



Integrated Gas

BEETALOO BASIN BEETALOO SUB-BASIN KYALLA 117 N2 MULTI-WELL DRILLING, HYDRAULIC FRACTURING AND WELL TESTING PROGRAM (ORI6-3) Annual Environmental Performance Report

THE THREE WHATS

What can go wrong?
What could cause it to go
wrong?
What can I do to prevent it?

Beetaloo Basin Kyalla 117 N2 Multi-well AEPR


Document Details

Document title	Beetaloo Sub-basin Kyalla 117 N2 Multi-well Drilling, Hydraulic Fracturing and Well Testing Program (ORI6-3) Annual Environmental Performance Report
EMPs Covered	Beetaloo Sub-basin Kyalla 117 N2 Multi-well Drilling, Hydraulic Fracturing and Well Testing Program (ORI6-3)
Exploration Permit	EP 117
Interest holder details	Origin Energy B2 Pty Ltd ABN 42 105 431 525• Level 28, 180 Ann Street, Brisbane QLD, 4000 Falcon Oil & Gas Australia Limited ABN 53 132 857 008
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Date approved	20/05/2022

Version History

Rev	Date	Reason for issue	Reviewer/s	Consolidator	Approver
0	20/05/2022	Issued for Approval	LP		MK

Signature and certification

I hereby declare that the information provided in this annual environment performance report and accompanying documents is to the best of my/our knowledge, true and correct.	
Signature	
Name	Matt Kernke
Position	Approvals Manager Beetaloo and Growth Assets
Date	20/05/2022

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1. Introduction

The Petroleum (Environment) Regulations 2016 (NT) include a requirement¹ for the interest holder to provide a report to the Minister on an annual basis that outlines the environmental performance of regulated activities. The Annual Environment Performance Report (AEPR) must include sufficient information to allow the Minister to assess whether the interest holder has met the environmental outcomes and environmental performance standards included in the approved Environment Management Plan (EMP). The report is to consider information required to be recorded, monitored or reported under the Petroleum (Environment) Regulations 2016 (the Regulations) and any other law in force in the Northern Territory related to conduct of the regulated activity.

This AEPR covers the regulated activities approved under the Beetaloo Basin Beetaloo Sub-basin Kyalla 117 N2 Multi-well Drilling, Hydraulic Fracturing and Well Testing Program (ORI6-3) EMP approved 22/02/2021.

The AEPR covers the reporting period from the 23/02/2021 to the 22/05/2022.

1.1 Acronyms and abbreviations

Table 1 Acronyms and abbreviations

Acronym	Definition
AAPA	Aboriginal Area Protection Authority
CMS	Compliance management system
COP	Code of Practice: Onshore Petroleum Activities in the Northern Territory
DEPWS	Department of Environment, Parks and Water Security
DITT	Department of Industry, Innovation and Trade
FTP	File Transfer Protocol
ha	Hectare
OCIS	Origins Collective Intelligence System used for managing incident data
Regulations	Petroleum (Environment) Regulations 2016
WBIV	Well barrier integrity verification

1.2 Background

During the reporting period, no regulated activities under the Beetaloo Sub-basin Kyalla 117 N2 Multi-well Drilling, Hydraulic Fracturing and Well Testing Program (ORI6-3) EMP had commenced.

An overview of the location of the Kyalla 117 N2 Multi-well is provided in Figure 1.

¹ Petroleum (Environment) Regulations 2016 (NT) sch 1, item 11.

