



## Request for Tender

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Request for Tender:	<i>DESIGN, SUPPLY AND INSTALL REVERSE OSMOSIS PLANT</i>
Deadline:	<i>AWST 2.00 PM TUESDAY 3 DECEMBER 2024</i>
Address for Delivery:	<p>TENDER SUBMISSIONS MUST BE SUBMITTED VIA TENDERLINK</p> <p><a href="https://www.tenderlink.com/uppergascoyne">https://www.tenderlink.com/uppergascoyne</a></p> <p>NO OTHER FORMAT OF SUBMISSION WILL BE ACCEPTED</p>
RFT Number:	<i>RFT 05 24-25</i>

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## 1 GENERAL INFORMATION FOR TENDERERS

### 1.1 General

This PART 1 provides Tenderers with a brief description of the services required and a background to the Tender process. If there is any conflict between it and the detailed Specifications in the later Sections of these documents, the requirements in the later Sections shall have precedence.

This Request for Tender is comprised of the following parts:

- Part 1 – General Information for Tenderers (read and keep this part)
- Part 2 – Conditions of Tendering (read and keep this part)
- Part 3 – General Conditions of Contract (read and keep this part)
- Part 4 – Special Conditions of Contract (read and keep this part)
- Part 5 - Tenderers Offer and Responses (complete and return this part)
- Part 6 – Tender Response Schedules (complete and return this part including all schedules)
- Part 7 – Appendices (read and keep this part)

#### Separate Documents

- Addenda and any other special correspondence issued to Tenderers by the Principal.
- Any other policy or document referred to but not attached to the Request

### 1.2 Contract Requirements in Brief

Suitably resourced, skilled and experienced contractors are invited to submit a tender for the design, supply, installation, commissioning and training of a Reverse Osmosis Plant to be located in the Gascoyne Junction townsite.

### 1.3 Contract Objectives

The Objectives of the Contract include the following:

- To complete the scope of work in accordance with the project specifications.
- To undertake the works in a safe, cost-effective and efficient manner to achieve an acceptable standard of performance in accordance with industry standards and standards required by this specification.

## Part 1 READ AND KEEP THIS PART

- To maintain regular and effective communication between the Contractor and Principal to ensure a high quality and standard of all works required under the contract.
- To ensure compliance with all Shire of Upper Gascoyne's purchasing and procurement policies as well as the Shire's Disability Access Inclusion Plan. Refer to the Shire's website for further information.

### 1.4 Definitions

Below is a summary of some of the important defined terms used in this Request:

Attachments:	The documents you attach as part of your Tender.
Contractor:	Means the person or persons, corporation or corporations whose Tender is accepted by the Principal, including the executors or administrators, successors and assignments of such person or persons, corporation or corporations.
Deadline:	The deadline for lodgement of your Tender as detailed on the front cover of this Request.
General Conditions of Contract:	Means the General Conditions of Contract for the Provision of Services nominated in Part 3.
Offer:	Your offer to supply the Requirements.
Principal:	Shire of Upper Gascoyne
Request OR RFT OR Request for Tender:	This document.
Requirement:	The Services requested by the Principal.
Selection Criteria:	The Criteria used by the Principal in evaluating your Tender.
Specification:	The Statement of Requirements that the Principal requests you to provide if selected.
Tender:	Completed Offer form, Response to the Selection Criteria and

**Part 1 READ AND KEEP THIS PART**

	Attachments.
Tenderer:	Someone who has or intends to submit an Offer to the Principal.
Works or Services:	Means the Works or Services, which the Contractor is required to provide to the Principal and the Contractor under the Contract.

### 1.5 Scope of Work

The Shire of Upper Gascoyne is seeking tenders for the provision of services to carry out the design and supply for a reverse osmosis plant.

The purpose of this plant is to provide water sustainability to the Shire's surrounding public parks and gardens. At present, the Shire pump water from the alluvium aquifer within the Gascoyne River, however due to expansion of townsite parks, the unreliable supply of rainfall and river flows, and our arid climate, the Shire intend to use an alternative water source. The intention is to safeguard the town's potable water supply which also comes from the alluvium aquifer within the Gascoyne River.

The Shire recently conducted exploration within the area for an alternative water source, this exploration identified an aquifer below the town site and drilling was conducted. This drilling reached a depth of approximately 800m, and a 4" bore casing was installed with screens at a depth of approximately 720m.

#### 1.5.1 Background

- The bore is located at 10 Gregory Street, Gascoyne Junction, Western Australia, 6705.
- The bore was test pumped for 24 hours and produces 2L/sec – 7.2m<sup>3</sup>/hr - 172kL/day at a depth of 8m with use of a 3 Phase centrifugal pump.
- The water produced is 49 degrees Celsius. Through heat loss in underground pipes, the heat will be 40 degrees Celsius.
- The salinity of the water was tested at approximately 6,248ppm.
- 3 phase power is available
- The Shire of Upper Gascoyne pays \$0.32 per kw.
- Water sample tests are attached, along with the bore design, and the bore completion report.
- Wastewater disposal will be via evaporation ponds, these ponds will be 1.5km away.

- The target maximum TDS is approximately 1,000ppm or below, however in the future the ability to blend feed water into the system for a higher target of 2,000ppm would be beneficial to be part of the design.
- The production target is up to 130m<sup>3</sup>/day (5.4m<sup>3</sup>hr), 7 days a week.
- The desired operation would be the RO Plant been fed directly from the Bore supply to operate in an anerobic state

## 1.6 Contract Specifics

### 1.6.1 Required Items (Non-Provisional)

This Reverse Osmosis Plant and associated equipment requires a minimum of, but not limited to the following:

#### REVERSE OSMOSIS SYSTEM

- 130m<sup>3</sup>/day nominal production- 180m<sup>3</sup>/day maximum production.
- 75% or above recovery design.
- Grundfos CRN 316L Feed pump with remote VSD or equivalent.
- 5-micron prefiltration with a SS housing.
- Grundfos CRN 316L HP pump fitted with remote VFD or equivalent.
- Remote VSD for control of existing RO Feed submersible pump, Franklin - 316SS - 3PH Hi Temp 75C - 1 X 4M LEAD | 3.7 kW or equivalent.
- Option for the control on inlet for flow/pressure.
- Grundfos antiscalant dosing pump including tank or equivalent.
- 3 x 8" FRP 300PSI Membrane Housings.
- Hydranautics membranes (9 total in 3 vessels).
- Integrated membrane Clean-In-Place system.
- Analytical Instrumentation (Conductivity) of feed and permeate.
- Magflow Flow transmitters.
- KOYO PLC with 10" Colour Touchscreen HMI screen in IP65 Control Panel or equivalent.
- PID control for permeate production flow control.
- Capability for tank float level control switch or equivalent.

## **Part 1 READ AND KEEP THIS PART**

- Removal of major items (RO High Pressure pump unit as an example) from the sea container shall be possible without disassembling other equipment.
- First fill operational reagents.

### Sea Container

- New (once used) 20' High Cube (HC) sea container with personnel access door. To be painted in white.
- Sufficient insulation panel to walls doors and ceiling to handle maximum outside ambient temperature of 50 degrees Celsius in summer.
- Sufficient split Air Conditioner to handle maximum outside ambient temperature of 50 degrees Celsius in summer.
- Sufficient double fluorescent LED lights IP65 and one exit light.
- Commercial anti-skid vinyl floor covering or equivalent.
- Fire extinguisher as per Australian Standards.

### Electrical

- The plant must have an external termination/entry point for the incoming main electrical supply.
- The plant must have an external termination/entry point for the control/power of the existing production bore.
- The plant must have an external termination/entry point for a float switch or equivalent for the product water tank.
- The current artesian bore has a natural flow of 1L/second. The plant must have an electrically actuated feed inlet valve to prevent the natural flow of bore water entering the plant. This valve must open when the main bore pump is engaged.
- All motors shall be supplied from IP56 switched sockets which allow the motor to be readily isolated or disconnected.
- All internal fittings to be surface mounted. Nut, Bolts & Fasteners are required to be 316 Stainless Steel.
- All internal fabricated metal work/skid/supports to be at least 304 Stainless Steel.
- All cable trays to be at least 304 Stainless Steel or non-ferrous.



- All electrical assembly works shall comply with the requirements of AS3000 and be suitable for supply from a three phase plus neutral 415VAC/ 240VAC 50Hz power system.
- Vendor equipment packages supplied with proprietary electrical and control systems shall be housed in suitable enclosures appropriate to the operating environment and meet the following:
  1. Shall be suitably labelled as to describe the function.
  2. Enclosures shall have a degree of protection rating of not less than IP56.

#### Control and Instrumentation

- The RO package starts up, operation and shutdown shall be fully automated. The RO package shall shut down when product water is out of conductivity (set point to be adjustable depending on project requirement). The package shall consider the following inputs from external assets (from analog or level switch):
  1. RO package starts when filtrate tank (downstream tank by others) level reaches low level.
  2. RO package stops when filtrate tank level reaches high level,
  3. Feed pump stops when bore pump pressure is low.
- Automatic unit shutdown will occur when a critical alarm is reached.

#### PLC and OIP

- The PLC by the Supplier shall contain the associated programs to control the RO package.
- The OIP shall be supplied with a minimum colour screen size of 10 inch with the associated programs and functions (set points screen, system overview, modules detail, product water detail, feed water detail and alarm detail, etc.).
- A volt free relay output shall be provided to indicate the health status of the unit as available. A volt free relay output shall be provided to indicate general fault alarm. A volt free relay output shall be provided to indicate the system is operating.

#### Plumbing/Mechanical

- All pipes and Valves shall consider the salinity of the fluid and use of chemicals. Type of connections for the valves shall be in compliance with Australian standards.

- The pipes shall be clearly labelled (type of fluid and arrows) and must be adequately supported.
- High Pressure line in Duplex 2205 pipe (instead of SS316).
- Adequate brackets to support equipment and piping
- Flanged fitting to be fitted to external of container for incoming raw water, fitting to allow for ease of connection.
- Flanged fitting to be fitted external of container for outgoing treated water, fitting to allow for ease of connection.
- Flanged fitting to be fitted external of container for outgoing wastewater, fitting to allow for ease of connection.

#### Detailed Design Requirements/Costs

- Produce drawings, construction specifications, electrical drawings and other supporting documents in sufficient detail to enable technical review.
- Provide an operating cost estimate based on \$0.32 per kW.
- Projected yearly maintenance costs, inclusive of membranes (replace every 2 years), flushing/cleaning chemicals, antiscalant etc.
- Provide all documents required to commission, operate and maintain the asset.

#### Operation and Maintenance Manuals

- The Supplier shall provide Operation and Maintenance Manuals.

#### Training

- The Supplier will be required to provide onsite training for the Purchaser's operations and maintenance personnel, including specialist training by equipment suppliers.

#### Commissioning Requirements

- The Contractor shall prepare a detailed Commissioning Plan.

#### Proving Period

- The duration of the proving period shall be 24 hours during which the supplier shall operate reliably and continuously demonstrate performance in compliance with the specification. The Proving Period shall be in addition to equipment tests carried out during commissioning (such as validation tests, power failure tests etc.)

- Warranty period must be stated.

#### 1.6.2 Optional Items (Provisional)

##### **Ongoing support**

- Provide an option and pricing for ongoing support and maintenance.

All work to be installed in accordance with the building code of Australia and Australian Standards. The final scope will be dependent on prices received and according to Shire of Upper Gascoyne's budgetary limitations.

## **2 CONDITIONS OF TENDERING**

The applicable General Conditions of Contract, as referred to in this Request, are contained in Section 3. Tenderers are to ensure they have read and understood the General Conditions of Contract and shall include in their tendered price the cost of complying with the General Conditions of Contract.

### **2.1 How to Prepare Your Tender**

- a) Carefully read all parts of this document
- b) Ensure you understand the Requirements
- c) Complete and return the Offer (Part 5) and Schedules (Part 6) in all respects and include all Attachments
- d) Make sure you have signed the Offer form and responded to all the Selection Criteria
- e) Lodge your Tender before the Deadline

### **2.2 Contact Persons**

For any additional information, clarifications or requests please contact the person listed below.

Tenderers should not rely on any information provided by any person other than the person listed below:

<b>Name:</b>	Sean Walker, Town Maintenance Supervisor
<b>Telephone:</b>	0409 840 636
<b>Email:</b>	wf@uppergascoyne.wa.gov.au

### **2.3 Tender Briefing / Site Inspection**

The Principal does not intend to conduct a tender briefing / site inspection. The Principal strongly recommends that prospective tenderers make themselves aware of the Shire and its environment prior to submitting a tender.

### **2.4 Lodgement of Tenders and Delivery Method**

The tender must be lodged by the Deadline.

The Deadline for this request is **2.00PM TUESDAY 3 DECEMBER 2024.**

Tenderers shall address and clearly label their tender submission as Shire of Upper Gascoyne – **RFT 05 24-25 DESIGN, SUPPLY AND INSTALL REVERSE OSMOSIS PLANT.**

**All tenders must be submitted prior to the deadline via Tenderlink which can be accessed via the following website:**

<https://www.tenderlink.com/uppergascoyne>

**NO OTHER FORMAT OF SUBMISSION WILL BE ACCEPTED.**

It is the tenderer's responsibility to ensure timely and complete delivery of any submission document. Tenders will not be accepted after the nominated closing date and time, or a revised closing date and time notified in writing to all Tenderers.

## **2.5 Rejection of Tenders**

A Tender will be rejected without consideration of its merits in the event that it is not submitted before the Deadline and may be rejected without consideration of its merits in the event that:

- a) It is not submitted at the place specified in the Request; or
- b) It fails to comply with any other requirements of the Request.

## **2.6 Late Tenders**

Tenders received after the Deadline will not be accepted for evaluation.

## **2.7 Acceptance of Tenders**

Unless otherwise stated in this Request, Tenders may be for all or part of the Requirements and may be accepted by the Principal either wholly or in part. The Principal is not bound to accept the lowest Tender and may reject any or all Tenders submitted.

## **2.8 Customs Duty**

The Tenderer shall allow for any customs duty and premise applicable to all imported materials, plant and equipment required in connection with the works in its Tender.

## **2.9 Site Allowances**

This contract is not subject to adjustment for Site allowances.

## **2.10 Disclosure of Contract Information**

Documents and other information relevant to the contract may be disclosed when required by law under the *Freedom of Information Act 1992* or under a Court order.

All Tenderers will be given the particulars of the successful Tenderer (s) or be advised that no Tender was accepted.

### **2.11 Tender Validity Period**

All Tenders will remain valid and open for acceptance for a minimum period of ninety (90) days from the Deadline or forty-five (45) days from the Principal's resolution for determining the Tender, whichever is the later unless extended on mutual agreement between the Principal and the Tenderer in writing.

### **2.12 Precedence of Documents**

In the event of there being any conflict or inconsistency between the terms and conditions in this Request and those in the General Conditions of Contract, the terms and conditions appearing in this Request will have precedence.

### **2.13 Discrepancies, Errors and Emissions**

Should Tenderers find:

- any discrepancy, error or omissions in the Tender Documents; or
- the Tender documents are at variance with laws, ordinance, rules and regulations bearing on the conduct of the work;

they shall notify the Contact Person promptly in writing thereof, before the Deadline.

Any work performed contrary to such laws, ordinances, rules and regulations will not be accepted.

### **2.14 Statutory Requirements**

Tenderers shall make allowance to provide evidence that the work to be undertaken or completed or in progress satisfies all relevant statutory requirements. All materials, equipment, and work methods proposed by the Tenderer shall comply with the Work Health and Safety requirements presently in force within Western Australia.

### **2.15 Alternative Tenders**

Tenders submitted as Alternative Tenders or made subject to conditions other than the General and Special Conditions of Contract must in all cases arising be clearly marked **“ALTERNATIVE TENDER”**. For an Alternative Tender to be considered, it must be accompanied by a conforming Tender.

The Principal may in its absolute discretion reject any Alternative Tender as invalid.

Any printed “General Conditions of Contract” shown on the reverse of a Tenderer’s letter or quotation form will not be binding on the Principal in the event of a Contract being awarded unless the Tender is marked as an Alternative Tender

Alternative Tenders must offer significant advantage over conforming tenders to the Shire if they are to be accepted by the Shire.

## **2.16 Tenderers to Inform Themselves**

Tenderers will be deemed to have:

- a) examined the Request and any other information available in writing to Tenderers for the purpose of tendering;
- b) examined all further information relevant to the risks, contingencies, and other circumstances having an effect on their Tender which is obtainable by the making of reasonable enquires;
- c) satisfied themselves as to the correctness and sufficiency of their Tenders including tendered prices which will be deemed to cover the cost of complying with all the Conditions of Tendering and of all matters and things necessary for the due and proper performance and completion of the work described therein;
- d) acknowledged that the Principal may enter into negotiations with a chosen Tenderer and that negotiations are to be carried out in good faith; and
- e) satisfied themselves they have a full set of the Request documents and all relevant attachments.

## **2.17 Alterations**

The Tenderer must not alter or add to the Request documents unless required by these Conditions of Tendering.

The Principal will issue an addendum to all registered Tenderers where matters of significance make it necessary to amend or supplement the issued Request documents before the Deadline.

## **2.18 Risk Assessment**

The Principal may have access to and give consideration to:

- a) any risk assessment undertaken by any credit rating agency;
- b) any financial analytical assessment undertaken by any agency; and
- c) any information produced by the Bank, financial institution, or accountant of a Tenderer;

so as to assess that Tender and may consider such materials as tools in the Tender assessment process.

Tenderers may be required to undertake to provide to the Principal (or its nominated agent) upon request all such information as the Principal reasonably requires to satisfy itself that Tenderers are financially viable and have the financial capability to provide the Services for which they are submitting and meet their obligations under any proposed Contract.

The Principal reserves the right to engage (at its own cost) an independent financial assessor as a nominated agent to conduct financial assessments under conditions of strict confidentiality. For this assessment to be completed, a representative from the nominated agent may contact you concerning the financial information that you are required to provide.

The financial assessment is specifically for use by the Principal for the purpose of assessing Tenderers and will be treated as strictly confidential.

## **2.19 Evaluation Process**

This is a Request for Tender.

Your Tender will be evaluated using information provided in your Tender.

The following evaluation methodology will be used in respect of this Request:

- a) Tenders are checked for completeness and compliance. Tenders that do not contain all information requested (e.g. completed offer form, attachments and any other information and/or documentation requested within this tender) may be excluded from evaluation.
- b) Tenders are assessed against the Selection Criteria. Contract costs are evaluated (e.g. tendered prices) and other relevant whole of life costs are considered.
- c) The most suitable Tenderers may be shortlisted and may also be required to clarify their Tender, make a presentation, demonstrate the product/solution offered and/or open premises for inspection. Referees may also be contacted prior to the selection of the successful Tenderer.

A Contract may then be awarded to the Tenderer whose Tender is considered the most advantageous Tender to the Principal.

The Principal reserves the right to take into consideration any feature of a tender that provides a benefit to the Shire of Upper Gascoyne and the community. Further, the Principal also reserves the right to take into consideration the Tenderer's past performance on any previous projects undertaken for the Shire. Any additional features or past performance will be evaluated in accordance with the value-for-money assessment process outlined within.



## **2.20 Confidentiality of Submission Information**

The Principal will treat all information provided in a Tender submission as confidential and will not use it other than for purposes of, or related to, the Tender evaluation or as otherwise required by law.

Documents and other information relevant to a Tender may be disclosed when required by law, such as under the Freedom of Information Act 1992, the Local Government Act 1995, the Local Government (Functions and General) Regulations 1996 or under a court order documents and other information relevant to the contract may be disclosed when required by law under the Freedom of Information Act 1982 or under Court Orders.

All Tenderers will be given particulars of the successful Tenderer or advised that no Tender was accepted

## **2.21 Property and Copyright in Request Documents**

All intellectual property, including patents, copyright, trademarks, know-how, technical information and confidential information in or attaching to this Request shall remain the property of the Principal. A Tenderer shall not use any of the information in this Request for any purpose other than the preparation of its Tender submission

## **2.22 Compliance Criteria**

The criteria detailed in Section 4.2 will not be point scored. Each Tender will be assessed by the Principal on a Compliant/Non-Compliant basis as to whether the criterion is satisfactorily met. An assessment of “Non-Compliant” against any criterion may eliminate the Tenderer from consideration.

Compliant tenders will proceed to be evaluated against the selection criteria

## **2.23 Selection Criteria**

The Contract may be awarded to a sole Tenderer or a panel of Tenderer(s) who best demonstrate the ability to provide quality services at a competitive price. The tendered prices will be assessed together with qualitative and compliance criteria to determine the most advantageous outcome to the Principal.

The Principal has adopted a “best value for money” approach to this Request.

This means that, although the price is considered, the Tender containing the lowest price will not necessarily be accepted, nor will the Tender rank the highest on the qualitative criteria.

Failure to address all the Selection Criteria may result in the tender being deemed non-compliant and the tender rejected.

## Part 2 READ AND KEEP THIS PART

The Selection Criteria is comprised of the following components:

Criteria	Weighting
Organisational Capacity (Timing)	30%
Product Quality	30%
Offers Best Value for Money	20%
Methodology for Construction & Delivery	20%

### 2.24 Qualitative Criteria (100%)

In determining the most advantageous Tender, the Evaluation Panel will score each Tender against the qualitative criteria as detailed within Section 4.3.1 of this document. Each criterion will be weighted to indicate the relative degree of importance that the Principal places on the technical aspects of the goods or services being purchased.

It is essential that Tenderers address each qualitative criterion. Information that you provide addressing each qualitative criterion will be point scored by the Evaluation Panel.

**Failure to provide the required information may result in the tender being deemed non-compliant and elimination from the tender evaluation process or a low score.**

Before responding to the following qualitative criteria, Tenderers must note the following:

- All information relevant to your answer to each criterion are to be contained within your Tender
- Tenderers are to assume that the Evaluation Panel has no previous knowledge of your organisation, its activities or experience
- Tenderers are to provide full details for any claims, statements or examples used to address the qualitative criteria
- Tenderers are to address each issue outlined within the qualitative criterion

A scoring system will be used as part of the assessment of the qualitative criteria. Unless otherwise stated, a Tender that provides all the information requested will be assessed as satisfactory. The extent to which a Tender demonstrates greater satisfaction of each of these criteria will result in a greater score. The aggregate score of each Tender will be used as one of the factors in the final assessment of the qualitative criteria and in the overall assessment of value for money.

## **2.25 Price**

Price is a non-weighted criterion. The price will be one of the considerations used by the Council to inform their decision in awarding this RFT. The Tenderer is to complete the Price Schedules given in Section 4.3.3.

**Before completing the Price Schedule, Tenderers should ensure they have read this entire Request.**

## **2.26 Price Basis**

All prices for products / services offered under this RFT Request are to be fixed for the term of the Contract.

**Tendered prices are EXCLUSIVE of Goods and Services Tax (GST).**

Unless otherwise indicated prices tendered must include all applicable levies, duties, taxes and charges. Any charge not stated in the Tender, as being additional will not be allowed as a charge for any transaction under any resultant Contract.

**There is no provision for rise and fall within this Contract.**

## **2.27 Regional Price Reference**

Tenderers for the contract may be afforded a preference in accordance with Regulation 24(A-G) of the Local Government (Functions and General) Regulations and the Shire of Upper Gascoyne's Regional Price Preference Policy.

Refer to Appendix 2 for details of the Shire's Policy.

Tenderers have the opportunity to claim a Regional Price preference by indicating as such in Schedule 4.

**It is the sole responsibility of the tenderer to nominate how their tender is eligible for consideration under the Shire's Regional Price Preference Policy. Tenderers must not assume any prior knowledge of the Shire and/or the Tender Evaluation Panel. A failure to specifically state what elements of a tender are eligible for regional price preference may result in that tender not being considered for preference under the policy.**

## **2.28 Ownership of Tenders**

All documents, materials, articles and information submitted by the Tenderer as part of or in support of the Tender will become upon submission the absolute property of the Principal and will not be returned to the Tenderer at the conclusion of the Tender process provided

that the Tenderer be entitled to retain copyright and other intellectual property rights therein, unless otherwise provided by the Contract.

### **2.29 Canvassing of Officials**

If the Tenderer, whether personally or by an agent, canvasses any of the Principal's Commissioners or Councillors Officers (as the case may be) with a view to influencing the acceptance of any Tender made by it or any other Tenderer, then regardless of such canvassing having any influence on the acceptance of such Tender, the Principal may at its absolute discretion omit the Tenderer from consideration.

