

NORTHERN TERRITORY OF AUSTRALIA
LICENCE TO TAKE GROUNDWATER
Pursuant to section 60 of the *Water Act 1992*

Licence No: L10013

Licence Holder:	Arafura Nolans Project Pty Ltd (ACN 118 158 900)		
Address:	PO Box 5773, St Georges Tce Perth, WA, 6831		
Commencement Date:	20 March 2023		
Expiry Date:	19 March 2033		
Water Control District:	Not applicable		
Groundwater Resource:	Reaphook Palaeovalley Aquifer		
Management Zone:	Not applicable		
Water Allocation Plan:	Not applicable		
Bore(s):	RN019034, RN043563		
Property(s) on which water is used:	NT Portion 703 (6300 Stuart Hwy, Anmatjere)		
Beneficial Use(s) of Water Entitlement	Maximum Water Entitlement ML/year	Security Level	Licence Trading Allowed
Mining activity	4800	Not Specified	No
Total Maximum Water Entitlement:	4800 ML/year		

Terms and Conditions:

1 Water Extraction Conditions

- 1.1 The licence holder must extract no more than the Entitlement specified in Column 2 of Table 1 for the period listed in Column 1 of Table 1 for the Groundwater Resource.

Table 1: Total Maximum Water Entitlement per Period

Column 1	Column 2
Period	Entitlement
20-Mar-2023 to 30-Jun-2023	1433 ML
01-Jul-2023 to 30-Jun-2024	4800 ML
01-Jul-2024 to 30-Jun-2025	4800 ML
01-Jul-2025 to 30-Jun-2026	4800 ML
01-Jul-2026 to 30-Jun-2027	4800 ML
01-Jul-2027 to 30-Jun-2028	4800 ML
01-Jul-2028 to 30-Jun-2029	4800 ML
01-Jul-2029 to 30-Jun-2030	4800 ML
01-Jul-2030 to 30-Jun-2031	4800 ML

01-Jul-2031 to 30-Jun-2032	4800 ML
01-Jul-2032 to 19-Mar-2033	4600 ML

1.2 The licence holder must ensure water extracted under this licence is not wasted. For the purpose of this condition water is wasted where, irrespective of intention:

- a) more water is used than is reasonably necessary for the immediate purpose for which water is taken, including used for irrigation;
- b) an unnecessary or excessive flow or flood of water is allowed to occur; or
- c) water is taken without adequate control or supervision of its taking.

1.3 The licence holder may only extract water under this licence from a bore listed on this licence.

1.4 The licence holder must maintain the bores used for extracting water under this licence in accordance with the National Uniform Drillers Licensing Committee 'Minimum Construction Requirement for Water Bores in Australia' as amended from time to time.

1.5 The licence holder may only extract water under this licence for use on a property listed on this licence.

2 Water Metering and Reporting Conditions

2.1 Extraction from the listed groundwater resource must be recorded by a meter or meters supplied, installed and maintained by the licence holder in accordance with the Northern Territory Non-Urban Water Metering Code of Practice for Water Extraction Licences, as amended from time to time.

2.2 Within two (2) weeks of 30 September, December, March and June of each year, and within two weeks before the expiry date, the licence holder must supply the Controller with a record of water extraction, reported by calendar month, from each of the listed bores.

3 Special Conditions

3.1 Where a condition of this licence requires a program, plan, report or other document to be approved by the Controller, the licence holder must:

- (a) seek approval of the document, via email to water.regulation@nt.gov.au; and
- (b) the document must be peer reviewed by a suitably qualified professional, unless otherwise agreed in writing by the Controller.

3.2 A document submitted under condition 3.1 may be returned by an authorised officer or the Controller to the licence holder for amendment. The licence holder shall resubmit the document to the Controller within the timeframe specified in writing by the Controller or authorised officer.

3.3 The licence holder must **undertake the minimum monitoring** requirements specified in **Schedule 2** and **Schedule 3** and **Schedule 4**, in accordance with monitoring commencement timing specified in the schedules.

3.4 Until an adaptive management plan is approved under condition 3.5, if the **limits in Schedule 2 or Schedule 3 are exceeded** at any time the licence holder must:

- a) cease to take water under this licence;
- b) submit a record of water extraction from each of the listed bores to the Controller within 24 hours of limit exceedance being identified; and
- c) provide a report of non-compliance to the Controller of Water Resources in accordance with condition 3.9.

For the sake of clarity, alternative adaptive management measures for Schedule 2 and 3 limits may be developed by the licence holder for approval by the Controller. An approved adaptive management plan supersedes condition 3.4.

