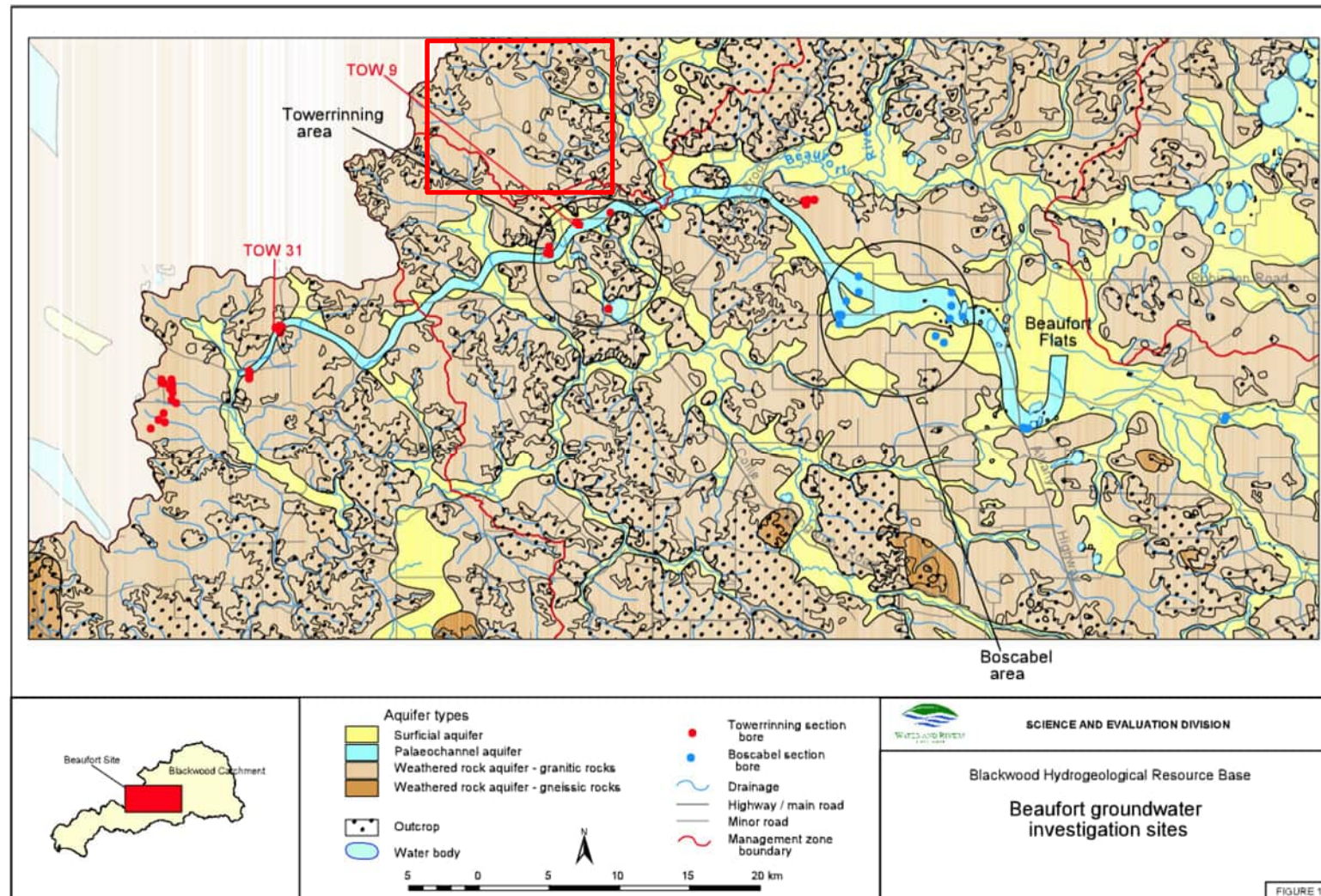


Plate 5 Hydrogeology of the West Arthur study area – Beaufort (after De Silva et al., 2000). West Arthur study area outlined in red (approx.)

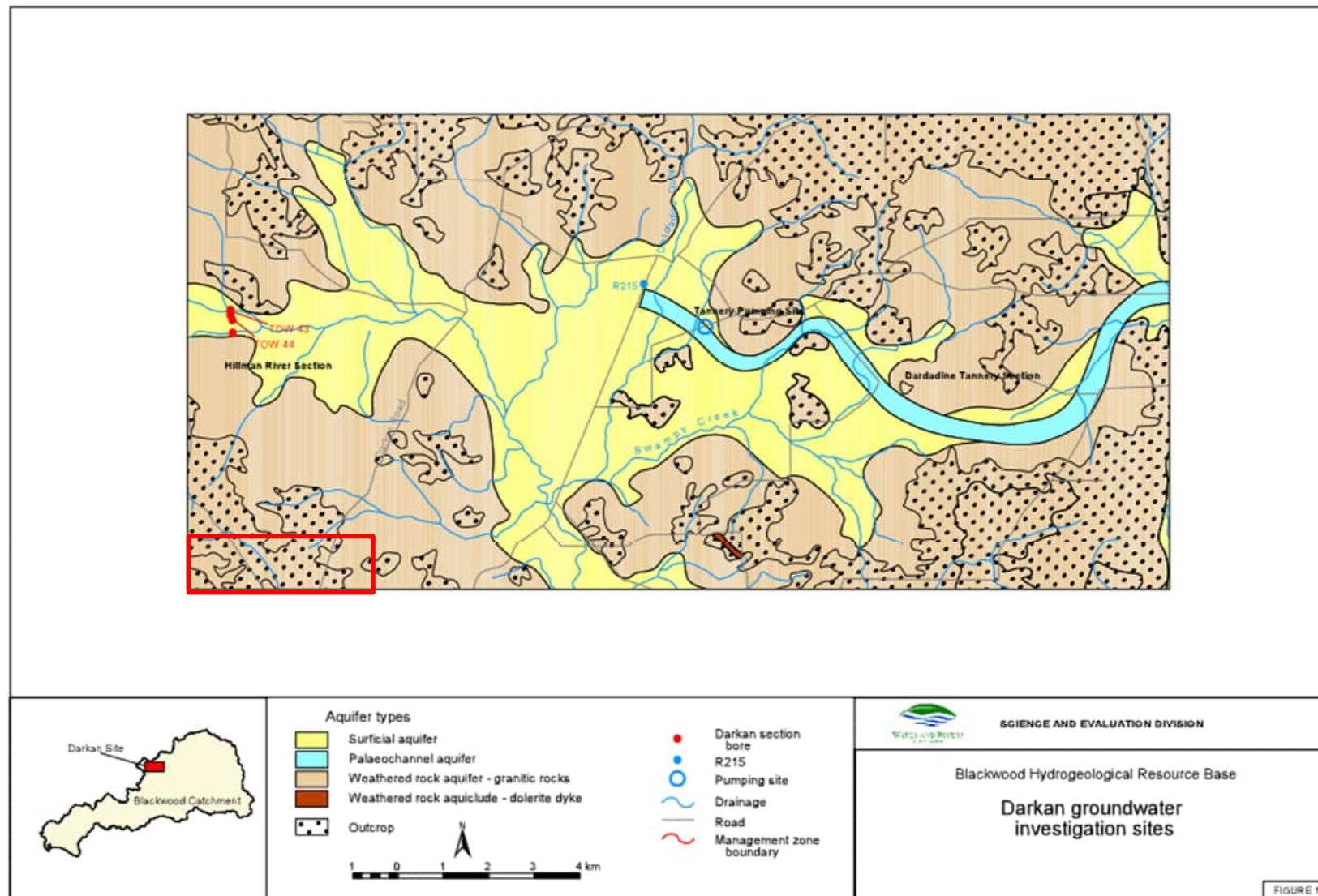


Plate 6 Hydrogeology of the West Arthur study area – Darkan (after De Silva et al., 2000). North section of West Arthur study area outlined in red (approx.)

2.3 Geologically related variations in saturated hydraulic conductivity in the regolith of the western wheatbelt of Western Australia and its implications for the development of dryland salinity

A systematic study of the hydraulic conductivity (the technical measure of permeability) of the weathered and fractured basement, and Tertiary palaeochannels was undertaken near the West Arthur study area to guide groundwater resource investigations (Clarke et al. 2000).

This study identified:

- That faults (containing fractured basement rocks) have hydraulic conductivities between three to six times higher than weathered granite
- There is no significant difference between the hydraulic conductivity of weathered granite and mafic dykes that cross the region
- Tertiary palaeochannel sand has a hydraulic conductivity of about 290 times higher than the tertiary clay.

2.4 Geology, physiography and soils of the Wheatbelt Valleys

This study considered the occurrence and soils that infill palaeovalleys that form a palaeodrainage network across the wheatbelt (Commander et al. 2001). The palaeochannels may contain up to 60 m of Tertiary sediments of Eocene (~43 million years) or Pliocene (~5 million years) age. These ancient sediments contain up to 20 m of more recent sediments.

The Beaufort Palaeochannel was identified as one of two west-flowing drainages in the current Blackwood and Beaufort catchment during the Eocene period. A schematic drawing of the relationship of palaeochannel sediments with the basement and more recent sediments is provided in Plate 7.

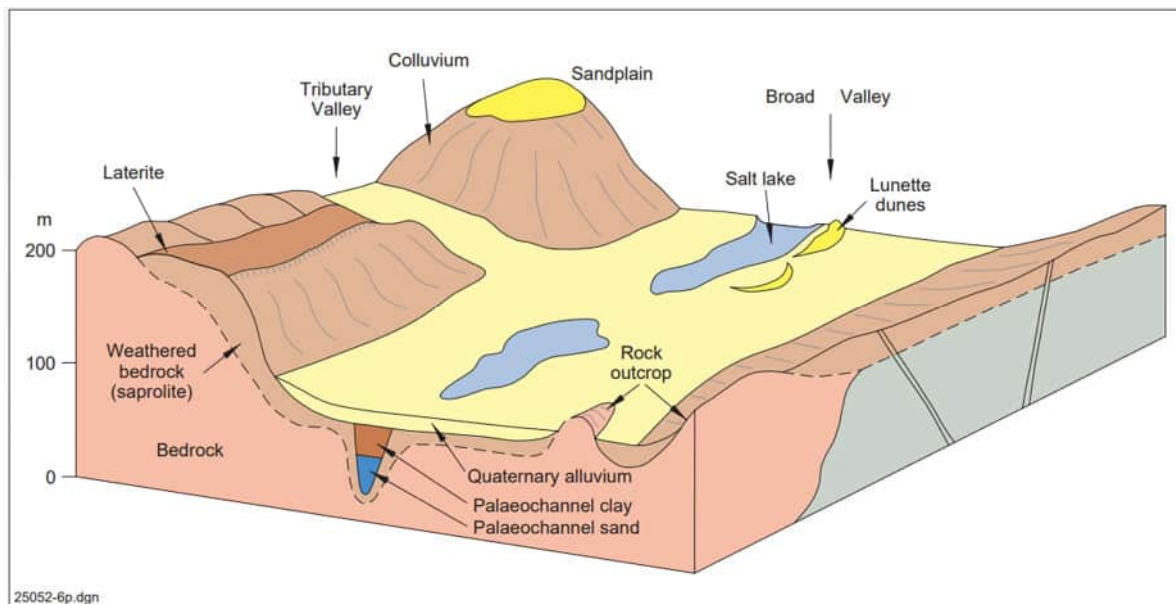


Plate 7 Schematic diagram showing the geology of a wheatbelt valley (after Commander et al., 2001)

2.5 Hidden Menace or Opportunity – Groundwater Hydrology, Playas and Commercial Options for Salinity in Wheatbelt Valleys

Palaeodrainages within the wheatbelt contain large volumes of groundwater within the myriad of palaeovalleys and deposits within them (George and Coleman 2001). However, after land clearing and significant increases in recharge, these groundwater systems are filling up, meaning the water table is rising and changing the balance of surficial aquifers and accumulation of salt due to increasing rates of evaporation. Areas now inundated are discharging saline groundwater, posing a risk to farmland and threatening assets such as towns, roads and remnant vegetation.

This paper focusses on opportunities for establishing alternative water uses to stabilise the regional water balance and effects of rising water tables and salinisation of surficial soils.

While saline discharges observed across the wheatbelt are not a feature of groundwater in the West Arthur study area, changes in the water balance may partly explain the localised variability in salinity noted by De Silva et al. (2000). It also provides an important insight into water resource risks and water management objectives of the Department of Primary Industries and Regional Development (DPIRD), DWER and Shire of West Arthur.

2.6 Upper Collie Water Allocation Plan

The DWER revised the 1999 water allocation principles developed by the Collie Water Advisory Group (CWAG 1999) to publish the current allocation plan for groundwater and surface water in the Collie River Catchment in 2009 entitled: *Water resource allocation and planning series Report no. 20* (DoW 2009). This plan was established to allocate and maintain the availability and quality of groundwater and surface water in the Upper Collie area.

The extents of the proclaimed groundwater and surface water areas shown on Plate 8 indicate the Project is remote from the proclaimed Collie groundwater area but may overlap parts of the eastern boundary of the Collie River East Branch surface water sub-area. Surface water within the catchment has been affected by over 100 years of mining and land clearing, resulting in changes to the quality of surface water flows and dependent ecologies.

Even though the Project is outside the proclaimed Collie groundwater area, there is a link between groundwater and surface water in the Collie River East sub-area. Groundwater supports baseflow during the dry summer months. This baseflow supports surface water dependent ecological water requirements and allocations set by the DWER for the Collie River East Branch sub-area that are currently 14.0 GL/year.

This plan focuses on the large-scaled dewatering, disposal and changes to ecological water requirements linked to the coal mining centres near Collie. However, several allocation and management principles relating to the surface water sub-area may be relevant including:

- Minimising drawdown-related changes to pools – depends on the proximity of Project bores to existing creeks containing pools.
- Minimising changes to the salinity of baseflows – a decrease in baseflow due to Project abstraction may change the salinity of baseflows.
- Avoiding exporting of water outside the sub-area unless the receiving area has a deficit of supply and all other reasonable supply and management options have been implemented.
- The DWER is unlikely to approve new applications to take surface water (including direct pumping) from a watercourse during periods of low flow (generally in summer), due to the ecological needs of the system during that time.
- Interference (including the construction of dams and weirs) with the bed and banks of a proclaimed watercourse on private property or a watercourse on Crown land will require a permit as per Sections 11, 17 and 21 of the *Rights in Water and Irrigation Act 1914*.
- Several policies relating to water transfers and trading in the plan area including:
 - The ability to transfer or trade a water entitlement is provided for by Schedule 1, Division 7 of the *Rights in Water and Irrigation Act 1914* and the in Statewide policy no. 6 – Transferable (tradeable) water entitlements for Western Australia.

- Water entitlements can only be traded between like-for-like water sources (for example, surface water to surface water and aquifer to aquifer).
- Where licences are required for non-intensive stock, domestic or garden purposes they may not be traded. These licences will be transferred upon change of ownership of the land.
- The unused component of a licensed entitlement is not tradeable, subject to *Statewide policy no. 11 – Management of unused licensed water entitlements*, but the licensee may enter into third party agreements to use this unused component.
- Dewatering entitlements are not tradeable or transferable.
- Leasing of licensed entitlements can only be accepted for a period less than the vendor's licence entitlement tenure, and only where impacts from the purchaser's bore location are acceptable (assessed as per new licence application) for the duration of the lease agreement.

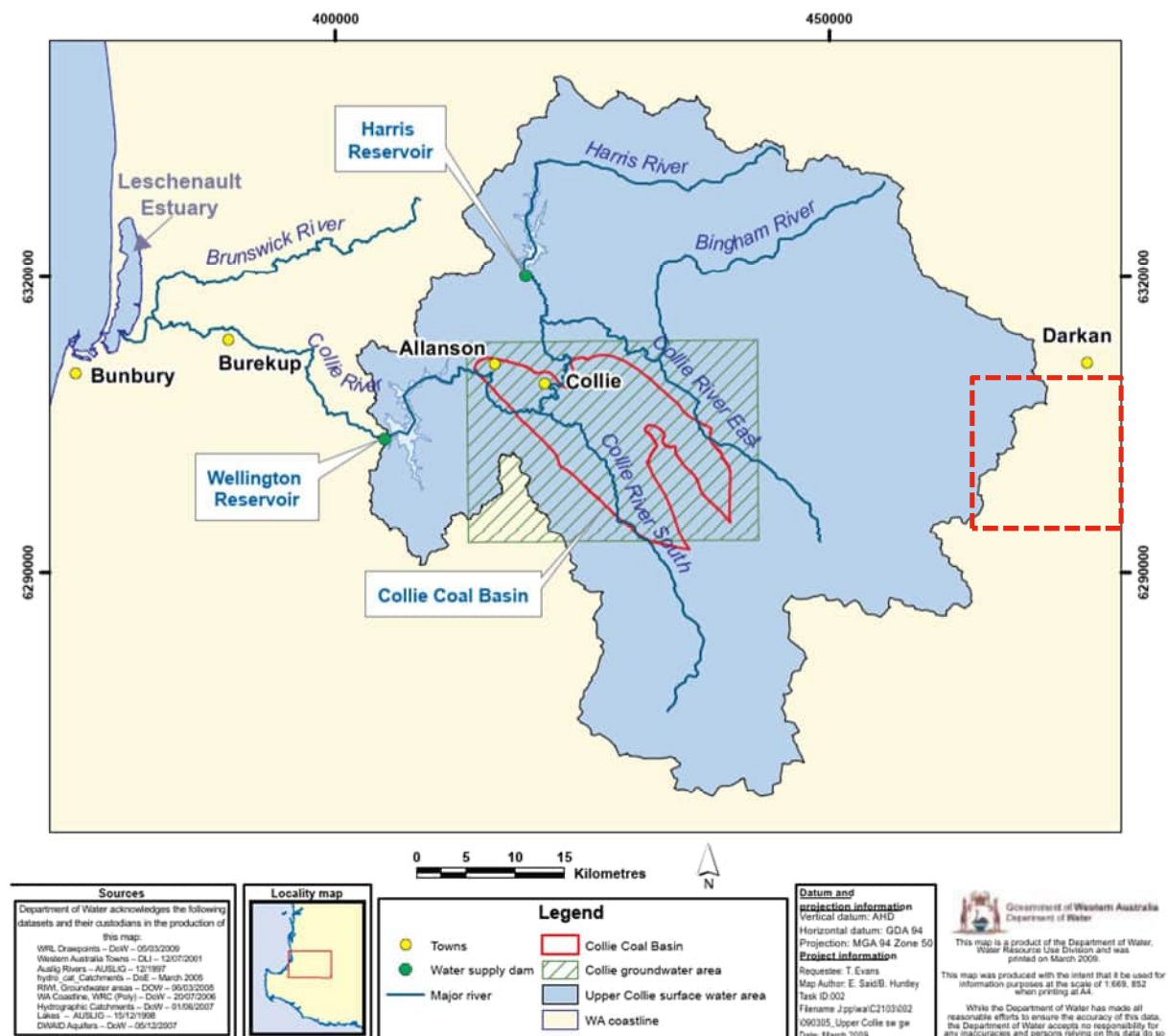


Plate 8 Upper Collie surface water and groundwater resources proclaimed under the *Rights and Irrigation Act 1914* as the Collie River Irrigation District (after DoW 2009). (The WAWF location indicated by dashed red box.)

2.7 West Arthur Water Supply Security Strategy: Stage 1 – Review of Demand and Current Supplies

The Shire of West Arthur undertook an initial review of water sources and needs to develop a future strategy that supports agricultural activities, mitigate risks from climate change, and minimise the financial impact to ratepayers (Water Technology 2022). Because there has, and still is, a reliance on the capture and storage of runoff from rainfall, there will be increasing reliance on groundwater. The summary of water demand within the Shire (Table 3) indicates significant increases in needs for firefighting and emergency stock water supplies.

Table 3 Summary of water demand estimate for 2030 (after Water Technology 2022)

Water Use	Current Demand Estimate (kL)	2030 Demand Estimate (kL)	Change In Demand (kL)
Potable water	49,000	49,000	0
Darkan non-potable	35,550	37,010	1,460
Duranillin scheme	532	880	348
Firefighting water	5,220	15,600	10,380
Emergency stock water	180,000	300,000	120,000
Total	270,302	402,490	132,188

While there are options to expand the sources of water based on surface water capture and storage, there is a lack of meaningful data to identify sources for additional groundwater supplies. Considering this constraint, the Stage 1 review included a focus on available groundwater-related information that also applies to potential target sources for the Project.

Recognising the potential resource in the Beaufort Palaeochannel, the reviewers recommended the Shire engage with others who were planning to undertake an aerial electromagnetic (AEM) survey of the Beaufort Palaeochannel to guide future drilling and groundwater resource investigation programmes.

A series of maps presented in this review are provided in Plate 9 to Plate 11. In relation to the Project, these maps suggest:

- There are several groundwater bores in the study area (installed by DPIRD and DWER).
- The groundwater salinity ranges from fresh (<500 mg/L TDS) to fresh to brackish (500 to >4,000 mg/L TDS).
- Bore yields of 93 to 398 kL/day in the palaeochannels and 160 to 260 kL/day in the bedrock.

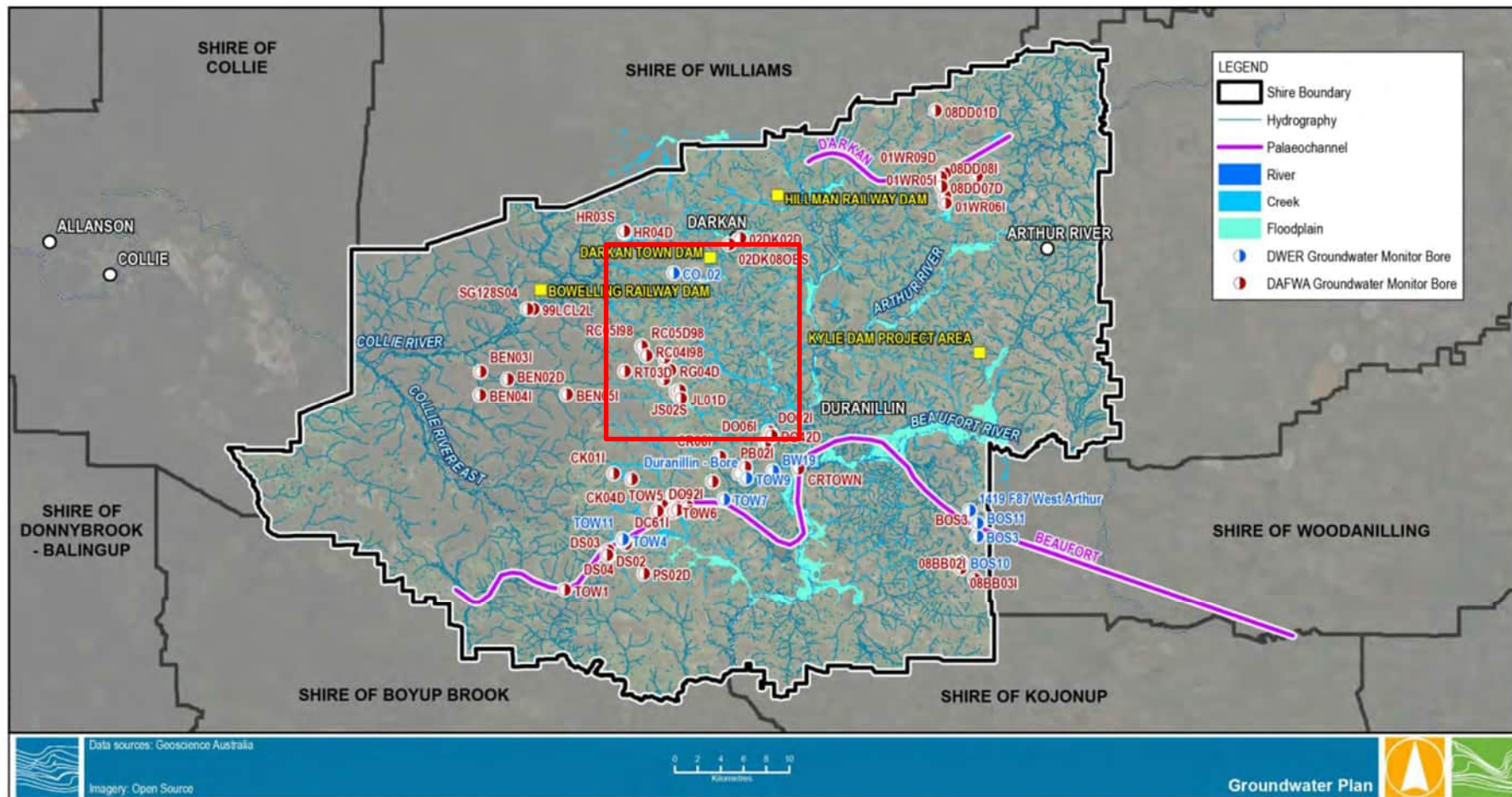


Plate 9 Groundwater bores and monitoring sites (after Water Technology, 2022). West Arthur study area outlined in red (approx.).