### **2.30 Identity of the Tenderer**

The identity of the Tenderer and the Contractor is fundamental to the Principal. The Tenderer will be the person, persons, corporation or corporations named as the Tenderer in Schedule 1 and whose execution appears on the same schedule. Upon acceptance of the Tender, the Tenderer will become the Contractor.

### **2.31 Costs of Tendering**

The Principal will not be liable for payment to the Tenderer for any costs, losses or expenses incurred by the Tenderer in preparing their Offer.

### **2.32 Tender Opening**

Tenders will be opened in the office of the Shire of Upper Gascoyne, Gascoyne Junction, on or as soon as practicable after the advertised Deadline in accordance with all local government purchasing and tendering regulations.

All Tenderers and members of the public may attend or be represented at the opening of Tenders. Those who intend on attending the tender opening are requested to notify the tender's nominated contact person prior to the tender deadline.

The names of the persons who submitted a Tender by the due Deadline will be read out at the Tender Opening. No discussions will be entered into between Tenderers and the Principal's officers present or otherwise, concerning the Tenders submitted.

### **2.33 In House Tenders**

The Principal does not intend to submit an In-House Tender.

### **3    GENERAL CONDITIONS OF CONTRACT**

The General Conditions of Contract are the 23.07.28 WALGA - Goods and Services Supply Conditions (ID 657113); a copy is provided in Appendix 3.

## **4 TENDERER'S OFFER**

### **4.1 Form of Tender**

The Chief Executive Officer

Shire of Upper Gascoyne

4 Scott Street, Upper Gascoyne WA 6705

I/We (Registered Entity Name): \_\_\_\_\_

(BLOCK LETTERS)

of: \_\_\_\_\_

(REGISTERED STREET ADDRESS)

ABN \_\_\_\_\_ ACN (if any) \_\_\_\_\_

Telephone No: \_\_\_\_\_ Facsimile No: \_\_\_\_\_

E-mail: \_\_\_\_\_

#### **In response to RFT 05 24-25 DESIGN, SUPPLY AND INSTALL REVERSE OSMOSIS PLANT.**

I/We agree that I am/We are bound by and will comply with this Request and its associated schedules, attachments, all in accordance with the Conditions of Tendering contained in this Request signed and completed.

The tendered price is valid up to ninety (90) calendar days from the date of the Tender closing or forty-five (45) days from the Council's resolution for determining the Tender, whichever is the later unless extended on mutual agreement between the Principal and the Tenderer in writing.

I/We agree that there will be no cost payable by the Principal towards the preparation or submission of this Tender irrespective of its outcome.

The tendered consideration is as provided under the schedule of rates of prices in the prescribed format and submitted with this Tender.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2024

Signature of authorised signatory of Tenderer: \_\_\_\_\_

Name of authorised signatory (BLOCK LETTERS): \_\_\_\_\_

Position: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Authorised signatory Postal address: \_\_\_\_\_

Email Address: \_\_\_\_\_

**Part 4 COMPLETE AND RETURN THIS PART****4.2 Compliance Criteria**

Please select with a “Yes” or “No” whether you have complied with the following compliance criteria.

Description of Compliance Criteria	Yes	No
<b>i) Compliance with the Conditions of this Request</b>  Respondents are to provide acknowledgment that your organisation has submitted in accordance with the Conditions of this RFT including completion of the Offer Form and provision of your pricing submitted in the format required by the Principal.	<input type="checkbox"/>	<input type="checkbox"/>
<b>ii) Complete Respondents Offer</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>iii) Compliance with the Specification Contained in this Request</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>iv) Complete Pricing Schedule</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>v) Risk Assessment</b>  Respondents must address the following information in an attachment and label it “ <b>Risk Assessment</b> ”.  - Provide an outline of organisation structure inclusive of any branches and number of personnel.  - Attach current ASIC company extracts search including latest annual return.  - Provide the organisation’s Directors/Company Owners and any other positions held with other organisations.  - Provide a summary of how many years your organisation has been in business.  - Are you acting as an agent for another party? If Yes, attach details	<b><i>Tick if Attached</i></b> <input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

**Part 4 COMPLETE AND RETURN THIS PART**

<p>(including name and address) of your Principal.</p> <ul style="list-style-type: none"> <li>- Are you acting as a trustee of a trust? If Yes, give the name of the trust and include a copy of the trust deed (<i>and any related documents</i>); and if there is no trust deed, provide the names and addresses of beneficiaries.</li> <li>- Do you intend to subcontract any of the Requirements? If Yes, provide details of the subcontractor(s) including the name, address and the number of people employed; and the Requirements that will be subcontracted.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
<p>vi) <b>Financial Position</b></p> <p>In order to demonstrate your financial ability to undertake this contract, in an attachment labelled “<b>Financial Position</b>” respond to the questions below including a profit and loss statement and latest financial return (<i>OR a statement from your accountant attesting to your financial viability</i>) for you and each of the other proposed contracting entities, together with a list of financial referees from your bank and/or accountant.</p> <ul style="list-style-type: none"> <li>- Does the Tenderer have the ability to pay all debts in full as and when they fall due? (If no, please provide details)</li> <li>- Does the Tenderer have any current litigation, claim or judgement as a result of which you may be liable for \$50,000 or more? (If yes, please provide details)</li> <li>- Will the Tenderer cooperate with an independent financial assessor during the conduct of financial assessments (if required)? (If no please outline reasons why)</li> </ul>	<p style="text-align: center;"><b><i>Tick if Attached</i></b></p> <p style="text-align: center;"> <input type="checkbox"/> </p>	
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>



**Part 4 COMPLETE AND RETURN THIS PART**

<p><b>vii) Conflict of Interest</b></p> <p>Will any actual or potential conflict of interest in the performance of the Tenderers obligations under the Contract exist if awarded the Contract, or are any such conflicts of interest likely to arise during the Contract? If yes, please provide details.</p>	<p><i>Information Supplied</i></p> <p>Yes / No</p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><i>Is there a Conflict of Interest?</i></p> <p>Yes / No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>	
<p><b>viii) Insurance</b></p> <p>Does the Tenderer maintain the minimum insurance requirements of this Request? If Yes, provide evidence of the Tenderers insurance coverage including, insurer, expiry date, value and type of insurance. If Tenderer holds “umbrella Insurance” please ensure a breakdown of the required insurances are provided. A copy of the Certificate of Currency is to be provided to the Principal within 7 working days of acceptance.</p> <p>Minimum insurance cover is as per Section <b>Error! Reference source not found.</b></p>	<p>Yes</p> <p><input type="checkbox"/></p>	<p>No</p> <p><input type="checkbox"/></p>
<p><b>ix) Critical Assumptions</b></p> <p>Tenderers are to specify any assumptions they have made that are critical to the Tender, including assumptions relating to pricing and ability to provide the Requirements in the manner specified in this Request. Tenderers should attach these assumptions in an attachment labelled <b><u>“Critical Assumptions”</u></b></p>	<p><i>Information Supplied</i></p> <p>Yes / No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>	

### 4.3 Selection Criteria

#### 4.3.1 Qualitative Criteria

Tenderers are required to address the following qualitative criteria and provide details in the relevant schedules. Any item requested in the schedules below that is not specifically addressed by the tenderer may affect the tenderers score.

Before responding to the following qualitative criteria, Tenderers must note the following:

**Part 4 COMPLETE AND RETURN THIS PART**

- a) All information relevant to your answers to each criterion are to be contained within your Tender
- b) Tenderers are to assume that the Evaluation Panel has no previous knowledge of your organisation, its activities or experience
- c) Tenderers are to provide full details for any claims, statements or examples used to address the qualitative criteria
- d) Tenderers are to address each issue outlined within a qualitative criterion

<b>A. Organisational Capacity (Timing)</b> Tenderers must provide details on the capacity of their organisation to complete the scope of work including but not limited to the following details.		<b>Weighting</b> <b>&lt; 30% &gt;</b> <b>Tick if attached</b>
	<ul style="list-style-type: none"> <li>- Provide details of the tenderer's capacity to complete the scope of work in accordance with the specifications</li> <li>- Provide details of the proposed timing that the tenderer proposes to complete the scope of work</li> <li>- Provide details of the tenderer's previous experience with similar work</li> </ul>	<input type="checkbox"/>
<b>B. Product Quality</b> Provide details on the tenderer's proposed quality of the goods and services provided including, but not limited to:		<b>Weighting</b> <b>&lt; 30% &gt;</b> <b>Tick if attached</b>
	<ul style="list-style-type: none"> <li>- How the tenderer manages product and services quality</li> <li>- What quality records the Shire will receive</li> <li>- How the tenderer's products and services compares to other similar products</li> <li>- What advantages the tenderer can offer to the Shire in terms of product quality</li> <li>- Provide details of how the tenderer will ensure that the work will be installed in accordance with the building code of Australia and Australian Standards.</li> </ul>	<input type="checkbox"/>
<b>C. Offers best value for money</b> Provide details on how the tenderer offers best value for money including but not limited to:		<b>Weighting</b> <b>&lt; 20% &gt;</b> <b>Tick if attached</b>
	<ul style="list-style-type: none"> <li>- What elements of the tenderer's offering represents best</li> </ul>	<input type="checkbox"/>

**Part 4 COMPLETE AND RETURN THIS PART**

	<p>value for money for the Shire.</p> <ul style="list-style-type: none"><li>- What features of the tenderer's offer demonstrate superior advantage to the Shire</li><li>- Provide details on the tenderer's proposed training, support and services that offer value to the Shire</li></ul>	
<b>D. Methodology for Construction &amp; Delivery</b> Provide details on the tenderer's construction and delivery methodology including but not limited to:		<b>Weighting</b> <b>&lt; 20% &gt;</b> <b>Tick if attached</b>
	<ul style="list-style-type: none"><li>- Provide details of the time required for the design portion of the scope of work</li><li>- Provide details on the tenderer's construction methodology including what resources will be used to deliver the scope of work</li><li>- Provide details on the proposed construction program</li><li>- Provide details of any site requirements to accommodate the tenderer's proposed methodology</li><li>- Provide details of the tenderer's Electrical Contractor's license you will be operating under.</li></ul>	<input type="checkbox"/>

**4.3.2 Price Criteria**

1. **This is a FIXED LUMP SUM Contract.** The value of the Fixed Price Lump Sum is not inclusive of the Provisional Items or Provisional Quantities.
2. The Contract does not include provisions for Rise & Fall adjustments. Rise & Fall adjustments shall therefore not be considered.
3. **The tenderer shall determine the form of the final submission.**
4. **The Tenderer must prepare their own Pricing Schedule (s) pursuant to their own investigations as part of their submission.**
5. The responsibility for the accuracy of the completed Pricing Schedule (s) submitted by the Tenderer with their tender submission rests solely with the Tenderer. The Tenderer's completed Pricing Schedule (s) will form part of the Contract to the extent that it will be utilised in relation to the assessment of progress claims and the value of any approved variations.
6. The rates and prices entered in this Tender Schedule shall be deemed to be the full inclusive value of the work covered by the respective items, to meet the obligations of the Tenderer under the Contract. The sum of the tender prices shall equal the Tendered Fixed Lump Sum. Tenderers shall submit a Conforming Tender fully in accordance with the Tender Documents.
7. While it is the Principal's intention to complete all the works described in this Request for Tender, the Principal reserves the right to vary the scope of the work prior to award of the Contract, to satisfy the Principal's requirement not to exceed the target contract expenditure.

**4.3.3 Price Schedule**

**DESIGN, SUPPLY AND INSTALL REVERSE OSMOSIS PLANT**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1.0</b>	<b>PRELIMINARIES</b>				
1.01	Allow for all design and quality assurance costs	Item	1		
1.02	Allow for all costs associated with transport and delivery of all materials to site	Item	1		
1.03	Allow for all costs related to the tenderer's accommodation and living facilities during the installation and commissioning work	Item	1		
1.04	Allow for all costs related to the tenderer's site facilities and supervision	Item	1		
1.05	Allow for all insurances as required for the scope of work	Item	1		
1.06	Allow for all costs associated with all disposal of waste from the installation work	Item	1		
1.07	Allow for all costs related to occupational health & safety matters	Item	1		
1.08	Allow for all costs related to mobilisation and demobilisation	Item	1		
<b>Subtotal - PRELIMINARIES</b>					

**Part 4 COMPLETE AND RETURN THIS PART**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>2.0</b>	<b>DESIGN, SUPPLY AND INSTALL REVERSE OSMOSIS PLANT</b>				
2.01	Design, supply and install reverse osmosis plant complete as per the specification	Item	1		
2.02	Provide all operating and maintenance manuals and documentation	Item	1		
2.0.3	Provide all onsite training for the Shire's operations and maintenance personnel including specialist training by equipment suppliers as required.	Item	1		
2.04	Allow for the preparation of a detailed Commissioning Plan	Item	1		
<i>2.05</i>	<i>PROV ITEM: Provide ongoing support and maintenance</i>	<i>Tenderer to propose basis</i>			
<b>TOTAL TENDERED PRICE</b>					

## 5 SCHEDULES

### 5.1 Schedule 1 – Formal Offer

<b>TENDER NO.</b>	RFT 05 24-25	<b>PROJECT:</b>	DESIGN, SUPPLY AND INSTALL REVERSE OSMOSIS PLANT
<b>Tenderer:</b>			
<i>(full trading name)</i>			
<b>Registered Office Address</b>		<b>Business Address</b>	
<b>Telephone</b>		<b>Facsimile</b>	
<b>Email</b>			

### LEGAL STATUS

All Tenderers are required to complete the following table:

Legal Structure	Name	Australian Company Number (ACN)	Australian Business Number (ABN)
Company			
Trusts			
Individual			
Partnership			

The Tenderer named above, hereby offers to provide Goods, Works and/or Services in accordance with:

- (a) Conditions of Tendering

**Part 6 COMPLETE AND RETURN THIS PART**

- (b) Conditions of Contract
- (c) The Specification
- (d) Any addenda to the above
- (e) This Tender Form including all its schedules relating to the above Contract.

The Tenderer also acknowledges that if it is the successful tenderer, the documents listed above shall form part of the contract and agrees to be bound by the contract conditions.

**AMENDMENTS TO TENDER DOCUMENTS (IF ANY)**

Tenderer to sign and return any amendments (tender addenda) issued during the tender period in confirmation of their receipt.

Tenderer confirms amendments have been signed and returned:

**List Addenda No's received:**

**Signature:** .....



**Part 6 COMPLETE AND RETURN THIS PART**

**Executed by Authorised Officer of Tenderer who has delegated authority to enter into a contract:**

Signature:

.....

Name and Title:

Date:

.....

Signature of

Witness:

.....

Name of

Witness:

Date:

.....

**TENDERER'S CONTACT PERSON FOR ENQUIRIES ABOUT THIS TENDER**

Name:

.....

Position:

.....

Address:

.....

.....

Telephone:

.....

Email:

.....

## **5.2   Schedule 2 – Statement of Conformity**

The Tenderer is to signify here whether or not its Tender conforms in all respects to the requirements of the Tender Documents by indicating below:

Does your Tender conform?	<input type="checkbox"/>  YES	<input type="checkbox"/>  NO
---------------------------	-------------------------------------	------------------------------------

If the Tender does not conform to all of the requirements of the Tender Documents, the Tenderer must list below all areas of non-conformity and the reasons therefore:

.....

.....

.....

.....

.....

.....

.....

.....

.....

### 5.3 Schedule 3 – Local Preference

Should the tenderer wish to be considered under the Shire of Upper Gascoyne Buy Local – Regional Price Preference Policy then the tenderer must provide details below of why the tenderer is eligible under the Policy (contained in Appendix 2).

Is the tenderer eligible for local preference under the Shire's Local Preference Policy (Appendix 2)	<input type="checkbox"/> YES	<input type="checkbox"/> NO
If yes, please explain why below:		

### **5.4   Schedule 4 – Referees**

Provide contact details of referees who can substantiate the Tenderer's capabilities in undertaking the works required under the contract based on past experiences.

#### **FIRST REFEREE**

Company Name: .....

Address: .....

Contact Person: .....

Telephone: ..... Email .....

#### **SECOND REFEREE**

Company Name: .....

Address: .....

Contact Person: .....

Telephone: ..... Email .....

#### **THIRD REFEREE**

Company Name: .....

Address: .....

Contact Person: .....

Telephone: ..... Email .....

### 5.5 Schedule 6 – Relevant Past Experience

Please provide details of previous projects involving similar scopes for other Clients.

Item	Project Description	Client	Approx. Value	Approx. Duration	Outcomes Achieved
1					
2					
3					
4					
5					
6					

## 5.6 Schedule 6 – Insurances

INSURANCE TYPE	POLICY NO	EXTENT OF COVER		EXPIRY DATE	NAME OF INSURER
		Per Incident (\$A)	In Aggregate (\$A)		
Public Liability					
Vehicles Plant and Equipment					
Workers Compensation					

(Attach Certificates of Currency or other verification of the above insurances)

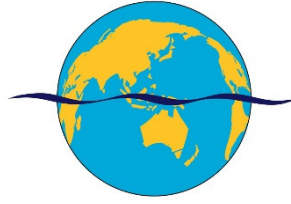
## **Appendix 1 – Information for Tenderers**

The following information is provided as “Information for Tenderers”:

- Bore Completion Report
- Water Sample Test Results
- Proposed Site Location

# Global Groundwater

Australian Bore Consultants Pty. Ltd. Hydrogeological Division  
ACN 077 734 153 ABN 66 077 734 153



**PO Box 174  
Bassendean  
Western Australia  
6054**

## Gascoyne Junction

## 2022/2023 Drilling and Testing Report

### Bore GJ 1/22

for

## Shire of Upper Gascoyne

March, 2023

**Superintendents**

---

**Global Groundwater  
Hydrogeologists**

P.O. Box 174  
Bassendean, WA 6054  
Tel: + 61 8 9386 4725  
Fax: + 61 8 9386 1080



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Version	Author	Reviewer	Approved for Issue		
			Name	Signature	Date
1	L. Hopgood	R. Nixon	R. Nixon		21/03/2023

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**TABLES**

Table 1 .....	Gascoyne Junction - Summary of Bore Details 2022 Drilling
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**FIGURES**

Figure 1 .....	Gascoyne Junction Bore Location
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**APPENDICES**

Appendix A .....	Bore Log
Appendix B .....	Test Pumping Data and Plots

## 1 INTRODUCTION

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Water supplies for Gascoyne Junction are drawn from shallow bores in the area of the Gascoyne River to the north of the township. The aquifer occurs in thin alluvial sediments overlying relatively impermeable Permian basement rocks of the Merlinleigh sub-basin of the Carnarvon sedimentary basin. Recharge to the aquifer occurs by infiltration from flows in the Gascoyne River, which can be of fresh to marginal salinity. Correspondingly, the aquifer is a limited resource that can be of marginal quality, such that diversion of the resource for irrigation of community amenities such as parks and gardens is coming under increasing pressure.

In response, the Shire of Upper Gascoyne initiated a desk top and reconnaissance program to consider new options to improve water security of its parks and gardens. The program identified three targets; more shallow bores in the Gascoyne River alluvium, bores to depths of approximately 100 m targeting the Mallens Sandstone approximately 20 km west of the town (exploratory sites A/21, B/21 and C/21), and a deep bore in the township targeting the Moogooloo Sandstone (exploratory bore D/21). Results of the program are given by Global Groundwater (2021).

The Shire of Upper Gascoyne made the decision to drill a pilot hole at site D/21 to investigate if the Moogooloo Sandstone could be located below the town by deep drilling and if so to construct a production bore at the site to establish potential bore yields and salinity. An application was made to the Department of Water and Environmental Regulation (DWER) for a license to drill and construct a bore and licence CAW207703(1) was issued to the Shire of Upper Gascoyne in August 2022.

Austral Drilling Services were selected through a tender process as the successful contractor for the drilling and site works commenced in October 2022. This bore completion report sets out the results of the drilling and testing program. It provides the bore log and associated data as well as results of the test pumping.

## 2 METHODS

---

### 2.1 DRILLING AND BORE CONSTRUCTION

Bore GJ 1/22 was drilled within the sports complex on Lot 10 Gregory Street, Gascoyne Junction. Drilling and construction was undertaken by Austral Drilling Services using normal circulation, mud-rotary methods. Artesian conditions were encountered during drilling.

Drilling difficulties occurred at a depth of about 506 m in thick shale where the rods became stuck. The mud in the hole was removed and replaced with fresh mud enabling the rods to be freed. Further difficulties occurred at a depth of about 665 m where the rods dropped suddenly by 0.5 to 0.75 m, the drill string was catching on the side of the hole impeding progress and there was very little sample return. The drill rods were removed and it was discovered that they had parted with about 28 m of rods plus the drill bit stuck down the hole. Austral adapted a recovery tool which grabbed the drill string but was unable to lift the rods out of the hole.

In order to advance the hole past the lost drill string, the bore was grouted from the base of the hole up to about 10 to 20 m above the top of the lost string. The grout was let cure and the hole was re-entered. Drilling proceeded at a slight angle past the lost drill string with the grout forcing the re-entered drill string to step off near the top of the cement plug and the hole was then successfully completed to a depth of 801 m.

Strata samples were collected at 1 m intervals and lithologically logged on-site by a hydrogeologist. Composite portions of the samples at 2 m intervals were retained in chip trays. Gamma and resistivity logs were run in the mudded pilot hole at the completion of drilling. The strata samples and wireline logs were assessed to facilitate final plans for bore construction.

Bore construction utilised 100 mm ND FRP and stainless-steel casing. A grout shoe was installed at the base of the casing and used to deliver cement to seal the bore annulus. A gamma log was run in the cased bore to finalise plans for perforation of the bore casing. The bore casing and annulus were perforated from a depth of about 673.6 to 683.6 m bgl by use of a down-hole tool and bullet perforator. A cement bentonite mix was installed in the bore annulus to the surface. A steel standpipe with a steel plate bolted to the top was set in a concrete surround at the surface of the bore. The bore was purged by leaving it to run for several days.

The bore location is given in Figure 1, composite logs and comprehensive drilling, lithological and construction logs are given in Appendix A and a summary of bore details is given in Table 1.

## **2.2 TEST PUMPING**

Testing was carried out using an electric submersible pump with the discharge rate automatically controlled and digitally monitored using output from a magflow meter. Waterlevels were measured using an electronic waterlevel indicator and a pressure transducer data logger. Water discharged during the testing was conveyed approximately 100 m from the borehead. The testing consisted of a step-test, constant-rate test and period of monitored recovery. Data sheets and plots are given in Appendix B.

## **3 PROGRAM RESULTS**

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### **3.1 DRILLING**

Drilling was undertaken to a depth of 801 m, with the units intersected interpreted from downhole geophysical logging and drill cuttings. Geophysical logs and drill samples were supplied to GSWA (Geological Society of Western Australia) and they provided a stratigraphic interpretation of the units intersected. The interpreted sequence is shale and siltstone with minor fine-grained sandstone of the Byro Group to a depth of 555 m, over siltstone and shale with less fine-medium grained sandstone of the Billidee Formation to 668 m. The aquifer bearing Moogooloo Sandstone is interpreted to occur from 668 to 689 m above indurated calcareous sandstone, siltstone and shale of the Callytharra Formation to the base of the hole.

At the completion of bore construction the bore was flowing at a rate of about 2 L/s. Groundwater salinity dropped gradually from 10845 uS/cm to 8800 uS/cm, equivalent to salinity of about 6248 ppm.

### **3.2 TEST PUMPING**

The step-test was conducted at discharge rates between 86 and 190 kL/day (1 and 2.2 L/s). The waterlevel reached a maximum of 3.2 m bgl (24.1 m drawdown) during the fifth step.

The bore was pumped at 173 kL/day (2 L/s) for 24 hours during the constant-rate test. Drawdown reached a maximum of 23.2 m (waterlevel of 2.3 m bgl). Bore recovery after conclusion of the constant-rate test was almost instantaneous.

### 3.3 BORE CAPACITY

Test pumping data were analysed to obtain predictions of bore capacity and long-term 365-day operating waterlevels by extrapolating the drawdown curve to predict drawdown in the bore at various discharge rates. The predictions are extrapolated from pumping constantly for a relatively short time compared to the 365-day extrapolation and should therefore be regarded as indicative only. The sustainable discharge rate may be lower than predicted after prolonged dry periods, if impermeable aquifer boundaries are intersected by the cone of depression or if annual recharge is lower than annual abstraction. Long-term monitoring and data analyses during operation will be required to track actual bore and aquifer behaviour and facilitate changes to infrastructure that may prove necessary on the basis of actual long-term performance.