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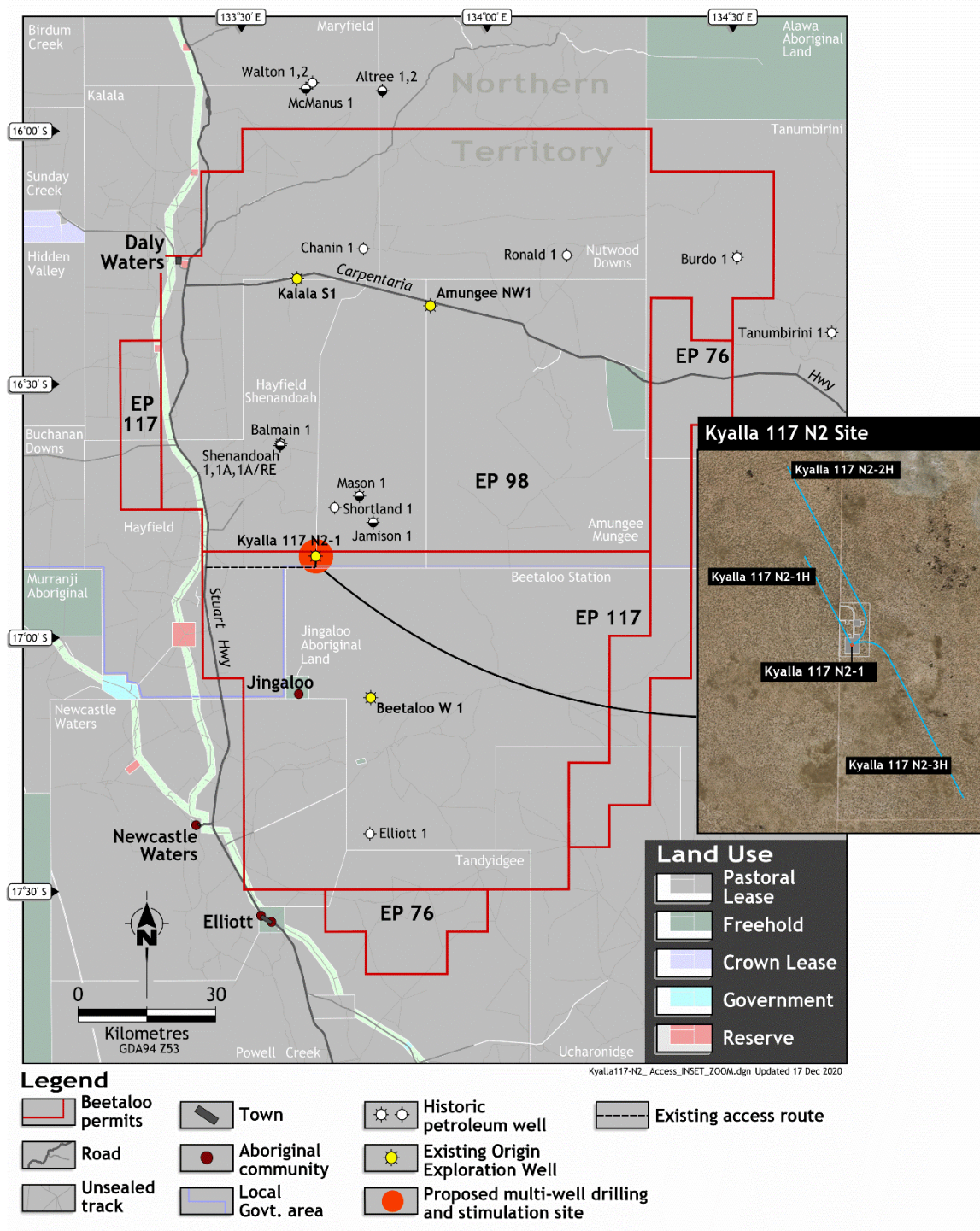


Figure 1 Beetaloo Kyalla 117 N2 Multi-well drilling, stimulation and well testing location

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1.3 Contents of Performance Report

This AEPR describes the environmental performance of Origin by evaluation of the following:

1. compliance with Ministerial approval conditions, for each EMP
2. compliance with each environmental outcome and environmental performance standard within the approved EMPs
3. compliance with reporting requirements in accordance with the Code of Practice: Onshore Petroleum Activities in the Northern Territory (COP) and the Regulations
4. all recordable and reportable incidents, including root cause analysis and related corrective actions to prevent re-occurrence
5. findings of all regulatory inspections and audits and related actions to address any findings.

1.4 Assessment of compliance

Table 2 shows the compliance status indicators used in this AEPR which have been defined by the Department of Environment, Parks and Water Security (DEPWS).

Table 2 Compliance descriptors

Indicator	Description
Compliant	Compliant with requirement for entire 12-month reporting period
Not Compliant	Interest holder did not comply with the requirement during the reporting period
Not Applicable	Requirement not applicable during the reporting period

1.5 Evidence of compliance

The activities have not commenced and therefore this section is Not Applicable (N/A)

2. Demonstration of Compliance

2.1 Ministerial Condition compliance

Table 3 demonstrates Origin's compliance with Ministerial EMP approval conditions.