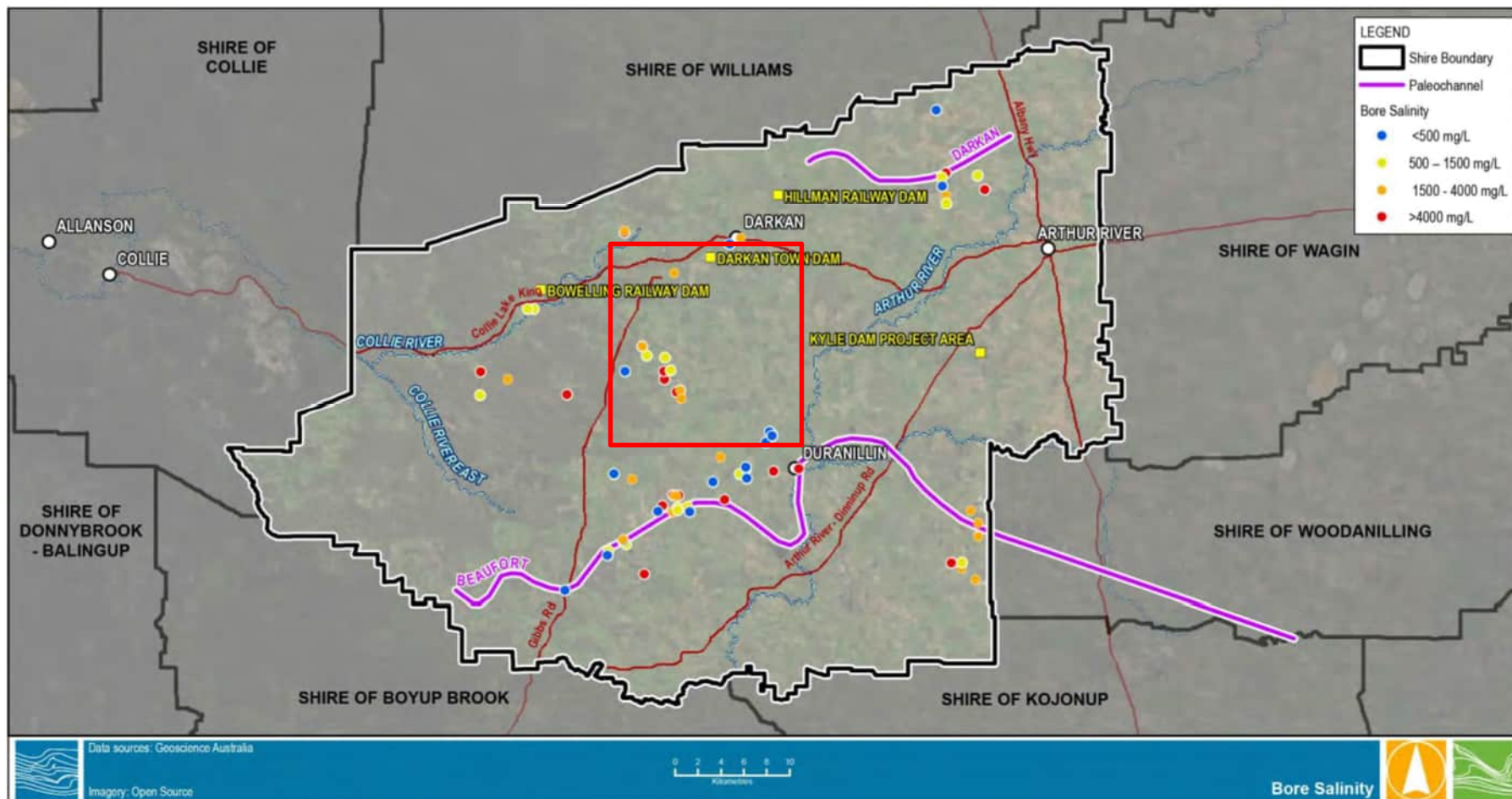


Plate 10 Groundwater bore salinity (after Water Technology, 2022). West Arthur study area outlined in red (approx.)

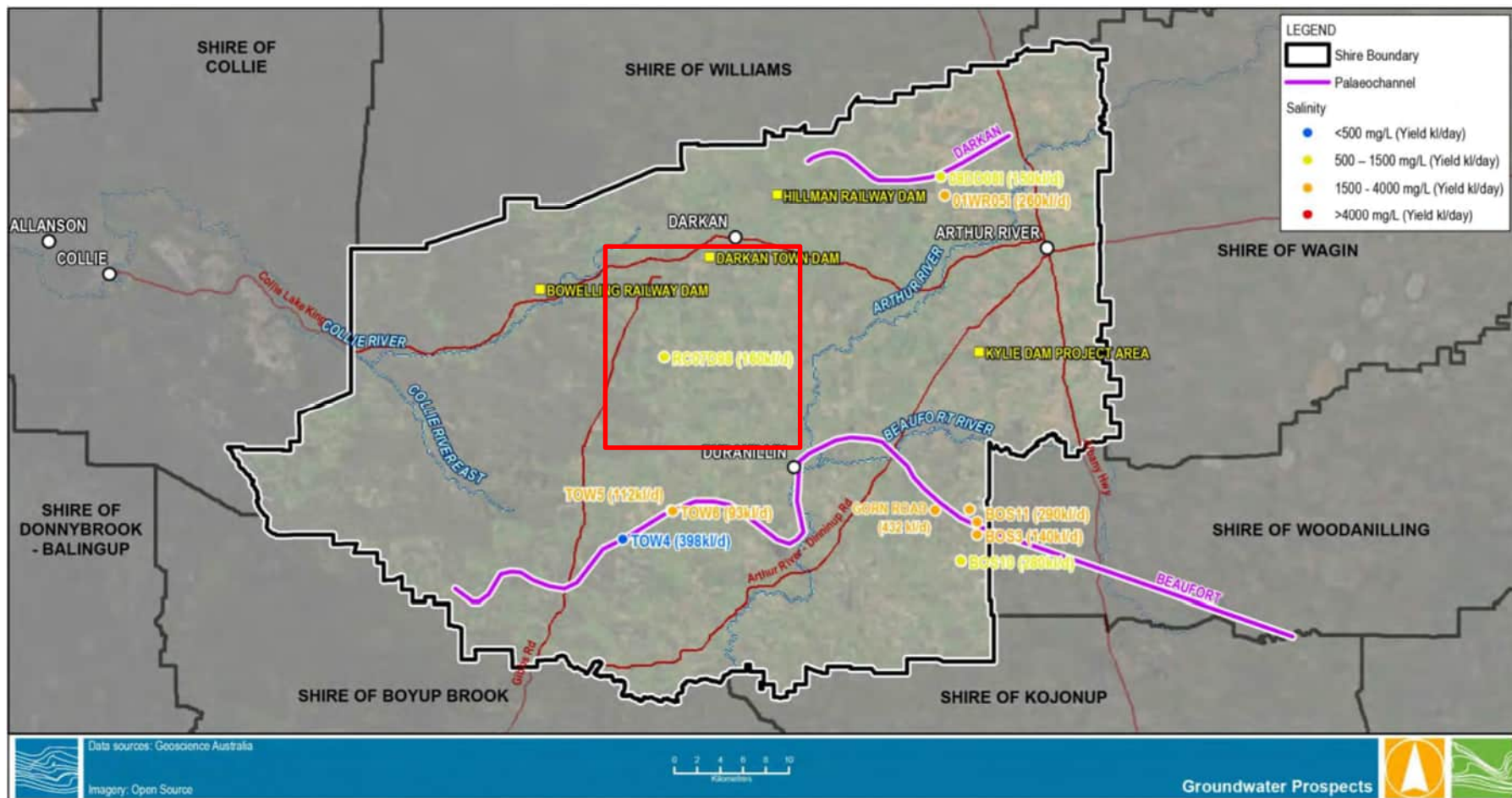


Plate 11 Groundwater bore yields and salinity (after Water Technology, 2022). West Arthur study area outlined in red (approx.).

2.8 Wellington Reservoir Catchment Special Control Area

The Wellington Reservoir Catchment Special Control Area, also called the Wellington Dam Catchment Area, includes the Collie West Catchment. The proposed development envelope overlaps this catchment along its western side (Plate 12).

Clearing activities in the Wellington Reservoir Catchment Special Control Area are managed under the Country Areas Water Supply Act 1947 (CAWS Act). The purpose of these controls is to prevent further salinisation of water resources that have been previously affected by permanently cleared land. The CAWS Act requires landowners or occupiers to seek authorisation from the DWER before land clearing activities in the Wellington Reservoir Catchment Special Control Area (in this case).

The Wellington Reservoir Catchment Special Control Area is also incorporated into the Shire of West Arthur Local Planning Scheme No. 2 (Gray & Lewis 2012) that was published by the Department of Planning, Lands and Heritage. The purpose of the scheme is to:

- avoid development of land that could cause surface water pollution
- maintain or restore water quality to potable levels.

The scheme outlines requirements for developments to be referred to the DWER and Shire of West Arthur to ensure any land clearance is conditional (via a licence) issued for compliance with the CAWS Act.

The CAWS Act is relevant to the WAWF proposal where it extends into the Wellington Dam Catchment Area (East Collie River Catchment). It is relevant to groundwater because land clearing, has in parts of Western Australia, led to salinization because of rising groundwater levels and resultant increased rate of salt accumulation where it is (primarily) exposed or subcrops in low-lying areas.

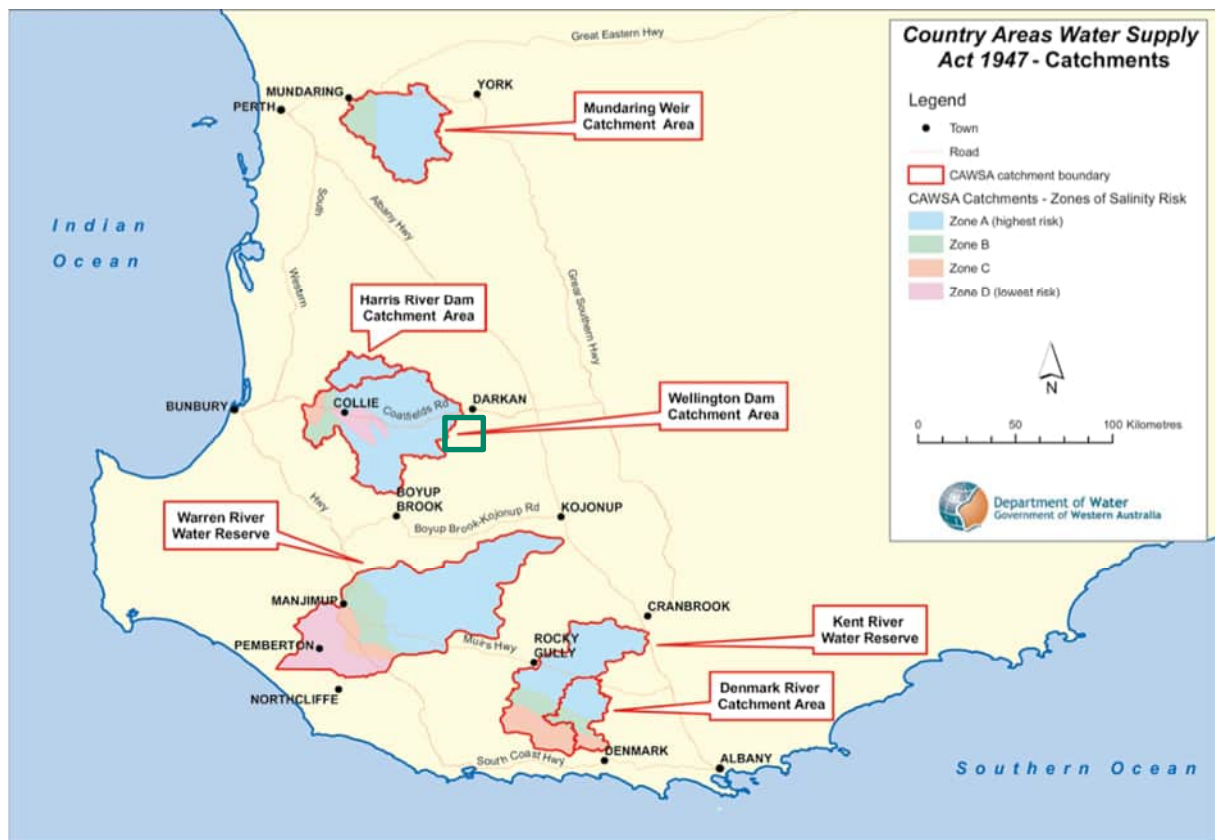


Plate 12 Location of the Wellington Dam Catchment Area (DoW 2012). Approximate project area outlined in green.

2.9 DPIRD online groundwater database

A current source of groundwater data for the WAWF project is available from the DPIRD (2026). This resource provides recent data on groundwater levels (metres below the reference point (m brp)), salinity (expressed as electrical conductivity (EC) in milli-siemens per metre (mS/m)) and bore yield (kL/day). A current extract of groundwater data from this online database is summarised in Attachment 1 and Attachment 2. Bore locations are displayed on Plate 9 to Plate 11.

From the data, the following observations have been noted for 94 sites within and near the Project area:

- Groundwater depth ranges from -2.0 to 23.87 m below the reference point (m brp). Twenty-five (25) locations have levels above ground level (negative depths) i.e. they may be in discharge (spring) areas, or artesian, if a shallow aquitard is present that confines the aquifer.
- Groundwater elevations range from 240 m AHD in the southeast to 340 m AHD in the southwest of the Project area.
- EC values range from 18.9 mS/m to 3,080 mS/m, averaging 1,222 mS/m (Note: 1 mS/m = 10 μ S/cm).
- Yield ranges from 22 to 160 kL/day, averaging 63 kL/day.
- The pH ranges from 4.14 to 6.95, averaging 5.93 suggesting the groundwater is moderately acidic to near neutral.

2.10 DPIRD AEM investigation of Darkan Palaeochannel

As discussed in the West Arthur Shire water supply strategy (Water Technology 2022), airborne electronic (AEM) mapping was completed for the Darkan Palaeochannel in 2008 and published by the CSIRO, Southwest Catchments Council and the WA Department of Agriculture in 2009 with the aim of more accurately defining the orientation of the palaeochannel and the quality (salinity) of the resource.

As shown on Plate 13, there is no overlap between the Darkan Palaeochannel survey area and the WAWF project footprint. While the mapped palaeochannel is located approximately 20 km northeast of the northern boundary of the WAWF, Water Technology (2022, Appendix A) inferred continuity of this feature to the Beaufort Palaeochannel, likely passing down (outside of) the eastern boundary of the site.

2.11 DPIRD / CSIRO AEM investigation of Beaufort Palaeochannel

As alluded to in the West Arthur Shire water supply strategy (Water Technology, 2022), the DPIRD and CSIRO undertook an AEM survey to map the Beaufort Palaeochannel within the shires of West Arthur, Woodanilling, and Kojonup. This survey and the results were intended to support future investigations and assessments of water resources in the Beaufort Palaeochannel that these shires have a vested interest.

Details of the survey's plan were summarised in a recent factsheet published by the DPIRD (2024). The survey was undertaken in May 2025 and published on 26 January 2026 (CSIRO 2026). The factsheet showed the planned extent of the survey (and confirmed as completed by the DPIRD by email on 11 August 2025). As shown on Plate 13, there is no overlap between the AEM survey and the WAWF project area. The 2025 AEM survey was located to the east of the southeastern boundary of the WAWF project footprint.

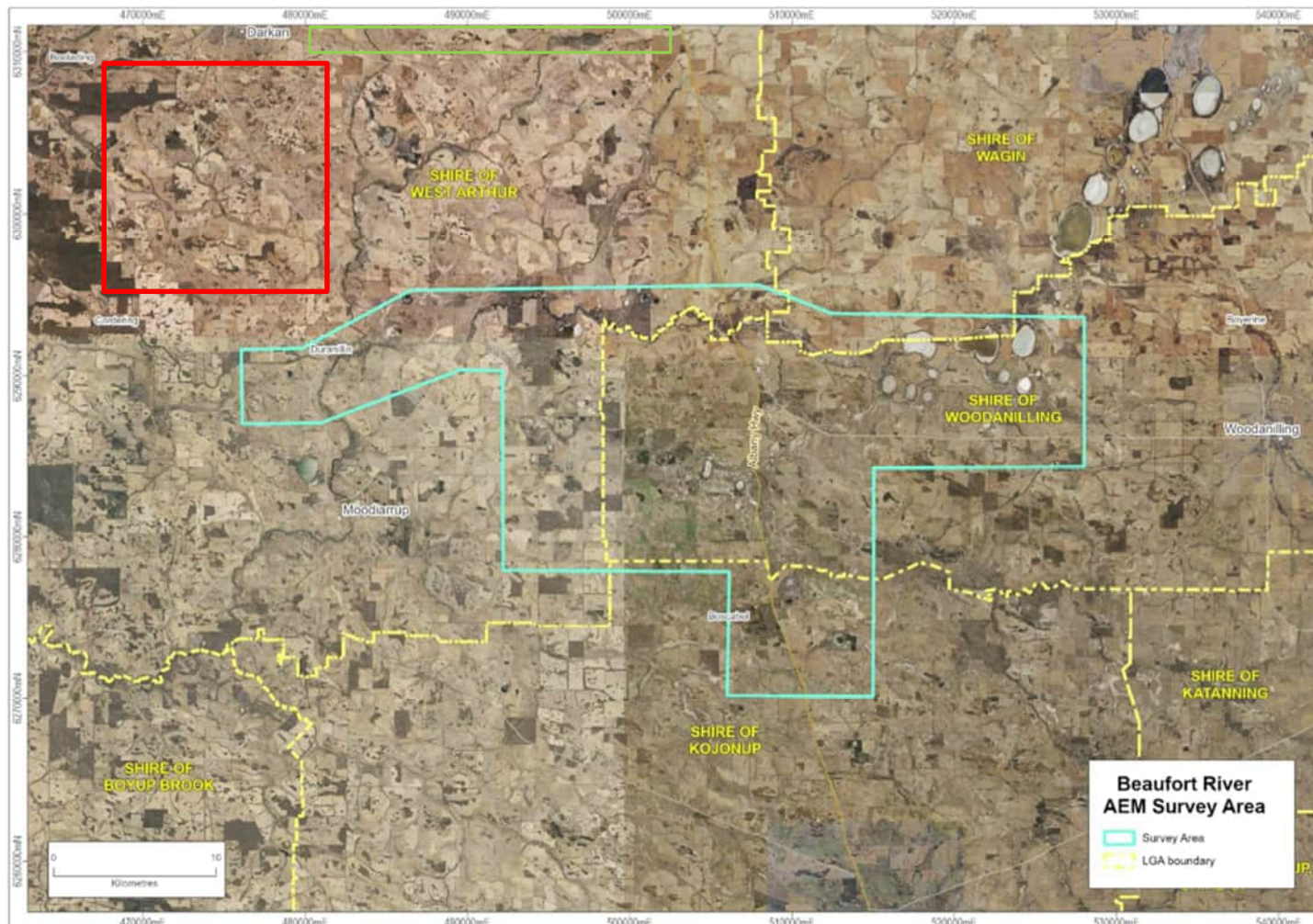


Plate 13 Planned DPRID AEM survey extent (after DPRID, 2024). Approximate eastern extent of the WAWF project (red) and part of the 2009 DPIRD AEM Survey (green)

2.12 DWER Water Information Reporting Database

In the WAWF project area, the DWER Water Information Reporting (WIR) database contains details on sites including groundwater bores, surface water sites (mostly registered dams), rain or climate stations and stream gauges. A current extract from the WIR database showing sites near the WAWF project is shown on Plate 14.

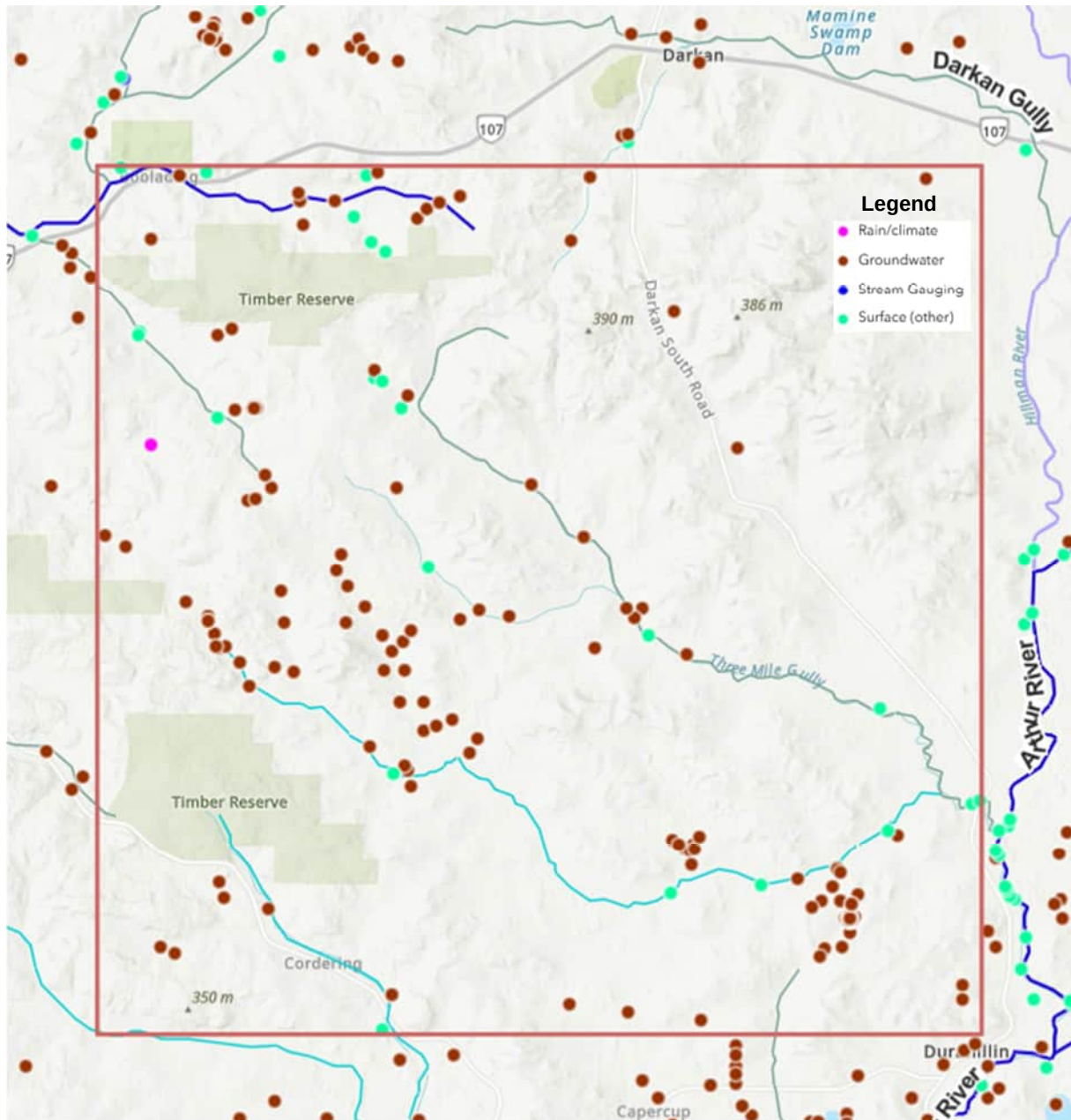


Plate 14 Registered water bores and sites from the WIR database (WAWF study area outlined in red (approx.).

Most groundwater bores are in several clusters within the fractured bedrock (gneiss, migmatite) as shown on Plate 15. The largest cluster appears to coincide with the position of the Kojonup Fault (Plate 3). Several bores are located along Three Mile Gully (Plate 14), probably targeting another unmapped regional fault. Two bores are located alongside Darkan Road, which follows a local creek and break in the topography that may follow another bedrock structure. Fewer bores are in areas underlain by granitoid bedrock.

Surface water dams are primarily located along local creek lines, but more so along the Arthur River north of Duranillin.

A subset of the above data was extracted from the WIR database including sites within or close to the project boundary. The WIR data include groundwater levels, bore yield, salinity, and pH (amongst other quality parameters). A Summary of the extract and the locations within it is provided in Attachment 2.

The WIR dataset includes mostly readings from 1990 to 2006 with several readings that have no date assigned to them. Some of the data are in time-series, meaning multiple readings are available from some bores e.g., Darkan – Ck07I from January 1993 to June 1995. A basic statistical summary of the available data is provided in Table 4.

Table 4 Statistical summary of groundwater data from the WIR database

	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
Minimum	30/06/1910	-0.30	-2.24	80	3.60	0.9
10th Percentile	26/07/1990	0.04	0.42	706	6.07	2.7
Average	31/10/1987	2.81	2.73	9,796	6.81	23.8
90th Percentile	29/04/1997	13.23	4.99	22,316	8.29	20.0
Maximum	08/03/2006	15.97	5.88	28,751	8.70	218.2
Data Count (n)	-	292	258	274	28	13
Data extracted from the WIR database on 2 April 2026						

The WIR data indicate that groundwater within and close to the WAWF project is mostly (10th and 90th percentiles) between:

- 0.04 and 13.23 m bgl
- 0.42 and 4.99m below the top of the casing (all such readings from Wunnenburg Farm)
- 706 and 22,316 mg/L TDS (fresh to saline)
- 6.07 and 8.29 (weakly acidic to weakly alkaline)
- 2.7 and 20.0 kL/day (for those bores with any bore yield data).

The data also indicate:

- A few groundwater levels are above the ground surface and/or the top of the casing i.e., the aquifer may be artesian
- Most of the readings are saline
- A few readings indicate acidic conditions
- One bore (wir no. 60911937, collie river east trib - gibbs rd) had (in february 1988) a yield of 218 kl/day, a groundwater level of -0.30m bgl (i.e. Just above the ground surface), a salinity of 6.800mg/l tds, and a ph of 6.60.