Extrapolation of the test data indicates the bore should be capable of a discharge rate of 2 L/s (173 kL/day). The extrapolated 365-day pumping waterlevel if the bore is operated continuously at that rate is approximately 4.7 m bgl.

## 4 CONCLUSIONS

---

Bore GJ 1/22 was drilled, constructed and tested to provide water supply to Gascoyne Junction for use on parks and gardens. Drilling and construction took place between October and December 2022 and test pumping took place in March 2023.

Drilling was undertaken to 801 m depth using mud-rotary techniques. The bore intersected sequences of shale, siltstone and sandstone. The aquifer bearing Moogooloo Sandstone is interpreted to occur from a depth of 668 to 689 m.

Test pumping of the bore was undertaken with a constant-rate test conducted at a rate of 173 kL/day (2 L/s) for 24 hours. Final drawdown of 23.2 m was recorded, which is a waterlevel of 2.3 m bgl.

Extrapolation of the test data indicates bore GJ 1/22 should be capable of a discharge rate of 2 L/s (173 kL/day). The extrapolated 365-day pumping waterlevel if the bore is operated continuously at that rate is approximately 4.7 m bgl.

## 5 REFERENCES

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Global Groundwater, 2021, Gascoyne Junction, groundwater options desktop review: for Shire of Upper Gascoyne, report 1452g\\GascoyneJunctionGroundwaterOptions.pdf (unpublished).

**Table 1. Gascoyne Junction – Summary of Bore Details 2022 Drilling**

Bore Name	Site	GGID <sup>1</sup>	Location (WGS84) <sup>2</sup>		Drilled Depth (m)	Production Casing			Casing Perforations		SWL <sup>3</sup> (m bgl)
			Latitude	Longitude		Depth (m bgl)	Material	ID (mm)	Interval (m bgl)	Aperture (mm)	
GJ 1/22	D/22	74002	-25.05102	115.20811	801	720.72	FRP / SS	98 / 101 / 104	673.6 – 683.6	6.6	-20.9

## Notes.

- 1 Global Groundwater Database Identification Number.
- 2 Co-ordinates obtained from hand held GPS, error +/- 3 m.
- 3 Waterlevel measured just prior to test pumping: 7-Mar-2023. Artesian bore, waterlevel in above ground level.



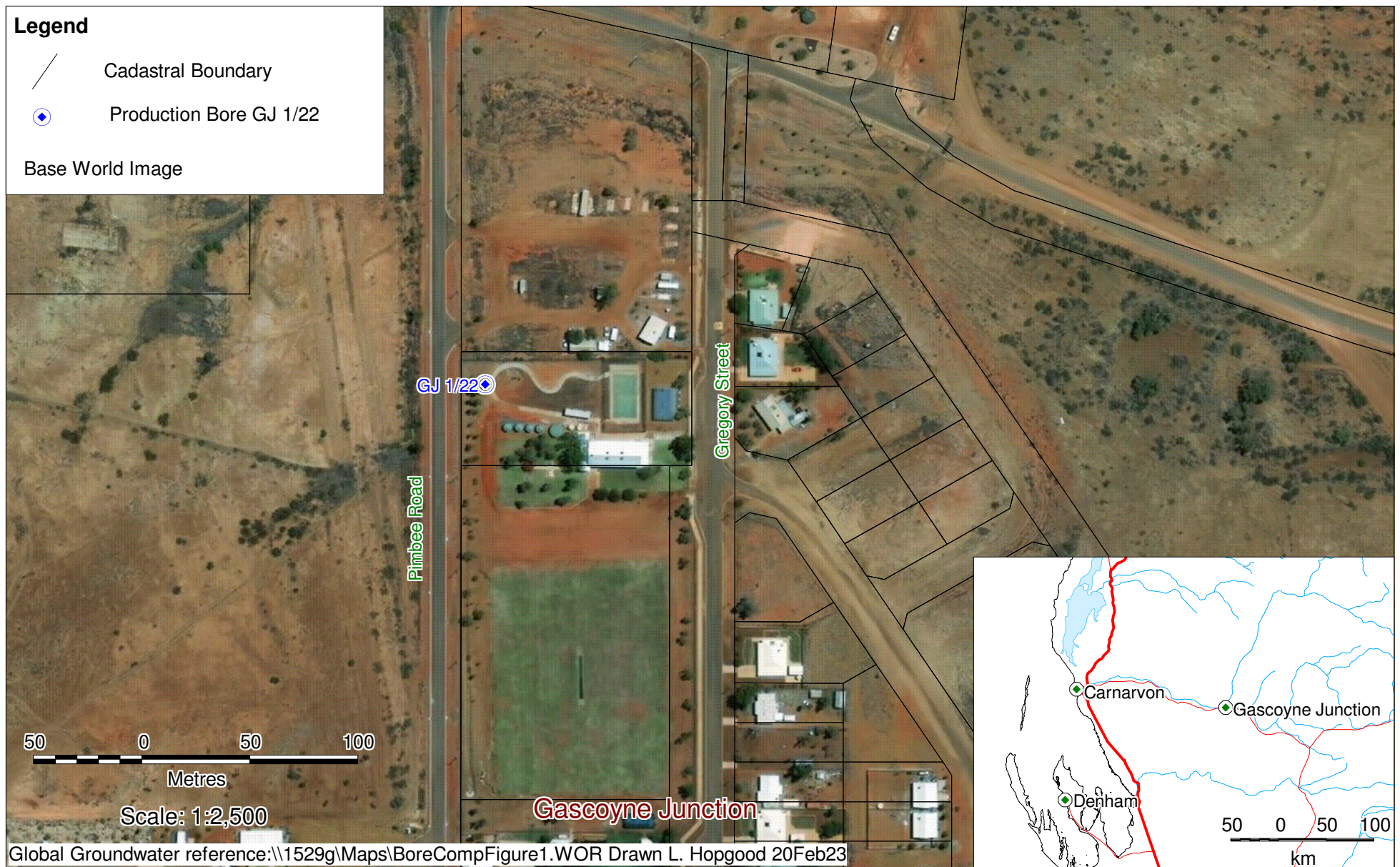


Figure 1. Gascoyne Junction Bore Location

## **Appendix A**

### Bore Log





# Global Groundwater - Composite Log

Bore ID:  
GJ 1/22

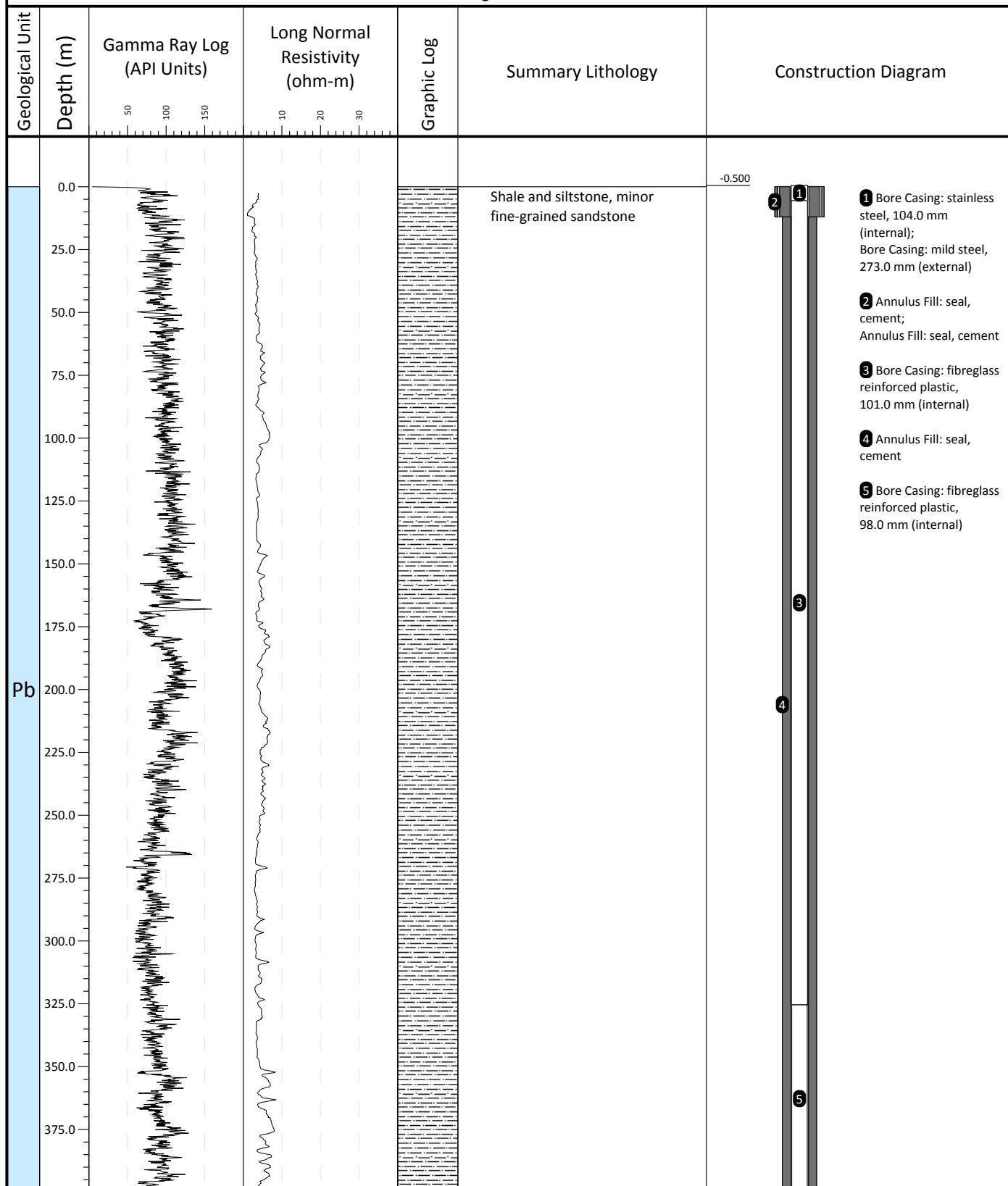
CLIENT: Shire of Upper Gascoyne  
PROJECT: Gascoyne Junction Drilling  
LOCATION: Lot 10 Gregory St, Gascoyne Junction  
SITE: D/21  
Database ID: 74002

DATE COMMENCED: 04-Oct-2022  
DATE COMPLETED: 01-Dec-2022  
HYDROGEOLOGIST: Skidmore, David  
DRILLING COMPANY: Austral Drilling Services  
Tag ID: Not tagged.

Drilling Method: Rotary Blade  
Bore Diameter: 216 mm

Latitude: -25.05102  
Longitude: 115.20811

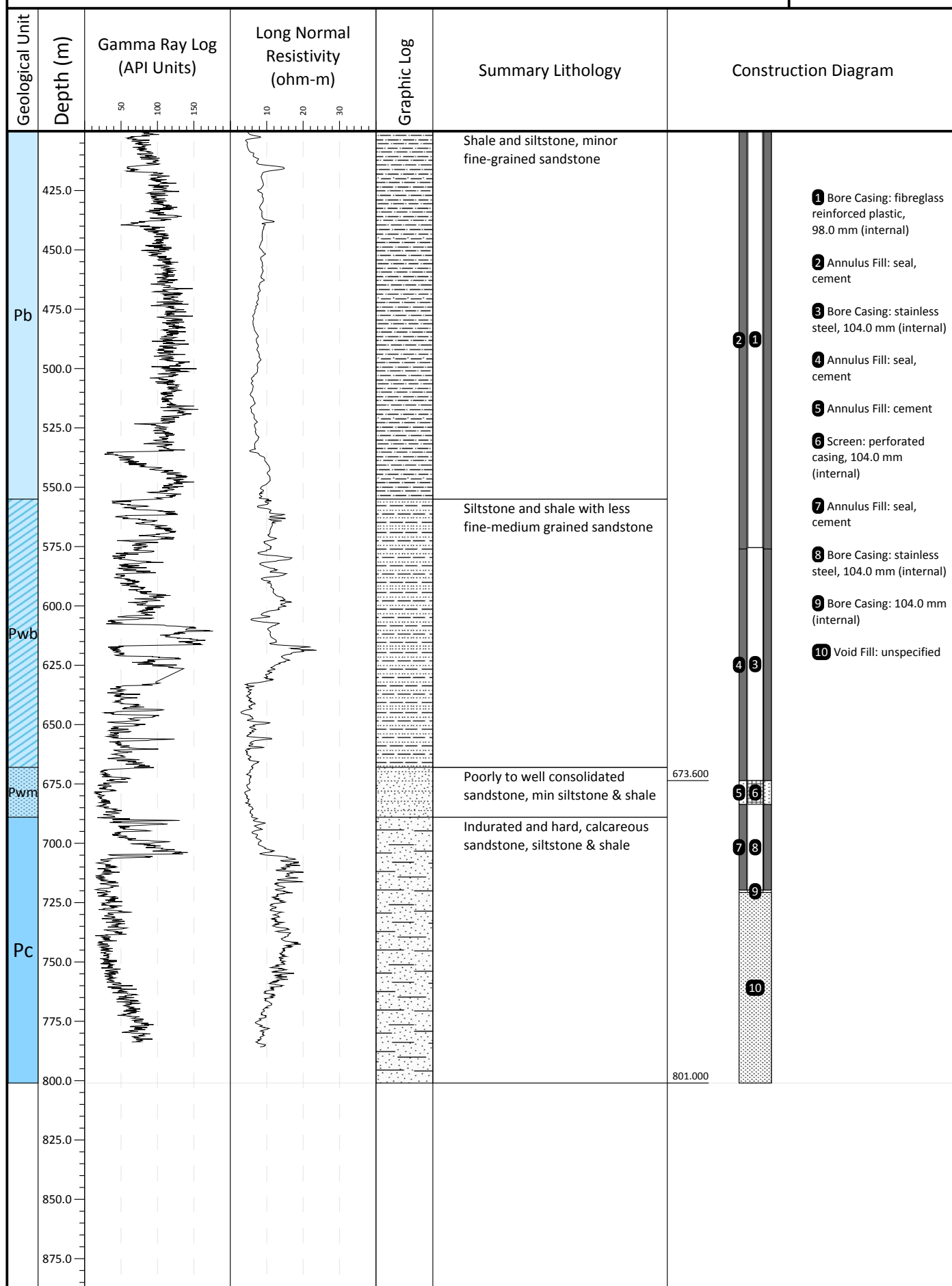
Surface RL: Not recorded  
Scheme: WGS 84





# Global Groundwater - Composite Log

Bore ID:  
GJ 1/22



## BORE NAME: GJ 1/22

Note: All depths in this report are in metres below ground level (bgl). Negative depths (in brackets) indicate above ground level.

### BORE DETAILS

Database ID: 74002  
Tag ID: Not tagged  
Owner: Shire of Upper Gascoyne  
Status: Functional  
Purpose: Water supply  
Water level: -20.900 m at 07-Mar-2023

### LOCATION

Latitude: -25.05102  
Longitude: 115.20811  
Coordinate System: WGS 84  
Method: GPS (+/-3.000 m)  
Directions: Located within Sports Complex yard 25m east of Pimbee Rd and approx. 10m south of the northern fence and car park  
Elevation: Not measured.

### SUMMARY COMMENTS

Drilling difficulties initially with rods stuck in thick shale at ~506 m. Drilling mud was removed and replaced and the rods were freed. Further difficulties at ~665 m, rods dropped suddenly by 0.5-0.75 m, the drill string was catching on side of the hole with very little sample return. Drill rods were removed but it was found they had parted and about 28 m of rods plus the drill bit were stuck down the hole and were unable to be retrieved. The bore was grouted from the base to ~10-20 m above top of the lost string and the hole was re-entered with drilling proceeding at a slight angle past the lost drill string and the hole was successfully completed to a depth of 801 m.

### DRILLING DETAILS

Commenced: 04-Oct-2022  
Completed: 01-Dec-2022  
Drilled Depth: 801.0  
Drilling Company: Austral Drilling Services  
Drilling Rig: Versa-drill (Rig 4)  
Drilling Rods: 6.000 m length, 102 mm OD  
Drilling Collar: Not specified.  
Compressor: Not specified.

### Drillers

Name	Company	Driller's License
Grant, John	Austral Drilling Services	315 - Class 3

### Drilling Methods

Depth (m bgl)	Equipment (outside diameter)	Medium
0.0 - 12.0	Rotary blade (311 mm)	Mud

Depth (m bgl)	Equipment (outside diameter)	Medium
12.0 - 801.0	Rotary blade (216 mm)	Mud

## CONSTRUCTION

### Fixtures

No fixtures recorded.

### Bore Casing and Slots/Screens

Depth (m bgl)	Construction	Slots/Screens
(0.100) - 12.000	Casing, mild steel, 273 mm (external), wall thickness 11 mm, joins: weld. Surface casing.	None.
(0.500) - 5.510	Casing, stainless steel, 104 mm (internal), wall thickness 5 mm, joins: unknown.	None.
5.510 - 325.436	Casing, fibreglass reinforced plastic, 101 mm (internal), wall thickness 6.5 mm, joins: swell jointed.	None.
325.436 - 575.386	Casing, fibreglass reinforced plastic, 98 mm (internal), wall thickness 8 mm, joins: swell jointed.	None.
575.386 - 575.456	Casing, fibreglass reinforced plastic, 101 mm (internal), joins: swell jointed. Joiner - FRP to stainless steel.	None.
575.456 - 673.600	Casing, stainless steel, 104 mm (internal), joins: weld.	None.
673.600 - 683.600	Perforated casing, stainless steel, 104 mm (internal), joins: weld.	6.6 mm aperture, (method: bullet perforator).
683.600 - 719.720	Casing, stainless steel, 104 mm (internal), joins: weld.	None.
719.720 - 720.720	Casing, 104 mm (internal), joins: unknown. Grout shoe.	None.

### Annulus Fill

Depth (m bgl)	Construction
0.0 - 12.0	Seal, ID-OD: 273 mm to 311 mm, cement, gravity fed. Surface casing cemented in.
0.0 - 12.0	Seal, ID-OD: 119 mm to 250 mm, cement, pressure fed. Cement-bentonite mix between production casing and surface casing.
12.0 - 576.0	Seal, ID-OD: 114 mm to 216 mm, cement, pressure fed. Cement-bentonite mix.
576.0 - 673.6	Seal, ID-OD: 114 mm to 216 mm, cement, pressure fed.
673.6 - 683.6	Annulus fill, ID-OD: 114 mm to 216 mm, cement, pressure fed. Cement perforated by use of down-hole tool with gun operated by Westlog.
683.6 - 719.7	Seal, ID-OD: 114 mm to 216 mm, cement, pressure fed. Cement delivered to annulus via grout shoe at base of bore casing.

### Void Fill

Depth (m bgl)	Construction
720.7 - 801.0	Void fill, OD: 216 mm. Drill mud.

## PARAMETERS MEASURED DURING DRILLING

Date	Depth (m bgl)	Drill Rate (m/min)	Mud Viscosity (sec)	SG	EC (uS/cm)	pH	Comment
05-Oct	12.0 - 14.0	0.13	-	-	-	-	Ground conditions: Start with PCD drag bit.
05-Oct	14.0 - 20.0	0.12	-	-	-	-	
05-Oct	20.0 - 26.0	0.14	-	-	-	-	
05-Oct	26.0 - 32.0	0.15	-	-	-	-	
05-Oct	32.0 - 38.0	0.16	-	-	-	-	
05-Oct	38.0 - 44.0	0.11	-	-	-	-	
05-Oct	44.0 - 50.0	0.12	-	-	-	-	
05-Oct	50.0 - 56.0	0.10	-	-	-	-	
05-Oct	56.0 - 62.0	0.09	-	-	-	-	
05-Oct	62.0 - 66.0	0.09	-	-	-	-	
06-Oct	66.0 - 68.0	0.10	-	-	-	-	
06-Oct	68.0 - 69.0	0.03	-	-	-	-	Ground conditions: PoH and change bit to button roller.
06-Oct	69.0 - 74.0	0.25	-	-	-	-	
06-Oct	74.0 - 80.0	0.32	-	-	-	-	
06-Oct	80.0 - 86.0	0.30	-	-	-	-	
06-Oct	86.0 - 92.0	0.30	-	-	-	-	
06-Oct	92.0 - 98.0	0.24	-	-	-	-	
06-Oct	98.0 - 104.0	0.24	36.0	-	-	-	
06-Oct	104.0 - 110.0	0.33	-	-	-	-	
06-Oct	110.0 - 116.0	0.22	-	-	-	-	
06-Oct	116.0 - 122.0	0.12	-	-	-	-	
06-Oct	122.0 - 128.0	0.07	-	-	-	-	
06-Oct	128.0 - 134.0	0.05	36.0	-	-	-	Ground conditions: PoH and check bit, change to PCD drag bit.
07-Oct	134.0 - 140.0	0.24	-	-	-	-	
07-Oct	140.0 - 146.0	0.15	-	-	-	-	
07-Oct	146.0 - 152.0	0.17	-	-	-	-	
07-Oct	152.0 - 158.0	0.15	-	-	-	-	
07-Oct	158.0 - 164.0	0.17	-	-	-	-	
07-Oct	164.0 - 170.0	0.23	35.0	-	-	-	
07-Oct	170.0 - 176.0	0.23	-	-	-	-	
07-Oct	176.0 - 182.0	0.27	-	-	-	-	
07-Oct	182.0 - 188.0	0.20	-	-	-	-	
07-Oct	188.0 - 194.0	0.11	-	-	-	-	
07-Oct	194.0 - 199.0	0.04	-	-	-	-	Ground conditions: PoH after penetration too low. Change back to button roller bit.