3.5 Within **1 year** of commencement of extraction, the licence holder must develop and submit for approval by the Controller, an **adaptive management plan**. The adaptive management plan must:

Objectives

- a) include clear, measurable objectives which can be used to demonstrate that:
 - i. impact of groundwater level decline will not exceed rates or levels which may impact culturally significant groundwater dependent ecosystems at Day Creek.
 - ii. impact of groundwater level decline will not adversely affect groundwater dependent ecosystems at an ecologically significant scale in the local region.
 - iii. rights of groundwater users to access groundwater for the beneficial use of rural stock and domestic will not be adversely effected by groundwater level decline.
 - iv. access to groundwater at the Laramba community bore field and Alyuen outstation will not be adversely effected by groundwater level decline or decline in groundwater quality as a result of extraction.
 - v. the ability of the resource to support key Aboriginal cultural values is not adversely impacted by the licensed extraction.

Stakeholder consultation

- b) be developed in consultation with local Aboriginal people identified with the Central Land Council in regards to **Objective (a)(i)** and **(a)(v)**;
- c) be developed in consultation with land holders in regards to **Objective (a)(iii)**;
- d) be developed in consultation with Power and Water Corporation and Alyuen Aboriginal Corporation in regards to **Objective (a)(iv)**;

Limits and triggers

- e) incorporate limits specified in **Schedule 3** which can be used to implement adaptive management actions;
- f) incorporate quantitative vegetation community scale trigger values which can be used to implement adaptive management actions to achieve **Objectives (a)(i)** and **(a)(ii)**;
- g) incorporate trigger values based on the findings of the **hydro-census** which can be used to implement adaptive management actions to achieve **Objective (a)(iii)**;
- h) incorporate trigger values based which can be used to implement adaptive management actions to achieve **Objective (a)(iv)**;
- i) incorporate trigger which can be used to implement adaptive management actions to achieve **Objective (a)(v)**;

Management actions

- j) define management actions that are capable of being implemented in response to the triggers and limits developed under parts 3.5(b) through 3.5(f), to achieve the objectives;
- k) establish timeframes for implementation of the actions;
- l) establish who in the licence holder's organisation makes the decision to implement management actions, and the evidence on which such decisions will be made;

Continuous improvement

- m) incorporate a feedback system to ensure appropriate actions are initiated when triggered, and impacts do not exceed those presented in the **assessed groundwater model**;
- n) include a review process to ensure management actions are updated as knowledge improves;
- o) include a process to integrate information obtained through the completion of Condition 3.14 - groundwater dependent ecosystem verification and Condition 3.15 - groundwater model verification and improvement; and

Implementation

p) be implemented immediately following the Controller's approval.

3.6 Within **1 year** of commencement of extraction, the licence holder must develop and submit for approval by the Controller a **monitoring program** to support the adaptive management plan. The monitoring program must:

- a) be prepared by a suitably qualified professional;
- b) include the minimum monitoring measures specified in **Schedule 3**;
- c) include the minimum groundwater quality monitoring measures specified in **Schedule 4**;
- d) include monitoring measures suitable to identify an exceedance of any trigger value or limit in the adaptive management plan;
- e) specify the parameters, methodology and frequency for each monitoring measure;
- f) include a review process to ensure continuous improvement of the monitoring program; and
- g) be implemented immediately following the Controller's approval.

3.7 The licence holder must **seek approval on revisions** to the **adaptive management plan** or **monitoring program** from the Controller, prior to implementing (other than typographical changes or revisions to formatting or referencing).

The proposed revisions:

- a) must be prepared by a suitably qualified professional;
- b) include a tabulated summary of amendments;
- c) may be returned by the Controller or an authorised officer to the licence holder for amendment and the licence holder shall resubmit the document to the Controller within the timeframe specified in writing.

3.8 The licence holder must **report adaptive management actions undertaken**, in writing to the Controller, within 10 business days after the action has been undertaken. The report must outline:

- a) what triggered the requirement to undertake the action;
- b) the action taken; and
- c) the expected outcome from the action.

3.9 The licence holder must immediately **notify the department on becoming aware of non-compliance** (or suspected non-compliance) with any condition of this licence. A notification under this condition must:

- a) contain particulars of the non-compliance, including the identified or potential impacts associated with the non-compliance;
- b) identify the steps that have or will be taken to minimise the impacts of the non-compliance; and
- c) identify the steps that have or will be taken to prevent a reoccurrence or minimise the risk of further non-compliance.

3.10 The licence holder must submit to the department an **annual compliance report** on or before the **30 September** of each year of this licence. The annual report must:

- a) detail compliance with the conditions of this licence in the previous financial year;
- b) identify exceedances of trigger values in the licence documents and actions taken in response; and
- c) detail any changes to trigger values in the licence documents.