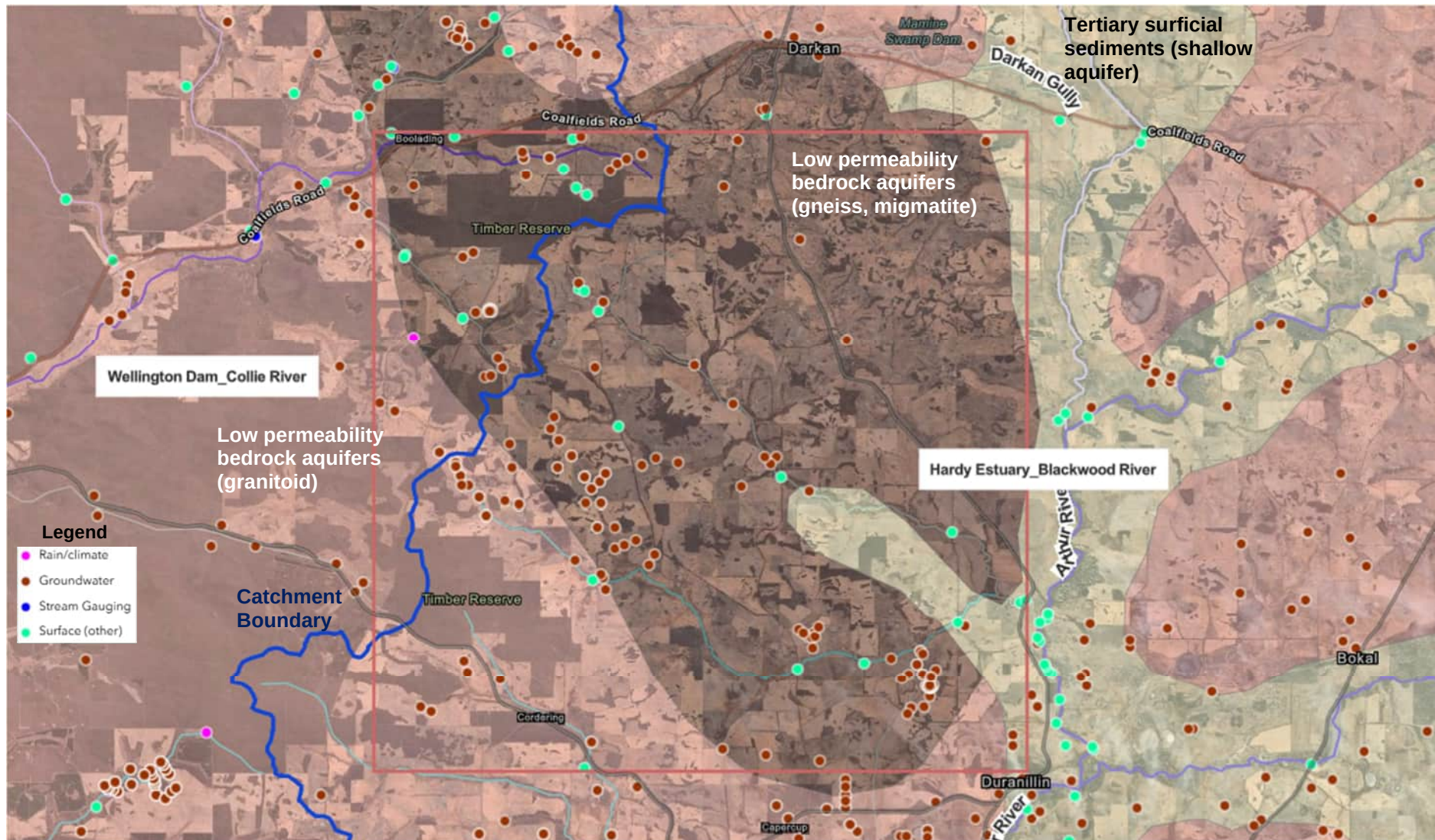


Plate 15 Regional hydrogeology and water sources near the WAWF project area (outlined in red – approx.)

3.0 Regulatory groundwater resource allocation and licensing requirements

3.1 Groundwater resource allocation

The DWER manages groundwater resources across Western Australia using a hierarchy of management areas, sub-areas and aquifer types. The WAWF project lies within the unproclaimed Karri Groundwater Area (Plate 16). Within this area, the DWER allocates groundwater according to whether the source is within one of the following aquifer types: alluvium, calcrete, fractures rock, or palaeochannel.

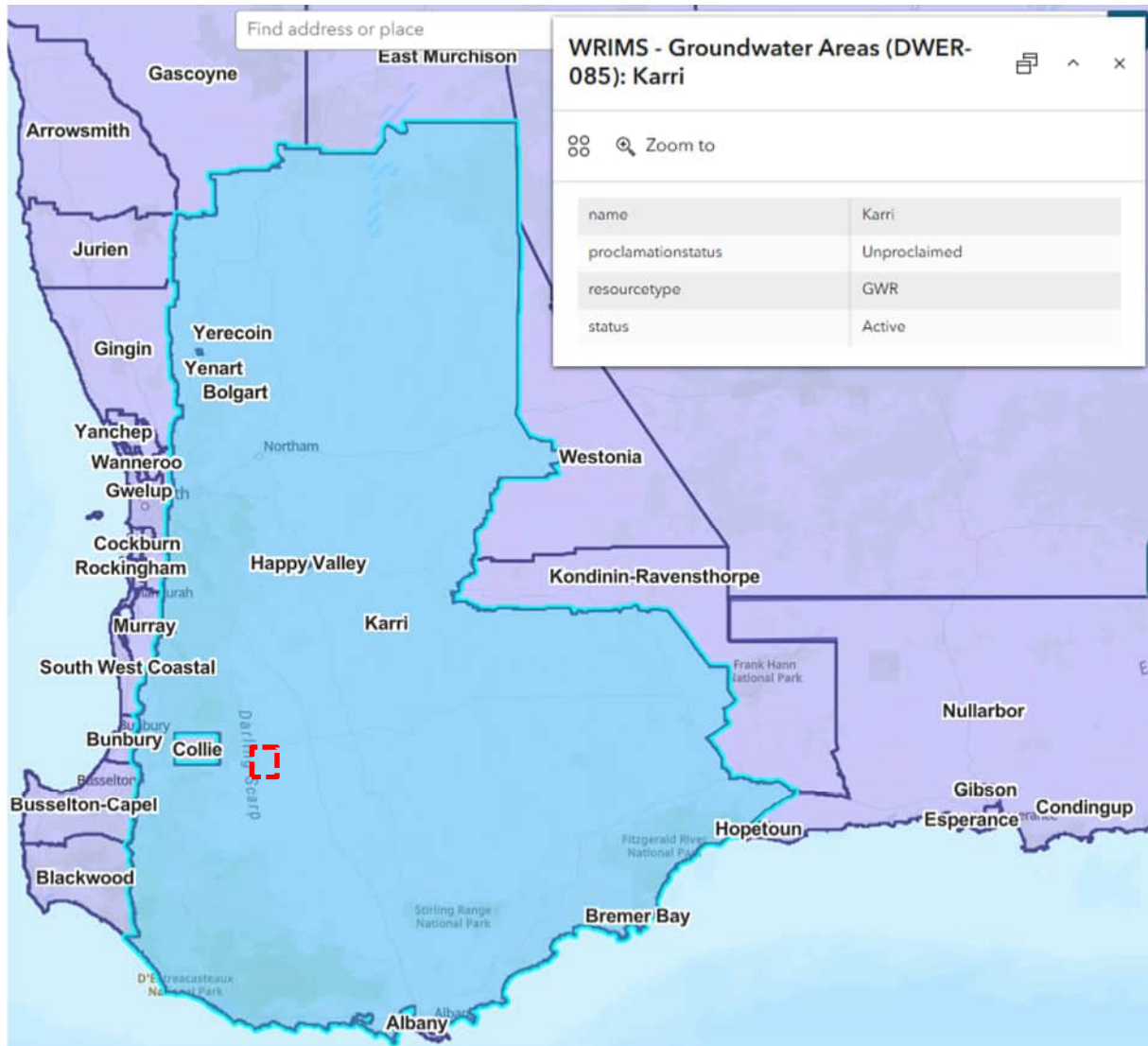


Plate 16 DWER groundwater management areas from the WIR database (WAWF study area outlined in red (approx.).

3.2 Groundwater licensing

Groundwater licenses are issued by the DWER in accordance with the *Rights in Water and Irrigation Act 1914* (RIWI Act). Groundwater in Western Australia is managed in accordance with prevailing policies for proclaimed groundwater areas. In areas outside of proclaimed groundwater areas (e.g., the Karri Management Area - Plate 16) that are not artesian, licensing under the RIWI Act may not be required as illustrated on Plate 17. A licence may be required if the aquifer is confined and considered artesian.

General advice (not linked to the WAWF project) sought from DWER suggests that confirmation from the regional licensing office should be sought before field investigations commence.

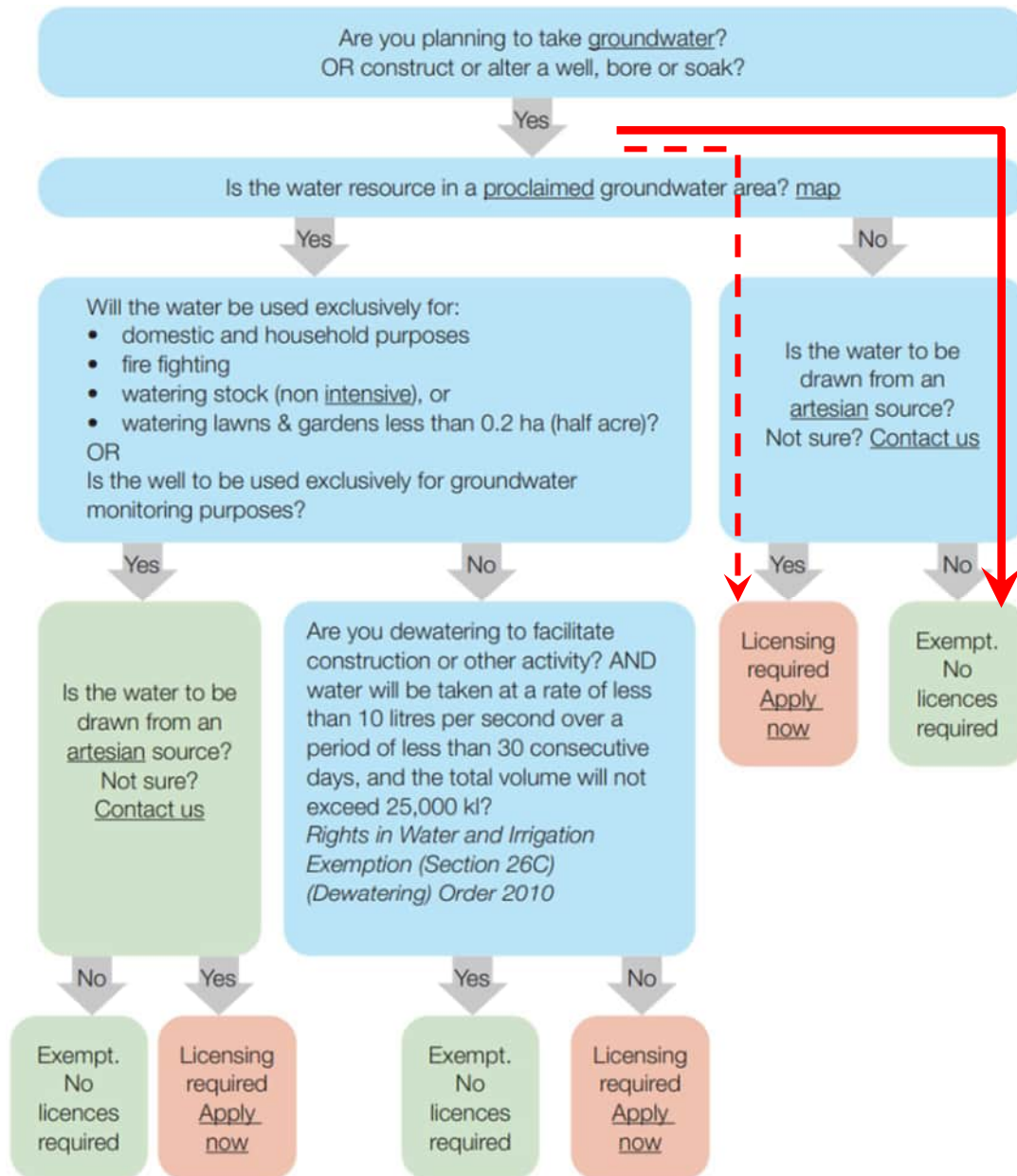


Plate 17 DWER decision tool for requirements relating to groundwater licensing (after DWER, 2025)

As illustrated on Plate 16, and Plate 18 to Plate 20, the WAWF project is not within a proclaimed groundwater management area. However, the north-western portion is located within the Collie River Irrigation District. Nearby but well away from the Project are the Collie Groundwater and Collie Surface Water areas.

Obtaining licenses (if required) for investigating, establishing and operating a borefield for supplying a water supply under the RIWI Act will require providing evidence of sufficient legal access. This will typically include:

- A licence to construct and/or alter a well (26D licence) requires one of:
 - Freehold land ownership (including the legal land description(s) for properties should be provided as they appear on the Certificate of Title (e.g. Lot 75 on Plan 14797)
 - Written permission from the owner of the land (must reference the above details)
 - A mining tenement (details as they appear on TENGRAPH) or

- A miscellaneous lease specifying the establishment of groundwater production bores (details as they appear on TENGRAPH).
- For a licence to Take Water (Section 5C licence):
 - Freehold land ownership (including the legal land descriptions(s) for properties should be provided as they appear on the Certificate of Title (e.g. Lot 75 on Plan 14797)
 - A mining tenement (details as they appear on TENGRAPH) or
 - A miscellaneous lease specifying the establishment of production bores (details as they appear on TENGRAPH).

The above is not exhaustive and legal advice should be sought prior to submitting application to the DWER via their Water Online portal. This will require the applicant to register a free account and log in as an authorised user. Neither of these licenses provide approval to access the land on which the development will occur.

3.3 Land clearing licensing

As outlined in Section 2.8, the western-most parts of the WAWF project development area overlap the East Collie River Catchment, which is part of the Wellington Reservoir Catchment Special Control Area. The CAWS Act requires landowners and occupiers to obtain a licence to permanently clear land to prevent impacts to surface water from the salinization of groundwater.

As described by DoW (2013):

Under these regulations any clearing of native vegetation throughout Western Australia is primarily authorised by the granting of an EP Act permit that is administered by the Department of Environment and Conservation [now DWER]. There are, however, exceptional requirements in several key existing or potential water source catchments that have been previously proclaimed under the Country Areas Water Supply Act 1947 (CAWS Act).

The CAWS Act requires developers to submit a *Form 1 - Application for a licence to clear land under the Country Areas Water Supply Act 1947 and Country Areas Water Supply (Clearing Licence) Regulations 1981 application*. The information is considered by the DWER and stakeholders including the Shire of West Arthur. The resulting licence may include conditions relating to the clearing activities.

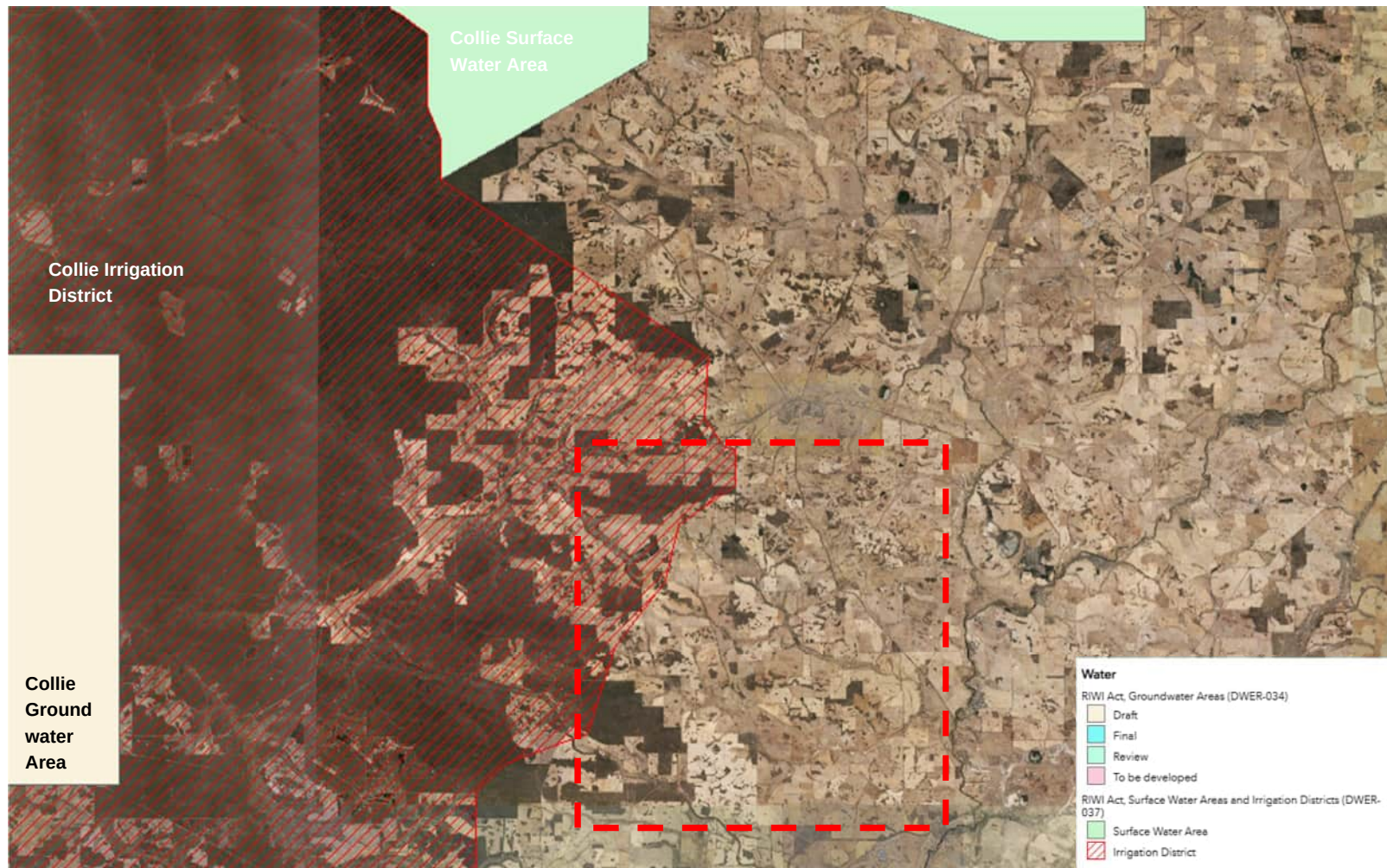


Plate 18 DWER proclaimed water areas. West Arthur study area outlined in red (approx.).

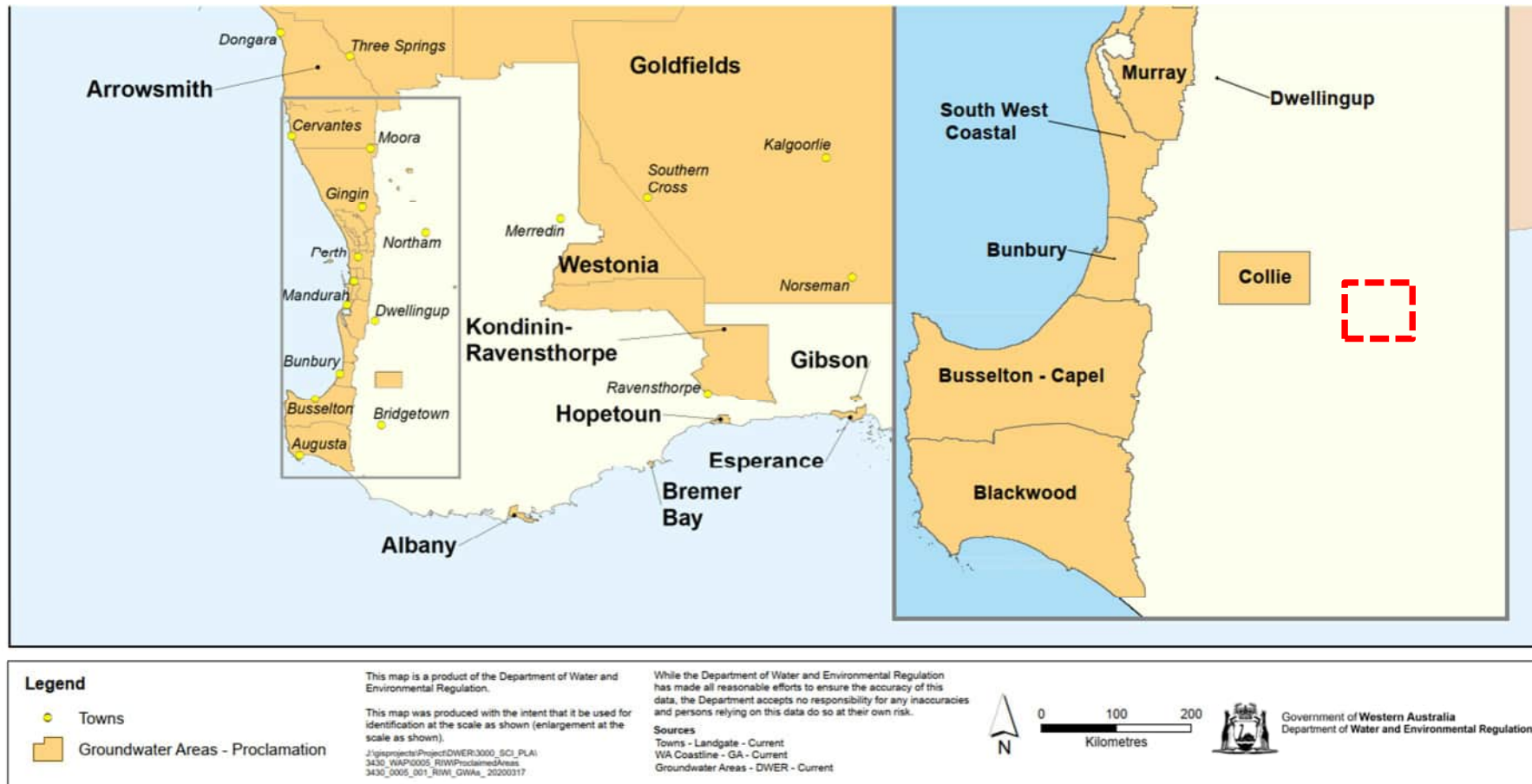


Plate 19 Proclaimed groundwater resource areas (after DWER 2022). West Arthur study area outlined in red (approx.)

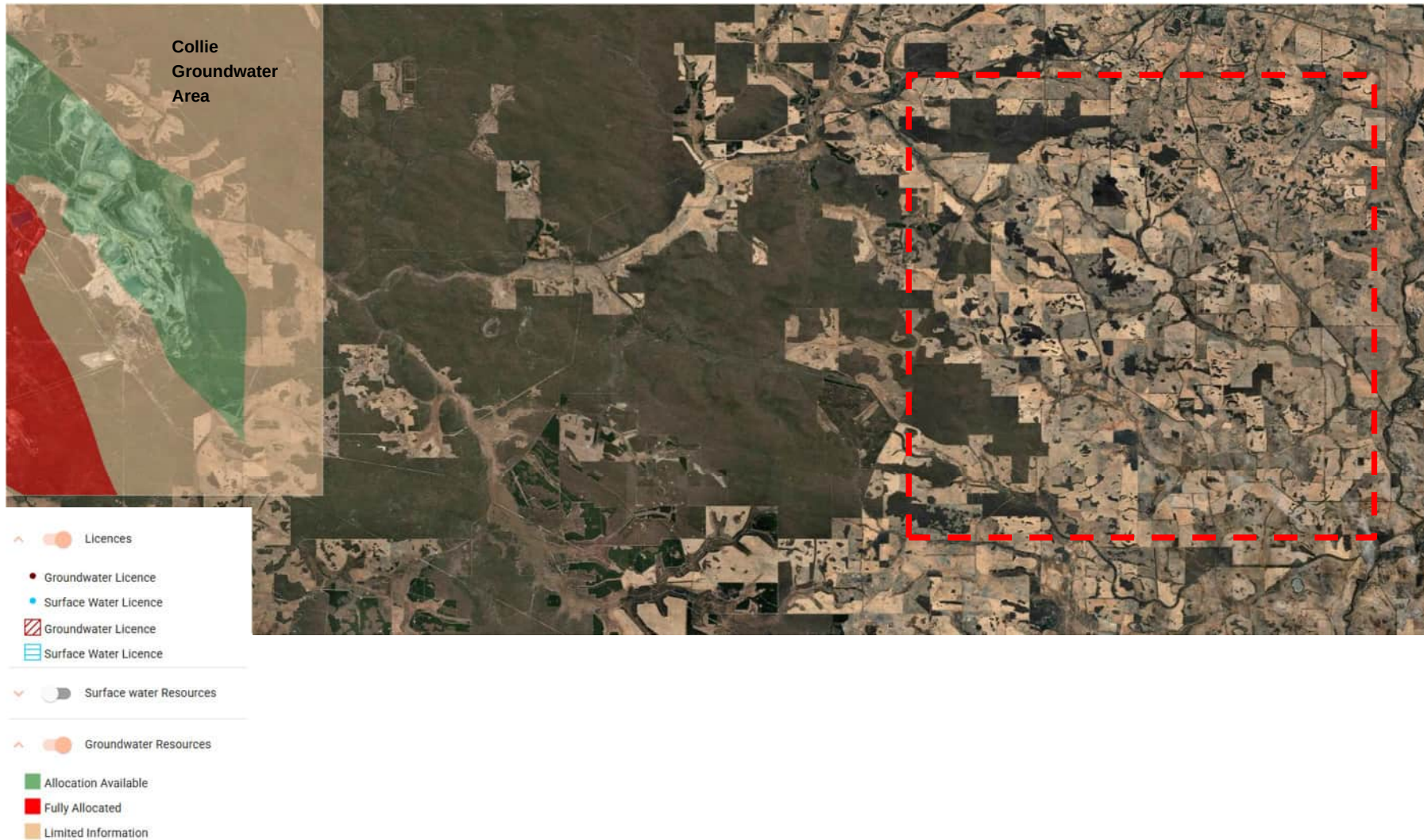


Plate 20 DWER Water Register extract showing existing groundwater resource allocations. West Arthur study area outlined in red (approx.)

4.0 Groundwater Availability

A preliminary review of the availability of the quantity and quality (refer to Section 1.2) of groundwater was undertaken using data described in Section 2.0 (primarily Sections 2.11 and 2.12). The purpose of this review was to ascertain whether fresh groundwater was available in the development envelope, but also to gain insights into where this water is present and constraints on developing a water supply system.