Date	Depth (m bgl)	Drill Rate (m/min)	Mud Viscosity (sec)	SG	EC (uS/cm)	pH	Comment
08-Oct	199.0 - 200.0	0.14	-	-	-	-	
08-Oct	200.0 - 206.0	0.25	-	-	-	-	Ground conditions: Mud pump break down. Deal with issue after rod.
08-Oct	206.0 - 212.0	0.17	-	-	-	-	
08-Oct	212.0 - 218.0	0.16	-	-	-	-	
08-Oct	218.0 - 224.0	0.10	-	-	-	-	
08-Oct	224.0 - 230.0	0.18	-	-	-	-	Ground conditions: Mud pump breaks down again, water pump u/s. New pump acquired in Perth and dispatched to effect repairs.
10-Oct	230.0 - 236.0	0.17	-	-	-	-	
10-Oct	236.0 - 242.0	0.15	-	-	-	-	
10-Oct	242.0 - 248.0	0.15	-	-	-	-	
10-Oct	248.0 - 254.0	0.17	-	-	-	-	
10-Oct	254.0 - 260.0	0.20	-	-	-	-	
10-Oct	260.0 - 266.0	0.21	-	-	-	-	
10-Oct	266.0 - 272.0	0.23	-	-	-	-	
10-Oct	272.0 - 278.0	0.23	-	-	-	-	
10-Oct	278.0 - 284.0	0.18	-	-	-	-	
10-Oct	284.0 - 290.0	0.15	-	-	-	-	
10-Oct	290.0 - 296.0	0.18	-	-	-	-	
10-Oct	296.0 - 302.0	0.14	-	-	-	-	
10-Oct	302.0 - 308.0	0.21	-	-	-	-	
10-Oct	308.0 - 314.0	0.16	-	-	-	-	
10-Oct	314.0 - 320.0	0.26	-	-	-	-	
10-Oct	320.0 - 326.0	0.13	-	-	-	-	
11-Oct	326.0 - 332.0	0.01	36.0	-	-	-	
11-Oct	332.0 - 338.0	0.15	-	-	-	-	
11-Oct	338.0 - 344.0	0.11	-	-	-	-	
11-Oct	344.0 - 350.0	0.10	-	-	-	-	
20-Oct	506.0 - 512.0	0.12	-	-	-	-	
20-Oct	512.0 - 518.0	0.19	-	-	-	-	
20-Oct	518.0 - 524.0	0.17	-	-	-	-	
20-Oct	524.0 - 530.0	0.20	-	-	-	-	
20-Oct	530.0 - 536.0	0.18	-	-	-	-	
20-Oct	536.0 - 542.0	0.22	-	-	-	-	
20-Oct	542.0 - 548.0	0.19	36.0	-	-	-	
21-Oct	548.0 - 554.0	0.14	-	-	-	-	
21-Oct	554.0 - 560.0	0.18	-	-	-	-	



Date	Depth (m bgl)	Drill Rate (m/min)	Mud Viscosity (sec)	SG	EC (uS/cm)	pH	Comment
21-Oct	560.0 - 566.0	0.15	-	-	-	-	Sample: Samples becoming smaller. Driller suggests may be sandier from 562m and samples becoming contaminated with mud trench material.
21-Oct	566.0 - 572.0	0.08	-	-	-	-	
21-Oct	572.0 - 578.0	0.16	-	-	-	-	
21-Oct	578.0 - 584.0	0.17	-	-	-	-	
21-Oct	584.0 - 590.0	0.15	-	-	-	-	
21-Oct	590.0 - 596.0	0.12	-	-	-	-	
21-Oct	596.0 - 602.0	0.11	33.0	1.1	-	-	Ground conditions: Mud doctor on site.
21-Oct	602.0 - 608.0	0.12	32.0	1.1	-	-	
21-Oct	608.0 - 612.0	0.24	32.0	1.1	-	-	
22-Oct	612.0 - 614.0	0.10	28.0	1.1	-	-	
22-Oct	614.0 - 620.0	0.13	28.0	1.1	-	-	
22-Oct	620.0 - 626.0	0.08	28.0	1.1	-	-	
22-Oct	626.0 - 632.0	0.10	29.0	1.1	-	-	
22-Oct	632.0 - 638.0	0.11	-	-	-	-	
22-Oct	638.0 - 644.0	0.24	-	-	-	-	
22-Oct	644.0 - 650.0	0.11	29.0	1.1	-	-	
22-Oct	650.0 - 656.0	0.14	-	-	-	-	
22-Oct	656.0 - 662.0	0.60	29.0	1.1	-	-	
22-Oct	662.0 - 668.0	0.30	26.0	1.1	-	-	Ground conditions: Rod flies down 0.5-0.75m at 665m. String gets caught (jumping, jaggging, continually around 665 to 666.5m).
23-Oct	668.0 - 669.0	0.20	-	-	-	-	Ground conditions: Rod falls through zone with minimum resistance. Drillers to apply more hold back progressing deeper. No samples. Proves that drill string broken down hole.
18-Nov	669.0 - 675.0	0.05	-	-	-	-	
18-Nov	675.0 - 681.0	0.07	-	-	-	-	
18-Nov	681.0 - 687.0	0.08	-	-	-	-	
19-Nov	687.0 - 693.0	0.05	-	-	-	-	
19-Nov	693.0 - 699.0	0.09	-	-	-	-	
19-Nov	699.0 - 705.0	0.09	-	-	-	-	
19-Nov	705.0 - 711.0	0.06	-	-	-	-	
19-Nov	711.0 - 717.0	0.05	-	-	-	-	
19-Nov	717.0 - 723.0	0.05	-	-	-	-	
20-Nov	723.0 - 729.0	0.04	-	-	-	-	

Date	Depth (m bgl)	Drill Rate (m/min)	Mud Viscosity (sec)	SG	EC (uS/cm)	pH	Comment
20-Nov	729.0 - 735.0	0.04	-	-	-	-	
20-Nov	735.0 - 741.0	0.04	39.0	1.1	-	-	
20-Nov	741.0 - 747.0	0.05	-	-	-	-	
21-Nov	747.0 - 753.0	0.05	-	-	-	-	
21-Nov	753.0 - 759.0	0.04	-	-	-	-	
21-Nov	759.0 - 763.0	0.03	-	-	-	-	
22-Nov	763.0 - 765.0	0.03	-	-	-	-	
22-Nov	765.0 - 771.0	0.05	-	-	-	-	
22-Nov	771.0 - 777.0	0.05	-	-	-	-	
22-Nov	777.0 - 783.0	0.05	-	-	-	-	
22-Nov	783.0 - 789.0	0.05	-	-	-	-	
23-Nov	789.0 - 795.0	0.05	-	-	-	-	
23-Nov	795.0 - 801.0	0.06	-	-	-	-	

## PARAMETERS MEASURED DURING DEVELOPMENT

No samples recorded.

## INTERPRETED SUMMARY LOG

Depth (m bgl)	Geology	Stratigraphic Unit
0.0 - 555.0	Shale and siltstone, minor fine-grained sandstone	Byro Group
555.0 - 668.0	Siltstone and shale with less fine-medium grained sandstone	Billidee Formation
668.0 - 689.0	Poorly to well consolidated sandstone, min siltstone & shale	Moogooloo Sandstone
689.0 - 801.0	Indurated and hard, calcareous sandstone, siltstone & shale	Callytharra Formation

## LITHOLOGICAL DESCRIPTIONS

Logged by: Skidmore, David; Nixon, Richard

### Depth (m bgl)

0.0 - 3.0	<b>Siltstone:</b> > 80%, medium brown-yellow, indurated, large gypsum growths/fragments in mud pit spoil. <b>Clay (with Silt):</b> < 20%, dark brown-red, hard. <b>Sand (with Gravel):</b> Yellow-brown, very coarse sand - fine gravel, quartz, unconsolidated. Comment: Samples taken at 3m intervals.
3.0 - 4.5	<b>Sandstone:</b> Medium brown-green, very fine sand - fine sand, mostly fine sand, moderately sorted, moderately lithified but friable.
4.5 - 12.0	<b>Siltstone:</b> 50-80%, medium grey, greasy, soft. <b>Shale:</b> 20-50%, black, moderately lithified, laminated. <b>Sandstone (with Silt):</b> < 20%, medium grey, fine sand, weakly friable with mostly clear quartz. Comment: The silty sandstone is moderately lithified and laminated.
12.0 - 15.8	<b>Shale (with Silt):</b> Medium grey, soft.
15.8 - 18.0	<b>Siltstone:</b> 50-80%, medium grey, soft. <b>Shale:</b> 20-50%, black, soft. <b>Sandstone:</b> < 20%, pale grey. Comment: The sandstone occurs as traces of harder thinly laminated chips, bedded with harder black shale.
18.0 - 20.0	<b>Shale:</b> 50-80%, black, carbonaceous. <b>Shale (with Silt):</b> 20-50%, medium grey. Comment: Soft with only slightly more formed nodules of shale and silty shale throughout.

**Depth (m bgl)**

20.0 - 22.0	<b>Shale:</b> 50-80%, black. <b>Shale (with Silt):</b> 20-50%, medium grey. <b>Sandstone:</b> < 20%, pale grey, hard, occurs as traces of thinly laminated chips bedded with black shale. Comment: Soft with more formed nodules of shale and silty shale throughout.
22.0 - 41.0	<b>Shale:</b> 50-80%, black. <b>Shale (with Silt):</b> 20-50%, medium grey. Comment: Soft with only slightly more formed nodules of shale and silty shale throughout.
41.0 - 55.0	<b>Shale (with Silt):</b> 50-80%, medium grey. <b>Shale:</b> 20-50%, black. Comment: Soft with only slightly more formed nodules of shale and silty shale throughout.
55.0 - 63.0	<b>Shale:</b> Black, soft with only slightly more formed nodules of shale and silty shale throughout.
63.0 - 68.0	<b>Shale:</b> 20-50%, dark grey-black. <b>Shale (with Silt):</b> 20-50%, pale grey. Comment: Whole sample is soft with only slightly more formed nodules of shale and silty shale throughout.
68.0 - 73.5	<b>Shale:</b> Black, carbonaceous, greasy.
73.5 - 75.0	<b>Shale:</b> > 80%, black, carbonaceous, greasy, trace of very thin sandstone interbeds. <b>Sandstone (with Silt):</b> < 20%, medium grey, fine sand, quartz, siliceous, indurated, weakly friable, moderately acid reactive.
75.0 - 79.0	<b>Shale:</b> Black, carbonaceous, greasy, soft but dense.
79.0 - 80.0	<b>Shale:</b> 50-80%, black, carbonaceous, greasy. <b>Sandstone (with Silt):</b> 20-50%, medium grey, fine sand, quartz, indurated, weakly friable, moderately acid reactive. Comment: Very thin sandstone interbeds.
80.0 - 110.0	<b>Shale:</b> > 80%, black. <b>Sandstone (with Silt):</b> < 20%, medium grey, indurated, only traces of sandstone.
110.0 - 112.0	<b>Shale:</b> 50-80%, black, carbonaceous, greasy. <b>Siltstone:</b> 20-50%, medium grey, indurated, bedding, chips can be laminated.
112.0 - 148.0	<b>Shale:</b> Black, carbonaceous, greasy, very weak traces of sandstone/siltstone chips.
148.0 - 150.5	<b>Shale:</b> > 80%, black. <b>Silt:</b> < 20%, pale grey-cream, occurs as weakly formed nodules with soft creamy feel.
150.5 - 158.0	<b>Shale:</b> Black, carbonaceous, greasy.
158.0 - 182.5	<b>Silt:</b> 50-80%, medium grey, soft, creamy. <b>Silt:</b> 20-50%, pale grey-cream, soft, creamy, diminishes with depth. <b>Sandstone:</b> < 20%, pale grey, consolidated, weakly consolidated. Comment: The silt is soft and creamy, with the pale grey content diminishing with depth.
182.5 - 189.0	<b>Shale (with Silt):</b> Dark grey-black, carbonaceous, greasy, soft. Rare/trace of very small sandstone chips.
189.0 - 204.0	<b>Shale:</b> Black, carbonaceous, greasy.
204.0 - 211.5	<b>Shale:</b> > 80%, dark grey, trace of creamy coloured soft silt. <b>Sandstone:</b> < 20%, fine sand, mod consolidated, weakly friable and non-acid reactive.
211.5 - 230.0	<b>Shale:</b> Dark grey-black, greasy, traces of very small sandstone fragments. Comment: Soft, sticky samples.
230.0 - 232.0	<b>Shale:</b> Dark grey-black.
232.0 - 240.0	<b>Shale:</b> > 80%, dark grey-black, friable. <b>Sandstone:</b> < 20%, medium grey, very fine sand - fine sand, mostly fine sand, moderately sorted, rounded to angular, quartz, trace, moderately friable, composed mostly translucent quartz. Comment: Sandstone is moderately friable
240.0 - 256.0	<b>Shale:</b> Dark grey-black, very weak trace of sandstone chips.
256.0 - 265.0	<b>Shale:</b> Dark grey-black, trace dk-mid grey dirty fine-med quartz sandstone. Comment: Flecks of pyrite, rare white quartz. No acid reaction.
265.0 - 270.0	<b>Shale:</b> 50-80%, dark grey, trace of soft creamy white silt nodules. <b>Sandstone:</b> < 20%, pale grey, very fine sand - medium sand, mostly fine sand, rounded to angular, quartz, consolidated, moderately friable, some chips with thin black lines.
270.0 - 290.0	<b>Siltstone:</b> 50-80%, medium grey. <b>Sandstone:</b> 20-50%, pale grey, very fine sand - medium sand, mostly fine sand, rounded to angular, quartz, speckled with black minerals and acid reactive 270-280m. Comment: Trace dk grey dirty sandstone, clear and white qtz, fine pyrite, non acid-reactive.

**Depth (m bgl)**

- 290.0 - 301.0 **Shale (with Silt):** 50-80%, dark grey, soft but dense, trace soft creamy white silt nodules. **Sandstone:** < 20%, medium grey, coarse silt - fine sand, mostly fine sand, moderately sorted, quartz, consolidated, speckled with black minerals & thin blk lines-carbonaceous?. Comment: Sandstone is moderately friable with no acid reaction.
- 301.0 - 307.0 **Shale (with Silt):** 50-80%, soft but dense. **Sandstone:** 20-50%, dark grey, very fine sand - medium sand, mostly fine sand, quartz, consolidated, moderately friable and not acid reactive. Comment: Trace pale grey acid reactive sandstone. Some brown-tinged sandstone present. The proportion of sandstone decreases from about 40% to 25% with depth.
- 307.0 - 313.0 **Sandstone (with Silt):** Pale grey, very fine sand - medium sand, mostly fine sand, rounded, quartz, calcareous, consolidated, hard.
- 313.0 - 321.0 **Shale:** Dark grey, sticky.
- 321.0 - 337.0 **Shale:** Dark grey, traces of sandstone (<5 to 10%).
- 337.0 - 344.0 **Shale (with Silt):** 50-80%, dark grey. **Sandstone:** 20-50%, medium grey, very fine sand - medium sand, mostly fine sand, rounded, quartz, consolidated, moderately friable.
- 344.0 - 353.0 **Shale (with Silt):** > 80%, dark grey. **Sandstone:** < 20%, medium grey, very fine sand - fine sand, mostly fine sand, rounded, quartz-carbonate, consolidated, some fragments acid reactive and some not. Comment: As above but only 15% sandstone. Rare very small fragments of black carbonaceous sandstone, trace pyrite.
- 353.0 - 364.0 **Shale (with Silt):** > 80%, dark grey. **Sandstone:** < 20%, pale grey, coarse silt - very fine sand, mostly coarse silt, rounded, quartz-carbonate, consolidated. Comment: as above but only 10% sandstone.
- 364.0 - 365.0 **Sandstone (with Silt):** 50-80%, pale grey, coarse silt - very fine sand, mostly coarse silt, rounded, quartz-carbonate, consolidated. **Shale:** 20-50%, dark grey, carbonaceous.
- 365.0 - 373.0 **Shale (with Silt):** > 80%, dark grey, carbonaceous, consolidated. **Sandstone:** < 20%, pale grey, coarse silt - very fine sand, mostly coarse silt, rounded, quartz-carbonate.
- 373.0 - 395.0 **Shale (with Silt):** Dark grey, carbonaceous, consolidated.
- 395.0 - 418.0 **Shale (with Silt):** > 80%, dark grey, carbonaceous, consolidated. **Sandstone:** < 20%, pale grey, coarse silt - very fine sand, mostly coarse silt, rounded, quartz-carbonate.
- 418.0 - 419.0 **Sandstone (with Silt):** 50-80%, pale grey, coarse silt - very fine sand, mostly coarse silt, rounded, quartz-carbonate, calcareous, consolidated, hard. **Shale:** 20-50%, dark grey.
- 419.0 - 425.0 **Shale (with Silt):** > 80%, dark grey, carbonaceous, consolidated. **Sandstone:** < 20%, pale grey, coarse silt - very fine sand, mostly coarse silt, rounded, quartz-carbonate.
- 425.0 - 446.0 **Shale (with Silt):** Dark grey, quartz, consolidated.
- 446.0 - 447.0 **Shale:** > 80%, dark grey, quartz, carbonaceous, consolidated. **Siltstone:** < 20%, medium brown, silt - very fine silt, mostly very fine silt, micaceous.
- 447.0 - 485.0 **Shale (with Silt):** Dark grey, quartz-carbonate, consolidated.
- 485.0 - 486.0 **Shale (with Silt):** > 80%, dark grey, carbonaceous, consolidated. **Sandstone:** < 20%, pale grey, fine sand - medium sand, rounded, quartz. Comment: minor clear rounded green quartz to 2 mm.
- 486.0 - 489.0 **Shale (with Silt):** 50-80%, dark grey, carbonaceous, consolidated. **Sandstone:** 20-50%, pale grey, very fine sand - fine sand, mostly very fine sand, rounded, quartz-carbonate, consolidated, occurs as fine layers. Comment: softer (faster drilling).
- 489.0 - 506.0 **Shale (with Silt):** Dark grey, quartz-carbonate, consolidated.
- 506.0 - 548.0 **Shale:** > 80%, dark grey-black, greasy. **Shale:** < 20%, black, pyritic, indurated. Comment: Samples mostly soft and sticky with gritty feel from small fragments of black pyritic shale and rare small fragments of silty sandstone. Trace quartz grains.
- 548.0 - 556.0 **Shale:** 20-50%, dark grey-black, greasy. **Shale:** 50-80%, black, pyritic, indurated. **Sandstone:** < 20%, pale grey-white, very fine sand, quartz, indurated. Comment: Samples mostly soft and sticky with gritty feel from harder pyritic shale and rare sandstone fragments.
- 556.0 - 562.0 **Shale:** 20-50%, black. **Shale:** 50-80%, dark grey-black, indurated. **Sandstone:** < 20%, pale grey, very fine sand - fine sand, mostly very fine sand, quartz, indurated, up to about 5% of sample. Comment: Weakly acid reactive.

**Depth (m bgl)**

- 562.0 - 584.0 **Shale:** 50-80%, dark grey, nodules of hard indurated shale and soft shale. **Sand:** 20-50%, medium grey, very fine sand - medium sand, mostly fine sand, rounded, quartz. Comment: Trace of white limestone/shell fragments? The fine sand may be washing through sieve.
- 584.0 - 596.0 **Sand:** 50-80%, pale grey, very fine sand - medium sand, mostly fine sand, rounded, quartz. **Siltstone:** 20-50%, dark grey. **Shale:** < 20%, dark grey. Comment: Very soupy samples.
- 596.0 - 612.0 **Shale:** 50-80%, dark grey. **Sand:** < 20%, pale grey, very fine sand - medium sand, mostly fine sand, rounded, quartz. **Siltstone:** < 20%, pale grey, soft nodules. Comment: Creamy samples, less gritty feel.
- 612.0 - 619.0 **Shale:** Dark grey, jelly-like feel. Comment: Can also feel fine sand but too fine to capture in sieve.
- 619.0 - 625.0 **Shale:** 50-80%, dark grey. **Sand:** 20-50%, pale grey, very fine sand - medium sand, mostly fine sand, rounded, quartz, 25% of sample, mostly clear grains. **Siltstone:** < 20%, medium grey, consolidated, friable.
- 625.0 - 629.0 **Sand:** 50-80%, pale grey, very fine sand - medium sand, mostly fine sand, rounded, quartz. **Shale:** 20-50%, dark grey. **Siltstone:** < 20%, medium grey, consolidated. Comment: Samples as above but more sand (50%).
- 629.0 - 634.0 **Sand:** 50-80%, pale grey, very fine sand - medium sand, mostly fine sand, rounded, quartz. **Shale:** 20-50%, dark grey. **Siltstone:** < 20%, medium grey, consolidated. **Siltstone:** < 20%, cream, friable, weakly acid reactive. Comment: Samples as above but with <10% cream coloured siltstone.
- 634.0 - 642.0 **Siltstone:** 50-80%, pale grey-cream, consolidated, weakly acid reactive. **Mudstone:** 20-50%, medium grey, occurs as soft nodules. **Shale:** < 20%, dark grey.
- 642.0 - 648.0 **Sand:** 50-80%, pale grey, very fine sand - coarse sand, mostly medium sand, rounded, quartz, 60% sand. **Siltstone:** < 20%, cream. **Mudstone:** < 20%, medium grey, indurated, trace of indurated black shale.
- 648.0 - 650.0 **Sand:** 50-80%, pale grey, very fine sand - coarse sand, mostly medium sand, rounded, quartz, 60% sand. **Clay:** < 20%, medium grey. **Siltstone:** < 20%, cream, trace of indurated black shale.
- 650.0 - 662.0 **Sand:** 50-80%, pale grey, very fine sand - coarse sand, mostly medium sand, rounded, quartz, 60% sand. **Siltstone:** 20-50%, pale grey-cream, occurs as hard fragments. **Shale:** 20-50%, dark grey. Comment: weakly acid reactive in parts.
- 662.0 - 666.0 **Sand:** > 80%, medium grey, very fine sand - coarse sand, mostly medium sand, rounded, quartz, very sandy. **Mudstone:** < 20%, dark grey, soft. **Siltstone:** < 20%, cream-white, consolidated, but friable. Comment: Drill string breaks down-hole, 28 m left in hole plus drill bit.
- 666.0 - 668.0 **Unknown:** Comment: No samples.
- 668.0 - 696.0 **Sand:** 50-80%, pale grey, very fine sand - fine gravel, mostly coarse sand, poorly sorted, rounded to angular, quartz, friable, weakly cemented, occurs as clear quartz aggregates. **Sandstone:** 20-50%, pale grey, very fine sand - fine sand, mostly fine sand, rounded, quartz, consolidated. **Siltstone:** 20-50%, cream, consolidated, trace of hard black shale and pyrite nodules. Comment: Samples can be weakly acid reactive in parts.
- 696.0 - 701.0 **Sand:** 20-50%, pale grey, very fine sand - very coarse sand, mostly coarse sand, poorly sorted, rounded to sub-rounded, quartz, trace hard black shale & disseminated pyrite & free pyrite nodules. **Sandstone:** 20-50%, pale grey, very fine sand - fine sand, mostly fine sand, rounded, quartz, friable, weakly cemented, occurs as clear quartz aggregates. **Siltstone:** 20-50%, cream, consolidated. **Shale:** 20-50%, black, hard, with disseminated pyrite and free pyrite nodules.
- 701.0 - 708.0 **Sand:** 20-50%, pale grey, very fine sand - coarse sand, poorly sorted. **Sandstone:** 20-50%, pale grey, very fine sand - medium sand, rounded, quartz. **Siltstone:** < 20%, cream, quartz. **Silt:** < 20%, pale grey, trace hard black shale with disseminated pyrite to 704 m.
- 708.0 - 714.0 **Sandstone:** 20-50%, pale grey, very fine sand - medium sand, rounded, quartz. **Mudstone:** 20-50%, dark grey, soft. **Shale:** < 20%, black, pyritic, hard.
- 714.0 - 728.0 **Sandstone:** 50-80%, pale grey, very fine sand - fine sand, quartz, calcareous, friable, often occurs as cemented aggregates of quartz grains. **Siltstone:** 20-50%, medium grey. **Siltstone:** < 20%, white, friable. **Shale:** < 20%, black, pyritic, indurated, bedding. Comment: Fine grained calcareous fragments present in sample.

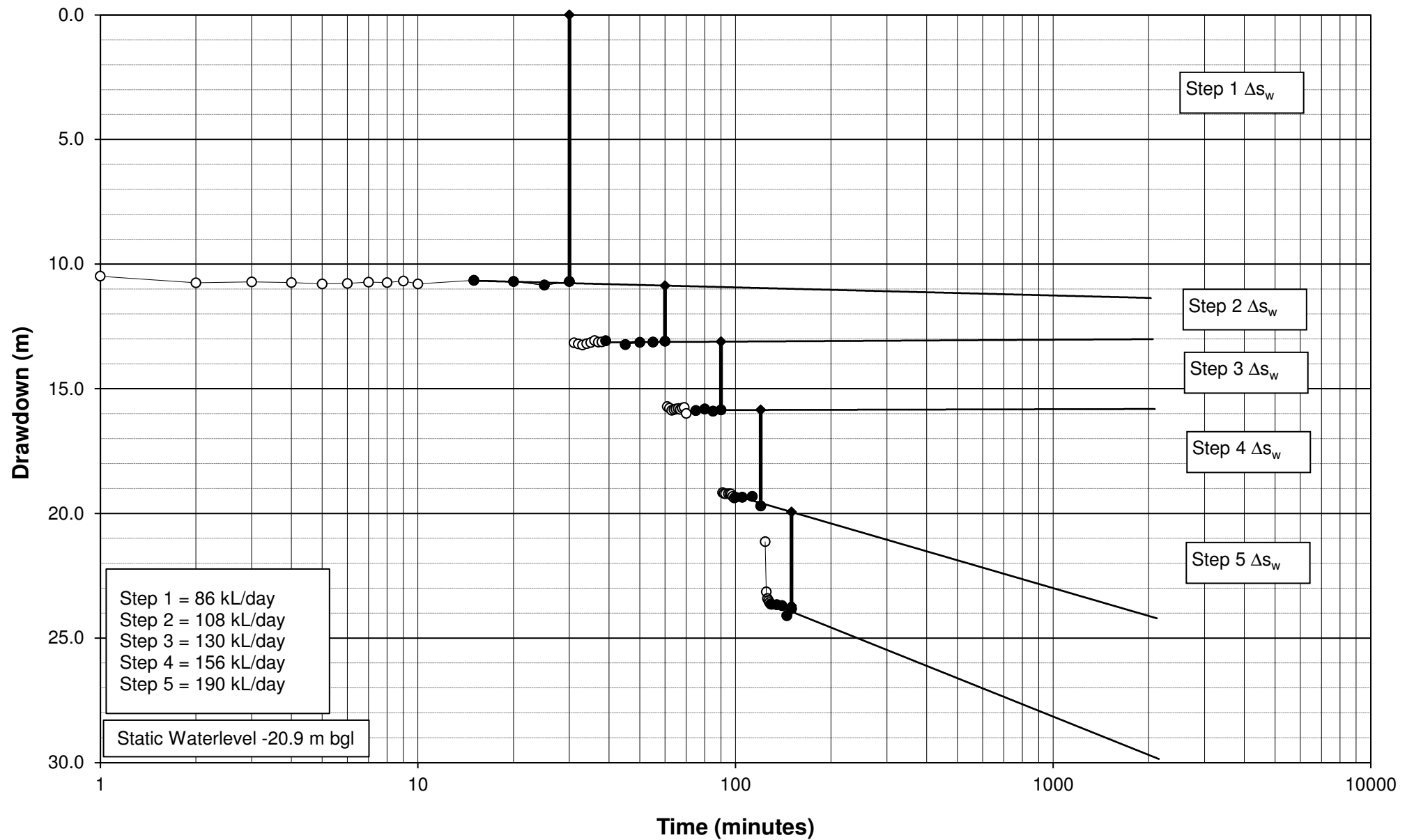
**Depth (m bgl)**

- 728.0 - 745.0 **Shale:** 50-80%, dark grey. **Sandstone:** 50-80%, dark grey, very fine sand - fine sand, quartz, calcareous, hard, trace of white calcareous siltstone. Comment: Trace of white calcareous siltstone. Soft, spongy, strongly acid reactive sample overall with hard but friable sandstone fragments and hard fossil fragments.
- 745.0 - 773.0 **Sandstone:** 50-80%, pale grey, very fine sand - fine sand, quartz, calcareous, hard, fragmented fossils. **Siltstone:** 20-50%, white. Comment: Generally strongly acid reactive samples overall.
- 773.0 - 801.0 **Shale:** 50-80%, dark grey, fragmented fossils. **Sandstone:** < 20%, dark grey, very fine sand - fine sand, quartz, calcareous, hard. Comment: Generally soft, strongly acid reactive samples overall.