3.11 The licence holder must **publish on a website** which is publicly available:

- a) a copy of this licence;
- b) the approved **adaptive management plan**
- c) the **approved monitoring program**

- d) details of **non-compliance reported** in accordance with Condition 3.9
 - e) copies of **annual reports** prepared in accordance with Condition 3.10
 - f) other documents related to this licence, or the activities conducted under it, as directed by the Controller.
- 3.12 The licence holder may only extract water under this licence for **Approved Mining Activities**.
- 3.13 If the mine management plan associated with the Approved Mining Activity is revoked or expires, the licence holder must inform the Controller in writing within 7 days via email to water.regulation@nt.gov.au.
- 3.14 The licence holder must undertake **groundwater dependent ecosystem (GDE) verification**, including:
- a) Undertake a baseline assessment of groundwater dependent ecosystem using remote sensing techniques consistent with *Information Guidelines Explanatory Note: Assessing Groundwater Dependent Ecosystems 2019*.
 - b) Quantify the spatial extent of groundwater dependent ecosystems at vegetation community level.
 - c) Quantify the proportion of groundwater dependent ecosystems determined under 3.14(b) which is anticipated to be impacted by drawdown in the life of mine using the **assessed groundwater model**, or a model updated in accordance with condition 3.15 (**Model improvement**).
 - d) Provide a report to the Controller for approval which:
 - i. documents the assessment under parts (a), (b) and (c) of this condition;
 - ii. documents any updates to the adaptive management plan to mitigate impact to GDEs; and
 - iii. verifies that impact to groundwater dependent ecosystems at an ecologically significant scale as a result of drawdown will be avoided.
- 3.15 **Model improvement and verification** the licence holder must, within **2 years** of commencement of extraction, undertake a program of improvement, and verification of the **assessed groundwater model**, which:
- a) provides for independent peer review, and integration of peer reviewer recommendations to the satisfaction of the peer reviewer, at each stage of the program;
 - b) includes a predictive uncertainty analysis;
 - c) sets aquifer investigation and modelling goals based on reducing predictive uncertainty;
 - d) includes obtaining site specific aquifer data, in accordance with goals set under 3.15(c);
 - e) updates the model, based on data obtained through 3.15(c);
 - f) includes assessment of the updated model with respect to Class 2 requirements of a groundwater model in the Australian Groundwater Modelling Guidelines (*Barnett et al, 2012*), and the goals set in part 3.15(c); and
 - g) concludes with a detailed model report consistent with the Australian Groundwater Modelling Guidelines (*Barnett et al, 2012*), outlining:
 - i. the program undertaken;
 - ii. predicted drawdown impacts at five yearly intervals for the remainder of the life of mine – displayed as both drawdown contours and hydrographs at representative or sensitive locations;
 - iii. comparison of the magnitude and extent of the predicted drawdown in the updated model and **assessed groundwater model**, demonstrating that

impacts will not be of greater magnitude or extent than that in the **assessed groundwater model**; and
any revision to the pumping regime or bore field design which will be implemented to achieve 3.15(g)(iii).



Andrew Johnson

Controller of Water
Resources

8 / August /2023

End Notes:

This licence is an amendment and supersedes all previously issued L10013 licence documents.
The numbering of the Terms and Conditions has been modified due to removing Condition Precedent CP1.

Definitions

"Act" means the *Water Act 1992* (NT).

"Approved Mining Activity" means a mining activity or activities which have been approved by the Minister or delegate in accordance with the *Mining Management Act 2001*.

"Assessed Groundwater Model" means scenario Nolans503 presented in *2021 Groundwater Modelling Reaphook Palaeovalley, Nolan's Project Arafura Resources Pty Ltd*, Prepared by GHD (dated 9 January 2023, Revision 2.1)

"Borefield" means bores listed on this licence in the mineral titles described in Table 2 below:

Table 2: Borefield names and locations

Borefield name	Mineral Title	Approximate centre point (GDA 94, MGA Zone 53)
Borefield A	ML32413 (western portion)	288452.293, 7483577.505
Borefield B	ML32413 (eastern portion)	294428.43, 7482467.051
Borefield C	ML32412 (western portion)	296436.254, 7480779.141
Borefield D	ML32412 (eastern portion)	301243.575, 7479913.635
Borefield E	ML32411 (western portion)	307406.546, 7479188.337

"Controller" means the Controller of Water Resources.

"Entitlement" means the amount(s) specified in Condition 1.1.

"Groundwater level decline" means the change in groundwater level compared with the groundwater level measured immediately prior to when water commences being taken under this licence.

"Hydro-census" means Nolans Hydro-census, prepared by GHD, 10 May 2023

"Period" means a period of time specified in Condition 1.1.

"Rate of groundwater level decline" means the rate of change in groundwater level at any time during the term of the licence.

"Regulations" means the *Water Regulations 1992* (NT).

"Security level" means the order in which announced allocations are applied to licences. E.g. in years when a less than 100% announced allocation is required to ensure that environmental water provisions are satisfied, Low Security licence entitlements are reduced first, then Medium Security entitlements and finally High Security entitlement