The focus of the review was to consider prospectivity in terms of the available bore data, hydrostratigraphy, groundwater levels, and groundwater quality. As will become apparent, this review of prospectivity for fresh groundwater is strongly dependent on all of these criteria.

Maps developed for this review provided in Attachment 3 include:

- Figure A3.1. Groundwater Bore Locations
- Figure A3.2. Saprolite and Saprock Depth Plots
- Figure A3.3. Groundwater Level Data Plots
- Figure A3.4. Estimated Depth to Groundwater Map
- Figure A3.5. Groundwater Quality Plots
- Figure A3.6. Groundwater Salinity Map
- Figure A3.7. Prospective Fresh Groundwater Location Map.

4.1 Bore data

Most of the bore data were derived directly from the DPIRD and DWER databases. Groundwater bores (**Figure A3.1**) were selected based on their location within the development envelope, or nearby within the same catchment areas to capture a dataset that is representative of the local hydrogeology.

The names of bores named “bore” in the DWER database were modified to be unique i.e., renamed to Bore 1, Bore 2 etc. Several bores did not have ground elevations registered in the databases. Estimates were made by extracting an interpolation from the 30m DEM sourced from the Geoscience Australia online repository. These estimates were made only for this regional scaled review and should not be relied on for site-specific conditions.

All available data were compiled into a single database to allow various calculations relating to the hydrogeology to be made. The key bore data in the database were depth to water, depth of clayey weathered materials, depth of fractured bedrock, salinity, and bore yields. In several cases, additional data were extracted from available commentary and/or bore logs that weren't captured in the relevant fields in the source repositories.

4.2 Hydrostratigraphic characterisation

Given the hydrogeological setting across the development envelope (**Section 2.0**), groundwater is present in weathered and/or fractured bedrock (**Plate 3** and **Plate 7**). Yields in the region vary depending on the depth of weathering below the water table and the presence and permeability of deep fracturing in the bedrock generally associated with regional scaled faults and/or dolerite dykes (**Section 2.8** and **Plate 11**).

For this review, it was important to understand where, in the development envelope, measurable yields were located and whether they are linked to bedrock fracturing along regional geological structures and/or other discrete levels in the geological profile (alluvium, laterite, saprolite or saprock).

Extracts from the database were made to examine the relationship of the depths of saprolite and saprock across the study area (**Figure A3.2**). These plots indicate there is no distinct relationship of these depths and elevation, meaning they are variable at all parts of the topography. While the plots do show the numerical average depths to the bottom of the saprolite and saprock are 16.8 and 22.9 m, there is considerable scattering, meaning the depth and thickness of these materials are not consistent. Based on 30 sites where the profile has been fully intersected, the saturated thickness of the laterite/saprolite averages 12.3 m, while the saprock averages 5.9 m.

Based on the typical permeability, the laterite is generally regarded as an aquifer, the saprolite is an aquitard, while the saprock is often an aquifer.

4.3 Groundwater levels

The focus of compiling the available groundwater level data was to identify a representative level for each bore. The available data included 131 readings made between 1920 and 2022. While most of the data were from readings in the 1990s (DWER database), 73 readings were available from DPIRD bores taken between 2003 and 2022. These readings are important as they are less likely to be influenced by long-term changes in recharge (e.g. climate change).

The data were initially split between dry and wet seasons (nominally November to May and June to October respectively) to characterise the seasonal change based on data (where available) from the same year or seasonal cycle. This resulted in 109 dry season readings and 50 from the wet season. Seasonal change estimates were available from 25 bores.

The data were further split between bores screened at or near the water table (shallow bores) and those screened well below the water table (intermediate and deep bores) resulting in 46 and 68 readings respectively.

Composite datasets were then prepared for the 'shallow' and 'intermediate/deep' groundwater levels to establish broad relationships between these levels (as depths below ground and elevations as mAHD) within the development envelope.

Regional-scaled relationships between the groundwater levels and ground elevation for the shallow and deep bores were developed (**Figure A3.3**) to derive an algorithm for preparing a depth to water map (**Figure A3.4**). A comparison was also made to determine whether the depth is different between the water table (mostly alluvium/laterite/saprolite) and deeper (saprock) aquifers. The data plots show:

- Good relationships ($r^2 = 0.996$ and 0.971) between the elevations of groundwater levels in the shallow water table and deep saprock bore screens
- A subset of data (marked on **Figure a3.3**) from several bores where the groundwater levels are lower than is 'usual' indicating they are screened in more permeable and/or hydraulically connected materials
- There is no apparent relationship between seasonal change and topography, suggesting that recharge is occurring (more-or-less) evenly across the catchment
- There is a statistically poor relationship but overall, a possible link between the depth to water (smaller) in sites at low elevations compared to sites at higher elevations, suggesting that groundwater may be discharging in low-lying areas and sometimes perched in elevated areas.

It should be noted that based on the available data:

- Groundwater levels (12 readings) appear to have generally risen by between 0.8 and 3.2 m (averaging 2.8 m) between the 1990s and 2020s (with different changes at the water table vs. the saprock at depth)
- Seasonal fluctuations (25 readings) mostly range between 0.6 and 1.7 m (averaging 1.2 m) based on data mostly from the 1990s.

The above changes are important considerations for the prospectivity of fresh water in the development envelope (Section 4.5).

4.4 Groundwater quality

The available dataset includes 125 readings electrical conductivity and/or TDS readings taken between 1910 and 2019 and 28 pH readings taken between 1985 and 2009. Overall, the salinity (as TDS) mostly ranges between 882 and 10,560 mg/L with a numerical average within the dataset of 6,810 mg/L. The pH readings mostly range between 4.80 and 6.54, averaging 5.75, suggesting the groundwater is mostly weakly to moderately acidic.

Comparisons of salinity to topographic elevation or depth to water (**Figure A3.5**) yield no trends but do suggest some groupings. Fresh groundwater occurs at all elevations but tends to be within 10 m of the

surface. Saline groundwater is present at all elevations but ranges between -2.0 and 23.9 m depth (the negative sign indicates the level is above the ground surface).

The available database includes 11 pH readings in the shallow water table zone and 13 in the deep saprock zone. While there are no distinctive trends when compared to topographic elevation, the shallow groundwater pH mostly (between the 20th and 80th percentiles) ranges between 3.80 to 6.50, whereas the deep groundwater mostly ranges between 6.10 and 6.59 (**Figure A3.6**). The shallow groundwater is generally weakly to strongly acidic compared to the deep groundwater which is mostly weakly acidic to near neutral.

The above salinity distributions are reflected in the map of the study area (**Figure A3.7**). The reason for the apparent overlap of distributions is because fresh and saline groundwater occur at the same location, but at different depths (**Figure A3.8**). While fresh groundwater occurs across the catchment, there are many intersections by shallow bores in elevated areas near catchment divides.

The above observations indicate the groundwater quality in the weathered bedrock is stratified with the shallow, water table interval containing more often fresh/brackish but weakly to acidic groundwater compared to the deep saprock interval that is more often saline but weakly acidic to near neutral.

4.5 Water supply prospectivity

The key learnings from this review were:

- Groundwater occurs in a surficial layer of lateritic and clayey deposits (possibly including alluvium in mid- to low-lying areas), near-surface saprolitic (clayey) deposits, and a deeper layer of partly weathered and fractured saprock.
- Recorded groundwater yields are only from the deep saprock interval and are highly variable, ranging from a trace (very wet cuttings airlifted from the hole) to 3.0 L/sec. There are no reported yields from shallow bores screened at or near the water table.
- Groundwater levels are predictable when compared to topographic elevation with small, but significant differences between levels in the shallow water table interval compared to the deep saprock interval. Several sites have levels lower than 'usual' probably reflecting fractured bedrock that is more permeable than the surrounding area.
- Between the 1990s and 2020s, the water table has generally risen by between 0.8 and 3.2 m (averaging 2.8 m).
- The water table fluctuates seasonally by (mostly) between 0.6 and 1.7 m (averaging 1.2 m).
- The groundwater quality in the weathered bedrock is stratified with the shallow, water table interval containing more often fresh but weakly to acidic groundwater compared to the deep saprock interval that is more often saline but weakly acidic to near neutral.

A simple conceptual model has been prepared (**Plate 21**) to illustrate the above observations in terms of the occurrence and hence prospectivity of fresh groundwater in the study area. While reviewing the data, it became apparent that in the central part of the study area (where there are many DPIRD bores), freshwater appears to occur at lower elevations than observed elsewhere.

An alternative conceptual model is presented (**Plate 22**) to illustrate potential mechanisms for this difference. The key difference is inferred to be the presence of permeable surficial laterite and/or alluvium/colluvium deposits in the mid- to low-lying areas that may be receiving fresh seasonal recharge from the lateritic deposits in elevated areas.

The presence of fresh groundwater in the study area was mapped using the above concepts. Mapping was based on the available 30m DEM and included the following assumptions:

- Fresh groundwater primarily occurs in surficial lateritic / colluvial materials near the catchment divides
- Fresh groundwater occurs most frequently where the ground surface is above 320 m AHD
- Several local areas below 320 m AHD also intersected fresh groundwater
- While fresh groundwater occurs in lower elevations, it is thin and/or apparently isolated (possibly because of a bias in the available dataset).

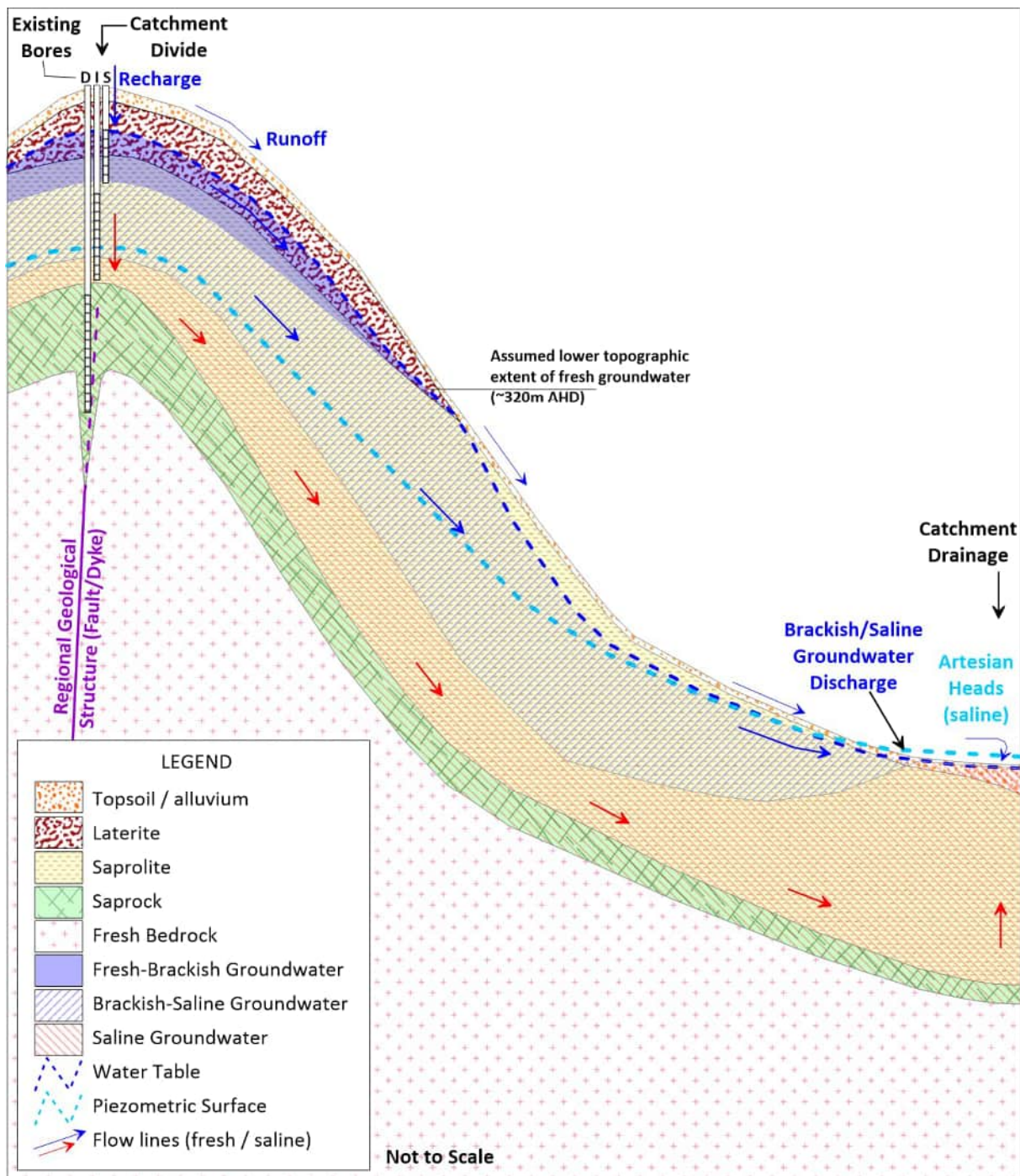


Plate 21 Conceptual groundwater availability model

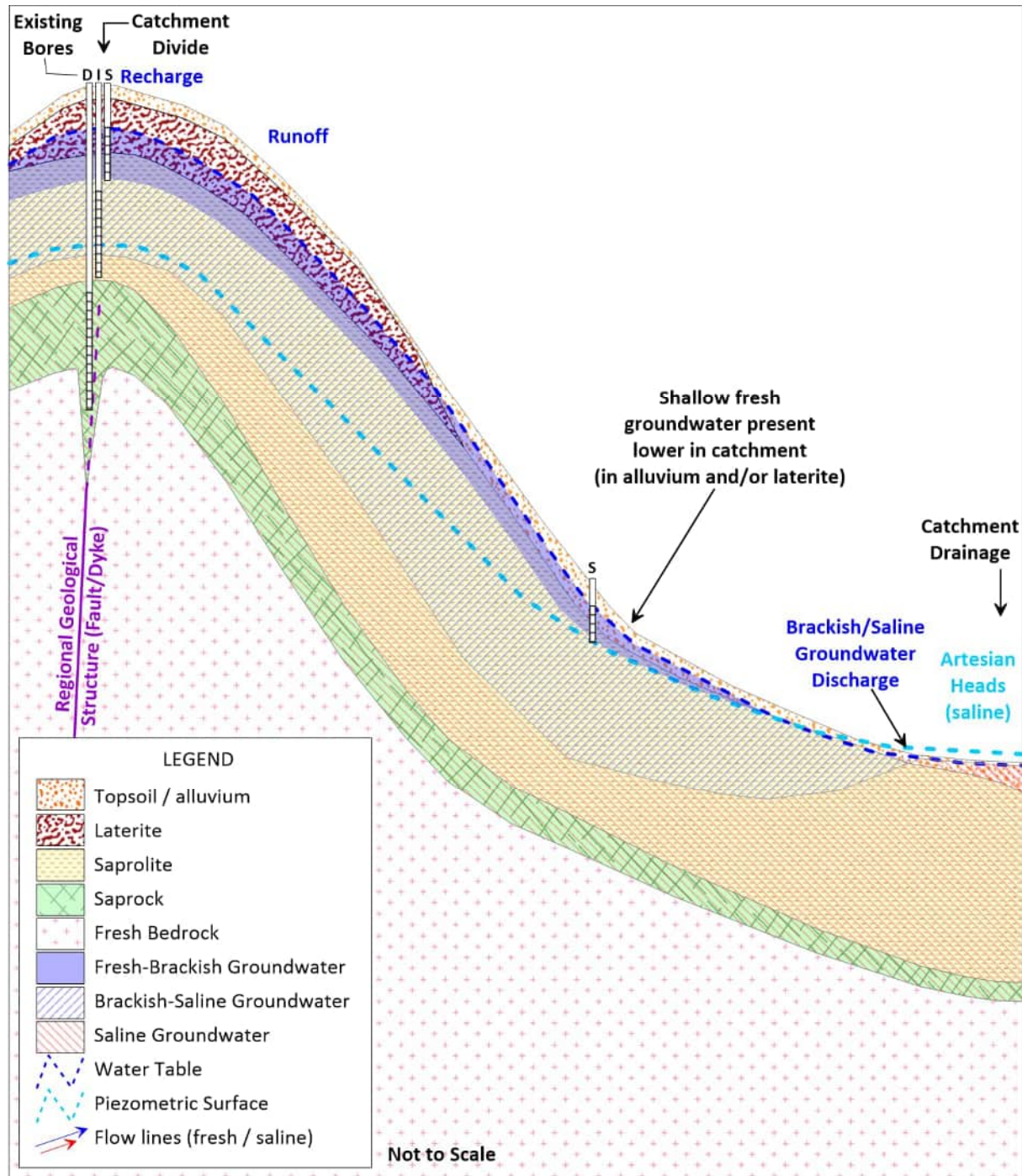


Plate 22 Alternate conceptual groundwater availability model

Mapping using the above concepts yielded areas where fresh groundwater tends to be present in a thin layer (**Figure A3.8**). Four contiguous domains were identified in elevated areas where lateritic deposits are likely to be present, or locally in several mid-slope areas.

Estimated fresh groundwater volumes within the development envelope are presented in **Table 5**. These estimates are intended to illustrate the magnitude of the fresh groundwater resource for three scenarios based on the assumed thickness of the freshwater layer. The thickness of this layer was estimated from the depth that shallow freshwater bores extend below the water table. The available data indicate the layer of freshwater is mostly between 1.0 and 8.0 m thick, with mean of 4.7 m.

Freshwater volumes in the development envelope were calculated using the following formula:

Freshwater Volume = Freshwater Domain Area x Drainable Storage x Freshwater Layer Thickness

The three scenarios were based on the 20th, 50th, and 80th percentiles of the inferred freshwater layer thicknesses.

Table 5 Estimated Freshwater Availability Volumes

Project Domain	Total Area (m²)	Assumed Aquifer Storage	Thickness (m)	Estimated Volume (kL)	Thickness (m)	Estimated Volume (kL)	Thickness (m)	Estimated Volume (kL)
			Scenario (Low)		Scenario (Average)		Scenario (High)	
North	53,242,900	0.05	1.0	2,662,145	4.7	12,592,458	8.0	21,297,160
Central	62,200			3,110		14,711		24,880
West	21,800			1,090		5,156		8,720
Southeast	81,700			4,085		19,323		32,680
Totals	53,408,600		2,670,430		12,631,647		21,363,440	
Freshwater Thickness Data Statistics		(m)						
10 th Percentile		1.0						
20 th Percentile		1.0						
50 th Percentile (mean)		4.7						
80 th Percentile		8.0						
90 th Percentile		10.9						

Considering the above, it should be remembered that the seasonal fluctuations mostly range between 0.6 and 1.7 m (mean = 1.2 m). Estimates of the available storage and potential freshwater supply within the development envelope considering seasonal fluctuations are presented in **Table 6**.

The results in **Table 6** include an estimate of the commandable storage of 10% of the total resource. Commandable storage is an estimate (based on professional judgement) of the amount of groundwater that could be sustainably accessed by an abstraction borefield at the catchment level. The adopted percentage value assumes that 10% of the total resource could be extracted by bores, sumps or other means without undue impact on the resource, but that it is obtained across the catchment, not from a localised area. However, this percentage could vary depending on the local resource pool and proximity to nearby receptors (other groundwater users and dependent vegetation).

As expected, these estimates indicate that if the freshwater layer thickness is minimal (based on the 20th percentile value of 1.0 m), the resource may not support the desired rate of extraction (**Table 1**). However, the volumes and availability approaching the mean layer thickness (or higher) should be able to support the projects freshwater supply needs.

Table 6 Indicative freshwater availability

Scenario ¹	No fluctuations	Seasonal Fluctuation (m)		
		0.6	1.2	1.7
1	1.00	0.40	-0.20	-0.70
2	4.73	4.13	3.53	3.03
3	8.00	7.40	6.80	6.30
Indicative Freshwater Volume (kL)				
1	2,670,430	1,068,172	-534,086	-1,869,301
2	12,631,647	11,029,389	9,427,131	8,091,916
3	21,363,440	19,761,182	18,158,924	16,823,709
Commandable Storage (kL)²				
				10%
1	267,043	106,817	-53,409	-186,930
2	1,263,165	1,102,939	942,713	809,192
3	2,136,344	1,976,118	1,815,892	1,682,371
Potential Supply (kL/day)				
1	732	293	-146	-512
2	3461	3022	2583	2217
3	5853	5414	4975	4609

Notes:

1 = Scenarios based on the 20th, 50th, and 80th percentiles of the freshwater layer thickness.

2 = Commandable storage is the percentage of the resource that could be sustainably accessed.

5.0 Potential groundwater resource investigation areas

Based on the information reviewed and expected water needs by the WAWF project, fresh groundwater is likely to be available from the near-surface lateritic deposits (surficial aquifer)

The key criteria that will be important to consider for a future water supply are:

1. The thickness of the surficial lateritic and/or colluvial/alluvial materials.
2. The presence of fresh groundwater in the near-surface aquifer.
3. Seasonal fluctuations and residual dry season saturated thicknesses in the surficial aquifer.
4. The thickness and permeability of the surficial aquifer, and yields of bores, sumps or other groundwater extraction methodologies.
5. The depth to the water table and proximity to ecologies that are dependent on groundwater.
6. The proximity of a production bore to an existing groundwater user and constraints this may place on Project bores.
7. Vertical connectivity and stratification of the groundwater quality that may affect the long-term suitability of the resource once a drawdown cone forms in the aquifer.
8. The presence of artesian conditions (a confined aquifer's piezometric level is above the surface) and implications for groundwater licensing.
9. Interaction with and compliance with policies within the proclaimed Collie River Irrigation District Area.

Prospective freshwater areas inside the project footprint are recommended for investigating for water sources are shown on **Figure 2**. The information available suggests that most of the above hydrogeological criteria are likely to be met. These will need to be confirmed by field investigations.

Based on the review of available groundwater data from the Development Envelope and the inferences and assumptions described in **Section 4.0**, it is concluded that the freshwater needs for the WAWF can be reasonably met from the available groundwater resource.

6.0 Other potential groundwater issues

Given the water table in and near the Project area is close to or above the surface in low-lying areas (Section 2.8), temporary dewatering may be required. The rate and quality of dewatered groundwater may be important to water disposal and impacts on the foundation installations and design.

While groundwater licensing is not expected to be required for shallow excavations, discharge of excess water may need to be managed carefully. The primary groundwater-specific issue will be the quality of the excess water and what controls or treatment are required before it can be released to the environment. Excess water should be captured and used by the Project where a suitable use is feasible.

Available information (Sections 2.8 and 4.4) suggests that groundwater in the area is weakly to moderately acidic. Influences of groundwater that is acidic on geotechnical and civil engineering designs may need to be considered.

7.0 Data gaps (next steps)

The following are data gaps that will need to be filled by the following recommended actions:

1. The key data gap is confirming the presence of bedrock and shallow alluvial aquifers and targets (see below) to test their suitability in terms of groundwater yield and quality.
2. Identifying physical access to the target areas in terms of land disturbance, vehicular obstructions and proximity to sensitive ecological sites or farming infrastructure.
3. Characterising the sustainability of the target sources and whether long lead items such as groundwater licensing are required.

7.1 Recommended Stage 1 investigations

The following actions are recommended prior to any intrusive investigations:

- Approach the owner(s) of bores, sumps or dams accessing groundwater within and near the Project footprint to determine if they could be made available as a temporary water supply. The suitability of these sites may depend on the quality results from the above data request.
- Undertake a site visit to confirm the locations and condition of existing groundwater sites within the WAWF project, and their suitability (including access constraints) for either groundwater abstraction and/or monitoring.
- During the site visit, confirm the current groundwater levels and downhole quality (EC, TDS and pH) in prospective areas.
- Finalise a drilling investigation programme for each target area, including site access and ground disturbance requirements.

7.2 Preliminary stage 2 actions

Undertake groundwater investigation drilling programme to:

- Confirm the depths, thickness, quality, and yield of the surficial aquifer in the prospective area.
- Where required, install one or more monitoring bores at selected sites to allow groundwater levels and quality to be monitored across the prospective areas and vertically through the surficial aquifer.
- Identify optimal locations for groundwater sources based on aquifer depth, yield and quality (salinity/pH).

Once the hydrostratigraphy and optimum source locations have been identified at each area:

- Install a production bore, sump or other capture structure with an intake interval set against the target aquifer interval identified by the exploration drilling.
- Conduct pumping tests on the new water sources to determine their duty rates, long-term pumping water levels, and suitable pump depth settings.
- Select suitable pumps to suit the source type, depth setting and duty rate including above ground delivery infrastructure (pipelines and storage dams/tanks).
- Develop a monitoring programme to track the performance of the water sources and sustainability of the resource based on drawdown and quality in the aquifer.

As identified in Section 3.2, a Section 26D licence to construct or alter a well, or a Section 5C licence to take water is unlikely to be required. The DWER has advised that outside of proclaimed areas, groundwater sources that are confined and artesian need to be licensed. The results from the proposed Stage 1 investigation will determine whether any DWER licensing will be required. Should a licence be required, there may be a one-to-two-month lead-time to acquire a Section 26D licence to install the production bores. A lead time of several months is likely if a Section 5C licence is required to begin abstracting from the new bores. A hydrogeological report arising from the Stage 2 programme will be necessary requirement of the licensing process.