## **Appendix B**

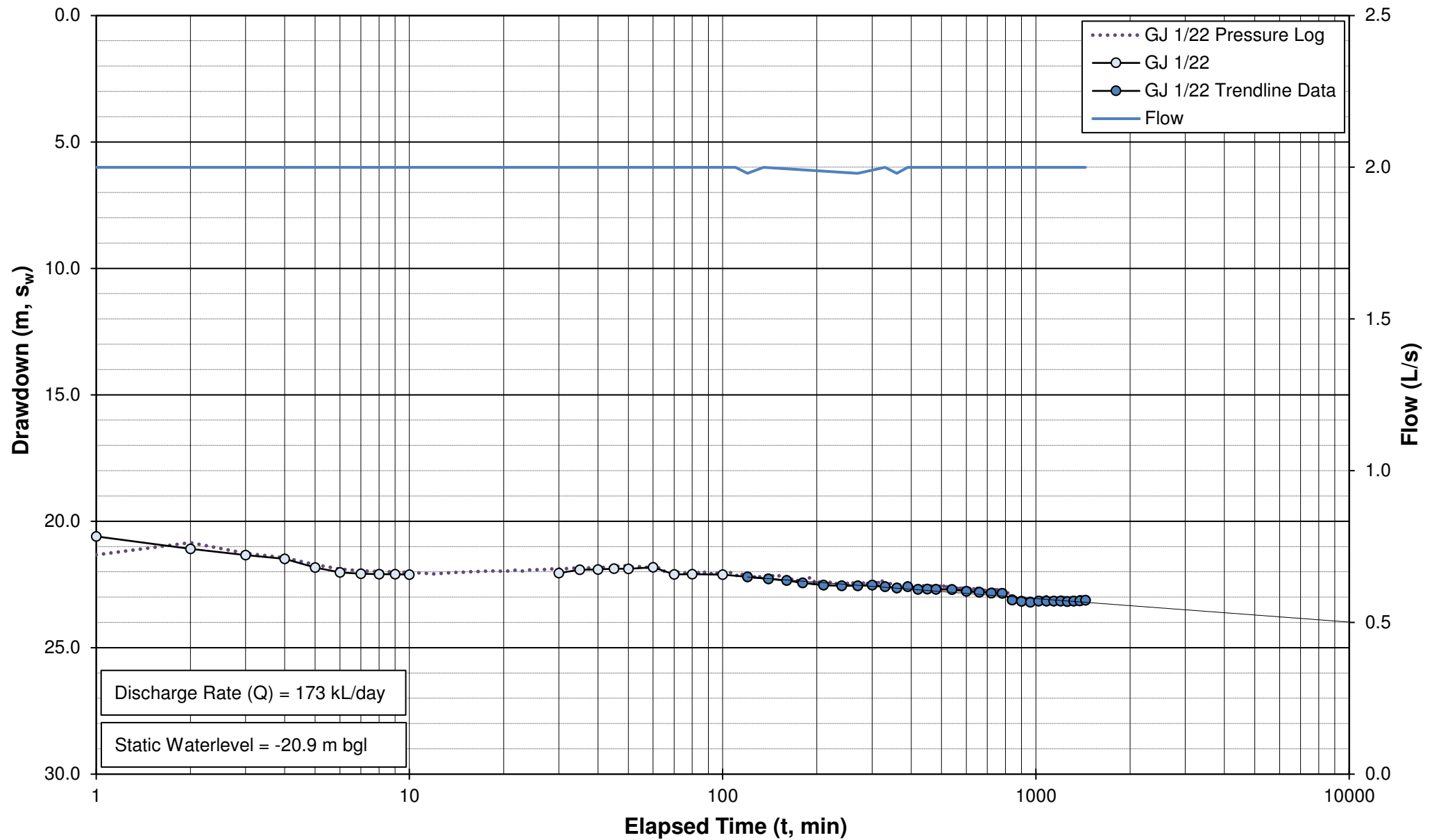
### Test Pumping Data and Plots

## Step Test - Production Bore GJ 1/22





## Constant Rate Test - Production Bore GJ 1/22



# GLOBAL GROUNDWATER

## Step Test Data Sheet

Date :	7-Mar-23	Supervisor :	Nixon, R.	Pumped Bore:	GJ 1/22
Job No :	15129g	Operator:	Nixon, E.	Measurements on Bore:	GJ 1/22
Client :	Shire of Upper Gascoyne		Distance to Pumped Bore (m):		0
Contractor:	Global Groundwater		GGW ID:	74002	Tagged Depth (m bTOC):
SWL (mbMP):		-19.700		SWL (mbgl):	
		-20.900		Pump Inlet (mbmp):	
				6.0	
MP (maToC):	0.000	Start Time:	7/03/2023 10:30	Available Drawdown (m):	25.7
ToC (magl):	1.200	End Time:	7/03/2023 12:30	Discharge Location:	100 m west
		Pump :	EBARA CMB/A 2.0	Bore Internal Diam. (mm):	101.0
SWL = Static water level		mbMP = Metres below measuring point		mbgl = Metres below ground level	
MP = Measuring point		magl = Metres above ground level		ToC= Top of Casing (Bore)	

STEP	Time (Hr:Min:Sec)	Elapsed Time (Min)	Water Level (m)	Drawdown (m)	Remarks
			86 (m <sup>3</sup> /d)		1.00 (L/s)
1	10:31:00	1	-9.220	10.480	
	10:32:00	2	-8.950	10.750	
	10:33:00	3	-8.986	10.714	
	10:34:00	4	-8.962	10.738	
	10:35:00	5	-8.905	10.795	
	10:36:00	6	-8.928	10.772	
	10:37:00	7	-8.983	10.717	
	10:38:00	8	-8.960	10.740	
	10:39:00	9	-9.023	10.677	
	10:40:00	10	-8.906	10.794	
	10:45:00	15	-9.051	10.649	
	10:50:00	20	-9.010	10.690	
	10:55:00	25	-8.859	10.841	
	11:00:00	30	-9.005	10.695	
			108 (m <sup>3</sup> /d)		1.25 (L/s)
2	11:01:00	31	-6.549	13.151	
	11:02:00	32	-6.502	13.198	
	11:03:00	33	-6.461	13.239	
	11:04:00	34	-6.512	13.188	
	11:05:00	35	-6.556	13.144	
	11:06:00	36	-6.632	13.068	
	11:07:00	37	-6.577	13.123	
	11:08:00	38	-6.581	13.119	
	11:09:00	39	-6.625	13.075	
	11:10:00	40			
	11:15:00	45	-6.475	13.225	
	11:20:00	50	-6.567	13.133	
	11:25:00	55	-6.576	13.124	
	11:30:00	60	-6.607	13.093	

# GLOBAL GROUNDWATER

## Step Test Data Sheet

Date :	7-Mar-23	Supervisor :	Nixon, R.	Pumped Bore:	GJ 1/22
Job No :	15129g	Operator:	Nixon, E.	Measurements on Bore:	GJ 1/22
Client :	Shire of Upper Gascoyne	Distance to Pumped Bore (m):	0		
Contractor:	Global Groundwater	GGW ID:	74002	Tagged Depth (m bTOC):	N/A
SWL (mbMP):	-19.700	SWL (mbgl):	-20.900	Pump Inlet (mbmp):	6.0
MP (maToC):	0.000	Start Time:	7/03/2023 10:30	Available Drawdown (m):	25.7
ToC (magl):	1.200	End Time:	7/03/2023 12:30	Discharge Location:	100 m west
		Pump :	EBARA CMB/A 2.0	Bore Internal Diam. (mm):	101.0

SWL = Static water level  
MP = Measuring point

mbMP = Metres below measuring point  
magl = Metres above ground level

mbgl = Metres below ground level  
ToC= Top of Casing (Bore)

STEP	Time (Hr:Min:Sec)	Elapsed Time (Min)	Water Level (m)	Drawdown (m)	Remarks
130 (m³/d) 1.50 (L/s)					
3	11:31:00	61	-3.985	15.715	
	11:32:00	62	-3.925	15.775	
	11:33:00	63	-3.838	15.862	
	11:34:00	64	-3.862	15.838	
	11:35:00	65	-3.891	15.809	
	11:36:00	66	-3.905	15.795	
	11:37:00	67	-3.873	15.827	
	11:38:00	68	-3.927	15.773	
	11:39:00	69	-3.953	15.747	
	11:40:00	70	-3.712	15.988	
	11:45:00	75	-3.828	15.872	
	11:50:00	80	-3.886	15.814	
	11:55:00	85	-3.804	15.896	
	12:00:00	90	-3.858	15.842	
156 (m³/d) 1.80 (L/s)					
4	12:01:00	91	-0.537	19.163	
	12:02:00	92	-0.499	19.201	
	12:03:00	93	-0.492	19.208	
	12:04:00	94			
	12:05:00	95	-0.490	19.210	
	12:06:00	96	-0.488	19.212	
	12:07:00	97	-0.476	19.224	
	12:08:00	98	-0.384	19.316	
	12:09:00	99	-0.324	19.376	
	12:10:00	100	-0.346	19.354	
	12:15:00	105	-0.345	19.355	
	12:23:00	113	-0.385	19.315	
	12:25:00	115			
	12:30:00	120	-0.376	19.700	

# GLOBAL GROUNDWATER

## Step Test Data Sheet

Date :	7-Mar-23	Supervisor :	Nixon, R.	Pumped Bore:	GJ 1/22
Job No :	15129g	Operator:	Nixon, E.	Measurements on Bore:	GJ 1/22
Client :	Shire of Upper Gascoyne	Distance to Pumped Bore (m):	0		
Contractor:	Global Groundwater	GGW ID:	74002	Tagged Depth (m bTOC):	N/A
SWL (mbMP):	-19.700	SWL (mbgl):	-20.900	Pump Inlet (mbmp):	6.0
MP (maToC):	0.000	Start Time:	7/03/2023 10:30	Available Drawdown (m):	25.7
ToC (magl):	1.200	End Time:	7/03/2023 12:30	Discharge Location:	100 m west
		Pump :	EBARA CMB/A 2.0	Bore Internal Diam. (mm):	101.0
SWL = Static water level      mbMP = Metres below measuring point      mbgl = Metres below ground level MP = Measuring point      magl = Metres above ground level      ToC= Top of Casing (Bore)					

STEP	Time (Hr:Min:Sec)	Elapsed Time (Min)	Water Level (m)	Drawdown (m)	Remarks
			190 (m <sup>3</sup> /d)		2.20 (L/s)
5	12:31:00	121			
	12:32:00	122			
	12:33:00	123			
	12:34:00	124	1.434	21.134	
	12:35:00	125	3.441	23.141	
	12:36:00	126	3.715	23.415	
	12:37:00	127	3.795	23.495	
	12:38:00	128	3.871	23.571	
	12:39:00	129	3.937	23.637	
	12:40:00	130	3.942	23.642	
	12:45:00	135	3.963	23.663	
	12:50:00	140	4.001	23.701	
	12:55:00	145	4.399	24.099	
	13:00:00	150	4.119	23.819	

# GLOBAL GROUNDWATER

## Constant Rate Test - Data Sheet

Test Start:	07-Mar-23 16:00		Test End:	08-Mar-23 16:00	
Job No.:	1529g	GGW Bore ID:	74002	Pumped Bore:	GJ 1/22
Client:	Shire of Upper Gascoyne		Tagged depth (m bTOC):	N/A	
Contractor:	Global Groundwater		Supervisor:	R. Nixon	
SWL (mbMP):	-19.700		Pump Inlet (mbmp):	6.0	
MP (maTOC):	0.000		Available Drawdown (m):	25.7	
TOC (magl):	1.200		Discharge Dist. & Direction:	100 m west	
SWL (mbgl):	-20.900		Bore Internal Diameter (mm):	101	
Pump Used:	EBARA CMB/A 2.0	Flow (L/s):	2.0	Flow (m <sup>3</sup> /day):	173
Flow device:					
			Number of other Bores Monitored:	0	

SWL = Static water level      mbMP = Metres below measuring point      mbgl = Metres below ground level  
 MP = Measuring point      magl = Metres above ground level      ToC= Top of Casing (Bore)

Reading Taken Date (Hr.Min:Sec)	Elapsed Time (Min)	Water Level (m)	Drawdown (m)	Corrected Drawdown (m)	Comments
07-Mar-23 16:01:00	1.0	0.900	20.600	20.600	
07-Mar-23 16:02:00	2.0	1.390	21.090	21.090	
07-Mar-23 16:03:00	3.0	1.640	21.340	21.340	
07-Mar-23 16:04:00	4.0	1.790	21.490	21.490	
07-Mar-23 16:05:00	5.0	2.130	21.830	21.830	
07-Mar-23 16:06:00	6.0	2.320	22.020	22.020	
07-Mar-23 16:07:00	7.0	2.380	22.080	22.080	
07-Mar-23 16:08:00	8.0	2.390	22.090	22.090	
07-Mar-23 16:09:00	9.0	2.395	22.095	22.095	
07-Mar-23 16:10:00	10.0	2.410	22.110	22.110	
07-Mar-23 16:15:00	15.0				
07-Mar-23 16:20:00	20.0				
07-Mar-23 16:25:00	25.0				
07-Mar-23 16:30:00	30.0	2.350	22.050	22.050	
07-Mar-23 16:35:00	35.0	2.220	21.920	21.920	
07-Mar-23 16:40:00	40.0	2.205	21.905	21.905	
07-Mar-23 16:45:00	45.0	2.175	21.875	21.875	
07-Mar-23 16:50:00	50.0	2.182	21.882	21.882	
07-Mar-23 17:00:00	60.0	2.120	21.820	21.820	
07-Mar-23 17:10:00	70.0	2.400	22.100	22.100	
07-Mar-23 17:20:00	80.0	2.390	22.090	22.090	
07-Mar-23 17:40:00	100.0	2.410	22.110	22.110	
07-Mar-23 18:00:00	120.0	2.498	22.198	22.198	
07-Mar-23 18:20:00	140.0	2.581	22.281	22.281	
07-Mar-23 18:40:00	160.0	2.644	22.344	22.344	
07-Mar-23 19:00:00	180.0	2.740	22.440	22.440	
07-Mar-23 19:30:00	210.0	2.820	22.520	22.520	
07-Mar-23 20:00:00	240.0	2.850	22.550	22.550	
07-Mar-23 20:30:00	270.0	2.852	22.552	22.552	
07-Mar-23 21:00:00	300.0	2.826	22.526	22.526	
07-Mar-23 21:30:00	330.0	2.888	22.588	22.588	
07-Mar-23 22:00:00	360.0	2.939	22.639	22.639	
07-Mar-23 22:30:00	390.0	2.890	22.590	22.590	
07-Mar-23 23:00:00	420.0	2.995	22.695	22.695	
07-Mar-23 23:30:00	450.0	2.980	22.680	22.680	
08-Mar-23 00:00:00	480.0	2.990	22.690	22.690	
08-Mar-23 01:00:00	540.0	2.998	22.698	22.698	
08-Mar-23 02:00:00	600.0	3.070	22.770	22.770	
08-Mar-23 03:00:00	660.0	3.108	22.808	22.808	

## GLOBAL GROUNDWATER

### Constant Rate Test - Data Sheet

Test Start:	07-Mar-23 16:00		Test End:	08-Mar-23 16:00	
Job No.:	1529g	GGW Bore ID:	74002	Pumped Bore:	GJ 1/22
Client.:	Shire of Upper Gascoyne		Tagged depth (m bTOC):	N/A	
Contractor:	Global Groundwater		Supervisor:	R. Nixon	
SWL (mbMP):	-19.700		Pump Inlet (mbmp):	6.0	
MP (maTOC):	0.000		Available Drawdown (m):	25.7	
TOC (magl):	1.200		Discharge Dist. & Direction:	100 m west	
SWL (mbgl):	-20.900		Bore Internal Diameter (mm):	101	
Pump Used:	EBARA CMB/A 2.0	Flow (L/s):	2.0	Flow (m <sup>3</sup> /day):	173
Flow device:					
Number of other Bores Monitored:				0	

SWL = Static water level      mbMP = Metres below measuring point      mbgl = Metres below ground level  
 MP = Measuring point      magl = Metres above ground level      ToC= Top of Casing (Bore)

Reading Taken Date (Hr.Min:Sec)	Elapsed Time (Min)	Water Level (m)	Drawdown (m)	Corrected Drawdown (m)	Comments
08-Mar-23 04:00:00	720.0	3.138	22.838	22.838	
08-Mar-23 05:00:00	780.0	3.145	22.845	22.845	
08-Mar-23 06:00:00	840.0	3.410	23.110	23.110	
08-Mar-23 07:00:00	900.0	3.465	23.165	23.165	
08-Mar-23 08:00:00	960.0	3.502	23.202	23.202	
08-Mar-23 09:00:00	1020.0	3.455	23.155	23.155	
08-Mar-23 10:00:00	1080.0	3.455	23.155	23.155	
08-Mar-23 11:00:00	1140.0	3.455	23.155	23.155	
08-Mar-23 12:00:00	1200.0	3.460	23.160	23.160	
08-Mar-23 13:00:00	1260.0	3.470	23.170	23.170	
08-Mar-23 14:00:00	1320.0	3.455	23.155	23.155	
08-Mar-23 15:00:00	1380.0	3.450	23.150	23.150	
08-Mar-23 16:00:00	1440.0	3.423	23.123	23.123	

**Coral Coast Plumbing**  
**428 Robinson Street**  
**Carnarvon**  
**WA 6701**



**NATA Accredited**  
**Accreditation Number 2377**  
**Site Number 2370**

Accredited for compliance with ISO/IEC 17025 – Testing  
 NATA is a signatory to the ILAC Mutual Recognition  
 Arrangement for the mutual recognition of the  
 equivalence of testing, medical testing, calibration,  
 inspection, proficiency testing scheme providers and  
 reference materials producers reports and certificates.

**Attention:** **Kylie Chaplin**

**Report** **1053820-W**  
**Project name** **UPPER GASCOYNE SHIRE - BORE 1/22**  
**Received Date** **Dec 13, 2023**

<b>Client Sample ID</b>			<b>BORE GJ 1/22</b>
<b>Sample Matrix</b>			<b>Water</b>
<b>Eurofins Sample No.</b>			<b>L23-De0032622</b>
<b>Date Sampled</b>			<b>Dec 11, 2023</b>
<b>Test/Reference</b>	<b>LOR</b>	<b>Unit</b>	
Alkalinity	5	mg CaCO <sub>3</sub> /L	170
Ammonia-N	0.02	mg/L	1.3
Bicarbonate	5	mg CaCO <sub>3</sub> /L	170
Carbonate	5	mg CaCO <sub>3</sub> /L	< 5
Chloride	5	mg/L	2400
Colour	5	PCU	< 5
Conductivity	10	uS/cm	9400
Cyanide (total)	0.005	mg/L	< 0.005
Filterable Reactive Phosphorus	0.01	mg/L	0.08
Fluoride	0.1	mg/L	2.7
Hydroxide	5	mg CaCO <sub>3</sub> /L	< 5
Iodide	1	mg/L	4.4
Nitrate-N	0.01	mg/L	< 0.01
Nitrite-N	0.01	mg/L	< 0.01
NOx-N	0.01	mg/L	< 0.01
pH	0.1	pH Units	7.6
Reactive Silica	0.1	mg/L	26
Sulfate	1	mg/L	920
Total Dissolved Solids	5	mg/L	4000
Total Kjeldahl Nitrogen	0.2	mg/L	1.2
Total Nitrogen	0.2	mg/L	1.2
Total Phosphorus	0.01	mg/L	0.08
Turbidity	0.1	NTU	1.4
Hardness mg equivalent CaCO <sub>3</sub> /L	5	mg/L	690
Sulfur - Total	0.1	mg/L	240
<b>Heavy Metals</b>			
Aluminium	0.05	mg/L	< 0.05
Antimony	0.001	mg/L	< 0.001
Arsenic	0.001	mg/L	< 0.001
Barium	0.01	mg/L	0.05
Beryllium	0.001	mg/L	< 0.001
Boron	0.05	mg/L	2.5
Cadmium	0.0001	mg/L	< 0.0001
Chromium	0.001	mg/L	< 0.001
Copper	0.001	mg/L	< 0.001
Iron	0.01	mg/L	0.31

<b>Client Sample ID</b>			<b>BORE GJ 1/22</b>
<b>Sample Matrix</b>			<b>Water</b>
<b>Eurofins Sample No.</b>			<b>L23-De0032622</b>
<b>Date Sampled</b>			<b>Dec 11, 2023</b>
Test/Reference	LOR	Unit	
<b>Heavy Metals</b>			
Lead	0.001	mg/L	< 0.001
Manganese	0.005	mg/L	0.17
Mercury	0.0001	mg/L	< 0.0001
Molybdenum	0.001	mg/L	0.002
Nickel	0.001	mg/L	0.002
Selenium	0.001	mg/L	< 0.001
Silver	0.001	mg/L	< 0.001
Strontium	0.005	mg/L	9.9
Uranium	0.001	mg/L	< 0.001
Zinc	0.005	mg/L	< 0.005
<b>Heavy Metals</b>			
Magnesium	0.5	mg/L	44
<b>Alkali Metals</b>			
Calcium	0.5	mg/L	210
Potassium	0.5	mg/L	26
Sodium	0.5	mg/L	1900



## Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Alkalinity	Welshpool	Dec 14, 2023	14 Days
- Method: ARL037 - Alkalinity in Water			
Bicarbonate	Welshpool	Dec 14, 2023	14 Days
- Method: ARL037 - Alkalinity in Water			
Carbonate	Welshpool	Dec 14, 2023	14 Days
- Method: ARL037 - Alkalinity in Water			
Hydroxide	Welshpool	Dec 14, 2023	14 Day
- Method: ARL037 - Alkalinity in Water			
Ammonia-N	Welshpool	Dec 19, 2023	28 Days
- Method: ARL303 - Ammonia in Water by Discrete Analyser			
Colour	Welshpool	Dec 19, 2023	2 Days
- Method: ARL310 - Colour in Water			
Cyanide (total)	Melbourne	Dec 21, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Filterable Reactive Phosphorus	Welshpool	Dec 19, 2023	28 Days
- Method: ARL309 - Filterable Reactive Phosphorus in Water by Discrete Analyser			
Fluoride	Welshpool	Dec 19, 2023	28 Days
- Method: ARL321 - Fluoride in Water by Discrete Analyser			
Iodide	Sydney	Dec 27, 2023	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Nitrate-N	Welshpool	Dec 19, 2023	28 Days
- Method: ARL313/319 - NOx in Water by Discrete Analyser			
Nitrite-N	Welshpool	Dec 19, 2023	2 Days
- Method: ARL311 - Nitrite in Water by Discrete Analyser			
pH	Welshpool	Dec 19, 2023	1 Day
- Method: ARL014 - pH in Water			
Reactive Silica	Welshpool	Dec 19, 2023	28 Days
- Method: ARL315 - Reactive Silica in Water by Discrete Analyser			
Total Phosphorus	Welshpool	Dec 19, 2023	28 Days
- Method: ARL308 - Total Phosphorus in Water by Discrete Analyser			
Turbidity	Welshpool	Dec 19, 2023	1 Day
- Method: ARL No. 045 - Turbidity			
Sulfur - Total	Welshpool	Dec 19, 2023	180 Days
- Method: ARL402/403 - Metals in Water by ICPOES/ICPMS			
Heavy Metals	Welshpool	Dec 19, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Chloride	Welshpool	Dec 14, 2023	28 Days
- Method: ARL305 - Chloride in Water by Discrete Analyser			
NOx-N	Welshpool	Dec 14, 2023	28 Days
- Method: ARL313/319 - NOx in Water by Discrete Analyser			
Sulfate	Welshpool	Dec 14, 2023	28 Days
- Method: ARL301 - Sulfate in Water by Discrete Analyser			
Alkali Metals	Welshpool	Dec 14, 2023	6 Months
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Conductivity	Welshpool	Dec 19, 2023	28 Days
- Method: ARL019 - Conductivity and Salinity in Water			
Total Dissolved Solids	Welshpool	Dec 19, 2023	7 Days
- Method: ARL No. 017 - Total Dissolved Solids			
Total Kjeldahl Nitrogen	Welshpool	Dec 19, 2023	28 Days
- Method: ARL No. 330 - Persulfate Method for Simultaneous Determination of TN & TP			
Total Nitrogen	Welshpool	Dec 19, 2023	28 Days