Table 3 Ministerial condition summary table

No	Ministerial condition	Compliance Status	Evidence
1	<p>The interest holder must submit to the Department of Environment, Parks and Water Security (DEPWS):</p> <ol style="list-style-type: none"> 1) A timetable (including time-bound commitments) for the regulated activity prior to the commencement of the activity and each quarter thereafter; and 2) Daily onsite reports indicating the status of progress of vegetation clearing and drilling, and the freeboard available in drilling sumps and wastewater tanks during operations; and 3) Five data activity forecast for the duration of the activity 	Not applicable	Activity has not commenced

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No	Ministerial condition	Compliance Status	Evidence
	<p>during the wet season (1 October- 30 April each year); and</p> <p>4) Written notification of any halt to the activity due to wet season conditions, within 24 hours of the halt; and</p> <p>5) Immediate notification of any fires potentially threatening the activity from external or internal sources</p>		
2	<p>In the event of any accidental release (overflow, failure, spill or leak) to ground of flowback fluid wastewater that exceeds 200 Litres, the interest holder must provide a written report to DEPWS, via Onshoregas.DEPWS@nt.gov.au , as follows:</p> <p>within 24 hours provide a written report with details of the incident specifying the material facts and actions taken to avoid or mitigate environmental harm; and</p> <p>after the incident was detected. The report must contain:</p> <ol style="list-style-type: none"> i. The volume of impacted soil removed for appropriate disposal and the depth of any associated excavations; and ii. The corrective actions taken or proposed to be taken to prevent recurrence of an incident of a similar nature 	Not applicable	Activity has not commenced
3	<p>The interest holder must provide to DEPWS an annual report to DEPWS via Onshoregas.DEPWS@nt.gov.au on its environmental performance, in accordance with item 11(1(b) of the Petroleum (Environment) Regulations 2016. The first report must cover the 12 month period date of the approval, and be provided within 3 calendar months of the end of the reporting period. The annual environmental performance report must align with the template prepared by DEPWS for this purpose.</p>	Compliant	Satisfied through this report
4	<p>An emissions report must be provided to DEPWS by 30 September each year via Onshoregas.DEPWS@nt.gov.au, which summarises actual annual greenhouse gas emissions reported under the Commonwealth National Greenhouse and Energy Reporting Act 2007 versus predicted emissions in the EMP.</p>	Not Applicable	Activity has not commenced

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No	Ministerial condition	Compliance Status	Evidence
5	<p>The interest holder must provide to DEPWS within 6 weeks of completion of well flowback operations at the Kyalla N2 well site on EP117, a report on the risk assessment of flowback wastewater from the hydraulic fracturing phase. The risk assessment must be:</p> <ul style="list-style-type: none"> i) prepared by a suitably qualified person; and ii) Prepared in accordance with the monitoring wastewater analytes specified in section C.3 of the Code of Practice: Onshore Petroleum Activities. 	Not Applicable	Activity has not commenced

2.2 Environmental outcomes and performance standards

Table 4 provides a systematic overview of Origin's compliance with the environmental outcomes and environmental performance standards within the approved EMP.

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Table 4 Environmental outcome and performance standard compliance summary

NO#	Environmental outcomes	Environmental Performance Standard	Compliance	Evidence
1	<ul style="list-style-type: none"> No significant impact to the ecological function and productivity of soils surrounding Kyalla 117 N2 as a result of Origin's exploration activities 	<ul style="list-style-type: none"> No releases of contaminants (chemicals, hydrocarbon, drilling wastewater or flowback wastewater) outside of Origin's lease pad 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
2		<ul style="list-style-type: none"> No reportable spills, including wastewater tank/sump overtopping events, resulting from Origin's exploration activities 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
3		<ul style="list-style-type: none"> Erosion and sediment control in place and working effectively 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
4	<ul style="list-style-type: none"> No significant impact on surface water quality as a result of Origin's exploration activities void and minimise the potential contamination caused by the discharge of sediment or contaminated storm water to waterways or established drainage systems. 	<ul style="list-style-type: none"> During chemical and wastewater storage activities, no off-site release of contaminants from chemical, hydrocarbon and waste storage 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
5		<ul style="list-style-type: none"> No seismic events over MI 3.5 attributable to Origin's activities 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
6		<ul style="list-style-type: none"> No reportable spills, including offsite releases of contaminants resulting from Origin's exploration activities 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
7		<ul style="list-style-type: none"> Erosion and sediment control in place and working effectively. 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
8		<ul style="list-style-type: none"> All regional aquifers isolated through cement and casing 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced

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N0#	Environmental outcomes	Environmental Performance Standard	Compliance	Evidence
9	<ul style="list-style-type: none"> Origin's exploration activities do not reduce the environmental values of the underlying groundwater resources 	<ul style="list-style-type: none"> No failure of wastewater tank secondary liner 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
10		<ul style="list-style-type: none"> No seismic events over MI 3.5 attributable to Origin's activities 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
11	<ul style="list-style-type: none"> No long term (>12 month) reduction in groundwater level observed in the impact monitoring bore that results in >1m decline in groundwater water level 	<ul style="list-style-type: none"> No long-term (>12 month) reduction in quality of an impact groundwater monitoring bore that is attributable to Origin's activities. A decline is defined as a change in water chemistry that exceeds the ANZECC guidelines for Livestock (the primary Environmental Value) of groundwater in the region. 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
12	<ul style="list-style-type: none"> No significant impact to high valued habitats and threatened flora and fauna as a result of Origin's exploration activities 	<ul style="list-style-type: none"> No releases of wastewater (drilling fluid and flowback) off the lease into the surrounding vegetation 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
13		<ul style="list-style-type: none"> <7 individual fauna deaths per week for 2 consecutive weeks caused by flowback water storage 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
14		<ul style="list-style-type: none"> <0 threatened fauna deaths caused by flowback storage 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
15		<ul style="list-style-type: none"> No uncontrolled bushfires caused by Origin's exploration activities 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
16		<ul style="list-style-type: none"> Weed surveys completed on all Origin disturbed areas 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
17		<ul style="list-style-type: none"> Year-on-year decline in the size and density of all weed 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced

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N0#	Environmental outcomes	Environmental Performance Standard	Compliance	Evidence
		infestations introduced as a result of Origin's activities		
18	<ul style="list-style-type: none"> No significant impact on air quality and no excess greenhouse gas emissions as a result of Origin's exploration activities 	<ul style="list-style-type: none"> Venting to be eliminated as far as reasonably practicable 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
19		<ul style="list-style-type: none"> All greenhouse gasses reporting in accordance with NGERs requirements 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
20		<ul style="list-style-type: none"> All leaks detected and repaired in accordance with code of practice 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
21	<ul style="list-style-type: none"> No significant negative impacts to the community as a result of Origin's exploration activities 	<ul style="list-style-type: none"> All valid community complaints of nuisance investigated and resolved 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
22		<ul style="list-style-type: none"> >60% of addressable spend to be from NT businesses 	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced

2.3 Mandatory reporting requirements

Table 5 demonstrates Origin's compliance with reporting requirements in the COP and compliance with reporting requirements under the Regulations, schedule 1, item 11(2), which requires all information required to be recorded, monitored or reported has been provided. Where relevant, Origin has also confirmed that all records, monitoring or required reporting under the Regulations² have been provided to DEPWS or the relevant NTG agency.

Table 5 summary of mandatory reporting requirements

No#	Reference	Requirement	Compliance Status	Evidence
1	COP A.3.5	Geospatial information depicting areas cleared is to be provided to the Minister.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
2	COP A.3.6 (b)	Weed management plan developed as part of the EMP must provide for ongoing weed monitoring.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
3	COP A.3.7(a)vi	The fire management plan developed as part of the EMP must provide for annual fire mapping to monitor changes to fire frequency in the relevant areas.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
4	COP A.3.9(c) COP A.3.9(e)	The rehabilitation plan developed as part of the EMP requires progressive rehabilitation of significantly disturbed land which is required to commence no longer than 12 months following the cessation of activities on the land. It also requires regular maintenance and annual monitoring of rehabilitated areas.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
5	COP B.4.13.2(c)	As a minimum, the following must be recorded and reported for each stage (where a stage in this context means all fluids pumped at a particular depth interval): a) total volume of hydraulic fracturing fluid pumped, b) quality of water used (tested for analytes in section C.8 of this Code. Analyses do	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced

² Petroleum (Environment) Regulations 2016 (NT) sch 1, item 11(2).

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No#	Reference	Requirement	Compliance Status	Evidence
		not need to be repeated if the same water source is used for multiple stages) and typical and maximum concentrations of chemicals or other substances used.		
6	COP B.4.13.2(k)iv	Where venting is the only technically feasible option for managing produced gas, the technical considerations preventing the use of the recovered gas must be recorded and included in the operator's annual report.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
7	COP B.4.14.2(c)	All new barriers or new well operating envelopes must be verified and clearly documented and reported by submission of an updated well barrier integrity validation (WBIV) report to DPIR.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
8	COP B.4.15.2(j)	Complete and accurate records of the entire decommissioning procedure must be kept, with these records submitted as part of the legislative reporting requirements for the decommissioning of petroleum wells.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
9	COP B.4.17.2(d)	Any guidelines published by the Northern Territory Government from time to time relating to reporting and data submission, and groundwater monitoring data standards must be followed.	Not Applicable	Activity has not commenced
10	COP C.3(e)	The components of the wastewater management framework, include: Monitor, manage and report in accordance with the Wastewater Management Plan and Spill Management Plan.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
11	COP C.6.1(d)	Wastewater tracking documentation must be reported to the Minister at least annually in	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced

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No#	Reference	Requirement	Compliance Status	Evidence
		accordance with the framework provided in the EMP.		
12	COP C.7.1(d)ii	Wastewater Management Plan must include a program for monitoring and reporting against the effectiveness of the measures for the mitigation of interaction with wildlife, stock and human receptors with wastewater.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
13	COP D.4.3.2(f)	A written report detailing the levels of methane measured, the duration of the unusual readings and the results of the investigation (including remedial actions) must be submitted within one month of the significantly higher-level methane event being detected.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
14	COP D.5.9.2(c)	Emissions from exploration, well construction (including during flowback) and workovers must be measured and reports submitted.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
15	COP D.5.9.3(a)	Where natural gas is vented or flared at a gas processing or other downstream facility, emissions must be estimated and reported.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
16	COP D.6.2(a)	Reports of baseline assessments must be submitted at the conclusion of each field campaign.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
17	COP D.6.2(b)	Emissions reporting must be in accordance with Section D.5.6. Emissions associated with venting and flaring as described in Section D.5.9 must be provided separately to the Northern Territory Government in accordance with this Code.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
18	Regulation 14	A current EMP remains in force until the interest holder notifies the	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced

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No#	Reference	Requirement	Compliance Status	Evidence
		Minister the activity is no longer being carried out and all of the environmental outcomes and obligations under the plan have been met, and the Minister advises the interest holder the notice is accepted and the plan ceases to be in force.		
19	Regulation 33	DEPWS is notified of reportable incidents within 2 hours of the interest holder becoming aware of the incident, or within 2 hours of the incident occurring. A written report must be provided within 24 hours if the initial report was made orally.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
20	Regulation34	Reports on reportable incidents are to be provided to DEPWS as soon as practicable and within 72 hours of the event occurring. A final report must be provided to DEPWS within 30 days after remediation/clean-up of the affected area.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
21	Regulation 35	A written report of all recordable incidents must be provided to DEPWS not later than 15 days after the 90-day reporting period (unless otherwise agreed).	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
22	Regulation 37A	A report about flowback fluid from hydraulic fracturing must be provided to the Minister within 6 months of the flowback occurring.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
23	Regulation 37B	A report about produced water from hydraulic fracturing must be provided to the Minister within 6 months of the produced water being extracted.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
24	Regulations, Schedule 1, item 9(2)	Interest holders are required to conduct future engagement with stakeholders, in	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced

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No#	Reference	Requirement	Compliance Status	Evidence
		accordance with the description in the EMP.		
25	Regulations, Schedule 1, item 12	Interest holder must notify the Minister, occupier of the land and owner of the land on which the activity is to be carried out before commencement of activity.	Not Applicable	<ul style="list-style-type: none"> Activity has not commenced
26	<i>Environment Protection Act 2019 (NT) div 8</i>	Duty to notify the NT EPA as soon as practicable but within 24 hours of any incident which occurs which causes or threatens to cause material or significant environmental harm	Not applicable	<ul style="list-style-type: none"> Activity has not commenced
27	<i>Waste Management and Pollution Control Act 1998 (NT) s 14</i>	Duty to notify the NT EPA as soon as practicable but within 24 hours of any incident which occurs which causes or threatens to cause pollution resulting in material or significant environmental harm	Not applicable	<ul style="list-style-type: none"> Activity has not commenced

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3. Summary of Compliance

3.1 Overview of Compliance

Table 6 provides a summary of the results of the compliance assessment against the relevant EMP.

Table 6 Beetaloo Basin Kyalla 117 N2 Multi-well EMP compliance summary

Compliance Indicator	Number	Percentage
Compliant	1	100%
Not Compliant	0	0%
Not Applicable	53	

3.2 Overview of Items Found Not Compliant

The following sections describe:

- the specific compliance requirements not met for the reporting period
- an analysis of the possible potential environmental harm or impact to environmental values resulting from non-compliance, using multiple lines of evidence
- a summary of the corrective actions already implemented, and further actions still required, as applicable, to ensure compliance is fully achieved in the future.

3.2.1 Ministerial Approval conditions

Not applicable: no non-compliances with Ministerial conditions were recorded.

3.2.2 Environmental Performance Standards

Not applicable: no non-compliances with environmental performance standards were recorded.

3.2.3 Regulatory Reporting

Not applicable: no non-compliances with regulatory reporting standards were recorded.

3.3 Application of Lessons Learned Across Origin's Onshore Interests

As the activities under the EMP have not commenced, no applicable lessons learnt have been generated.