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Yours faithfully

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Attachment 1 Summary of groundwater data within and near the WAWF development envelope

Attachment 1. Groundwater Data Summary for the West Arthur Wind Farm Area

WIR_Site_ID	Bore Name	Easting (GDA 2020)	Northing (GDA 2020)	Ground Elevation (mAHD)	Date Completed	Bore Owner	Constructed Depth (mbgl)	Drilled Depth (mbgl)	Seasonal Change (m)	Long-term Change 1990s-2020s (m)	Composite Shallow SWL Date	Composite Shallow SWL (mbgl)	Composite Shallow SWL (mAHD)	Composite Deep SWL Date	Composite Deep SWL (mbgl)	Composite Deep SWL (mAHD)	Freshwater Thickness (m)	Shallow TDS (mg/L)	Deep TDS (mg/L)	Shallow pH	Deep pH
60910660	JS07D	470,232.0	6,298,513.5	261.6	31/03/1994	Department of Agriculture and Food		11.4						20/01/2009	-2.00	263.58			12,179		6.23
60910669	Rt05D	466,999.0	6,299,301.0	285.2	16/03/1994	Department of Agriculture and Food		22.0						21/04/2021	-1.03	286.23			8,992		6.27
60910675	Rt09D	468,074.0	6,299,121.0	273.4	18/03/1994	Department of Agriculture and Food		15.5						21/04/2021	-1.55	274.90			9,933		6.05
60910650	Rg02D	470,051.0	6,299,522.0	271.9	5/04/1994	Department of Agriculture and Food		18.8	0.74	2.85				26/04/1995	2.50	269.37			9,389		6.11
60910651	Rg03D	470,278.0	6,299,712.0	273.4	6/04/1994	Department of Agriculture and Food		20.9	0.17	0.48				3/05/1994	0.18	273.23			11,296		6.34
60910653	Rg05D	469,520.0	6,300,416.0	294.3	7/04/1994	Department of Agriculture and Food		27.1	0.38	8.37				3/05/1994	15.15	279.14			6,810		
60910656	JS02D	470,973.0	6,298,060.5	250.6	28/03/1994	Department of Agriculture and Food		18.5						3/06/2020	-0.27	250.86					
60910654	Rg06D	469,861.0	6,299,862.0	277.8	7/04/1994	Department of Agriculture and Food		16.1						27/04/1994	4.15	273.64			8,672		
60910347	Ck07I	469,140.0	6,300,099.5	<u>317.1</u>	7/04/1993	Department of Agriculture and Food		20.0	0.55					4/02/1994	0.71	316.39			23,769		
60910579	Ck06I	470,240.0	6,291,349.6	<u>254.4</u>	6/04/1993	Department of Agriculture and Food		17.0						7/11/1993	1.48	252.92			11,156		
60910580	Ck09I	469,947.0	6,292,270.0	251.8	7/04/1993	Department of Agriculture and Food		11.0	0.93	1.34				9/12/1993	1.09	250.74			11,418		5.72
60910661	JS08D	470,319.0	6,299,150.5	271.6	7/04/1994	Department of Agriculture and Food		19.9						3/06/2020	-0.55	272.19			12,179		6.95
60910662	RC01D	469,172.0	6,300,822.5	297.1	20/11/1994	Department of Agriculture and Food		14.0						27/05/2020	7.09	290.01			7,219		
60910671	Rt06D	467,203.0	6,298,822.0	275.3	17/03/1994	Department of Agriculture and Food	10.9	12.0						21/04/2021	-1.02	276.31			10,874		
60910587	Ck06S	470,240.0	6,291,349.6	<u>254.4</u>	6/04/1993	Department of Agriculture and Food		2.6	0.57		9/05/1994	1.68	252.72				0.92	964			
60910588	Ck09S	469,947.0	6,292,271.0	250.8	2/04/1993	Department of Agriculture and Food		2.9	1.09	0.00	6/04/1994	1.09	249.67					13,568		4.52	
60910649	Rg01D	469,914.0	6,299,155.0	285.5	5/04/1994	Department of Agriculture and Food		36.8	0.45	3.24				27/04/1994	13.91	271.60			6,138		
60910652	Rg04D	470,447.0	6,299,936.0	283.8	6/04/1994	Department of Agriculture and Food		32.3	1.60	10.07				3/05/1994	9.80	274.02	22.50		960		
60910655	JS01D	470,690.0	6,297,938.5	252.1	28/03/1994	Department of Agriculture and Food		25.5						30/04/2018	0.20	251.87			7,674		
60910657	JS04D	471,282.0	6,298,185.5	251.8	29/03/1993	Department of Agriculture and Food		26.0						3/06/2020	0.73	251.11			4,960		
60910658	JS05D	470,706.0	6,298,512.5	260.4	31/03/1994	Department of Agriculture and Food		27.0						3/06/2020	-0.39	260.77			7,814		
60910659	JS06D	469,860.0	6,299,863.5	261.3	29/03/1994	Department of Agriculture and Food	14.0	26.0						3/06/2020	-0.35	261.65			11,744		6.15
60910663	RC02D	468,954.0	6,301,147.5	293.5	29/11/1994	Department of Agriculture and Food		14.4						27/05/2020	4.30	289.18			8,621		
60910664	Rt02D	466,366.0	6,300,219.0	316.5	15/03/1994	Department of Agriculture and Food		23.0						21/04/2021	14.06	302.45			2,541		
60910665	Rt02S	466,366.0	6,300,218.0	316.5	15/03/1994	Department of Agriculture and Food					21/04/2021	1.21	315.30					221			
60910666	Rt03D	466,499.0	6,299,865.0	304.2	18/03/1994	Department of Agriculture and Food		11.0						28/04/2011	7.53	296.63	3.47		582		
60910667	Rt03S	466,499.0	6,299,866.0	304.2	18/03/1994	Department of Agriculture and Food		1.8			28/04/2011	1.98	302.20					384			
60910668	Rt04S	466,591.0	6,299,571.0	294.3	16/03/1994	Department of Agriculture and Food		1.8			21/04/2021	0.75	293.55				1.05	121			
60910670	RT05S	467,000.0	6,299,301.0	284.8	16/03/1994	Department of Agriculture and Food		0.8			21/04/2021	0.10	284.71					13,440			
60910672	Rt06S	467,204.0	6,298,822.0	275.3	17/03/1994	Department of Agriculture and Food					21/04/2021	0.10	275.21					13,824			
60910673	Rt07	467,810.0	6,300,719.5	<u>299.7</u>	17/03/1994	Department of Agriculture and Food		19.0													
60910674	Rt08	467,882.0	6,300,087.5	<u>286.4</u>	17/03/1994	Department of Agriculture and Food		3.3													
60910676	Rt09S	468,073.0	6,299,122.0	273.5	18/03/1994	Department of Agriculture and Food					21/04/2021	-0.04	273.56					8,518			
60910677	Rt10	467,694.0	6,299,210.6	<u>296.7</u>	18/03/1994	Department of Agriculture and Food	10.0	16.5													
60910678	RT11D	466,370.0	6,300,114.0	313.0	21/03/1994	Department of Agriculture and Food		18.2						28/05/2020	11.25	301.76			7,808		
60910679	Rt11S	466,370.0	6,300,114.0	313.0	21/03/1994	Department of Agriculture and Food		2.3			16/07/2003	0.31	312.67				1.99	128			
60910680	Js07S	470,232.0	6,298,512.0	261.5	31/03/1994	Department of Agriculture and Food		2.0			3/06/2020	0.18	261.35					9,146			
60910681	Js08S	470,320.0	6,299,149.0	271.5	7/04/1994	Department of Agriculture and Food		2.6			17/07/2014	-0.40	271.95				3.00	768			
60910682	Rg02S	470,051.0	6,299,524.0	270.1	5/04/1994	Department of Agriculture and Food		3.0	0.71	1.89	29/03/1995	0.81	269.32					10,746			
60910683	Rg03S	470,277.0	6,299,712.0	273.4	6/04/1994	Department of Agriculture and Food		3.0	0.78	1.29	3/05/1994	0.81	272.55					9,914			
60910684	Rg04S	470,447.0	6,299,934.0	283.9	6/04/1994	Department of Agriculture and Food		3.0	1.51	2.02	26/04/1995	2.00	281.86				1.00	512			
60910685	Rg05S	469,522.0	6,300,416.0	294.3	7/04/1994	Department of Agriculture and Food		3.0	1.66	0.70	22/02/1995	2.00	292.28				1.00	186			
60910686	Rg06S	469,860.0	6,299,862.0	277.8	7/04/1994	Department of Agriculture and Food		3.0	2.00	1.38	16/01/1995	2.00	275.79				1.00	627			
60910687	Ck07S	469,140.0	6,300,099.5	<u>317.1</u>	7/04/1993	Department of Agriculture and Food		2.8	1.70		12/03/1994	1.75	315.35					22,316			
60911895	1079	477,024.0	6,303,630.5	<u>275.9</u>	N.D.	Private Owner		1.8				0.50	275.40				1.30	1,430			
60911911	1076	474,664.0	6,309,878.5	<u>281.1</u>	30/06/1900	Kelliher Bros		3.4				0.80	280.30				2.60	1,380			
60911912	1077	474,781.0	6,309,895.5	<u>280.7</u>	30/06/1900	Kelliher Bros		4.5				0.10	280.60				4.40	1,280			
60911913	1078	474,033.0	6,309,050.5	<u>288.5</u>	N.D.	Webb and Co		7.2				0.00	288.50					4,600		6.90	
60911925	1333	473,658.0	6,307,761.5	<u>307.4</u>	N.D.	Private Owner		6.1				0.90	306.50					10,500			
60911927	1080	473,909.0	6,301,833.5	<u>260.6</u>	30/06/1900	Private Owner		18.3							0.40	260.20			7,250		
60911928	Bore1	472,855.0	6,302,873.5	<u>266.0</u>	30/06/1900	Private Owner	7.8	18.3							0.60	265.40			8,380		
60911929	Bore2	475,117.0	6,300,404.5	<u>259.9</u>	N.D.	Private Owner		10.7							1.00	258.90	9.70		1,480		
60911930	Bore3	474,938.0	6,300,223.5	<u>248.8</u>	30/06/1920	Private Owner	5.0	10.7						30/06/1920	0.30	248.50			7,700		
60911931	Bore4	474,768.0	6,300,421.5	<u>254.0</u>	30/06/1920	Private Owner	7.4	12.2						30/06/1920	0.70	253.30			13,400		
60911932	Bore5	475,984.0	6,299,487.5	<u>248.0</u>	30/06/1920	Private Owner		10.4						30/06/1920	0.40	247.60			14,800		
60911933	Bore6	475,724.0	6,295,769.5	<u>247.1</u>	30/06/1900	Private Owner		15.8							0.80	246.30	15.00		130		
60911934	Bore7	475,970.0	6,295,582.5	<u>244.1</u>	30/06/1940	Private Owner		11.1							0.00	244.10			7,000		
60911935	1275	469,050.0	6,301,465.5	<u>286.7</u>	30/06/1900	Private Owner		0.0													
60911936	1332	475,713.0	6,306,362.5	<u>319.6</u>	N.D.	Private Owner		4.4				1.10	318.50				3.30	1,770			
60911937	1483	476,142.0	6,295,673.5	<u>245.5</u>	15/02/1988	Private Owner		21.3						15/02/1988	-0.30	245.80			6,800		6.60
60911938	1484	476,076.0	6,295,545.5	<u>244.1</u>	15/02/1988	Private Owner	7.2	11.6						15/02/1988	3.60	240.50	8.00		1,940		
60911939	1485	476,171.0	6,295,580.5	<u>244.1</u>	15/02/1988	Private Owner		9.1													
60911940	1486	476,253.0	6,295,836.5	<u>247.1</u>	15/02/1988	Private Owner		8.2													
60911941	1487	475,861.0	6,295,667.5	<u>243.8</u>	15/02/1988	Private Owner		7.6			15/02/1988	1.00	242.80					7,200			
60911942	1488	469,619.0	6,297,626.5	<u>265.0</u>	N.D.	Private Owner		11.1													
60911943	1489	465,711.0	6,293,449.6	<u>285.1</u>	15/03/1988	Private Owner	2.0	12.2						15/03/1988	3.66	281.44					

Attachment 1. Groundwater Data Summary for the West Arthur Wind Farm Area

WIR_Site_ID	Bore Name	Easting (GDA 2020)	Northing (GDA 2020)	Ground Elevation (mAHD)	Date Completed	Bore Owner	Constructed Depth (mbgl)	Drilled Depth (mbgl)	Seasonal Change (m)	Long-term Change 1990s-2020s (m)	Composite Shallow SWL Date	Composite Shallow SWL (mbgl)	Composite Shallow SWL (mAHD)	Composite Deep SWL Date	Composite Deep SWL (mbgl)	Composite Deep SWL (mAHD)	Freshwater Thickness (m)	Shallow TDS (mg/L)	Deep TDS (mg/L)	Shallow pH	Deep pH
60911945	1491	466,610.0	6,294,894.6	<u>289.8</u>	30/06/1986	Private Owner	5.0	11.0						30/06/1986	3.10	286.70	7.90		190		
60911946	1492	466,684.0	6,294,574.6	<u>281.7</u>	N.D.	Private Owner		8.2				2.80	278.90					4,850			
60911947	1493	467,595.0	6,294,346.6	<u>267.1</u>	30/06/1910	Private Owner		12.0													
60911948	1496	470,396.0	6,297,144.5	<u>257.7</u>	N.D.	Private Owner	12.0	18.3							0.60	257.10			10,200		
60911949	1497	470,453.0	6,296,825.5	<u>261.7</u>	N.D.	Private Owner	10.2	14.6													
60911950	1498	470,318.0	6,297,253.5	<u>259.9</u>	N.D.	Private Owner		2.6				2.40	257.50					3,700			
60911951	1499	471,438.0	6,300,169.5	<u>274.7</u>	N.D.	Private Owner		1.2				0.50	274.20				0.70	910			
60911952	1500	471,830.0	6,300,381.5	<u>269.7</u>	N.D.	Private Owner	4.0	24.4							0.00	269.70			6,600		
60911953	1501	472,414.0	6,300,244.5	<u>265.2</u>	N.D.	Private Owner		5.5				0.00	265.20				5.50	490		7	
60911954	1502	474,140.0	6,299,602.5	<u>261.8</u>	N.D.	Private Owner		12.3							0.30	261.50			5,989		
60911955	1503	470,364.0	6,304,660.5	<u>288.9</u>	N.D.	Private Owner	8.3	12.2							0.00	288.90			5,150		
60911956	1504	469,689.0	6,305,156.5	<u>295.8</u>	N.D.	Private Owner		12.6							0.00	295.80			3,320		6.10
60911957	1505	466,696.0	6,299,606.6	<u>300.5</u>	N.D.	Private Owner		21.3							15.24	285.26					
60911958	1511	470,157.0	6,302,816.5	<u>298.8</u>	N.D.	Private Owner		12.3							0.20	298.60	12.10		465		
60913515	1326	480,795.0	6,309,029.5	<u>258.6</u>	N.D.	Private Owner		2.5				0.00	258.60				2.50	282			
60913528	Bore8	476,113.0	6,295,255.5	<u>242.9</u>	N.D.	Private Owner															
60913529	1494	471,640.0	6,297,509.5	<u>253.4</u>	N.D.	Private Owner		1.0				0.30	253.10					4,350			
60913530	1495	471,776.0	6,297,779.5	<u>255.7</u>	N.D.	Private Owner		0.8													
60913531	1506	466,522.0	6,299,623.6	<u>306.7</u>	N.D.	Private Owner		2.0				1.00	305.70				1.00	150			
60914277	1135	471,325.0	6,291,451.5	<u>263.5</u>	30/06/1972	Private Owner		9.1													
61210008	Rt01D	465,909.0	6,300,498.6	325.4	14/03/1994	Department of Agriculture and Food		37.0						21/04/2021	20.56	304.85			9,203		
61210010	Rt01S	465,909.0	6,300,497.0	325.7	14/03/1994	Department of Agriculture and Food		1.8			21/04/2021	1.49	324.20				0.32	269			
61211121	1274	466,540.0	6,305,857.5	<u>289.1</u>	30/06/1914	Private Owner		25.0													
61211122	1510	466,819.0	6,305,975.5	<u>298.8</u>	N.D.	Private Owner		16.7							0.40	298.40			4,920		6.40
61211123	1094	463,126.0	6,297,507.6	<u>288.3</u>	N.D.	Private Owner		2.4				1.30	287.00				1.10	175			
61211124	1095	463,861.0	6,296,991.6	<u>298.9</u>	N.D.	Private Owner		4.6				1.50	297.40				3.10	80			
61211138	Ben 05	463,640.0	6,296,749.6	<u>296.0</u>	2/12/1994	Unknown	17.2	17.2													
61218900	CO_01	470,541.0	6,308,222.5	<u>342.9</u>	4/04/2000	Department of Water	46.5	46.5						4/04/2000	14.12	328.78					
61218901	CO_02	470,747.0	6,308,407.5	<u>329.6</u>	4/04/2000	Department of Water	21.0	21.0						27/04/2001	-0.86	330.46					
61218902	CO_03	470,979.0	6,308,531.5	<u>326.6</u>	4/04/2000	Department of Water	38.0	39.0						4/04/2000	5.56	321.04					
61218903	CO_04	471,393.0	6,308,656.5	<u>334.3</u>	7/07/2000	Department of Water	37.5	40.0						7/04/2000	10.93	323.37					
61218908	CO_09	467,149.0	6,302,544.5	<u>330.6</u>	12/04/2000	Department of Water	24.0	24.0													
61218909	CO_10	467,304.0	6,302,576.5	<u>324.3</u>	12/04/2000	Department of Water	36.0	36.0						12/04/2000	14.95	309.35					
61218910	CO_11	467,611.0	6,302,783.5	<u>311.1</u>	12/04/2000	Department of Water	15.0	15.0						12/04/2000	6.24	304.86					
61218911	CO_14	467,483.0	6,303,038.5	<u>308.7</u>	18/04/2000	Department of Water	30.0	30.0						27/04/2001	15.72	292.98					
61230200	W1	467,300.0	6,304,459.5	<u>304.8</u>	N.D.	Department of Water	7.7		1.62		30/05/1996	5.88	298.92					185		6.00	
61230201	W2	467,260.0	6,304,439.5	<u>303.5</u>	N.D.	Department of Water	4.7		1.92		15/05/1997	5.44	298.06					664		6.50	
61230202	W3	467,230.0	6,304,429.5	<u>302.6</u>	N.D.	Department of Water	7.8		1.21		30/05/1996	4.71	297.89					2,935		5.70	
61230203	W4	467,250.0	6,304,399.5	<u>303.0</u>	N.D.	Department of Water	4.8		0.89		30/05/1996	1.53	301.47					9,204		3.60	
61230204	W5	467,280.0	6,304,409.5	<u>303.9</u>	N.D.	Department of Water	7.9		1.09		30/05/1996	2.29	301.61					7,098		3.90	
61230205	W6	467,310.0	6,304,429.5	<u>304.8</u>	N.D.	Department of Water	9.2		1.32		30/05/1996	2.92	301.88					12,715		3.80	
61230206	W7	467,330.0	6,304,399.5	<u>304.5</u>	N.D.	Department of Water	7.9		1.03		8/09/1990	0.71	303.79					10,373		6.10	
61230207	W8	467,290.0	6,304,389.5	<u>303.6</u>	N.D.	Department of Water			0.53									10400			
61230208	W9	467,260.0	6,304,375.5	<u>302.6</u>	N.D.	Department of Water			2.43									9756			
61230209	W10	466,890.0	6,304,349.5	<u>294.7</u>	N.D.	Department of Water	0.0		1.91		30/05/1996	5.21	289.49					251		6.10	
	88DC07	475,841.0	6,295,398.0	240.0	N.D.	Unknown								1/02/1998	0.00	240.00			13,440		
	93DC10	475,391.0	6,299,648.0	240.0	N.D.	Unknown								1/02/1998	0.70	239.30			13,440		
	93UW01	470,391.0	6,298,148.0	280.0	N.D.	Unknown								1/01/1999	0.00	280.00			7,040		
	93UW02	470,641.0	6,298,648.0	280.0	N.D.	Unknown								1/01/1999	-0.43	280.43			256		
	JS01S	470,690.0	6,297,937.0	252.1	28/03/1994	Department of Agriculture and Food					30/04/2018	1.50	250.58					7,846			
	JS02I98	470,974.0	6,298,063.0	250.6	N.D.	Department of Agriculture and Food													16,832		
	JS02S	470,973.0	6,298,060.0	250.7	28/03/1994	Department of Agriculture and Food					3/06/2020	0.64	250.03					5,171			
	JS03D	470,963.0	6,298,097.0	251.6	N.D.	Department of Agriculture and Food								3/06/2020	0.64	250.97			8,499		
	JS04I98	471,283.0	6,298,187.0	251.8	N.D.	Department of Agriculture and Food															
	JS04S	471,284.0	6,298,183.0	251.8	29/03/1993	Department of Agriculture and Food					3/06/2020	1.19	250.64					19,712			
	JS05I98	470,704.0	6,298,511.0	260.4	N.D.	Department of Agriculture and Food															
	JS06S	470,349.0	6,298,756.0	261.4	29/03/1994	Department of Agriculture and Food					3/06/2020	0.38	261.04					11,174			
	JS08I98	470,320.0	6,299,149.0	271.6	N.D.	Department of Agriculture and Food															
	RC01I98	469,173.0	6,300,821.0	296.7	N.D.	Department of Agriculture and Food															
	RC02I98	468,956.0	6,301,143.0	293.8	N.D.	Department of Agriculture and Food															
	RC03D98	469,267.0	6,301,375.0	279.5	N.D.	Department of Agriculture and Food								27/05/2020	-0.50	280.00			8,768		
	RC03I98	469,266.0	6,301,374.0	279.7	N.D.	Department of Agriculture and Food															
	RC04D98	468,365.0	6,301,219.0	301.4	N.D.	Department of Agriculture and Food								27/05/2020	3.54	297.87			10,438		
	RC04I98	468,367.0	6,301,216.0	301.4	N.D.	Department of Agriculture and Food															
	RC05D98	468,002.0	6,302,015.0	312.4	N.D.	Department of Agriculture and Food								27/05/2020	18.27	294.18			3,814		
	RC05I98	468,002.0	6,302,013.0	312.3	N.D.	Department of Agriculture and Food															
	RC06D98	468,599.0	6,301,516.0	286.6	N.D.	Department of Agriculture and Food								27/05/2020	0.77	285.85			5,338		6.76

Attachment 1. Groundwater Data Summary for the West Arthur Wind Farm Area

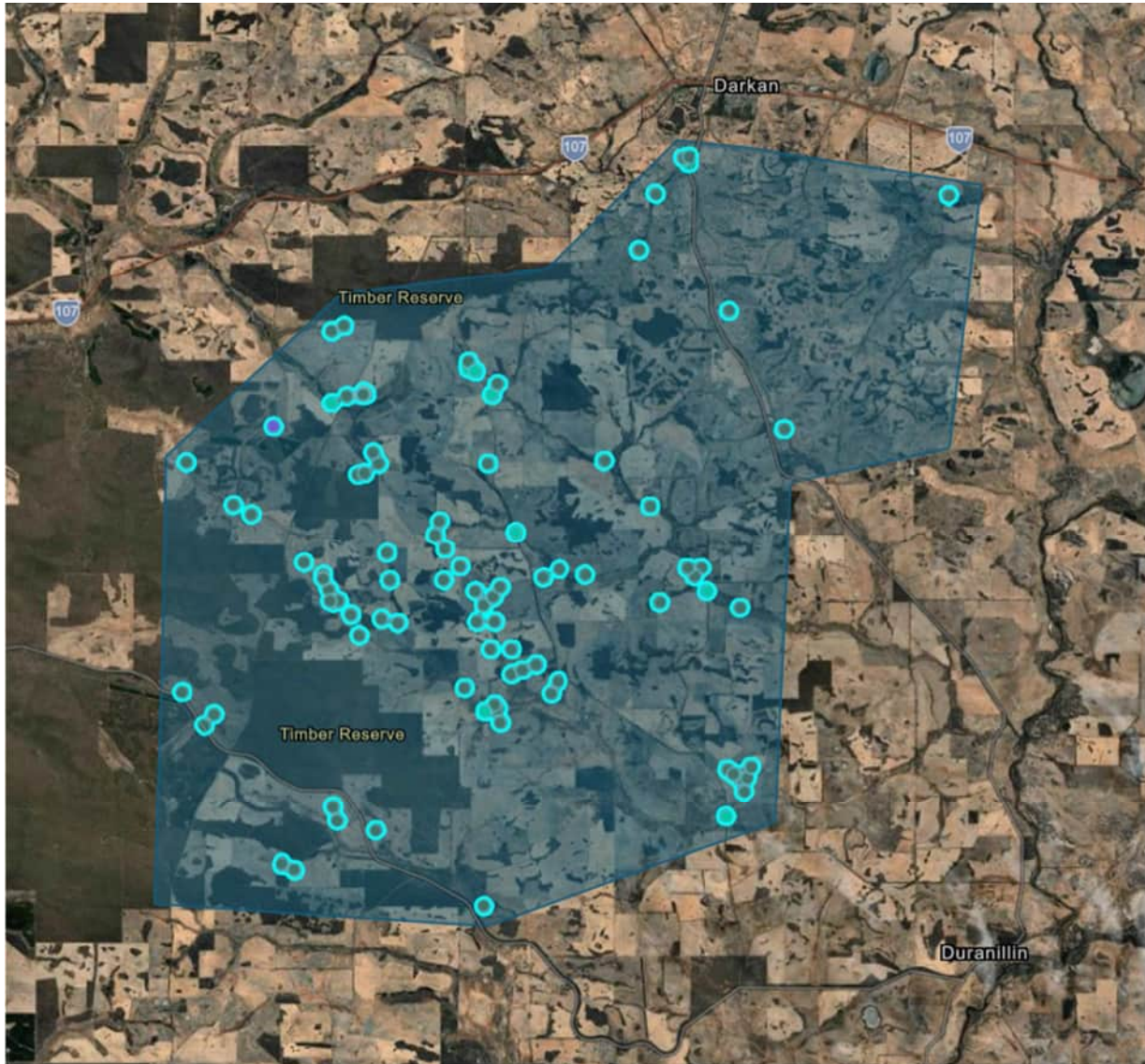
WIR_Site_ID	Bore Name	Easting (GDA 2020)	Northing (GDA 2020)	Ground Elevation (mAHD)	Date Completed	Bore Owner	Constructed Depth (mbgl)	Drilled Depth (mbgl)	Seasonal Change (m)	Long-term Change 1990s-2020s (m)	Composite Shallow SWL Date	Composite Shallow SWL (mbgl)	Composite Shallow SWL (mAHD)	Composite Deep SWL Date	Composite Deep SWL (mbgl)	Composite Deep SWL (mAHD)	Freshwater Thickness (m)	Shallow TDS (mg/L)	Deep TDS (mg/L)	Shallow pH	Deep pH
	RC06I98	468,598.0	6,301,518.0	286.7	N.D.	Department of Agriculture and Food															
	RC07D98	469,956.0	6,301,064.0	284.4	N.D.	Department of Agriculture and Food								27/05/2020	3.23	281.15			1,331		6.57
	RC08D98	468,955.0	6,300,965.0	303.2	N.D.	Department of Agriculture and Food								27/05/2020	12.78	290.46			7,744		
	RC08I98	468,955.0	6,300,967.0	303.0	N.D.	Department of Agriculture and Food															
	RG04I98	470,447.0	6,299,939.0	283.8	N.D.	Department of Agriculture and Food															
	RG05I98	469,518.0	6,300,416.0	294.3	N.D.	Department of Agriculture and Food															
	RG06I98	469,871.0	6,299,862.0	278.0	N.D.	Department of Agriculture and Food															
	RT04D	466,592.0	6,299,570.0	294.3	N.D.	Department of Agriculture and Food								13/10/2005	4.24	290.07			6,893		
	RT07D	467,811.0	6,300,718.0	299.7	N.D.	Department of Agriculture and Food								21/04/2021	-0.30	299.98			10,202		
	RT08D	467,883.0	6,300,086.0	286.4	N.D.	Department of Agriculture and Food								21/04/2021	-1.75	288.18			10,432		
	RT12D	467,353.0	6,300,435.0	324.2	N.D.	Department of Agriculture and Food								21/04/2021	23.87	300.28			8,000		
	RT13D	468,078.0	6,300,822.0	307.1	N.D.	Department of Agriculture and Food								21/04/2021	5.94	301.19			7,878		

Note: underlined and italicised elevations were estimated from the 30m DEM topography dataset.