**Description**

- Method: ARL No. 330 - Persulfate Method for Simultaneous Determination of TN & TP

Hardness mg equivalent CaCO<sub>3</sub>/L

- Method: APHA 2340B Hardness by Calculation

**Testing Site**

Welshpool

**Extracted**

Dec 14, 2023

**Holding Time**

28 Months



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ABN: 50 005 085 521

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**Company Name:** Coral Coast Plumbing  
**Address:** 428 Robinson Street  
Carnarvon  
WA 6701

**Project Name:** UPPER GASCOYNE SHIRE - BORE 1/22

**Order No.:** JN 053379  
**Report #:** 1053820  
**Phone:** 99412881  
**Fax:**

**Received:** Dec 13, 2023 10:05 AM  
**Due:** Dec 20, 2023  
**Priority:** 5 Day  
**Contact Name:** Kylie Chaplin

**Eurofins Analytical Services Manager : Maxine Saw**

Sample Detail

Major Ions in Water

Perth Laboratory - NATA # 2377 Site # 2370

External Laboratory

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	BORE GJ 1/22	Dec 11, 2023		Water	L23-De0032622	X
Test Counts						1

## Internal Quality Control Review and Glossary

### General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry weight basis unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion unless otherwise stated.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

### Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is 7 days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

### Units

<b>mg/kg:</b> milligrams per kilogram	<b>mg/L:</b> milligrams per litre	<b>ppm:</b> parts per million
<b>µg/L:</b> micrograms per litre	<b>ppb:</b> parts per billion	<b>%:</b> Percentage
<b>org/100 mL:</b> Organisms per 100 millilitres	<b>NTU:</b> Nephelometric Turbidity Units	<b>MPN/100 mL:</b> Most Probable Number of organisms per 100 millilitres
<b>CFU:</b> Colony forming unit	<b>Colour:</b> Pt-Co Units	

### Terms

<b>APHA</b>	American Public Health Association
<b>CEC</b>	Cation Exchange Capacity
<b>COC</b>	Chain of Custody
<b>CP</b>	Client Parent - QC was performed on samples pertaining to this report
<b>CRM</b>	Certified Reference Material (ISO17034) - reported as percent recovery.
<b>Dry</b>	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
<b>Duplicate</b>	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
<b>LOR</b>	Limit of Reporting.
<b>LCS</b>	Laboratory Control Sample - reported as percent recovery.
<b>Method Blank</b>	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
<b>NCP</b>	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
<b>RPD</b>	Relative Percent Difference between two Duplicate pieces of analysis.
<b>SPIKE</b>	Addition of the analyte to the sample and reported as percentage recovery.
<b>SRA</b>	Sample Receipt Advice
<b>Surr - Surrogate</b>	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
<b>TBTO</b>	Tributyltin oxide ( <i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TEQ</b>	Toxic Equivalency Quotient or Total Equivalence
<b>QSM</b>	US Department of Defense Quality Systems Manual Version 5.4
<b>US EPA</b>	United States Environmental Protection Agency
<b>WA DWER</b>	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

### QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 70 – 130%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 5.4, where no positive PFAS results have been reported or reviewed, and no data was affected.

### QC Data General Comments

- Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

**Quality Control Results**

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
<b>Method Blank</b>							
Alkalinity	mg CaCO <sub>3</sub> /L	< 5			5	Pass	
Ammonia-N	mg/L	< 0.02			0.02	Pass	
Bicarbonate	mg CaCO <sub>3</sub> /L	< 5			5	Pass	
Carbonate	mg CaCO <sub>3</sub> /L	< 5			5	Pass	
Chloride	mg/L	< 5			5	Pass	
Colour	PCU	< 5			5	Pass	
Conductivity	uS/cm	< 10			10	Pass	
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Filterable Reactive Phosphorus	mg/L	< 0.01			0.01	Pass	
Fluoride	mg/L	< 0.1			0.1	Pass	
Hydroxide	mg CaCO <sub>3</sub> /L	< 5			5	Pass	
Iodide	mg/L	< 1			1	Pass	
Nitrate-N	mg/L	< 0.01			0.01	Pass	
Nitrite-N	mg/L	< 0.01			0.01	Pass	
NOx-N	mg/L	< 0.01			0.01	Pass	
Reactive Silica	mg/L	< 0.1			0.1	Pass	
Sulfate	mg/L	< 1			1	Pass	
Total Dissolved Solids	mg/L	< 5			5	Pass	
Total Nitrogen	mg/L	< 0.2			0.2	Pass	
Total Phosphorus	mg/L	< 0.01			0.01	Pass	
Turbidity	NTU	< 0.1			0.1	Pass	
Hardness mg equivalent CaCO <sub>3</sub> /L	mg/L	< 5			5	Pass	
Sulfur - Total	mg/L	< 0.1			0.1	Pass	
<b>Method Blank</b>							
<b>Heavy Metals</b>							
Aluminium	mg/L	< 0.05			0.05	Pass	
Antimony	mg/L	< 0.001			0.001	Pass	
Arsenic	mg/L	< 0.001			0.001	Pass	
Barium	mg/L	< 0.01			0.01	Pass	
Beryllium	mg/L	< 0.001			0.001	Pass	
Boron	mg/L	< 0.05			0.05	Pass	
Cadmium	mg/L	< 0.0001			0.0001	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Iron	mg/L	< 0.01			0.01	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Manganese	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Molybdenum	mg/L	< 0.001			0.001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Selenium	mg/L	< 0.001			0.001	Pass	
Silver	mg/L	< 0.001			0.001	Pass	
Strontium	mg/L	< 0.005			0.005	Pass	
Uranium	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
<b>Method Blank</b>							
<b>Heavy Metals</b>							
Magnesium	mg/L	< 0.5			0.5	Pass	
<b>Method Blank</b>							
<b>Alkali Metals</b>							
Calcium	mg/L	< 0.5			0.5	Pass	

Test			Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Potassium			mg/L	< 0.5		0.5	Pass	
Sodium			mg/L	< 0.5		0.5	Pass	
<b>LCS - % Recovery</b>								
Conductivity			%	97		80-120	Pass	
Cyanide (total)			%	91		70-130	Pass	
Iodide			%	97		70-130	Pass	
Sulfur - Total			%	120		80-120	Pass	
<b>LCS - % Recovery</b>								
<b>Heavy Metals</b>								
Aluminium			%	100		80-120	Pass	
Antimony			%	100		80-120	Pass	
Arsenic			%	100		80-120	Pass	
Barium			%	100		80-120	Pass	
Beryllium			%	99		80-120	Pass	
Boron			%	96		80-120	Pass	
Cadmium			%	103		80-120	Pass	
Chromium			%	99		80-120	Pass	
Copper			%	96		80-120	Pass	
Iron			%	98		80-120	Pass	
Lead			%	100		80-120	Pass	
Manganese			%	99		80-120	Pass	
Mercury			%	103		80-120	Pass	
Molybdenum			%	102		80-120	Pass	
Nickel			%	97		80-120	Pass	
Selenium			%	100		80-120	Pass	
Silver			%	84		80-120	Pass	
Strontium			%	102		80-120	Pass	
Uranium			%	102		80-120	Pass	
Zinc			%	98		80-120	Pass	
<b>LCS - % Recovery</b>								
<b>Heavy Metals</b>								
Magnesium			%	94		80-120	Pass	
<b>LCS - % Recovery</b>								
<b>Alkali Metals</b>								
Calcium			%	94		80-120	Pass	
Potassium			%	94		80-120	Pass	
Sodium			%	94		80-120	Pass	
<b>CRM - % Recovery</b>								
Fluoride			%	105		80-120	Pass	
Total Dissolved Solids			%	90		80-120	Pass	
Turbidity			%	99		80-120	Pass	
Sulfur - Total			%	96		80-120	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
<b>Spike - % Recovery</b>								
				Result 1				
Chloride	L23-De0033073	NCP	%	91		70-130	Pass	
Colour	L23-De0037711	NCP	%	108		80-120	Pass	
Filterable Reactive Phosphorus	L23-De0040474	NCP	%	97		80-120	Pass	
Fluoride	L23-De0040474	NCP	%	116		80-120	Pass	
Iodide	L23-De0032622	CP	%	105		70-130	Pass	
Nitrate-N	S23-De0015732	NCP	%	96		70-130	Pass	
Nitrite-N	S23-De0015732	NCP	%	100		80-120	Pass	
NOx-N	S23-De0015732	NCP	%	98		80-120	Pass	
Reactive Silica	L23-De0043541	NCP	%	113		80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Sulfate	L23-De0033073	NCP	%	112			70-130	Pass	
<b>Spike - % Recovery</b>									
<b>Heavy Metals</b>				Result 1					
Aluminium	L23-De0032622	CP	%	98			75-125	Pass	
Antimony	L23-De0032622	CP	%	100			75-125	Pass	
Arsenic	L23-De0032622	CP	%	110			75-125	Pass	
Barium	L23-De0032622	CP	%	100			75-125	Pass	
Beryllium	L23-De0032622	CP	%	79			75-125	Pass	
Boron	L23-De0032622	CP	%	70			75-125	Fail	Q08
Cadmium	L23-De0032622	CP	%	93			75-125	Pass	
Chromium	L23-De0032622	CP	%	87			75-125	Pass	
Copper	L23-De0032622	CP	%	78			75-125	Pass	
Iron	L23-De0032622	CP	%	84			75-125	Pass	
Lead	L23-De0032622	CP	%	87			75-125	Pass	
Manganese	L23-De0032622	CP	%	87			75-125	Pass	
Mercury	L23-De0032622	CP	%	83			75-125	Pass	
Molybdenum	L23-De0032622	CP	%	104			75-125	Pass	
Nickel	L23-De0032622	CP	%	80			75-125	Pass	
Selenium	L23-De0032622	CP	%	85			75-125	Pass	
Silver	L23-De0032622	CP	%	88			75-125	Pass	
Uranium	L23-De0032622	CP	%	88			75-125	Pass	
Zinc	L23-De0032622	CP	%	80			75-125	Pass	
<b>Spike - % Recovery</b>									
<b>Heavy Metals</b>				Result 1					
Magnesium	L23-De0032622	CP	%	79			75-125	Pass	
<b>Spike - % Recovery</b>									
<b>Alkali Metals</b>				Result 1					
Calcium	L23-De0032622	CP	%	Q05			75-125	Fail	Q05
Potassium	L23-De0032622	CP	%	85			75-125	Pass	
Sodium	L23-De0033067	NCP	%	105			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
<b>Duplicate</b>									
				Result 1	Result 2	RPD			
Ammonia-N	L23-De0032622	CP	mg/L	1.3	1.3	1.4	20%	Pass	
Chloride	L23-De0033072	NCP	mg/L	840	860	2.0	30%	Pass	
Colour	L23-De0032622	CP	PCU	< 5	< 5	<1	20%	Pass	
Filterable Reactive Phosphorus	L23-De0032622	CP	mg/L	0.08	0.08	2.6	20%	Pass	
Fluoride	L23-De0032622	CP	mg/L	2.7	2.7	<1	20%	Pass	
Iodide	L23-De0032622	CP	mg/L	4.4	4.3	3.2	30%	Pass	
Nitrate-N	L23-De0032622	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Nitrite-N	L23-De0032622	CP	mg/L	< 0.01	< 0.01	<1	20%	Pass	
NOx-N	L23-De0032622	CP	mg/L	< 0.01	< 0.01	<1	20%	Pass	
Reactive Silica	L23-De0032622	CP	mg/L	26	25	<1	20%	Pass	
Sulfate	L23-De0033072	NCP	mg/L	160	160	<1	30%	Pass	
Total Dissolved Solids	L23-De0032622	CP	mg/L	4000	4500	12	30%	Pass	
Turbidity	L23-De0036259	NCP	NTU	0.1	0.1	8.0	20%	Pass	
<b>Duplicate</b>									
<b>Heavy Metals</b>				Result 1	Result 2	RPD			
Aluminium	L23-De0026484	NCP	mg/L	0.18	0.20	11	30%	Pass	
Antimony	L23-De0026484	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Arsenic	L23-De0026484	NCP	mg/L	0.006	0.006	1.0	30%	Pass	
Barium	L23-De0026484	NCP	mg/L	0.02	0.02	<1	30%	Pass	
Beryllium	L23-De0026484	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Boron	L23-De0026484	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Cadmium	L23-De0026484	NCP	mg/L	0.0002	0.0002	3.2	30%	Pass
Chromium	L23-De0026484	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper	L23-De0026484	NCP	mg/L	0.002	0.002	6.2	30%	Pass
Iron	L23-De0026484	NCP	mg/L	0.35	0.37	6.7	30%	Pass
Lead	L23-De0026484	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Manganese	L23-De0026484	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Mercury	L23-De0026484	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Molybdenum	L23-De0026484	NCP	mg/L	0.002	0.002	4.9	30%	Pass
Nickel	L23-De0026484	NCP	mg/L	0.004	0.004	3.4	30%	Pass
Selenium	L23-De0026484	NCP	mg/L	0.002	0.003	9.6	30%	Pass
Silver	L23-De0026484	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Strontium	L23-De0033296	NCP	mg/L	0.32	0.31	1.7	30%	Pass
Uranium	L23-De0026484	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc	L23-De0026484	NCP	mg/L	0.31	0.32	1.9	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Magnesium	L23-De0033296	NCP	mg/L	52	49	6.8	30%	Pass
Duplicate								
Alkali Metals				Result 1	Result 2	RPD		
Calcium	L23-De0033296	NCP	mg/L	10	9.3	6.8	30%	Pass
Potassium	L23-De0033296	NCP	mg/L	2.3	2.1	9.4	30%	Pass
Sodium	L23-De0033296	NCP	mg/L	270	250	6.8	30%	Pass



## Comments

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

### Qualifier Codes/Comments

Code	Description
Q05	The matrix spike concentration is less than five times the background concentration in the sample - therefore the spike recovery cannot be determined
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

### Authorised by:

Natalie Hill	Analytical Services Manager
Douglas Todd	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Inorganic
Ryan Phillips	Senior Analyst-Inorganic
Sam Becker	Senior Analyst-Inorganic
Sean Sangster	Senior Analyst-Metal



**Kim Rodgers**  
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

\* Indicates NATA accreditation does not cover the performance of this service

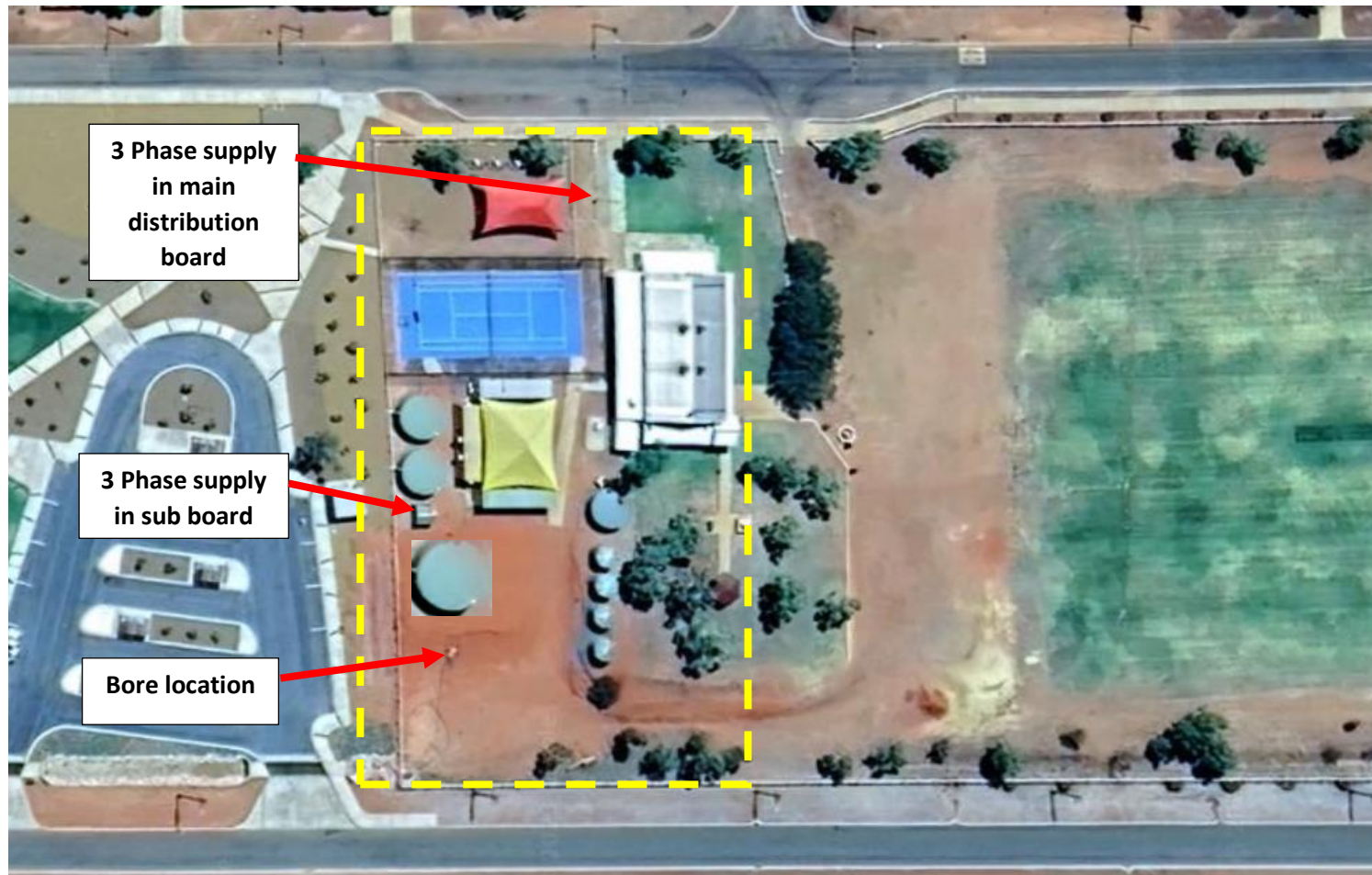
Measurement uncertainty of test data is available on request

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# REVERSE OSMOSIS PLANT



10 Gregory Street, Gascoyne Junction, Western Australia, 6705.



## Appendix 2 – Shire of Upper Gascoyne Local Preference Policy

### 2.8 LOCAL PREFERENCE PURCHASING POLICY

#### Policy Purpose

The purpose of the Shire of Upper Gascoyne's 'Regional Price Preference Policy' is to support local business and industry and to encourage employment of local people thereby generating economic growth within the Shire.

#### Definitions

For the purpose of this Policy, the "Region" is defined as the geographical area which comprises the whole of the Shire of Upper Gascoyne, Shire of Carnarvon, Shire of Shark Bay and the Shire of Exmouth.

Local Industry is defined in the Policy as being a business / organisation substantially trading from a recognised business address within the region. This Policy requires the businesses to have been operating out of the local premises for a continuous period of not less than six (6) months.

#### Policy Content

(a) Unless specifically excluded in advance of advertising, a Regional Price Preference will apply to purchases when calling tenders or purchasing goods and services.

(b) The regional pricing preference to be given to a regional tenderer / supplier is outlined below and represents the amount by which the regional tenderer's price bids or other quotations would be reduced for the purposes of assessing the tender or quotations:

CONSTRUCTION / BUILDING SERVICES	
Value of Tender / Supply By Regional Supplier	Regional Price Preference
\$0 to \$20,000	\$0 + 10% of excess above \$0
\$20,000 to \$50,000	\$1,000 + 4% of excess above \$20,000
\$50,000 to \$100,000	\$2,200 + 3% of excess above \$50,000
\$100,000 to \$250,000	\$3,700 + 2% of excess above \$100,000
Above \$250,000	\$6,700 + 1% of excess above \$250,000

GOODS & SERVICES	
Value of Tender / Supply By Regional Supplier	Regional Price Preference
\$0 to \$10,000	\$0 + 5% of excess above \$0
\$10,000 to \$20,000	\$500 + 6% of excess above \$10,000
\$20,000 to \$50,000	\$1,000 + 4% of excess above \$20,000
\$50,000 to \$100,000	\$1,500 + 3% of excess above \$50,000
\$100,000 TO \$250,000	\$2,000 + 2% of excess above \$100,00
Above \$250,000	\$2,500 + 1% of excess above \$250,000

Subject to the maximum regional price preference capped at \$50,000

## **Appendix 3 – General Conditions of Contract**



## Member Contract Conditions (Goods and Services Supply)

### **Version 2 (July 2023)**

This contract document has been developed for exclusive use with WALGA's preferred supplier program. As between WALGA and the Member, WALGA owns the rights to use, modify and adapt this document. Use of this form of contract outside of WALGA's Preferred Supplier Program, without WALGA's prior written consent, is strictly prohibited.

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## 1 Definitions

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The meanings of the terms used in the Contract are set out below.