10th Percentile	4.6	2.0	0.48	0.50		0.05	251.68		-0.52	248.23	0.96	182	922	3.80	6.06
20th Percentile	5.0	3.0	0.57	0.82		0.30	261.04		-0.16	253.07	1.00	274	3,716	3.90	6.10
Average	14.0	13.6	1.15	2.80		1.40	282.61		4.06	278.53	4.73	5,339	7,638	5.45	6.33
80th Percentile	21.6	21.2	1.67	3.16		2.00	301.88		8.89	298.52	8.00	10,389	10,930	6.50	6.59
90th Percentile	36.2	26.3	1.92	7.86		2.86	309.59		14.37	304.86	10.90	12,933	12,301	6.80	6.73

Attachment 2

A search of available groundwater data within and near the project area identified the sites as shown below.



Available data from the above bores includes groundwater levels, salinity (mg/L TDS), pH and bore yields as shown in **Table A2.1**. Some of the data are in time-series, meaning multiple readings are available from some bores e.g., Darkan – Ck071 from January 1993 to June 1995.

Table A2.7 WIR bore details within or close to the WAWF Project boundary

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60910347	Darkan - Ck07I	8/01/1993	0.70		8,352		
60910347	Darkan - Ck07I	21/04/1993	0.65		9,192		
60910347	Darkan - Ck07I	1/06/1993	0.60		7,822		
60910347	Darkan - Ck07I	2/06/1993	0.47		8,121		
60910347	Darkan - Ck07I	1/07/1993	0.59		7,457		
60910347	Darkan - Ck07I	7/07/1993	0.42		7,606		
60910347	Darkan - Ck07I	27/07/1993	0.62		7,938		
60910347	Darkan - Ck07I	24/08/1993	0.59		8,407		
60910347	Darkan - Ck07I	25/08/1993	0.59		7,606		
60910347	Darkan - Ck07I	30/09/1993	0.70		8,291		
60910347	Darkan - Ck07I	3/11/1993	0.67		6,784		
60910347	Darkan - Ck07I	1/12/1993	0.64		8,407		
60910347	Darkan - Ck07I	9/12/1993	0.69		7,694		
60910347	Darkan - Ck07I	1/01/1994	0.59		8,407		
60910347	Darkan - Ck07I	4/02/1994	0.71		8,495		
60910347	Darkan - Ck07I	15/02/1994	0.67		8,625		
60910347	Darkan - Ck07I	12/03/1994	0.59		8,611		
60910347	Darkan - Ck07I	6/04/1994	0.58		8,407		
60910347	Darkan - Ck07I	16/04/1994	0.56		8,339		
60910347	Darkan - Ck07I	15/05/1994	0.40		8,339		
60910347	Darkan - Ck07I	8/06/1994	0.50		8,339		
60910347	Darkan - Ck07I	19/06/1994	0.46		7,701		
60910347	Darkan - Ck07I	9/08/1994	0.52		8,339		
60910347	Darkan - Ck07I	7/09/1994	0.70		8,339		
60910347	Darkan - Ck07I	28/09/1994	0.58		8,019		
60910347	Darkan - Ck07I	10/11/1994	0.62		8,019		
60910347	Darkan - Ck07I	1/12/1994	0.55		8,019		
60910347	Darkan - Ck07I	7/01/1995	0.60		8,019		
60910347	Darkan - Ck07I	7/02/1995	0.46		8,019		
60910347	Darkan - Ck07I	16/03/1995	0.53		8,019		
60910347	Darkan - Ck07I	18/04/1995	0.33		8,019		
60910347	Darkan - Ck07I	17/05/1995	0.28		23,769		
60910347	Darkan - Ck07I	27/06/1995	0.16		23,769		
60910580	Duranillin - Ck09I	21/04/1993	0.82		16,568		
60910580	Duranillin - Ck09I	1/06/1993	0.84		14,232		
60910580	Duranillin - Ck09I	7/07/1993	0.68		13,810		
60910580	Duranillin - Ck09I	8/08/1993	1.00		14,584		

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60910580	Duranillin - Ck09I	25/08/1993	1.00		14,584		
60910580	Duranillin - Ck09I	9/09/1993	1.00		13,599		
60910580	Duranillin - Ck09I	10/10/1993	1.10		13,599		
60910580	Duranillin - Ck09I	7/11/1993	1.15		14,021		
60910580	Duranillin - Ck09I	9/12/1993	1.09		14,373		
60910580	Duranillin - Ck09I	8/01/1994	1.00		14,302		
60910580	Duranillin - Ck09I	15/02/1994	0.82		14,302		
60910580	Duranillin - Ck09I	13/03/1994	0.75		14,161		
60910580	Duranillin - Ck09I	6/04/1994	0.62		14,584		
60910580	Duranillin - Ck09I	9/05/1994	0.50		13,178		
60910580	Duranillin - Ck09I	19/06/1994	0.43		13,388		
60910580	Duranillin - Ck09I	21/08/1994	0.16		12,639		
60910588	Duranillin - Ck09S	8/01/1993	1.29		15,079		
60910588	Duranillin - Ck09S	21/04/1993	0.61		14,655		
60910588	Duranillin - Ck09S	1/06/1993	0.62		14,725		
60910588	Duranillin - Ck09S	7/07/1993	0.45		15,220		
60910588	Duranillin - Ck09S	8/08/1993	0.00		15,645		
60910588	Duranillin - Ck09S	25/08/1993	0.00		15,645		
60910588	Duranillin - Ck09S	9/09/1993	0.04		11,434		
60910588	Duranillin - Ck09S	10/10/1993	0.25		8,318		
60910588	Duranillin - Ck09S	7/11/1993	0.49		13,950		
60910588	Duranillin - Ck09S	9/12/1993	0.97		15,432		
60910588	Duranillin - Ck09S	15/02/1994	1.55		15,645		
60910588	Duranillin - Ck09S	13/03/1994	1.70		14,514		
60910588	Duranillin - Ck09S	6/04/1994	1.90		14,514		
60910588	Duranillin - Ck09S	19/06/1994	1.31		21,230		
60910588	Duranillin - Ck09S	21/08/1994	0.61		17,137		
60910649	Darkan - Rg01D	27/04/1994	13.91		7,390		
60910649	Darkan - Rg01D	3/05/1994	13.90		7,931		
60910649	Darkan - Rg01D	15/06/1994	13.80		7,525		
60910649	Darkan - Rg01D	14/07/1994	13.70		7,592		
60910649	Darkan - Rg01D	16/08/1994	13.54		7,390		

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60910649	Darkan - Rg01D	12/09/1994	13.46		7,660		
60910649	Darkan - Rg01D	17/10/1994	13.48		6,248		
60910649	Darkan - Rg01D	14/11/1994	13.51		7,390		
60910649	Darkan - Rg01D	6/12/1994	13.51		6,716		
60910649	Darkan - Rg01D	16/01/1995	13.50		7,390		
60910649	Darkan - Rg01D	22/02/1995	13.57		6,381		
60910649	Darkan - Rg01D	29/03/1995	13.67		6,448		
60910649	Darkan - Rg01D	26/04/1995	13.65		6,048		
60910650	Darkan - Rg02D	27/04/1994	2.45		11,225		
60910650	Darkan - Rg02D	3/05/1994	2.50		11,712		
60910650	Darkan - Rg02D	15/06/1994	2.50		11,087		
60910650	Darkan - Rg02D	14/07/1994	1.89		11,781		
60910650	Darkan - Rg02D	16/08/1994	2.07		11,781		
60910650	Darkan - Rg02D	12/09/1994	2.12		11,642		
60910650	Darkan - Rg02D	17/10/1994	1.76		10,879		
60910650	Darkan - Rg02D	14/11/1994	2.05		11,156		
60910650	Darkan - Rg02D	16/01/1995	2.50		11,156		
60910650	Darkan - Rg02D	22/02/1995	2.50		10,326		
60910650	Darkan - Rg02D	29/03/1995	2.50		9,226		
60910650	Darkan - Rg02D	26/04/1995	2.50		8,407		
60910651	Darkan - Rg03D	3/05/1994	0.18		9,295		
60910651	Darkan - Rg03D	15/06/1994	0.05		8,611		
60910651	Darkan - Rg03D	14/07/1994	0.14		11,295		
60910651	Darkan - Rg03D	16/08/1994	0.20		10,464		
60910651	Darkan - Rg03D	12/09/1994	0.01		10,119		
60910651	Darkan - Rg03D	17/10/1994	0.01		9,638		
60910651	Darkan - Rg03D	14/11/1994	0.01		9,706		
60910651	Darkan - Rg03D	6/12/1994	0.01		10,395		
60910651	Darkan - Rg03D	16/01/1995	0.01		10,257		
60910651	Darkan - Rg03D	22/02/1995	0.01		9,089		
60910651	Darkan - Rg03D	29/03/1995	0.11		8,679		
60910651	Darkan - Rg03D	26/04/1995	0.01		8,407		

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60910652	Darkan - Rg04D	27/04/1994	9.72		3,619		
60910652	Darkan - Rg04D	3/05/1994	9.80		3,297		
60910652	Darkan - Rg04D	15/06/1994	9.42		1,541		
60910652	Darkan - Rg04D	14/07/1994	8.69		1,359		
60910652	Darkan - Rg04D	16/08/1994	8.20		1,178		
60910652	Darkan - Rg04D	12/09/1994	8.55		1,419		
60910652	Darkan - Rg04D	17/10/1994	8.85		1,419		
60910652	Darkan - Rg04D	14/11/1994	9.01		1,059		
60910652	Darkan - Rg04D	6/12/1994	9.05		1,298		
60910652	Darkan - Rg04D	16/01/1995	9.08		1,359		
60910652	Darkan - Rg04D	22/02/1995	9.22		1,664		
60910652	Darkan - Rg04D	29/03/1995	9.24		1,664		
60910652	Darkan - Rg04D	26/04/1995	9.29		1,910		
60910653	Darkan - Rg05D	27/04/1994	15.10		5,715		
60910653	Darkan - Rg05D	3/05/1994	15.15		5,582		
60910653	Darkan - Rg05D	15/06/1994	14.99		6,114		
60910653	Darkan - Rg05D	14/07/1994	15.00		5,317		
60910653	Darkan - Rg05D	16/08/1994	15.97		6,248		
60910653	Darkan - Rg05D	12/09/1994	14.83		6,649		
60910653	Darkan - Rg05D	17/10/1994	14.78		6,114		
60910653	Darkan - Rg05D	14/11/1994	14.77		6,315		
60910653	Darkan - Rg05D	6/12/1994	14.73		6,181		
60910653	Darkan - Rg05D	16/01/1995	14.60		6,716		
60910653	Darkan - Rg05D	22/02/1995	14.56		5,981		
60910653	Darkan - Rg05D	29/03/1995	14.59		5,781		
60910653	Darkan - Rg05D	26/04/1995	14.46		5,981		
60910654	Darkan - Rg06D	27/04/1994	4.15		8,475		
60910654	Darkan - Rg06D	3/05/1994	4.11		9,295		
60910654	Darkan - Rg06D	15/06/1994	4.10		8,611		
60910654	Darkan - Rg06D	14/07/1994	3.97		8,816		
60910654	Darkan - Rg06D	16/08/1994	3.75		8,747		
60910654	Darkan - Rg06D	12/09/1994	3.61		8,611		

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60910654	Darkan - Rg06D	17/10/1994	3.61		8,475		
60910654	Darkan - Rg06D	14/11/1994	3.68		8,747		
60910654	Darkan - Rg06D	6/12/1994	3.66		8,816		
60910654	Darkan - Rg06D	16/01/1995	3.58		9,021		
60910654	Darkan - Rg06D	22/02/1995	3.60		7,931		
60910654	Darkan - Rg06D	29/03/1995	3.69		7,660		
60910654	Darkan - Rg06D	26/04/1995	3.66		7,120		
60910663	Darkan - Rc02	29/11/1994	11.15				
60910669	Darkan - Rt05D	17/03/1994	3.00				
60910671	Darkan - Rt06D	17/03/1994	2.40				
60910682	Darkan - Rg02S	3/05/1994	0.60		11,572		
60910682	Darkan - Rg02S	15/06/1994	0.42		10,533		
60910682	Darkan - Rg02S	14/07/1994	0.47		11,642		
60910682	Darkan - Rg02S	16/08/1994	0.15		11,434		
60910682	Darkan - Rg02S	12/09/1994	0.10		11,364		
60910682	Darkan - Rg02S	17/10/1994	0.63		11,295		
60910682	Darkan - Rg02S	14/11/1994	0.60		11,851		
60910682	Darkan - Rg02S	6/12/1994	0.63		11,851		
60910682	Darkan - Rg02S	16/01/1995	0.72		12,060		
60910682	Darkan - Rg02S	22/02/1995	0.73		10,810		
60910682	Darkan - Rg02S	29/03/1995	0.81		9,706		
60910682	Darkan - Rg02S	26/04/1995	0.79		10,188		
60910683	Darkan - Rg03S	3/05/1994	0.81		17,066		
60910683	Darkan - Rg03S	15/06/1994	0.35		12,199		
60910683	Darkan - Rg03S	14/07/1994	0.03		15,362		
60910683	Darkan - Rg03S	16/08/1994	0.05		17,494		
60910683	Darkan - Rg03S	12/09/1994	0.04		12,828		
60910683	Darkan - Rg03S	17/10/1994	0.19		12,060		
60910683	Darkan - Rg03S	14/11/1994	0.30		12,828		
60910683	Darkan - Rg03S	6/12/1994	0.27		16,781		
60910683	Darkan - Rg03S	16/01/1995	0.18		16,924		
60910683	Darkan - Rg03S	22/02/1995	0.31		11,572		

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60910683	Darkan - Rg03S	29/03/1995	0.37		14,937		
60910683	Darkan - Rg03S	26/04/1995	0.48		6,918		
60910684	Darkan - Rg04S	27/04/1994	2.00				
60910684	Darkan - Rg04S	3/05/1994	2.00				
60910684	Darkan - Rg04S	15/06/1994	0.72		309		
60910684	Darkan - Rg04S	14/07/1994	0.49		309		
60910684	Darkan - Rg04S	16/08/1994	0.66		254		
60910684	Darkan - Rg04S	12/09/1994	1.00		254		
60910684	Darkan - Rg04S	17/10/1994	1.23		309		
60910684	Darkan - Rg04S	14/11/1994	2.00				
60910684	Darkan - Rg04S	6/12/1994	2.00				
60910684	Darkan - Rg04S	16/01/1995	2.00				
60910684	Darkan - Rg04S	22/02/1995	2.00				
60910684	Darkan - Rg04S	29/03/1995	2.00				
60910684	Darkan - Rg04S	26/04/1995	2.00				
60910685	Darkan - Rg05S	27/04/1994	1.84		881		
60910685	Darkan - Rg05S	3/05/1994	2.00				
60910685	Darkan - Rg05S	15/06/1994	0.78		147		
60910685	Darkan - Rg05S	14/07/1994	0.34		309		
60910685	Darkan - Rg05S	16/08/1994	0.83		95		
60910685	Darkan - Rg05S	12/09/1994	0.62		147		
60910685	Darkan - Rg05S	17/10/1994	1.12		95		
60910685	Darkan - Rg05S	14/11/1994	1.57		95		
60910685	Darkan - Rg05S	6/12/1994	1.68		95		
60910685	Darkan - Rg05S	16/01/1995	2.00				
60910685	Darkan - Rg05S	22/02/1995	2.00				
60910685	Darkan - Rg05S	29/03/1995	2.00				
60910685	Darkan - Rg05S	26/04/1995	2.00				
60910686	Darkan - Rg06S	27/04/1994	2.00				
60910686	Darkan - Rg06S	3/05/1994	1.71		881		
60910686	Darkan - Rg06S	15/06/1994	0.41		476		
60910686	Darkan - Rg06S	14/07/1994	0.00		590		

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60910686	Darkan - Rg06S	16/08/1994	0.00		648		
60910686	Darkan - Rg06S	12/09/1994	0.01		706		
60910686	Darkan - Rg06S	17/10/1994	0.41		476		
60910686	Darkan - Rg06S	14/11/1994	0.93		533		
60910686	Darkan - Rg06S	6/12/1994	1.13		590		
60910686	Darkan - Rg06S	16/01/1995	2.00				
60910686	Darkan - Rg06S	22/02/1995	1.24		706		
60910686	Darkan - Rg06S	29/03/1995	1.34		706		
60910686	Darkan - Rg06S	26/04/1995	1.43		706		
60910687	Darkan - Ck07S	8/01/1993	1.20		28,604		
60910687	Darkan - Ck07S	21/04/1993	0.79		21,664		
60910687	Darkan - Ck07S	1/06/1993	0.90		26,032		
60910687	Darkan - Ck07S	2/06/1993	1.11		28,015		
60910687	Darkan - Ck07S	1/07/1993	0.61		25,374		
60910687	Darkan - Ck07S	7/07/1993	0.80		18,997		
60910687	Darkan - Ck07S	27/07/1993	0.42		7,829		
60910687	Darkan - Ck07S	24/08/1993	0.39		28,751		
60910687	Darkan - Ck07S	25/08/1993	0.39		18,997		
60910687	Darkan - Ck07S	30/09/1993	0.44		16,710		
60910687	Darkan - Ck07S	3/11/1993	0.77		24,789		
60910687	Darkan - Ck07S	1/12/1993	1.11		28,751		
60910687	Darkan - Ck07S	7/12/1993	1.14		27,279		
60910687	Darkan - Ck07S	1/01/1994	1.28		28,751		
60910687	Darkan - Ck07S	4/02/1994	1.25		27,941		
60910687	Darkan - Ck07S	15/02/1994	1.30		28,530		
60910687	Darkan - Ck07S	12/03/1994	1.75		28,383		
60910687	Darkan - Ck07S	6/04/1994	1.49		28,751		
60910687	Darkan - Ck07S	16/04/1994	1.47		25,886		
60910687	Darkan - Ck07S	15/05/1994	1.56		25,886		
60910687	Darkan - Ck07S	8/06/1994	0.62		25,886		
60910687	Darkan - Ck07S	19/06/1994	0.70		16,924		
60910687	Darkan - Ck07S	9/08/1994	0.05		25,886		

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60910687	Darkan - Ck07S	7/09/1994	0.34		25,886		
60910687	Darkan - Ck07S	28/09/1994	0.61		22,316		
60910687	Darkan - Ck07S	10/11/1994	1.02		22,316		
60910687	Darkan - Ck07S	7/01/1995	1.18		22,316		
60910687	Darkan - Ck07S	7/02/1995	1.47		22,316		
60910687	Darkan - Ck07S	16/03/1995	1.51		22,316		
60910687	Darkan - Ck07S	18/04/1995	1.64		22,316		
60910687	Darkan - Ck07S	17/05/1995	1.58		22,316		
60910687	Darkan - Ck07S	27/06/1995	1.06		22,316		
60910687	Darkan - Ck07S	1/12/1995	1.10		22,316		
60911895	Darkan - 1079	1/01/1900	0.50		1,430		9.1
60911911	Darkan - 1076	1/01/1900	0.80		1,380		2.3
60911912	Darkan - 1077	1/01/1900	0.10		1,280		4.5
60911913	Darkan - 1078	1/01/1900	0.00		4,600	6.90	
60911913	Darkan - 1078	14/11/1985			4,330		
60911925	Darkan - 1333	1/01/1900	0.90		10,500		
60911927	Darkan - 1080	1/01/1900	0.40		7,250		
60911928	Darkan - Bore	1/01/1900	0.60		8,380		
60911929	Darkan - Bore	1/01/1900	1.00		1,480		
60911930	Darkan - Bore	30/06/1920	0.30		7,700		
60911931	Darkan - Bore	30/06/1920	0.70		13,400		
60911932	Darkan - Bore	30/06/1920	0.40		14,800		
60911933	Duranillin - Bore	1/01/1900	0.80		130		4.5
60911934	Duranillin - Bore	30/06/1940	0.00		8,800		16.4
60911934	Duranillin - Bore	15/06/1977	0.00		6,932		
60911934	Duranillin - Bore	15/02/1978	0.00		10,000		
60911934	Duranillin - Bore	7/02/1980	0.00		9,000		
60911934	Duranillin - Bore	9/02/1980	0.00		8,000		
60911934	Duranillin - Bore	15/03/1980	0.00		7,000		
60911936	Collie River East Trib - Gibbs Rd	1/01/1900	1.10		1,770		
60911937	Collie River East Trib - Gibbs Rd	15/02/1988	-0.30		6,800	6.60	218.2

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60911938	Collie River East Trib - Gibbs Rd	15/02/1988	3.60		1,940		18.2
60911941	Collie River East Trib - Gibbs Rd	15/02/1988	1.00		7,200		20.5
60911942	Collie River East Trib - Gibbs Rd	1/01/1900	0.80		6,500		
60911943	Collie River East Trib - Gibbs Rd	15/03/1988	1.40		270		
60911945	Collie River East Trib - Gibbs Rd	30/06/1986	3.10		190		9.1
60911946	Collie River East Trib - Gibbs Rd	1/01/1900	2.80		4,850		0.9
60911947	Collie River East Trib - Gibbs Rd	30/06/1910	0.00		7,300		
60911948	Collie River East Trib - Gibbs Rd	1/01/1900	0.60		10,200		15.9
60911949	Collie River East Trib - Gibbs Rd	1/01/1900					4.5
60911950	Collie River East Trib - Gibbs Rd	1/01/1900	2.40		3,700		
60911951	Collie River East Trib - Gibbs Rd	1/01/1900	0.50		910		
60911952	Collie River East Trib - Gibbs Rd	1/01/1900	0.00		6,600		
60911953	Collie River East Trib - Gibbs Rd	1/01/1900	0.00		8,000	6.80	
60911953	Collie River East Trib - Gibbs Rd	18/03/1988			490		
60911954	Collie River East Trib - Gibbs Rd	1/01/1900	0.30		5,150		
60911955	Collie River East Trib - Gibbs Rd	1/01/1900	0.00				
60911956	Collie River East Trib - Gibbs Rd	1/01/1900	0.00		3,250	6.10	
60911956	Collie River East Trib - Gibbs Rd	11/05/1988			3,320		
60911957	Collie River East Trib - Gibbs Rd	1/01/1900	0.50				9.1
60911958	Collie River East Trib - Gibbs Rd	1/01/1900	0.20		4,650		

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
60913515	Collie River East Trib - Gibbs Rd	1/01/1900	0.00		282		
60913528	Collie River East Trib - Gibbs Rd	1/01/1900	0.00		6,600		
60913529	Collie River East Trib - Gibbs Rd	1/01/1900	0.30		4,350		
60913531	Collie River East Trib - Gibbs Rd	1/01/1900	1.00		150		
61211122	Darkan - 1510	1/01/1900	0.40		4,650	6.40	
61211122	Darkan - 1510	1/01/1988			4,920	6.40	
61211123	Bowelling - 1094	1/01/1900	1.30		175		
61211124	Bowelling - 1095	1/01/1900	1.50		80		
61211125	Darkan - 1507	1/01/1900	0.60		5,800		
61211126	Darkan - 1508	1/01/1900	0.00		8,600		
61211127	Darkan - 1509	1/01/1900	0.70		8,200		
61218909	James Crossing Subcatchment - CO_10	12/04/2000	14.95				
61218909	James Crossing Subcatchment - CO_10	27/04/2001	14.65				
61218910	James Crossing Subcatchment - CO_11	12/04/2000	6.24				
61218910	James Crossing Subcatchment - CO_11	27/04/2001	6.00				
61218911	James Crossing Subcatchment - CO_14	18/04/2000	15.40				
61218911	James Crossing Subcatchment - CO_14	27/04/2001	15.72				
61230200	Wunnenburg Farm - W1	26/07/1990		4.60			
61230200	Wunnenburg Farm - W1	8/09/1990		4.80			
61230200	Wunnenburg Farm - W1	29/10/1990		4.90			
61230200	Wunnenburg Farm - W1	30/11/1990		4.99			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230200	Wunnenburg Farm - W1	18/01/1991		5.07			
61230200	Wunnenburg Farm - W1	23/02/1991		5.10			
61230200	Wunnenburg Farm - W1	4/04/1991		5.23			
61230200	Wunnenburg Farm - W1	17/05/1991		5.34	<185	6.00	
61230200	Wunnenburg Farm - W1	28/06/1991		5.00			
61230200	Wunnenburg Farm - W1	15/08/1991		4.37			
61230200	Wunnenburg Farm - W1	28/09/1991		4.60			
61230200	Wunnenburg Farm - W1	12/11/1991		4.67			
61230200	Wunnenburg Farm - W1	13/01/1992		5.02			
61230200	Wunnenburg Farm - W1	28/02/1992		5.16			
61230200	Wunnenburg Farm - W1	16/04/1992		5.29			
61230200	Wunnenburg Farm - W1	11/06/1992		5.20			
61230200	Wunnenburg Farm - W1	21/06/1993		5.01			
61230200	Wunnenburg Farm - W1	3/05/1996		5.68			
61230200	Wunnenburg Farm - W1	30/05/1996		5.88			
61230200	Wunnenburg Farm - W1	26/09/1996		4.26			
61230200	Wunnenburg Farm - W1	14/10/1996		4.31			
61230200	Wunnenburg Farm - W1	29/04/1997		5.26			
61230200	Wunnenburg Farm - W1	15/05/1997		5.29			
61230200	Wunnenburg Farm - W1	5/11/1997		4.87			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230200	Wunnenburg Farm - W1	19/05/1998		5.34			
61230200	Wunnenburg Farm - W1	22/10/1998		4.58			
61230201	Wunnenburg Farm - W2	26/07/1990		4.11			
61230201	Wunnenburg Farm - W2	8/09/1990		4.52			
61230201	Wunnenburg Farm - W2	29/10/1990		4.57			
61230201	Wunnenburg Farm - W2	30/11/1990		4.69			
61230201	Wunnenburg Farm - W2	18/01/1991		4.73			
61230201	Wunnenburg Farm - W2	23/02/1991		4.78			
61230201	Wunnenburg Farm - W2	4/04/1991		4.88			
61230201	Wunnenburg Farm - W2	17/05/1991		4.98	<664	6.50	
61230201	Wunnenburg Farm - W2	28/06/1991		4.59			
61230201	Wunnenburg Farm - W2	15/08/1991		4.32			
61230201	Wunnenburg Farm - W2	28/09/1991		4.25			
61230201	Wunnenburg Farm - W2	12/11/1991		4.34			
61230201	Wunnenburg Farm - W2	13/01/1992		4.64			
61230201	Wunnenburg Farm - W2	28/02/1992		4.78			
61230201	Wunnenburg Farm - W2	16/04/1992		4.93			
61230201	Wunnenburg Farm - W2	11/06/1992		4.81			
61230201	Wunnenburg Farm - W2	21/06/1993		4.77			
61230201	Wunnenburg Farm - W2	3/05/1996		>5.02			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230201	Wunnenburg Farm - W2	30/05/1996		>5.50			
61230201	Wunnenburg Farm - W2	26/09/1996		3.52			
61230201	Wunnenburg Farm - W2	29/04/1997		4.70			
61230201	Wunnenburg Farm - W2	15/05/1997		5.44			
61230201	Wunnenburg Farm - W2	5/11/1997		5.03			
61230201	Wunnenburg Farm - W2	19/05/1998		5.35			
61230201	Wunnenburg Farm - W2	22/10/1998		4.37			
61230202	Wunnenburg Farm - W3	26/07/1990		3.73			
61230202	Wunnenburg Farm - W3	8/09/1990		3.86			
61230202	Wunnenburg Farm - W3	29/10/1990		3.88			
61230202	Wunnenburg Farm - W3	30/11/1990		3.95			
61230202	Wunnenburg Farm - W3	18/01/1991		3.98			
61230202	Wunnenburg Farm - W3	23/02/1991		4.13			
61230202	Wunnenburg Farm - W3	4/04/1991		4.11			
61230202	Wunnenburg Farm - W3	17/05/1991		4.19	<2,935	5.70	
61230202	Wunnenburg Farm - W3	28/06/1991		3.90			
61230202	Wunnenburg Farm - W3	15/08/1991		3.55			
61230202	Wunnenburg Farm - W3	28/09/1991		3.70			
61230202	Wunnenburg Farm - W3	12/11/1991		3.71			
61230202	Wunnenburg Farm - W3	13/01/1992		4.00			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230202	Wunnenburg Farm - W3	28/02/1992		4.08			
61230202	Wunnenburg Farm - W3	16/04/1992		4.16			
61230202	Wunnenburg Farm - W3	11/06/1992		4.04			
61230202	Wunnenburg Farm - W3	21/06/1993		4.00			
61230202	Wunnenburg Farm - W3	3/05/1996		4.15			
61230202	Wunnenburg Farm - W3	30/05/1996		4.71			
61230202	Wunnenburg Farm - W3	26/09/1996		3.50			
61230202	Wunnenburg Farm - W3	14/10/1996		3.55			
61230202	Wunnenburg Farm - W3	29/04/1997		4.20			
61230202	Wunnenburg Farm - W3	15/05/1997		4.23			
61230202	Wunnenburg Farm - W3	5/11/1997		3.90			
61230202	Wunnenburg Farm - W3	19/05/1998		4.28			
61230202	Wunnenburg Farm - W3	22/10/1998		3.66			
61230203	Wunnenburg Farm - W4	26/07/1990		0.79			
61230203	Wunnenburg Farm - W4	8/09/1990		0.84			
61230203	Wunnenburg Farm - W4	29/10/1990		0.88			
61230203	Wunnenburg Farm - W4	30/11/1990		0.90			
61230203	Wunnenburg Farm - W4	18/01/1991		0.92			
61230203	Wunnenburg Farm - W4	23/02/1991		0.98			
61230203	Wunnenburg Farm - W4	4/04/1991		1.08			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230203	Wunnenburg Farm - W4	17/05/1991		1.15	<9,204	3.60	
61230203	Wunnenburg Farm - W4	28/06/1991		0.95			
61230203	Wunnenburg Farm - W4	15/08/1991		0.64			
61230203	Wunnenburg Farm - W4	28/09/1991		0.76			
61230203	Wunnenburg Farm - W4	12/11/1991		0.72			
61230203	Wunnenburg Farm - W4	13/01/1992		0.95			
61230203	Wunnenburg Farm - W4	28/02/1992		1.08			
61230203	Wunnenburg Farm - W4	16/04/1992		1.17			
61230203	Wunnenburg Farm - W4	11/06/1992		1.05			
61230203	Wunnenburg Farm - W4	21/06/1993		1.06			
61230203	Wunnenburg Farm - W4	3/05/1996		1.53			
61230203	Wunnenburg Farm - W4	30/05/1996		1.53			
61230203	Wunnenburg Farm - W4	26/09/1996		0.65			
61230203	Wunnenburg Farm - W4	14/10/1996		0.68			
61230203	Wunnenburg Farm - W4	29/04/1997		1.27			
61230203	Wunnenburg Farm - W4	15/05/1997		1.31			
61230203	Wunnenburg Farm - W4	5/11/1997		0.97			
61230203	Wunnenburg Farm - W4	19/05/1998		1.28			
61230203	Wunnenburg Farm - W4	22/10/1998		0.77			
61230204	Wunnenburg Farm - W5	26/07/1990		1.40			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230204	Wunnenburg Farm - W5	8/09/1990		1.47			
61230204	Wunnenburg Farm - W5	29/10/1990		1.58			
61230204	Wunnenburg Farm - W5	30/11/1990		1.59			
61230204	Wunnenburg Farm - W5	18/01/1991		1.64			
61230204	Wunnenburg Farm - W5	23/02/1991		1.62			
61230204	Wunnenburg Farm - W5	4/04/1991		1.74			
61230204	Wunnenburg Farm - W5	17/05/1991		1.82			
61230204	Wunnenburg Farm - W5	28/06/1991		1.59			
61230204	Wunnenburg Farm - W5	15/08/1991		1.21			
61230204	Wunnenburg Farm - W5	28/09/1991		1.37			
61230204	Wunnenburg Farm - W5	12/11/1991		1.37			
61230204	Wunnenburg Farm - W5	13/01/1992		1.63			
61230204	Wunnenburg Farm - W5	28/02/1992		1.74			
61230204	Wunnenburg Farm - W5	16/04/1992		1.81			
61230204	Wunnenburg Farm - W5	11/06/1992		1.74			
61230204	Wunnenburg Farm - W5	21/06/1993		1.66			
61230204	Wunnenburg Farm - W5	3/05/1996		2.08			
61230204	Wunnenburg Farm - W5	30/05/1996		2.29			
61230204	Wunnenburg Farm - W5	26/09/1996		1.20			
61230204	Wunnenburg Farm - W5	14/10/1996		1.21			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230204	Wunnenburg Farm - W5	29/04/1997		1.80			
61230204	Wunnenburg Farm - W5	15/05/1997		1.84			
61230204	Wunnenburg Farm - W5	5/11/1997		1.30			
61230204	Wunnenburg Farm - W5	19/05/1998		1.84			
61230204	Wunnenburg Farm - W5	22/10/1998		1.30			
61230205	Wunnenburg Farm - W6	26/07/1990		1.98			
61230205	Wunnenburg Farm - W6	8/09/1990		2.03			
61230205	Wunnenburg Farm - W6	29/10/1990		1.86			
61230205	Wunnenburg Farm - W6	30/11/1990		1.60			
61230205	Wunnenburg Farm - W6	18/01/1991		2.20			
61230205	Wunnenburg Farm - W6	23/02/1991		2.24			
61230205	Wunnenburg Farm - W6	4/04/1991		2.35			
61230205	Wunnenburg Farm - W6	17/05/1991		2.42			
61230205	Wunnenburg Farm - W6	28/06/1991		2.18			
61230205	Wunnenburg Farm - W6	15/08/1991		1.77			
61230205	Wunnenburg Farm - W6	28/09/1991		1.98			
61230205	Wunnenburg Farm - W6	12/11/1991		1.92			
61230205	Wunnenburg Farm - W6	13/01/1992		2.22			
61230205	Wunnenburg Farm - W6	28/02/1992		2.34			
61230205	Wunnenburg Farm - W6	16/04/1992		2.41			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230205	Wunnenburg Farm - W6	11/06/1992		2.54			
61230205	Wunnenburg Farm - W6	21/06/1993		2.18			
61230205	Wunnenburg Farm - W6	3/05/1996		2.74			
61230205	Wunnenburg Farm - W6	30/05/1996		2.92			
61230205	Wunnenburg Farm - W6	26/09/1996		1.68			
61230205	Wunnenburg Farm - W6	14/10/1996		1.75			
61230205	Wunnenburg Farm - W6	29/04/1997		2.40			
61230205	Wunnenburg Farm - W6	15/05/1997		2.43			
61230205	Wunnenburg Farm - W6	5/11/1997		2.08			
61230205	Wunnenburg Farm - W6	19/05/1998		2.40			
61230205	Wunnenburg Farm - W6	22/10/1998		1.84			
61230206	Wunnenburg Farm - W7	26/07/1990		0.71			
61230206	Wunnenburg Farm - W7	8/09/1990		0.71			
61230206	Wunnenburg Farm - W7	29/10/1990		0.05			
61230206	Wunnenburg Farm - W7	30/11/1990		-0.32			
61230206	Wunnenburg Farm - W7	23/02/1991		-0.30			
61230206	Wunnenburg Farm - W7	4/04/1991		-0.28			
61230206	Wunnenburg Farm - W7	17/05/1991		-0.17			
61230206	Wunnenburg Farm - W7	28/06/1991		~-0.30			
61230206	Wunnenburg Farm - W7	15/08/1991		~-0.82			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230206	Wunnenburg Farm - W7	28/09/1991		~-0.60			
61230206	Wunnenburg Farm - W7	12/11/1991		~-0.55			
61230206	Wunnenburg Farm - W7	13/01/1992		>-0.25			
61230206	Wunnenburg Farm - W7	28/02/1992		~-0.30			
61230206	Wunnenburg Farm - W7	16/04/1992		~-0.30			
61230206	Wunnenburg Farm - W7	11/06/1992		~-0.30			
61230206	Wunnenburg Farm - W7	21/06/1993		~-0.60			
61230206	Wunnenburg Farm - W7	3/05/1996		<0.00			
61230206	Wunnenburg Farm - W7	30/05/1996		0.40			
61230206	Wunnenburg Farm - W7	26/09/1996		<0.00			
61230206	Wunnenburg Farm - W7	14/10/1996		<0.00			
61230206	Wunnenburg Farm - W7	29/04/1997		<0.00			
61230206	Wunnenburg Farm - W7	15/05/1997		<-0.10			
61230206	Wunnenburg Farm - W7	5/11/1997		<1.18			
61230206	Wunnenburg Farm - W7	19/05/1998		<0.00			
61230206	Wunnenburg Farm - W7	22/10/1998		<0.00			
61230207	Wunnenburg Farm - W8	26/07/1990		<0.00			
61230207	Wunnenburg Farm - W8	8/09/1990		<0.00			
61230207	Wunnenburg Farm - W8	29/10/1990		-1.24			
61230207	Wunnenburg Farm - W8	30/11/1990		-1.37			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230207	Wunnenburg Farm - W8	18/01/1991		-1.20			
61230207	Wunnenburg Farm - W8	23/02/1991		-1.35			
61230207	Wunnenburg Farm - W8	4/04/1991		-1.40			
61230207	Wunnenburg Farm - W8	17/05/1991		-1.30			
61230207	Wunnenburg Farm - W8	28/06/1991		~-1.50			
61230207	Wunnenburg Farm - W8	15/08/1991		~-1.75			
61230207	Wunnenburg Farm - W8	28/09/1991		~-1.70			
61230207	Wunnenburg Farm - W8	12/11/1991		~-1.70			
61230207	Wunnenburg Farm - W8	13/01/1992		>-1.55			
61230207	Wunnenburg Farm - W8	28/02/1992		~-1.50			
61230207	Wunnenburg Farm - W8	16/04/1992		~-1.40			
61230207	Wunnenburg Farm - W8	11/06/1992		~-1.40			
61230207	Wunnenburg Farm - W8	21/06/1993		~-1.50			
61230207	Wunnenburg Farm - W8	3/05/1996		<0.00			
61230207	Wunnenburg Farm - W8	30/05/1996		<0.00			
61230207	Wunnenburg Farm - W8	26/09/1996		<-1.63			
61230207	Wunnenburg Farm - W8	14/10/1996		-1.73			
61230207	Wunnenburg Farm - W8	29/04/1997		<0.00			
61230207	Wunnenburg Farm - W8	15/05/1997		<-0.85			
61230207	Wunnenburg Farm - W8	5/11/1997		<1.94			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230207	Wunnenburg Farm - W8	19/05/1998		<0.00			
61230207	Wunnenburg Farm - W8	22/10/1998		<0.00			
61230208	Wunnenburg Farm - W9	26/07/1990		<0.00			
61230208	Wunnenburg Farm - W9	8/09/1990		<0.00			
61230208	Wunnenburg Farm - W9	29/10/1990		-1.33			
61230208	Wunnenburg Farm - W9	30/11/1990		-1.48			
61230208	Wunnenburg Farm - W9	23/02/1991		-1.60			
61230208	Wunnenburg Farm - W9	4/04/1991		-1.55			
61230208	Wunnenburg Farm - W9	17/05/1991		-1.60			
61230208	Wunnenburg Farm - W9	28/06/1991		~-1.80			
61230208	Wunnenburg Farm - W9	15/08/1991		~-2.00			
61230208	Wunnenburg Farm - W9	28/09/1991		~-2.00			
61230208	Wunnenburg Farm - W9	12/11/1991		~-2.00			
61230208	Wunnenburg Farm - W9	13/01/1992		>-1.80			
61230208	Wunnenburg Farm - W9	28/02/1992		~-2.65			
61230208	Wunnenburg Farm - W9	16/04/1992		~-1.65			
61230208	Wunnenburg Farm - W9	11/06/1992		~-1.60			
61230208	Wunnenburg Farm - W9	21/06/1993		~-1.80			
61230208	Wunnenburg Farm - W9	3/05/1996		0.19			
61230208	Wunnenburg Farm - W9	30/05/1996		<-0.50			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230208	Wunnenburg Farm - W9	26/09/1996		<-2.04			
61230208	Wunnenburg Farm - W9	14/10/1996		-2.24			
61230208	Wunnenburg Farm - W9	29/04/1997		<0.00			
61230208	Wunnenburg Farm - W9	15/05/1997		<-1.17			
61230208	Wunnenburg Farm - W9	5/11/1997		<0.48			
61230208	Wunnenburg Farm - W9	19/05/1998		<0.00			
61230208	Wunnenburg Farm - W9	22/10/1998		0.00			
61230209	Wunnenburg Farm - W10	26/07/1990		3.30			
61230209	Wunnenburg Farm - W10	8/09/1990		3.56			
61230209	Wunnenburg Farm - W10	29/10/1990		3.66			
61230209	Wunnenburg Farm - W10	30/11/1990		3.79			
61230209	Wunnenburg Farm - W10	18/01/1991		3.98			
61230209	Wunnenburg Farm - W10	23/02/1991		4.04			
61230209	Wunnenburg Farm - W10	4/04/1991		4.18			
61230209	Wunnenburg Farm - W10	17/05/1991		4.30			
61230209	Wunnenburg Farm - W10	28/06/1991		4.02			
61230209	Wunnenburg Farm - W10	15/08/1991		3.80			
61230209	Wunnenburg Farm - W10	28/09/1991		3.58			
61230209	Wunnenburg Farm - W10	12/11/1991		3.62			
61230209	Wunnenburg Farm - W10	13/01/1992		3.97			

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
61230209	Wunnenburg Farm - W10	28/02/1992		4.15			
61230209	Wunnenburg Farm - W10	16/04/1992		4.34			
61230209	Wunnenburg Farm - W10	11/06/1992		4.28			
61230209	Wunnenburg Farm - W10	21/06/1993		4.26			
61230209	Wunnenburg Farm - W10	3/05/1996		5.15			
61230209	Wunnenburg Farm - W10	30/05/1996		5.21			
61230209	Wunnenburg Farm - W10	26/09/1996		3.93			
61230209	Wunnenburg Farm - W10	14/10/1996		3.90			
61230209	Wunnenburg Farm - W10	29/04/1997		4.90			
61230209	Wunnenburg Farm - W10	15/05/1997		4.92			
61230209	Wunnenburg Farm - W10	5/11/1997		4.39			
61230209	Wunnenburg Farm - W10	19/05/1998		4.81			
61230209	Wunnenburg Farm - W10	22/10/1998		4.70			
6090536	Nangip Creek - Bwp308	15/06/1992				6.67	
6090536	Nangip Creek - Bwp308	6/08/1992				8.20	
6090536	Nangip Creek - Bwp308	16/06/1993				6.66	
6090536	Nangip Creek - Bwp308	9/08/1993				7.05	
6090536	Nangip Creek - Bwp308	9/11/1993				7.90	
6090536	Nangip Creek - Bwp308	24/06/1994				8.50	
6090536	Nangip Creek - Bwp308	1/08/1994				8.70	

Site Ref	Site Name	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
6090536	Nangip Creek - Bwp308	8/06/1995				7.40	
6090536	Nangip Creek - Bwp308	10/08/1995				7.80	
6090536	Nangip Creek - Bwp308	19/06/1996				7.80	
6090536	Nangip Creek - Bwp308	14/08/1996				7.40	
6091677	Top Of Three Mile Gully - Bwp538	20/01/2006				6.90	
6091677	Top Of Three Mile Gully - Bwp538	8/03/2006				6.40	
6091678	Top Of Three Mile Gully - Bwp538	20/01/2006				7.23	
6091678	Top Of Three Mile Gully - Bwp538	8/03/2006				7.30	
6091680	Top Of Three Mile Gully - Bwp538	20/01/2006				7.73	
6091680	Top Of Three Mile Gully - Bwp538	8/03/2006				8.10	
6091700	Top Of Three Mile Gully - Bwp538	20/01/2006				8.53	

Groundwater Data Statistics (all data)						
	Collect Date	SWL (m bgl)	SWL (m btoc)	TDS (mg/L)	pH	Supply (kL/d)
Minimum	30/06/1910	-0.30	-2.24	80	3.60	0.9
10 th Percentile	26/07/1990	0.04	0.42	706	6.07	2.7
Average	31/10/1987	2.81	2.73	9,796	6.81	23.8
90 th Percentile	29/04/1997	13.23	4.99	22,316	8.29	20.0
Maximum	8/03/2006	15.97	5.88	28,751	8.70	218.2
Data Count (n)	-	292	258	274	28	13

Attachment 3. Water Availability Review

Maps prepared for the water availability review are provided below showing:

- Figure A3.1. Groundwater Bore Locations
- Figure A3.2. Saprolite and Saprocks Depth Plots
- Figure A3.3. Groundwater Level Data Plots
- Figure A3.4. Estimated Depth to Groundwater Map
- Figure A3.5. Groundwater Salinity Plots
- Figure A3.6. Groundwater Salinity Map
- Figure A3.7. Groundwater Salinity Map (central area extract)
- Figure A3.8. Prospective Fresh Groundwater Location Map

Refer to Section 4.0 for commentary on the above outputs.