Term	Meaning
<b>Approval</b>	each approval, certificate, licence, authority, waiver, exemption, registration, consent, permit or authorisation required to provide the Goods and Services in accordance with all applicable Laws.
<b>Approved Subcontractors</b>	a subcontractor listed as an “Approved Subcontractor” in the Procurement Form (if any).
<b>Business Day</b>	a day that is not a Saturday, Sunday, a public holiday in the place where the Principal has its head office, or 27, 28, 29, 30 or 31 December.
<b>Claim</b>	a claim, demand, action or proceeding of any nature whether actual or threatened arising out of, or in connection with, the Contract or otherwise arising in any way whatsoever.
<b>Confidential Information</b>	<p>the terms of the Contract and in respect of a party, all information in connection with the party's business, operations, finances or customers regardless of its form which is disclosed to, or acquired by, the other party directly or indirectly (whether before or after the date of the Contract) and which:</p> <ol style="list-style-type: none"> <li>1 is, by its nature, confidential; or</li> <li>2 is treated or designated as confidential by the party or the receiving party knows, or ought to know, is confidential,</li> </ol> <p>but does not include information which:</p> <ol style="list-style-type: none"> <li>3 is or becomes public knowledge other than by a breach of the Contract; or</li> <li>4 has been independently developed by the receiving party or is in the possession of the receiving party without restrictions on disclosure.</li> </ol>
<b>Contract</b>	<p>the agreement formed between the parties regarding the supply of the Goods and the performance of the Services by:</p> <ol style="list-style-type: none"> <li>1 with respect to the Goods and Services, either: <ul style="list-style-type: none"> <li>– the relevant Procurement Form; or</li> <li>– the details in VendorPanel; and</li> </ul> </li> <li>2 the Goods and Services Supply Contract Conditions,</li> </ol> <p>with the documents forming part of the Contract prevailing in the order of precedence set out in this definition.</p>



<b>Term</b>	<b>Meaning</b>
<b>Defect</b>	any defect, error, damage, deficiency, fault or inadequacy in the design, performance, workmanship, quality or makeup of the Goods or Services (or both, where applicable).
<b>Defects Liability Period</b>	a period of 12 months commencing: 1 in respect of the Goods, on the Goods Date of Delivery; and 2 in respect of the Services, on the Services Date of Completion, and, where relevant, any additional period of time specified in accordance with clause 13.
<b>Dispute</b>	a difference, dispute or issue arising at any time between the parties arising out of, or in connection with, the Contract.
<b>Dispute Notice</b>	a notice in respect of a Dispute given under clause 23(b).
<b>End Date</b>	the date specified as the "End Date" in the Procurement Form.
<b>Excluded Loss</b>	loss of production, loss of revenue, loss of profit or anticipated profit, loss of business reputation, business interruptions of any nature and loss of opportunities.
<b>Goods</b>	any goods, materials, supplies, equipment or other items set out in the Specifications and elsewhere in the Contract.
<b>Goods and Services Contract Conditions</b>	this document called "Member Contract Conditions (Goods and Services Supply)".
<b>Goods Date for Delivery</b>	the date for delivery of the Goods, as set out in the Procurement Form.
<b>Goods Date of Delivery</b>	the date on which the Goods are delivered to the Goods Delivery Location.
<b>Goods Delivery Location</b>	the location set out in the Procurement Form.
<b>Goods Delivery Requirements</b>	that:

Term	Meaning
	<ol style="list-style-type: none"> <li>1 the Goods meet the requirements of the Contract (including those set out in the Specifications); and</li> <li>2 those tests which are required by the Contract to be carried out and passed in respect of the Goods have been carried out and passed (or, where no such tests are set out in the Contract, any tests which are commonly required for goods of the same nature as the Goods have been carried out and passed).</li> </ol>
<b>Goods Non-Acceptance Notice</b>	is defined in clause 5(d).
<b>Government Agency</b>	any government or governmental, local governmental, semi-governmental, judicial, quasi-judicial or administrative entity, agency, department, commission, authority or Minister in Western Australia or the Commonwealth of Australia.
<b>GST</b>	has the meaning given in section 195-1 of the GST Act.
<b>GST Act</b>	<i>A New Tax System (Goods and Services Tax) Act 1999</i> (Cth) and any other act, ordinance, regulation, public binding ruling or subordinate legislation relating to the imposition of GST.
<b>Incident</b>	<p>any occurrence or event that has resulted in, or has the potential to result in, adverse consequences to people, property, the environment, reputation or production or a combination of these, including:</p> <ol style="list-style-type: none"> <li>1 deviations from the Principal's health, safety and environmental Policies and Guidelines; and</li> <li>2 non-compliances with relevant health, safety and environmental Laws and Approvals and any public complaint regarding the Supplier and relating to its provision of the Goods or Services.</li> </ol>
<b>Insolvency Event</b>	<p>in respect of the Supplier:</p> <ol style="list-style-type: none"> <li>1 the appointment of an administrator, a liquidator, a provisional liquidator or a controller (including any receiver or receiver and manager);</li> <li>2 any compromise, arrangement, merger, amalgamation, reconstruction, winding up, dissolution, deregistration, assignment for the benefit of creditors, scheme, composition or arrangement with creditors (including a deed of company arrangement), insolvency, bankruptcy; or</li> <li>3 any similar procedure or situation which involves a moratorium or the suspension of the payment of any debts or, where applicable, changes in the constitution of any partnership or person, or death.</li> </ol>

Term	Meaning
<b>Insurances</b>	the insurances which the Supplier is required to obtain under the Panel Agreement.
<b>Intellectual Property</b>	all intellectual and industrial property rights, including trade marks, copyright (including future copyright), Moral Rights, inventions, patents, designs, circuits and other eligible layouts, database rights, and other intellectual property rights as defined in Article 2 of the Convention Establishing the World Intellectual Property Organisation dated 14 July 1967 (as amended from time to time), including any application or right to apply for registration of any of these rights.
<b>Laws</b>	any act, ordinance, regulation, subordinate legislation, by-law, award of the State, Territory or Commonwealth (as applicable) in which the Supplier's Obligations are being carried out.
<b>Loss</b>	any liability, cost, expense, loss, personal injury (including illness), death or damage, amounts payable on a Claim (whether or not the Claim is successful), suit, charge, diminution in value, action, statutory or equitable compensation, demand, legal costs and disbursements.
<b>Maximum Liability Amount</b>	by reference to each party: 1 the amount in the Procurement Form; or 2 where no amount is provided in the Procurement Form, an amount equal to the Price.
<b>Moral Rights</b>	has the meaning given in the <i>Copyright Act 1968</i> (Cth).
<b>Panel Agreement</b>	the agreement between WALGA and the Supplier, regarding the panel pursuant to which the Supplier is supplying the Goods and performing the Services for the Principal.
<b>Party Details</b>	the details of each party set out in the Procurement Form.
<b>Policies and Guidelines</b>	all of the policies and guidelines of the Principal made available to the Supplier, as amended and varied from time to time.
<b>PPSA</b>	the <i>Personal Property Securities Act 2009</i> (Cth).
<b>PPS Law</b>	1 the PPSA; and

Term	Meaning
	<p>2 any amendment made at any time to the <i>Corporations Act 2001</i> (Cth) or any other legislation as a consequence of the PPSA.</p>
<b>Price</b>	the price for the Goods or Services (or both), as set out in the Procurement Form.
<b>Principal</b>	the party defined as the “Principal” in the Procurement Form, being an entity within the definition of “Member” (as that term is defined in the Panel Agreement).
<b>Principal Data</b>	information and materials of the Principal in respect of which the Supplier has custody or control for the purpose of performing the Supplier’s Obligations or which are accessed, transmitted or stored using the Supplier’s information systems or equipment under the Contract.
<b>Principal IP</b>	any Intellectual Property of the Principal (or licensed to the Principal by a third party) which the Principal makes available, contributes, brings to or uses in connection with the Contract.
<b>Procurement Form</b>	<p>as appropriate:</p> <ol style="list-style-type: none"> <li>1 the form of that title, order or requisition issued by the Principal to the Supplier from time to time, which provides for the specifics, execution and creation of the Contract for the supply of the Goods and performance of the Services; or</li> <li>2 where a Contract is to be created in VendorPanel, the specifics contained on that system, by reference to the Goods and Services, necessary for a Contract to be created.</li> </ol>
<b>Professional Supplier</b>	a supplier with skill and experience in, and the expertise and resources necessary to complete, the supply of goods and performance of services the same as, or similar to, the Goods and Services.
<b>Project IP</b>	is defined in clause 15(b).
<b>Security of Payment Act</b>	the <i>Building and Construction Industry (Security of Payment) Act 2021</i> (WA).
<b>Services</b>	any services set out in the Specifications and elsewhere in the Contract, including the delivery of any goods and performance of services ancillary to the Services.

Term	Meaning
<b>Services Date for Completion</b>	the date specified as the “Services Date for Completion” in the Procurement Form.
<b>Services Date of Completion</b>	the date on which the Services Requirements have been met.
<b>Services Non-Acceptance Notice</b>	is defined in clause 7(d).
<b>Services Requirements</b>	that: <ol style="list-style-type: none"> <li>1 the Services meet the requirements of the Contract (including those set out in the Specifications); and</li> <li>2 those tests which are required by the Contract to be carried out and passed in respect of the Services have been carried out and passed (or, where no such tests are set out in the Contract, any tests which are commonly required for services of the same nature as the Services have been carried out and passed).</li> </ol>
<b>Site</b>	any premises which the Principal owns or which is in the care, control and management of the Principal including any land on which the Principal's property is situated on and which the Supplier or the Supplier's Personnel need to access in connection with the Contract.
<b>Site Requirements</b>	any requirements, including safety requirements, that the Supplier must comply with when on the Site, as may be notified by the Principal to the Supplier from time to time.
<b>Specifications</b>	the specifications and requirements describing the Goods and Services to be supplied under the Contract, as set out in the Procurement Form.
<b>Start Date</b>	the date specified as the “Start Date” in the Procurement Form.
<b>Supplier</b>	the party defined as the “Supplier” in the Procurement Form.
<b>Supplier IP</b>	any Intellectual Property of the Supplier (or Intellectual Property licensed to the Supplier by a third party) which: <ol style="list-style-type: none"> <li>1 is in existence before the date of the Contract or comes into existence after the date of the Contract other than in connection with the Contract, the Goods or Services; and</li> </ol>

Term	Meaning
	2 the Supplier makes available, contributes, brings to or uses in connection with the Contract.
<b>Supplier's Obligations</b>	all of the Supplier's obligations under the Contract.
<b>Supplier's Personnel</b>	the Supplier's officers, employees, agents and subcontractors and their respective employees and agents.
<b>Sustainability Objectives</b>	has the meaning given in clause 10(a).
<b>Tax</b>	any income, land, indirect and other taxes, levies, imposts, deductions, charges, duties, compulsory loans and withholdings, including financial institutions duty, debits tax or other taxes whether incurred by, payable by return or passed on to another person and includes any interest, penalties, charges, fees, fines or other amounts imposed in respect of any of the above, but does not include GST.
<b>Tax Invoice</b>	any document or record treated by the Commissioner of Taxation as a tax invoice or as a document entitling a recipient to an input tax credit.
<b>Term</b>	the period of time from the Start Date to the End Date.
<b>Variation</b>	an increase, decrease, addition, omission, substitution or other change to any part of the Goods or Services (or both, where applicable) to be supplied or performed under the Contract.
<b>Variation Notice</b>	a notice issued by the Principal under clause 20(b) directing the Supplier to carry out a Variation requested under clause 20(a).
<b>Variation Quotation</b>	a quotation from the Supplier which sets out the Supplier's additional costs or savings and the effect on the Goods Date for Delivery or the Services Date for Completion (or both) for performing a Variation requested under clause 20(a).
<b>VendorPanel</b>	WALGA's online quotation, compliance and contract management system, as updated from time to time, which includes the system formerly branded as "eQuotes".

Term	Meaning
<b>WALGA</b>	the Western Australian Local Government Association (ABN 28 126 945 127) of 170 Railway Parade, West Leederville, in the State of Western Australia.
<b>Work Health and Safety Requirements</b>	<p>the requirements set out in the Contract relating to work health and safety, and any of the following related to work health and safety or dangerous goods:</p> <ol style="list-style-type: none"> <li>1 Laws;</li> <li>2 the National Standard for Construction Work, codes of practice, Australian Standards and compliance codes;</li> <li>3 directions, notices and the like issued by any Government Agency or in accordance with any Laws;</li> <li>4 any such matters of which the Supplier has been informed by the Principal, orally or in writing; and</li> <li>5 any relevant Policies and Guidelines,</li> </ol> <p>and, for clarity, includes the <i>Work Health and Safety Act 2020 (WA)</i> and the <i>Work Health and Safety (General) Regulations 2022 (WA)</i>.</p>

## 2 Interpretation

In the Contract unless the context suggests otherwise:

- (a) headings and bold type are for convenience only and do not affect the interpretation of the Contract;
- (b) the singular includes the plural and the plural includes the singular;
- (c) other parts of speech and grammatical forms of a word or phrase defined in the Contract have a corresponding meaning;
- (d) an expression importing a person includes any company, partnership, joint venture, association, corporation or other body corporate and any Government Agency as well as an individual;
- (e) a reference to a clause, party, schedule or attachment is a reference to a clause of, and a party, schedule or attachment to, the Contract;
- (f) a reference to any legislation includes all delegated legislation made under it and amendments, consolidations, replacements or re-enactments of any of them;
- (g) a reference to a document includes all amendments or supplements to, or replacements or novations of, that document;
- (h) a reference to a party to a document includes that party's successors and permitted assignees;
- (i) a promise on the part of 2 or more persons binds them jointly and severally;

- (j) no provision of the Contract will be construed adversely to a party because that party was responsible for the preparation of the Contract or that provision;
- (k) specifying anything after the words 'include' or 'for example' or similar expressions does not limit what else is included;
- (l) a reference to 'consent', 'approved' or 'approval' will be deemed to mean 'consent to in writing', 'approved in writing' or 'approval in writing'.
- (m) a reference to a 'day', 'month', 'quarter' or 'year' is a reference to a calendar day, a calendar month, a calendar quarter or a calendar year;
- (n) Part 1F of the *Civil Liability Act 2002* (WA) does not apply to the Contract; and
- (o) to the extent of any inconsistency between the provisions of the documents forming the Contract, the Supplier must give the Principal notice of that inconsistency, and the Principal will direct the Supplier as to the interpretation and construction to be followed.

### 3 Term

---

- (a) The Contract commences on the Start Date and continues for the Term unless terminated under clause 22.
- (b) Subject to clause 22(a), the Contract continues in full force and effect notwithstanding the termination or expiry of the Panel Agreement.

### 4 Supplier's obligations

---

- (a) The Supplier must supply and deliver the Goods in accordance with clause 5 and otherwise in accordance with the Contract.
- (b) The Supplier must perform the Services (if any) in accordance with clause 7 and otherwise in accordance with the Contract.
- (c) The Supplier must ensure that it and the Supplier's Personnel, in performing the Supplier's Obligations:
  - (1) have all of the necessary skills and training and hold all of the required qualifications and licences to perform the Services and supply the Goods in accordance with all applicable Laws and industry standards;
  - (2) obtain any Approvals required for the performance of the Services or the delivery of the Goods, including any approvals set out in the Specifications;
  - (3) comply with all applicable Laws, Work Health and Safety Requirements, the Policies and Guidelines and any reasonable directions given by the Principal;
  - (4) do not interfere with the Principal's activities or the activities of any other person at the Goods Delivery Location or at the Site;
  - (5) carry out and perform the Supplier's Obligations in a safe manner in a way which does not prejudice safe working practices, safety and care of property or continuity of work;



- (6) provide all such information and assistance as the Principal reasonably requires; and
- (7) at their own expense, supply all plant, equipment and resources required for the delivery of the Goods and Services (if any), except for any items of plant and equipment to be provided by the Principal as set out in the Specifications.

## 5 Delivery and acceptance of Goods

---

- (a) The Supplier must deliver the Goods to the Goods Delivery Location on the Goods Date for Delivery.
- (b) The Supplier must ensure that the Goods are suitably packed to avoid damage in transit or in storage.
- (c) The Supplier must allow the Principal or a representative of the Principal, at all reasonable times, to inspect, examine, review and witness tests of the Goods, or the performance of the Goods and to carry out site inspections at the Supplier's premises.
- (d) If the Principal determines that the Goods do not meet the Goods Delivery Requirements, the Principal may issue a notice to the Supplier within 20 Business Days of delivery stating the reasons why the Goods do not meet the Goods Delivery Requirements (**Goods Non-Acceptance Notice**).
- (e) If the Supplier receives a Goods Non-Acceptance Notice, the Supplier must, at its cost (including costs of collection and redelivery if applicable), promptly rectify or replace the Goods so that the Goods Delivery Requirements are met. The Principal has no liability to pay for Goods that are subject to a Goods Non-Acceptance Notice.
- (f) Acceptance of the Goods by the Principal does not constitute approval of the Goods or prejudice any Claim the Principal may have in connection with the Goods.

## 6 Title and risk

---

- (a) Title in the Goods will pass from the Supplier to the Principal upon payment of any part of the Price. The Supplier warrants that title in the Goods will be transferred to the Principal without any encumbrances or liens.
- (b) Subject to clause 6(c), risk in the Goods will pass to the Principal on the Principal taking delivery of the Goods at the Goods Delivery Location.
- (c) If the Principal issues a Goods Non-Acceptance Notice under clause 5(d), then risk does not pass to the Principal until the Supplier rectifies or replaces the Goods in accordance with clause 5(e).



## 7 Performance and acceptance of Services

---

- (a) The Supplier must perform and complete the Services in accordance with any timing requirements in the Specifications and otherwise complete the Services by the Services Date for Completion.
- (b) The Supplier must allow the Principal or a representative of the Principal, at all reasonable times, to inspect, examine, review and witness tests of the Services, or the performance of the Services, and to carry out site inspections at the Supplier's premises.
- (c) The Supplier must, where it is required to perform (or re-perform) any Services under the Contract, give notice to the Principal when, in its opinion, the Services are complete and meet the Services Requirements.
- (d) If the Principal determines that the Services do not meet the Services Requirements, the Principal may issue a notice to the Supplier within 20 Business Days of receiving a notice from the Supplier under clause 7(c) stating the reasons why the Services do not meet the Services Requirements (**Services Non-Acceptance Notice**).
- (e) If the Supplier receives a Services Non-Acceptance Notice, the Supplier must, at its cost, re-perform the Services, or that part of the Services that do not meet the Services Requirements, until the Services Requirements are met. The Principal has no liability to pay for Services that are subject to a Services Non-Acceptance Notice.
- (f) Acceptance of the Services by the Principal does not constitute approval of the Services or prejudice any Claim the Principal may have in connection with the Services.

## 8 Quality of Goods and Services

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The Supplier must ensure that:

- (a) the Goods and Services (if any) match the description of the Goods or Services (or both, where applicable) set out in the Procurement Form and comply with the requirements in the Contract;
- (b) the Services are performed with the professional skill, care and diligence expected of a skilled and experienced Professional Supplier;
- (c) the Goods and any items the Supplier uses or supplies as part of the Services are new and of merchantable quality and are free from Defects in design, materials and workmanship;
- (d) the Goods and Services (if any) are fit for the purpose stated in the Contract (including the Specifications), or the purpose which could reasonably be inferred by a Professional Supplier supplying the Goods or performing the Services (or both, where applicable);
- (e) from transfer of the title in the Goods to the Principal, the Principal has the benefit of all usual manufacturers' warranties applicable to the Goods and any warranties specifically requested by the Principal and will, where requested by the Principal, pursue any manufacturer warranties on the Principal's behalf; and
- (f) it provides the Principal with copies of all manufacturers' warranties applicable to the Goods and any other usual documentation including instruction manuals,

technical specifications or drawings when the Goods are delivered or the Services are performed (as applicable) or when the Principal otherwise reasonably requests.

## 9 Assignment and Subcontracting

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### 9.1 Assignment

- (a) The Principal may, without the Supplier's consent, assign or novate the Contract or assign any other right, benefit or interest under the Contract to any person or entity who is solvent and able to make the payments required by the Contract, and able to comply with the Principal's other obligations.
- (b) The Supplier must not assign or novate the Contract or assign any other right, benefit or interest under the Contract to any person or entity without the prior consent of the Principal.

### 9.2 Subcontracting

- (a) Unless otherwise provided for in the Panel Agreement, the Supplier must not, without the prior written approval of the Principal, subcontract any part or all of the supply of the Goods or performance of the Services.
- (b) Approved Subcontractors are taken to have the approval of the Principal for the purposes of clause 9.2(a).
- (c) The Principal may request further information regarding a subcontractor and the particulars of the Goods or Services (or both) to be subcontracted in order to approve (or otherwise) a subcontractor under clause 9.2(a).
- (d) Approval to subcontract does not relieve the Supplier from any liability or obligation under the Contract, and the Supplier is absolutely liable:
  - (1) to the Principal for the acts and omissions of any subcontractor, its personnel and the Supplier's Personnel as if they were acts or omissions of the Supplier;
  - (2) for undertaking the appropriate due diligence to ensure that the subcontractor is able to supply the Goods or perform the Services (or both) that it has been subcontracted in accordance with clause 9.2; and
  - (3) for the direct payment of all subcontractors, notwithstanding the Principal's approval (or otherwise) of any subcontractor (including Approved Subcontractors).

## 10 Sustainable procurement

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- (a) The Supplier acknowledges that the Principal supports ethical and environmentally, socially and economically sustainable procurement practices (**Sustainability Objectives**).
- (b) The Supplier agrees to:

- (1) use reasonable endeavours to conduct its business and perform the Supplier's Obligations in a manner which seeks to support and is consistent with the Sustainability Objectives;
- (2) provide the Principal with any reasonably requested information relating to the measures adopted by the Supplier in pursuit of the Sustainability Objectives; and
- (3) undertake reasonable due diligence and monitoring of its supply chain on an ongoing basis to ensure that the Supplier's Obligations are performed in accordance with sustainable sources and free from modern slavery.
- (c) The Supplier acknowledges that a rating system may be implemented by WALGA or the Principal to assess the Supplier's performance in relation to the Sustainability Objectives, and in considering whether to engage the Supplier or another supplier.
- (d) The Principal may request from time to time, and the Supplier must provide within the timeframe stipulated in such request:
  - (1) evidence of the Supplier's compliance with the Sustainability Objectives, and this clause 10; and
  - (2) any other information reasonably requested by the Principal in connection with this clause 10.
- (e) The Supplier must allow the Principal (or its nominee) prompt access to the Supplier's records in connection with this clause 10, and to otherwise audit the Supplier's compliance with this clause 10 and the Sustainability Objectives.

## 11 Working on the Site

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- (a) This clause 11 applies to the extent the Supplier or any of the Supplier's Personnel are required to be on, or near the vicinity of, the Site for the purposes of the Contract.
- (b) Without limiting the Supplier's obligations under clause 4(c), the Supplier agrees to comply, and to ensure that the Supplier's Personnel comply, with:
  - (1) the Site Requirements;
  - (2) the Principal's health, safety and environmental Policies and Guidelines applicable from time to time;
  - (3) all relevant Work Health and Safety Requirements, environmental Laws and Approvals;
  - (4) all reasonable directions from a representative of the Principal; and
  - (5) the health, safety and environmental conditions in this clause 11.
- (c) The Supplier must work co-operatively with other contractors working at the Site, and must use best endeavours to avoid any conflict between the Supplier's activities and the activities of other contractors.
- (d) Where required, each of the Supplier's Personnel must attend all appropriate and relevant induction courses required by the Principal to enter the Site.
- (e) The Supplier must ensure that the Supplier's Personnel entering the Site:

- (1) maintain the Site in a safe, secure, clean and orderly manner having regard to the condition of the Site immediately before such entry; and
- (2) do not interfere with the activities of the Principal or any other person while on the Site.
- (f) The Supplier must notify the Principal as soon as possible of any Incident.
- (g) If the Supplier or any of the Supplier's Personnel fail to comply with any obligation under this clause 11, then the Principal may in its discretion deny that person access to the Site or require that person to leave the Site immediately.
- (h) The Principal is not liable to the Supplier for any Loss or Claim arising from the removal of any person under clause 11(g).
- (i) Nothing in this clause 11 affects any obligation or duty imposed on the Supplier or the Supplier's Personnel to secure and have proper regard to the health and safety of any of the Supplier's Personnel.

## 12 Records and reporting

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- (a) The Supplier must keep and maintain accurate and reasonably detailed books and records in connection with the performance of the Supplier's Obligations.
- (b) Within a reasonable time of the Principal's request, the Supplier will permit the Principal to audit and examine any books and financial records necessary for the verification of compliance with the Supplier's Obligations.
- (c) From time to time, the Principal may request that the Supplier provide a report setting out in detail such information about:
  - (1) the Goods and Services (if any); or
  - (2) any other obligations of the Supplier under the Contract,
 and the Supplier must provide the report to the Principal within 10 Business Days of that request, unless another reasonable timeframe is stipulated in the Principal's request.

## 13 Defects

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- (a) At any time prior to the expiry of the Defects Liability Period, the Supplier must, at its cost and at the Principal's direction, promptly rectify all Defects other than a Defect caused by the negligence of the Principal.
- (b) Nothing in this clause 13 prejudices any other right that the Principal may have against the Supplier arising out of the failure of the Supplier to supply the Goods or perform the Services in accordance with the Contract.
- (c) If the Principal directs the Supplier to rectify a Defect and the Supplier fails to rectify that Defect within a reasonable time specified by the Principal:
  - (1) the Principal may, without prejudice to any other rights the Principal may have against the Supplier, rectify the Defect itself; and
  - (2) the rectification costs incurred by the Principal will be a debt due and payable on demand from the Supplier to the Principal.

- (d) Where any Defect has been rectified under the Contract, the rectification work will be the subject of an additional Defects Liability Period commencing on the date the relevant rectification works are completed.

## 14 Confidentiality, Publicity and Data Security

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### 14.1 Confidential Information

- (a) Each party must:
- (1) keep confidential, and not use or disclose, any of the other party's Confidential Information, except:
    - (A) to the extent necessary for the performance of its obligations under the Contract;
    - (B) that a party may disclose to its legal advisers or auditors who are under a duty of confidence;
    - (C) that a party may disclose if required by Law (including any order of a court of competent jurisdiction), the rules of any stock exchange or statutory duty; and
    - (D) that the Principal may (where applicable) disclose to the Minister responsible for administering the *Local Government Act 1995* (WA) or that Minister's department; and
  - (2) immediately provide notice to the other party if it becomes aware of any loss or unauthorised use, access, copying or disclosure of any of the other party's Confidential Information.
- (b) The Supplier must return to the Principal, or destroy or delete as the Principal directs, all original documents and copies (including in electronic form) in the Supplier's possession, custody or control which comprise, contain, reproduce, are based on, utilise or relate to the Confidential Information of the Principal, at the earliest of the following:
- (1) immediately on demand by the Principal; or
  - (2) on the termination or expiry of the Contract.
- (c) The Supplier acknowledges that the Principal is subject to the *Freedom of Information Act 1992* (WA) and that the Contract or documents relating to the Contract may become the subject of an application under that Act and access to them may need to be given to a third party in accordance with that Act. The Principal has no liability to the Supplier whatsoever for giving access to a document in accordance with the *Freedom of Information Act 1992* (WA).

### 14.2 Publicity and reputation

The Supplier must not:

- (a) make any public announcement or issue any media release relating to the Contract or the performance of the Services or exploit the fact that it has entered into the Contract, without the prior written approval of the Principal, which may be withheld at the Principal's discretion or given subject to any conditions; and

- (b) commit any act or omission that damages or adversely affects, or has the potential to damage or adversely affect, the Principal's reputation, trademark or brand.

### 14.3 Data Security

The Supplier must:

- (a) do all things that a Professional Supplier would do to ensure that all Principal Data is protected at all times from unauthorised access or use by a third party and from misuse, damage or destruction by any person;
- (b) provide protective measures for the Principal Data that are no less vigorous than accepted industry standards and commensurate with the consequences and probability of unauthorised access to, or use, misuse or loss of, the Principal Data; and
- (c) either return to the Principal or destroy any Principal Data immediately following the termination or expiry of the Contract, provided that the Supplier may retain one copy of any Principal Data solely for the purposes of its own records or if required by Law.

## 15 Intellectual Property

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- (a) Subject to clause 15(c), the Supplier IP remains vested in the Supplier and the Principal IP remains vested in the Principal.
- (b) The Principal will own all Intellectual Property that the Supplier creates in the performance of the Services and the supply of the Goods (**Project IP**).
- (c) The Supplier grants to the Principal a non-exclusive, perpetual, royalty-free, irrevocable, transferable licence (with the right to assign and sub-license) to use the Supplier IP to the extent necessary to use the Goods and the Project IP.

## 16 Indemnity and limits of liability

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### 16.1 Indemnity

- (a) The Supplier indemnifies the Principal for any Loss suffered or incurred by the Principal arising out of, or in connection with, the supply of the Goods and performance of the Services, the Supplier's breach of the Contract, or negligence of the Supplier or the Supplier's Personnel, in respect of:
  - (1) damage to, or loss or destruction of, any property (including damage to the environment);
  - (2) injury to, or death or disease of, any person;
  - (3) reputational damage to the Principal;
  - (4) any breach of Law; or
  - (5) any breach of a party or third party's Intellectual Property.



- (b) The indemnity in clause 16.1(a) will be reduced to the extent that the Loss is caused, or contributed to, by the Principal's negligence or breach of the Contract.

## **16.2 Limits of liability**

- (a) To the extent permitted by Law, but subject to clause 16.2(c), each party will have no liability to the other party arising under or in connection with the Contract (however so arising, including negligence) for Excluded Loss.
- (b) Subject to clause 16.2(c), the Supplier's liability to the Principal, and the Principal's liability to the Supplier, in respect of Loss arising out of or in connection with the Contract, in the aggregate for all Claims, is limited to the Maximum Liability Amount.
- (c) The Supplier's liability in respect of the following is not limited by clauses 16.2(a) or 16.2(b) and is not counted towards the limit under clause 16.2(b):
  - (1) personal injury and death, including third party Claims in connection with personal injury or death;
  - (2) damage to, or loss or destruction of, any property;
  - (3) breach of any Laws, confidence or privacy;
  - (4) the infringement of any Intellectual Property of a party or third party;
  - (5) any amount agreed as the Price under the Contract; and
  - (6) to the extent that the Supplier recovers proceeds under insurances required by the Contract in respect of the liability, or would have recovered insurance proceeds if it had complied with the Contract, complied with the insurance policy, and taken all reasonable steps to do so.
- (d) When determining the insurance proceeds that would have been recovered for the purposes of clause 16.2(c)(6), the exclusions and limits of liability under clauses 16.2(a) or 16.2(b) will not be taken into account.
- (e) A party's liability in respect of the following is not limited by clauses 16.2(a) or 16.2(b), and is not counted towards the limit under clause 16.2(b):
  - (1) fraud, deliberate default, wilful misconduct; or
  - (2) any act or omission done or not done with a reckless disregard for the consequences by the party or any other party for whom the party is responsible.
- (f) Liability to which a limit under clause 16.2(b) applies is counted towards the limit when discharged by a party.

## **17 Price and invoicing**

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### **17.1 Payment of the Price**

- (a) The Principal must pay the Price to the Supplier for the Goods and Services (if any) in accordance with this clause 17.
- (b) The Price is inclusive of all costs and expenses including packaging, freight, delivery, insurance, the cost of any miscellaneous services, compliance with the



Contract and Taxes and no additional amounts will be payable by the Principal, subject to:

- (1) clause 20;
- (2) any cost and expense being included or excluded from being paid under the Contract in accordance with the terms of the Panel Agreement; and
- (3) any amounts payable as set out in the Procurement Form.

## **17.2 Payment claims**

- (a) Subject to clause 17.2(b), on or promptly after the later of the Goods Date of Delivery of the Goods or the Services Date of Completion of the Services, the Supplier may submit to the Principal a written payment claim for the amount due to the Supplier.
- (b) If set out in the Procurement Form, the Supplier may submit a payment claim to the Principal at the end of each month, or any other period agreed by the Principal in writing, for any Goods supplied and Services performed (if any) during that or previous months provided those Goods or Services have not already been included in a Tax Invoice issued to the Principal.
- (c) Each payment claim must:
  - (1) set out the total amount claimed and an itemised breakdown of that amount;
  - (2) include details and supporting information reasonably required to assess whether the amounts claimed are payable in accordance with the Contract; and
  - (3) otherwise be in the form and include the information reasonably required by the Principal.
- (d) The Supplier must provide any further information and assistance reasonably requested by the Principal for the purposes of assessing a payment claim.

## **17.3 Payment schedule**

- (a) Within 10 Business Days of receipt of the payment claim under clause 17.2, the Principal must assess the payment claim and issue a payment schedule to the Supplier.
- (b) The payment schedule must identify the payment claim to which it relates (if any) and set out:
  - (1) the amount claimed which is payable to the Supplier;
  - (2) the reasons for any difference (including, if applicable, the reasons for withholding or setting off any amount); and
  - (3) any other amounts that are payable to the Supplier in accordance with the Contract (including any relevant additional amounts for authorised Variations under clause 20).
- (c) The Principal may, at any time, issue a payment schedule correcting any error discovered in a previous payment schedule.



## WALGA

### 17.4 Tax invoice

- (a) Within 2 Business Days of the Principal issuing a payment schedule to the Supplier, the Supplier must provide the Principal with a Tax Invoice for the amount specified in the payment schedule.
- (b) A Tax Invoice must include:
  - (1) the Procurement Form number;
  - (2) a description of the Goods delivered, including the quantity of Goods and the Goods Date of Delivery;
  - (3) a description of the Services performed (if any);
  - (4) the amount being claimed for the Goods and the Services (if any);
  - (5) the amount of any applicable GST; and
  - (6) any further information reasonably requested by the Principal.
- (c) Tax Invoices must be submitted to the details provided by the Principal in writing, as updated from time to time.
- (d) The Supplier warrants that it is registered for GST purposes in Australia and, if requested by the Principal, must provide to the Principal sufficient evidence to substantiate that the Supplier is registered for GST purposes.

### 17.5 Payment

Subject to clause 17.7, the Principal must pay the amount stated as due to the Supplier in a payment schedule within 8 Business Days after the provision by the Supplier of a Tax Invoice in compliance with clause 17.4.

### 17.6 Payment not approval

Payment under this clause 17 will not be taken as proof or admission that all, or any part of, the Goods or the Services have been delivered or performed (as the case may be) to the satisfaction of the Principal, but will be taken to be payment on account only.

### 17.7 Principal's right of set-off

The Supplier agrees that the Principal may:

- (a) deduct from amounts due to the Supplier any money due or which may become due from the Supplier to the Principal under, or in connection with, the Contract; and
- (b) withhold payment of any amounts payable under the Contract pending resolution of any Dispute

## 18 GST

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- (a) Words or expressions used in this clause 18 which are defined in the GST Act have the same meaning as in the GST Act.
- (b) Unless otherwise stated, all amounts payable or the value of other consideration provided in respect of the supplies made under the Contract are exclusive of GST and where the value of any supply is to be calculated with

reference to a monetary turnover figure, the GST exclusive value of the monetary turnover will be used in calculating the value of the supply.

- (c) If a party (**supplier**) makes a taxable supply under or in connection with the Contract:
  - (1) the consideration otherwise payable or to be provided for that supply is increased by, and the party paying or providing the consideration (**recipient**) must also pay to the supplier, an amount equal to the GST payable by the supplier on that supply;
  - (2) subject to the supplier complying with clause 18(c)(3), the recipient must pay the GST amount in Australian dollars, at the same time and in the same manner as it must pay or provide the consideration for that supply; and
  - (3) the supplier must issue a valid Tax Invoice or adjustment note to the recipient of the supply at or before the time of payment of the GST inclusive consideration or at such other time as the parties agree.
- (d) Where an amount is payable to a party as a reimbursement, indemnification or similar payment calculated by reference to a Loss, cost, expense or any other amount incurred by that party, then such amount must be reduced by any part of that Loss, cost, expense or other amount which is attributable to GST for which that party, or the representative member of any GST group of which that party is a member, is entitled to an input tax credit.

## 19 Insurance

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- (a) The Supplier acknowledges and agrees that:
  - (1) it is obliged under the Panel Agreement to take out and maintain Insurances, which, as a minimum, Insurances will apply in respect of contracts with WALGA members (including the Principal) for the procurement of goods, services and works under the Panel Agreement;
  - (2) due to the nature of the Goods and Services, the Procurement Form may require that levels of insurances greater than those required under clause 19(a)(1) be provided by the Supplier; and
  - (3) in circumstances where the Procurement Form requires higher levels of insurances, the Supplier must ensure that it has insurances sufficient to meet such requirements.
- (b) The parties acknowledge and agree that the relevant insurance provisions of the Panel Agreement are repeated and apply in the Contract, as modified for the application to the supply of Goods and performance of Services under the Contract.
- (c) Subject to clause 9.2, if the Supplier subcontracts any part of the Supplier's Obligations, the Supplier must ensure that each subcontractor effects and maintains all of the insurances required under the Panel Agreement, as appropriate for the Goods and Services being supplied or performed (as applicable) by that subcontractor, before the subcontractor commences providing any part of the Goods and Services.
- (d) In addition to the Principal's rights under clause 22(a)(2), if the Supplier fails to comply with any of its obligations under this clause 19, the Principal may,

immediately suspend the Contract in accordance with clause 21(a)(4) or refuse payment of any amount due to the Supplier until evidence of the Insurances required by this clause 19 is produced to the Principal.

- (e) The Insurances contemplated by this clause 19 are primary and not secondary to the indemnities referred to in the Contract.

## 20 Variations

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- (a) If at any time the Principal notifies the Supplier that it requires a Variation, the Supplier must promptly provide a Variation Quotation.
- (b) If the Principal accepts a Variation Quotation, the Principal will issue a Variation Notice to the Supplier and:
  - (1) the Supplier must then carry out the Variation;
  - (2) the Price will be adjusted by the amount set out in the relevant Variation Quotation;
  - (3) if the Variation is in respect of the Services, the Services Date for Completion will be adjusted as set out in the Variation Quotation; and
  - (4) if the Variation is in respect of the Goods, the Goods Date for Delivery will be adjusted as set out in the Variation Quotation.
- (c) The Supplier will not be entitled, in any circumstances, to an adjustment to the Price or any extension of time except as set out in a Variation Notice.

## 21 Suspension by Principal

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- (a) The Principal may, by written notice to the Supplier, suspend the performance of all or part of the Supplier's Obligations if:
  - (1) the Supplier breaches a provision of the Contract and fails to comply with a written notice issued by the Principal within 10 Business Days of receiving such notice;
  - (2) the Principal reasonably believes that the Supplier, or the Supplier's Personnel, is not complying or will not comply with clause 11;
  - (3) the Principal reasonably believes that the Supplier, or any Supplier's Personnel, is endangering or will endanger any person, property or the environment; or
  - (4) the Supplier has failed to ensure insurance is effected and maintained in accordance with clause 19, or to provide evidence of insurance in accordance with clause 19.
- (b) The Principal's written notice must state the Principal's reasons for the suspension.
- (c) The Supplier must recommence any Supplier's Obligations suspended under this clause 21 as soon as practicable after receiving written notice from the Principal directing the Supplier to recommence those Supplier's Obligations. The Supplier must notify the Principal in writing before recommencing the suspended Supplier's Obligations.

- (d) Subject to clause 21(e), the Supplier is not entitled to make any Claim against the Principal arising out of, or in connection with, a suspension under this clause 21.
- (e) If the Principal suspends any Supplier's Obligations for a reason other than the reasons identified in clause 21(a), the Supplier will be paid the standby rates approved by the Principal (acting reasonably).

## 22 Termination

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- (a) The Principal may terminate the Contract by notice to the Supplier:
  - (1) at any time and in its discretion by giving the Supplier not less than 20 Business Days' notice;
  - (2) if the Supplier commits a breach of the Contract and fails to remedy that default within 10 Business Days of the Principal giving notice of the breach;
  - (3) immediately if an Insolvency Event occurs; or
  - (4) immediately if the Principal becomes aware that WALGA has suspended or terminated the Panel Agreement, in accordance with the terms of the Panel Agreement.
- (b) The Supplier may terminate the Contract by notice to the Principal if the Principal does not comply with its obligations under clause 17.5 and fails to remedy that default within 15 Business Days of notice of that default from the Supplier.
- (c) On termination of the Contract, the Supplier must:
  - (1) immediately cease performance of the Supplier's Obligations;
  - (2) ensure that accurate notes are made of the Goods supplied or Services performed (or both, where applicable) up to the date of termination and delivered to the Principal; and
  - (3) promptly comply with its obligations under clause 14.1(b) and deliver to the Principal all employee lists, working papers, correspondence, documents and other property belonging to the Principal that may be in the Supplier's possession or under its control.
- (d) If the Contract is terminated under clause 22(a) or 22(b):
  - (1) the Principal must pay the Supplier that part of the Price for any Supplier's Obligations performed prior to termination that have not already been paid by the Principal; and
  - (2) the Supplier is not entitled to, and the Principal is not liable for, any additional parts of the Price whatsoever.
- (e) Subject to clause 22(d), termination of the Contract, however it may occur, does not prejudice any Claim that either party may have against the other under the Contract on termination.



## WALGA

### 23 Dispute Resolution

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- (a) Neither party may commence any action, bring any proceedings or seek any relief or remedy in a court, except interlocutory or equitable relief from a court in respect of a Dispute until they have complied with the dispute resolution process in accordance with this clause 23.
- (b) If any Dispute arises between the parties in relation to the Contract, either party may give notice of the Dispute to the other party (**Dispute Notice**).
- (c) A Dispute Notice must specify the:
  - (1) alleged facts on which the Dispute is based;
  - (2) legal basis on which the Dispute is made, including any issues of law relevant to the Dispute (if any); and
  - (3) relief that is claimed.
- (d) Within 3 Business Days of a party receiving a Dispute Notice, the parties must arrange for a senior representative from the Principal and a senior representative from the Supplier to meet to attempt to resolve the Dispute.
- (e) If a Dispute is not resolved within 3 Business Days of the parties' senior representatives meeting to attempt to resolve the Dispute in accordance with clause 23(d), the parties may escalate the Dispute to WALGA for WALGA to assist the parties in the resolution of the Dispute.
- (f) If a Dispute is not resolved within 20 Business Days of the party receiving a Dispute Notice, either party who has given a Dispute Notice under clause 23(b) and complied with this clause 23 may end the dispute resolution process and commence court proceedings in relation to the Dispute.
- (g) If a Dispute exists, each party must continue to comply with its obligations under the Contract, except with respect to any aspect that is in dispute.

### 24 Notices

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#### 24.1 How and where notices may be sent

- (a) Subject to clause 24.1(b), a notice must be in writing and:
  - (1) delivered by hand or sent by post, to the address of the party set out in the Party Details or otherwise notified; or
  - (2) sent by email, as an attachment to an email, to the email address of the party set out in the Party Details or otherwise notified.
- (b) A notice under clause 22 may only be delivered by hand or sent by post.

#### 24.2 When notices are taken to have been delivered and received

A notice is effective:

- (a) if delivered by hand, on the date it is delivered to the recipient;
- (b) if sent by post:
  - (1) within Australia to an Australian address, on the third Business Day following the postage date; or

- (2) from a place within Australia to an address outside of Australia, or from a place outside Australia to an address within Australia, on the eighth Business Day following the postage date; or
- (c) if sent by email, on the earlier of:
  - (1) an email delivery confirmation report being received by the sender; or
  - (2) 4 hours after the email was sent unless the sender receives notification from its or the recipient's email server that the email is undeliverable, was not delivered, or the recipient is out of the office,

provided that where any notice is sent by email and is received after 4:00pm (recipient's time) or on a day other than a Business Day (recipient's time), then the notice will be deemed as being received at 9:00am on the next Business Day (recipient's time).

## 25 PPSA

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- (a) Words and phrases used in the Contract that have defined meanings in the PPS Law have the same meaning as in the PPS Law unless the context otherwise indicates.
- (b) If the Principal determines that the Contract (or a transaction in connection with it) is or contains a security interest for the purposes of the PPS Law, the Supplier agrees to do anything (including obtaining consents, signing and producing documents, getting documents completed and signed and supplying information) which the Principal asks and considers necessary for the purposes of:
  - (1) ensuring that the security interest is enforceable, perfected and otherwise effective;
  - (2) enabling the Principal to apply for any registration, complete any financing statement or give any notification, in connection with the security interest so that the Principal has the priority required by it; or
  - (3) enabling the Principal to exercise rights in connection with the security interest.
- (c) If the Supplier holds any security interests for the purposes of the PPS Law and if failure by the Supplier to perfect such security interests would materially adversely affect the security interests the Principal holds or affect its business, the Supplier agrees to perfect that security interest and to implement, maintain and comply in all material respects with, procedures for the perfection of those security interests. The Supplier must take all steps under the PPS Law to continuously perfect any such security interests including all steps necessary:
  - (1) for it to obtain the highest ranking priority possible in respect of the security interest (such as perfecting a purchase money security interest or perfecting a security interest by control); and
  - (2) to reduce as far as possible the risk of a third party acquiring an interest free of the security interest (such as including the serial number in a financing statement for personal property that may or must be described by a serial number).
- (d) Notwithstanding clause 14.1, neither the Principal nor the Supplier will disclose information of the kind mentioned in section 275(1) of the PPSA and the Supplier will not authorise, and will ensure that no other party authorises, the



disclosure of such information. This clause 25(d) does not prevent disclosure where that disclosure is required under section 275 of the PPSA because of the operation of section 275(7) of the PPSA.

## 26 Security of Payment Act

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- (a) This clause 26 only applies to the extent that the Goods and Services constitute 'construction work' carried out within Western Australia or involves the supply of 'related goods and services' (both as defined in the Security of Payment Act).
- (b) Nothing in the Contract will affect, restrict or limit the Supplier's right to:
  - (1) make an adjudication application pursuant to section 28 of the Security of Payment Act; and
  - (2) suspend the supply of Goods and performance of Services under section 62 of the Security of Payment Act.
- (c) Notwithstanding anything else in the Contract, the Supplier must:
  - (1) promptly give the Principal a copy of any notice the Supplier receives from a subcontractor; and
  - (2) ensure that each subcontractor promptly gives the Principal a copy of any notice that the subcontractor receives from another party (including the Supplier), under any of sections 28, 30, 57 or 62 of the Security of Payment Act.
- (d) If the Principal becomes aware that a subcontractor is entitled to suspend the supply of goods and performance of services (which forms part of the Goods and Services) under section 62 of the Security of Payment Act, the Principal may (at its discretion) pay the subcontractor such money that is or may be owing to the subcontractor in respect of goods and services forming part of the Goods and Services, and any amount paid by the Principal is recoverable from the Supplier as a debt due to the Principal. The Principal:
  - (1) must notify the Supplier prior to making payment pursuant to this clause 26(d); and
  - (2) will not make a payment pursuant to this clause 26(d) where the Supplier demonstrates to the Principal that it has reasonable grounds to have withheld payment to the subcontractor.
- (e) The Supplier indemnifies, and holds harmless, the Principal against all Loss of any nature suffered or incurred by the Principal arising out of:
  - (1) a suspension by a subcontractor of the supply of goods and performance of services (which forms part of the Goods and Services) under section 62 of the Security of Payment Act;
  - (2) a subcontractor exercising a statutory lien, under section 64 of the Security of Payment Act, over unfixed plant or materials supplied by the subcontractor for use in carrying out services and goods forming part of the Goods or Services (or both); and
  - (3) a failure by the Supplier to comply with its obligations under clause 26(c).
- (f) For the purposes of this clause 26, a reference to a subcontractor refers to any party engaged by the Supplier, any of its subcontractors or any other party to



supply goods and perform services which forms part of the Goods and Services.

## 27 General

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### 27.1 Governing law and jurisdiction

The Contract is governed by the law in force in Western Australia and each party irrevocably submits to the exclusive jurisdiction of courts exercising jurisdiction in Western Australia.

### 27.2 Entire agreement and reliance

- (a) The Contract states all the express terms of the agreement between the parties in respect of its subject matter. It supersedes all prior representations, discussions, negotiations, understandings and agreements in respect of its subject matter.
- (b) Neither party has relied on any statement by the other party not expressly included in the Contract.

### 27.3 Waiver

No party to the Contract may rely on the words or conduct of any other party (including any delay in exercising a right) as a waiver of any right unless the waiver is in writing and signed by the party granting the waiver. For the purposes of this clause 27.3, "waiver" includes an election between rights and remedies, and conduct which might otherwise give rise to an estoppel.

### 27.4 Relationship of the parties

- (a) The Supplier acknowledges and agrees that:
  - (1) it is an independent contractor and not an agent of the Principal;
  - (2) the Contract is entered into in accordance with the terms of the Panel Agreement;
  - (3) the Contract is entered into between the Principal and the Supplier, and WALGA is not a party to the Contract; and
  - (4) the Supplier has no authority to bind the Principal, or WALGA, by contract or otherwise.
- (b) In the event that the Supplier assigns or novates any right, benefit or interest under the Panel Agreement in accordance with the terms of the Panel Agreement, the Supplier must provide the Principal with such reasonable assistance as may be necessary to assign or novate (as applicable) the Supplier's rights, benefit or interest under the Contract to the assignee or novatee (as applicable).
- (c) In carrying out their respective obligations under the Contract, each party is acting independently of the other party. Nothing in the Contract creates a partnership, trust or agency between the parties or imposes any fiduciary duties on either party in relation to the other, unless expressly stated.



## WALGA

### 27.5 Amendment

An amendment of any term of the Contract must be in writing and signed by both parties.

### 27.6 Invalidity and enforceability

- (a) Any provision of the Contract which is invalid or unenforceable will not affect the remaining provisions of the Contract which remain in full force and effect.
- (b) If any provision of the Contract is found to be invalid or unenforceable but would be valid or enforceable if some part of the provision were deleted, the provision in question will apply with such modification as may be necessary to make it valid.

### 27.7 Executing the Contract

- (a) Each party must do all things and execute all documents necessary to give full effect to its obligations under the Contract and the transactions contemplated by it.
- (b) The Supplier represents and warrants that it:
  - (1) has full power and authority to enter into and perform its obligations under the Contract; and
  - (2) has taken all necessary action to authorise the execution, delivery and performance of the Contract.
- (c) The Contract may be executed in any number of counterparts and all counterparts, taken together, constitute one instrument. A party may execute the Contract by signing any counterpart.

### 27.8 Rights under the Contract

- (a) Unless the Contract provides otherwise:
  - (1) a party may exercise a right, power or remedy in any way at its discretion; and
  - (2) the rights, powers and remedies provided by the Contract are in addition to any rights, powers and remedies provided at Law.
- (b) Nothing in the Contract:
  - (1) gives a party authority to bind any other party in any way; or
  - (2) imposes any fiduciary duties on a party in relation to any other party.
- (c) The Principal is not required to engage the Supplier exclusively to supply the Goods or perform the Services.

### 27.9 Survival

Clauses 1, 2, 14, 15, 16, 22(e) and 27, and any other obligations which are expressed to or, by their nature, survive expiry or termination of the Contract, will survive the termination or expiry of the Contract, and are enforceable at any time at Law.