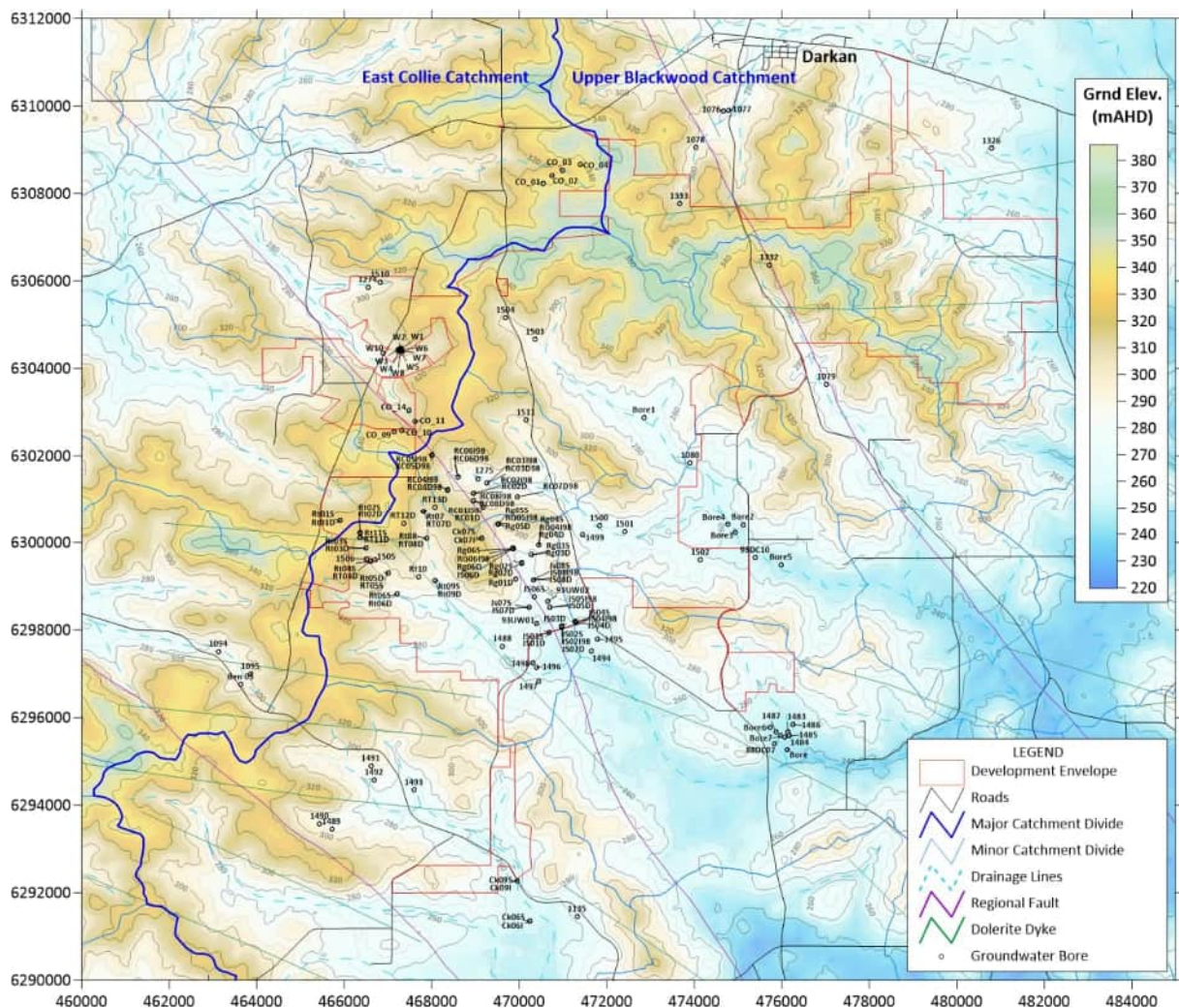


Figure A3.1. Groundwater Bore Locations

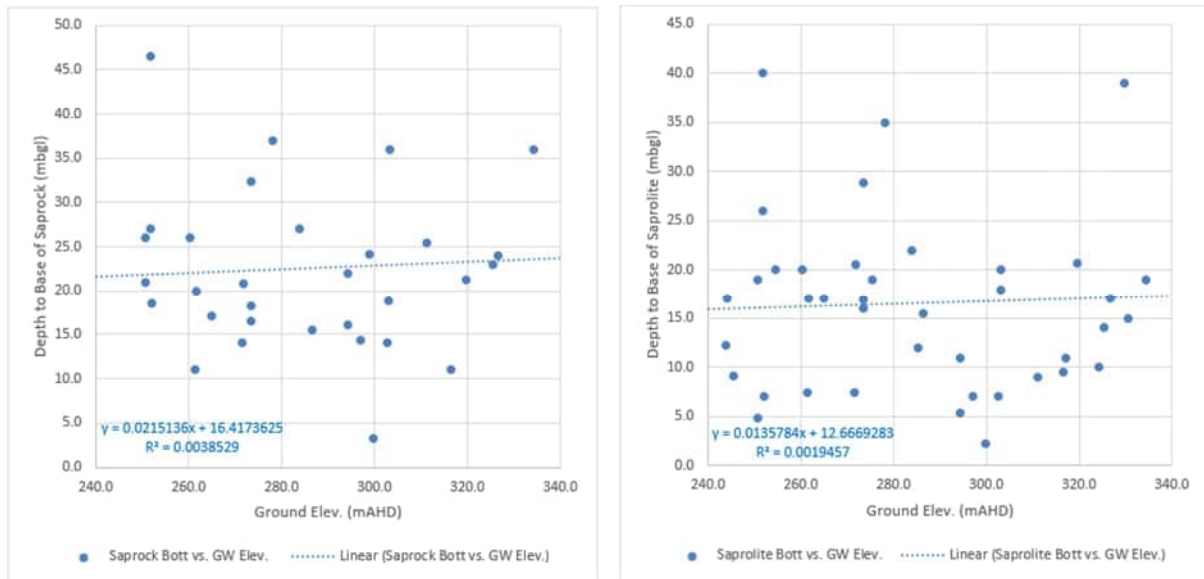


Figure A3.2. Sapolite and Saprock Depth Plots

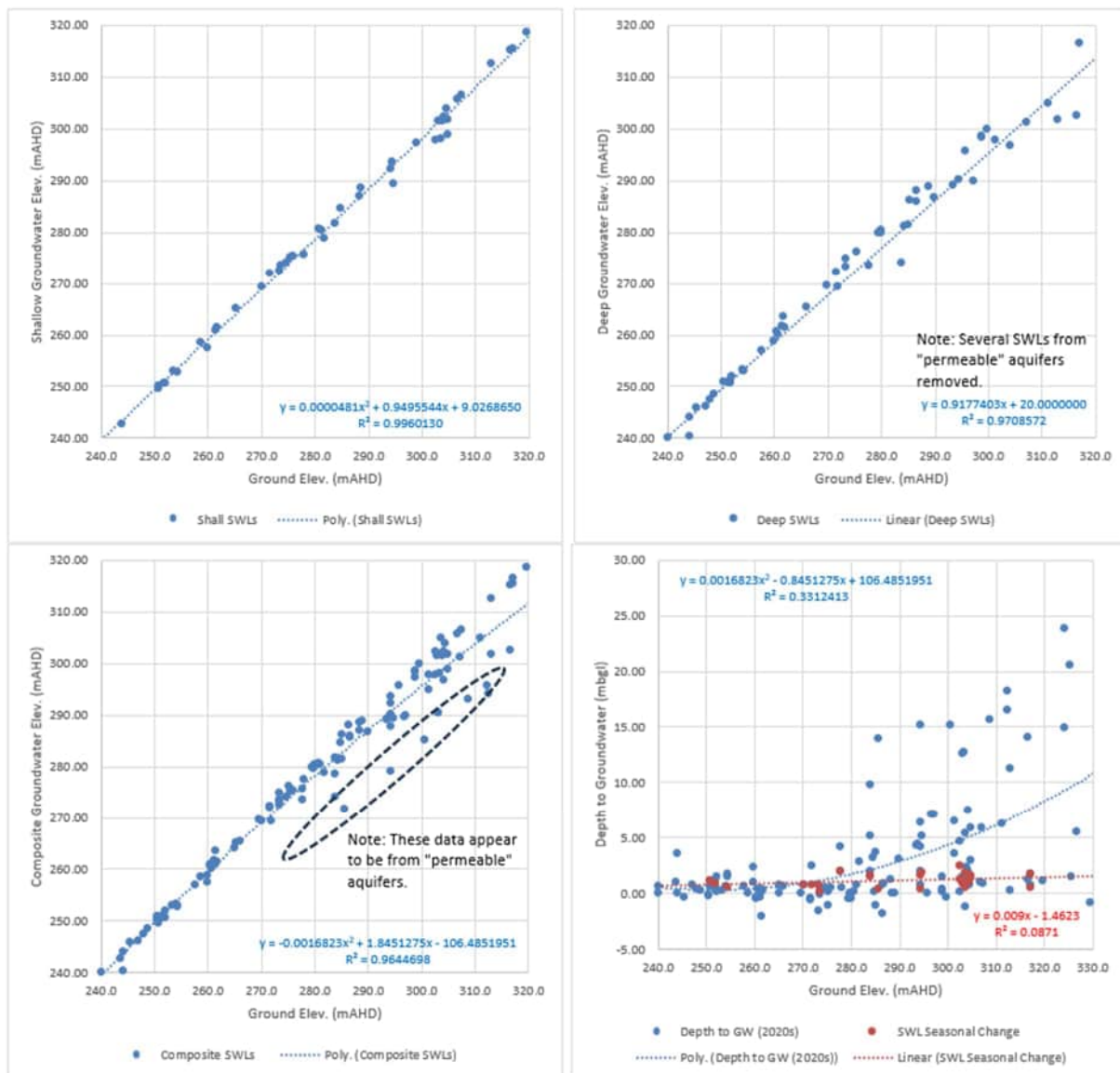


Figure A3.3. Groundwater Level Data Plots

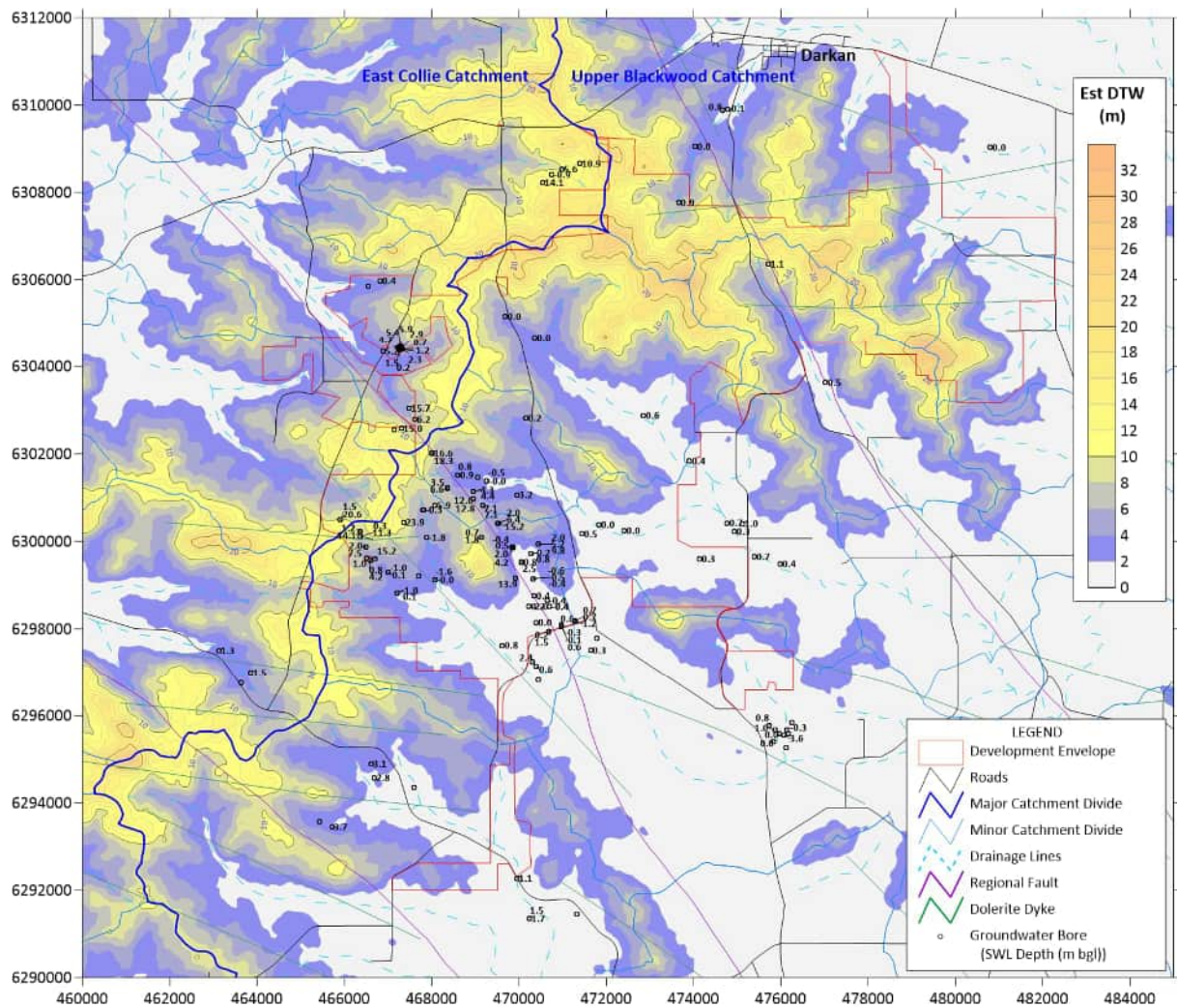


Figure A3.4. Estimated Depth to Groundwater Map

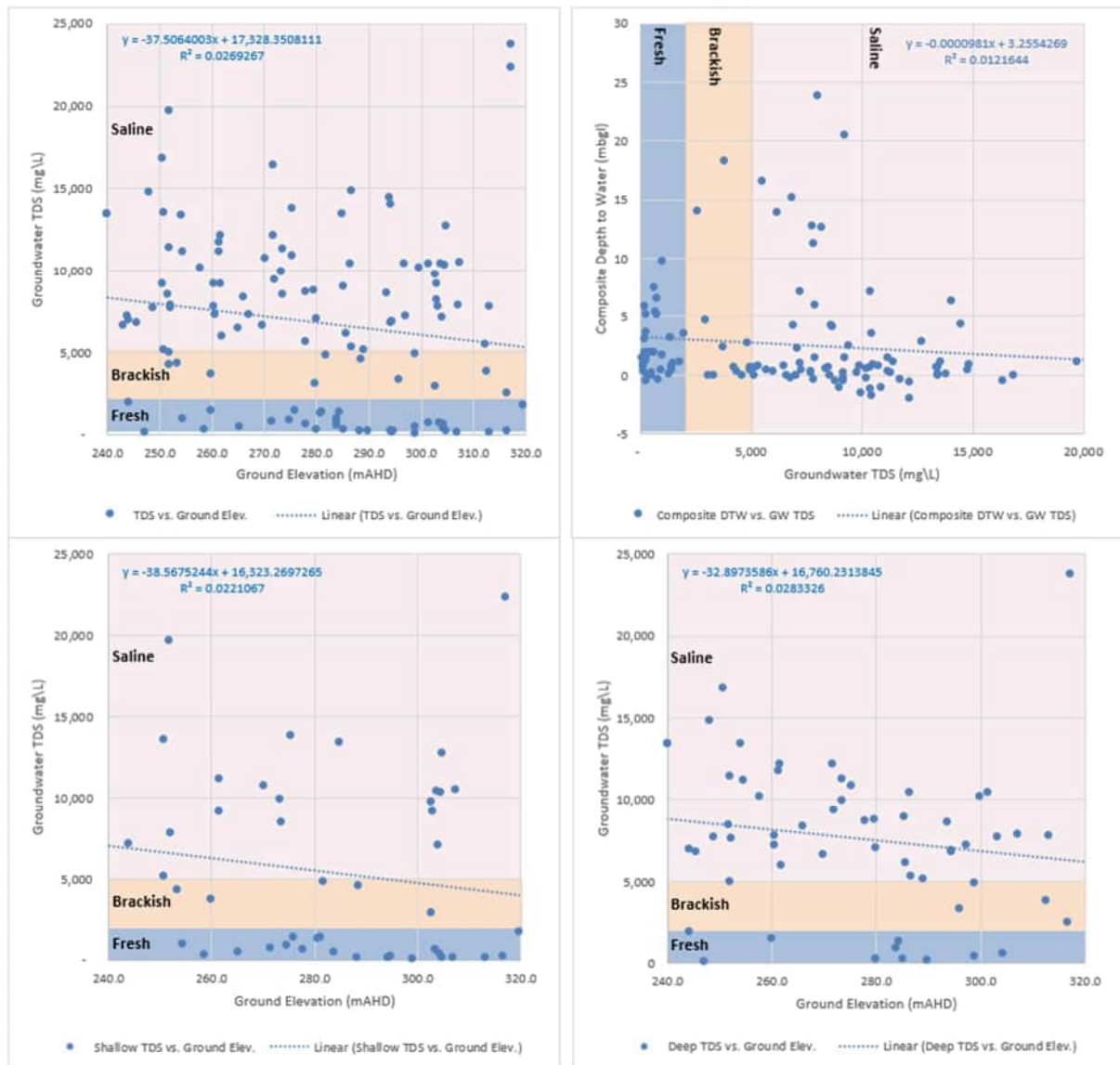


Figure A3.5. Groundwater Salinity Plots

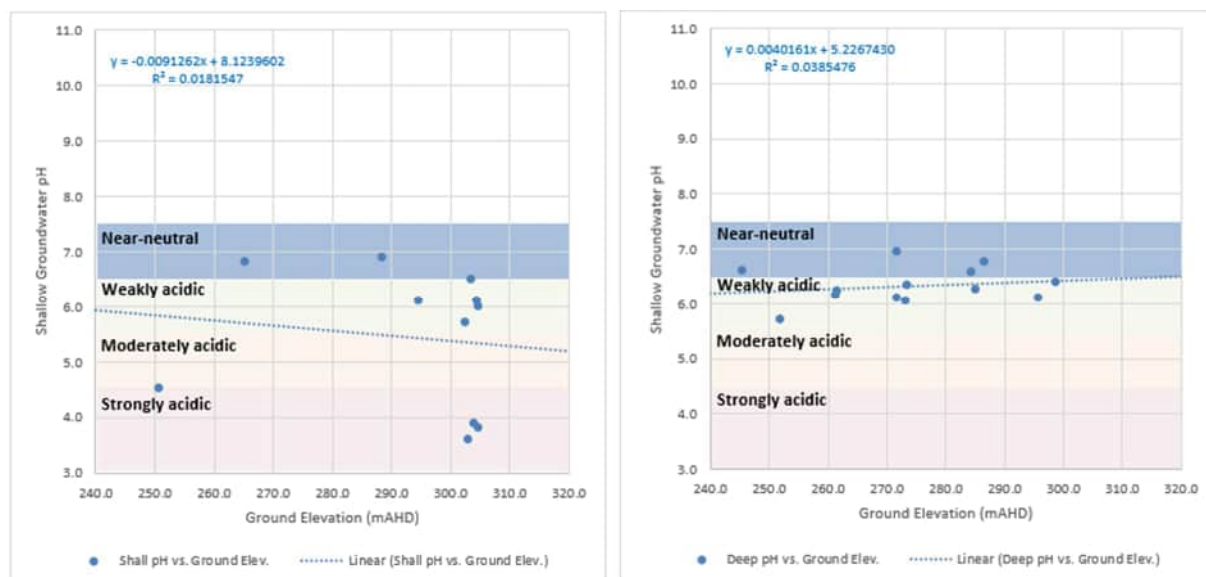


Figure A3.6. Groundwater pH Plots

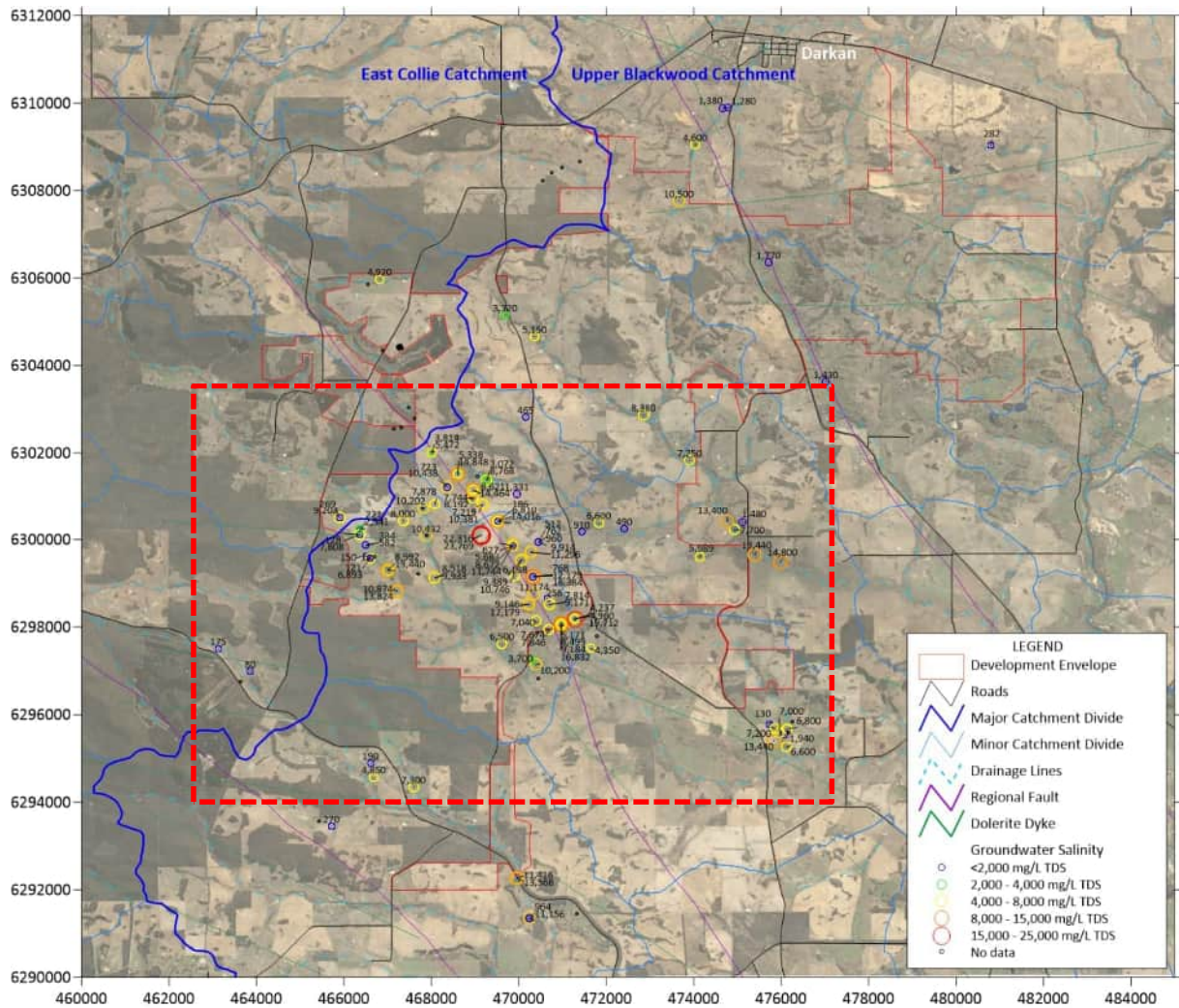


Figure A3.7. Groundwater Salinity Map (red box indicates extent of extract below)

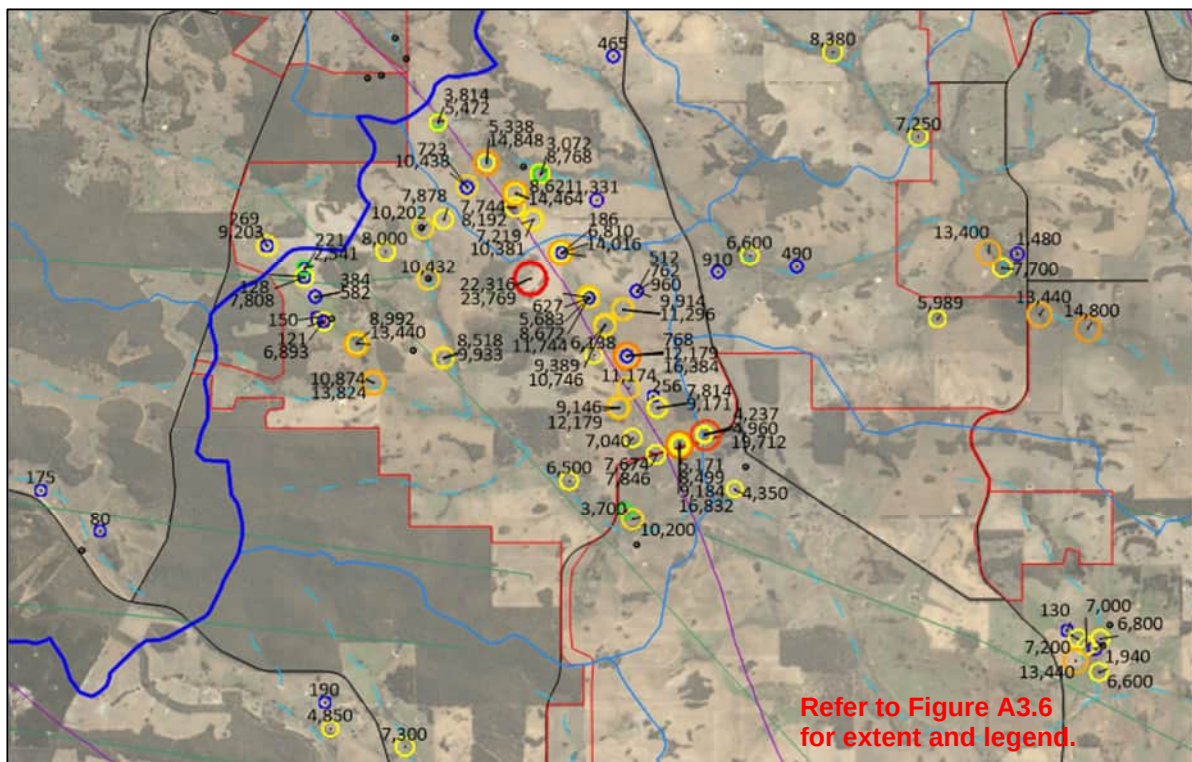


Figure A3.8. Groundwater Salinity Map (central area extract)

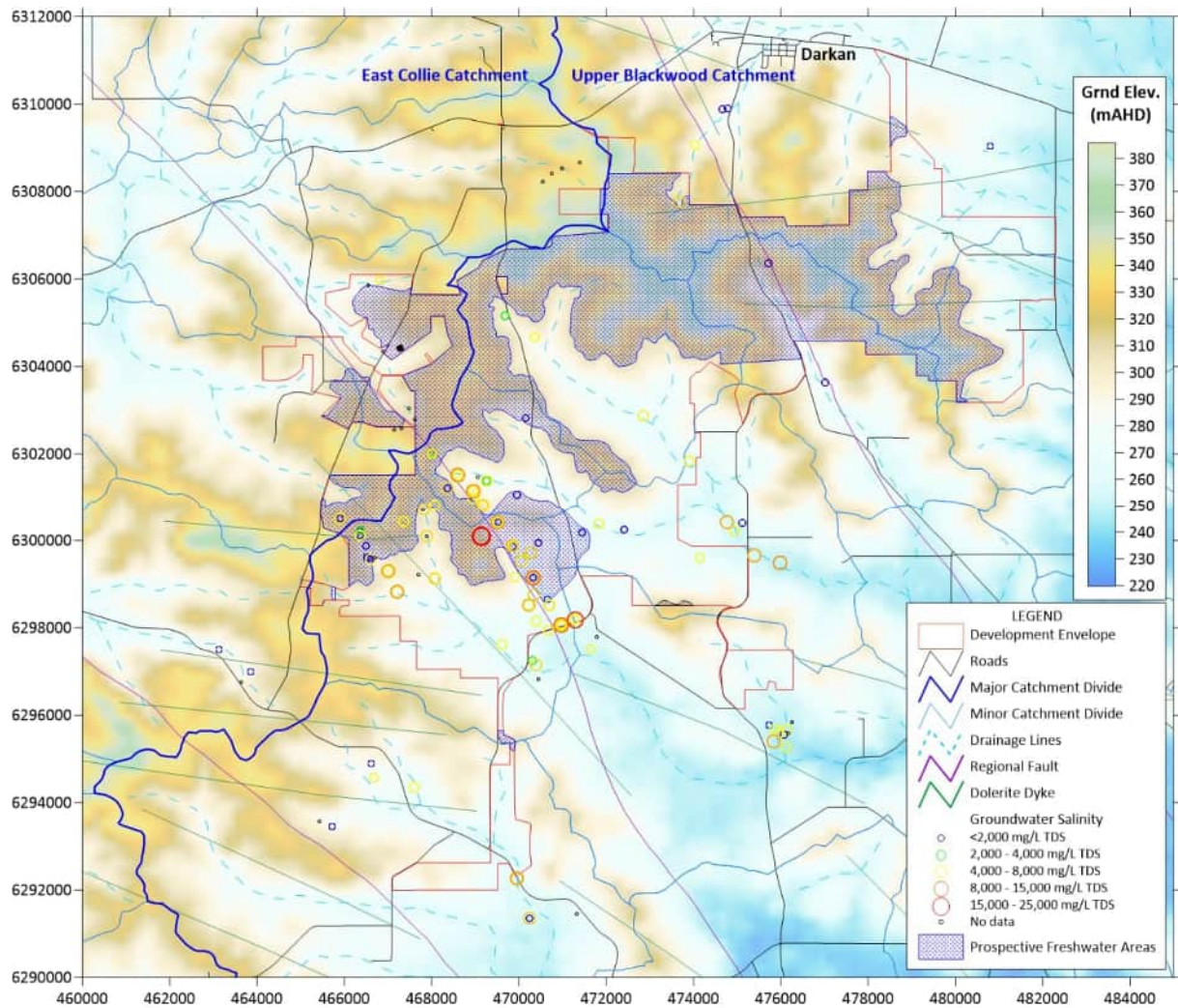


Figure A3.9. Prospective Fresh Groundwater Location Map