



**Report**

## **Integrated Gas**

# **BEETALOO BASIN VELKERRI 76 CIVIL CONSTRUCTION**

## **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 Velkerri 76 S2 Civil Construction AEPR


## Document Details

Document title	Velkerri 76 S2 Civil construction Environmental Management Plan Annual Environmental Performance Report
EMPs Covered	Beetaloo Basin Velkerri 76 S2 Civil Construction Environmental Management Plan
Permit	EP 76
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
Operator details	Origin Energy B2 Pty Ltd ABN 42 105 431 525
Approved by	Tracey Boyes- General Management Beetaloo and Growth Assets
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Rev	Date	Reason for issue	Consolidator	Approver
0	18/12/2020	Issued for Approval	MK	TB

## 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	Tracey Boyes
Position	General Management Beetaloo and Growth Assets
Date	18/12/2020

# Beetaloo Basin Velkerri 76 S2 Civil Construction AEPR

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# Beetaloo Basin Velkerri 76 S2 Civil Construction AEPR

## 1. Introduction

The Petroleum (Environment) Regulations 2016 (NT) include a requirement<sup>1</sup> 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 (NT) 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 following the Beetaloo Basin Velkerri 76 S2 Civil Construction EMP approved 26/09/2019. The AEPR covers the reporting period of the 26/09/2019- 26/09/2020

### 1.1 Acronyms and abbreviations

**Table 1 summary of 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	The 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
PER	Petroleum (Environment) Regulations
WBIV	Well barrier integrity verification

### 1.2 Background

The regulated activities that have been assessed under this AEPR are those followed under the Beetaloo Basin Velkerri 76 S2 Civil Construction EMP. These include

- Construction of the Velkerri 76 S2 lease, camp and helicopter landing pad, including the drilling sump and cellar
- Use of the existing approved gravel pit 7

A timeline of the activities is provided in **Figure 1**. A Location of the regulated activities is provided in **Figure 2**.

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<sup>1</sup> Petroleum (Environment) Regulations 2016 (NT) sch 1, item 11.

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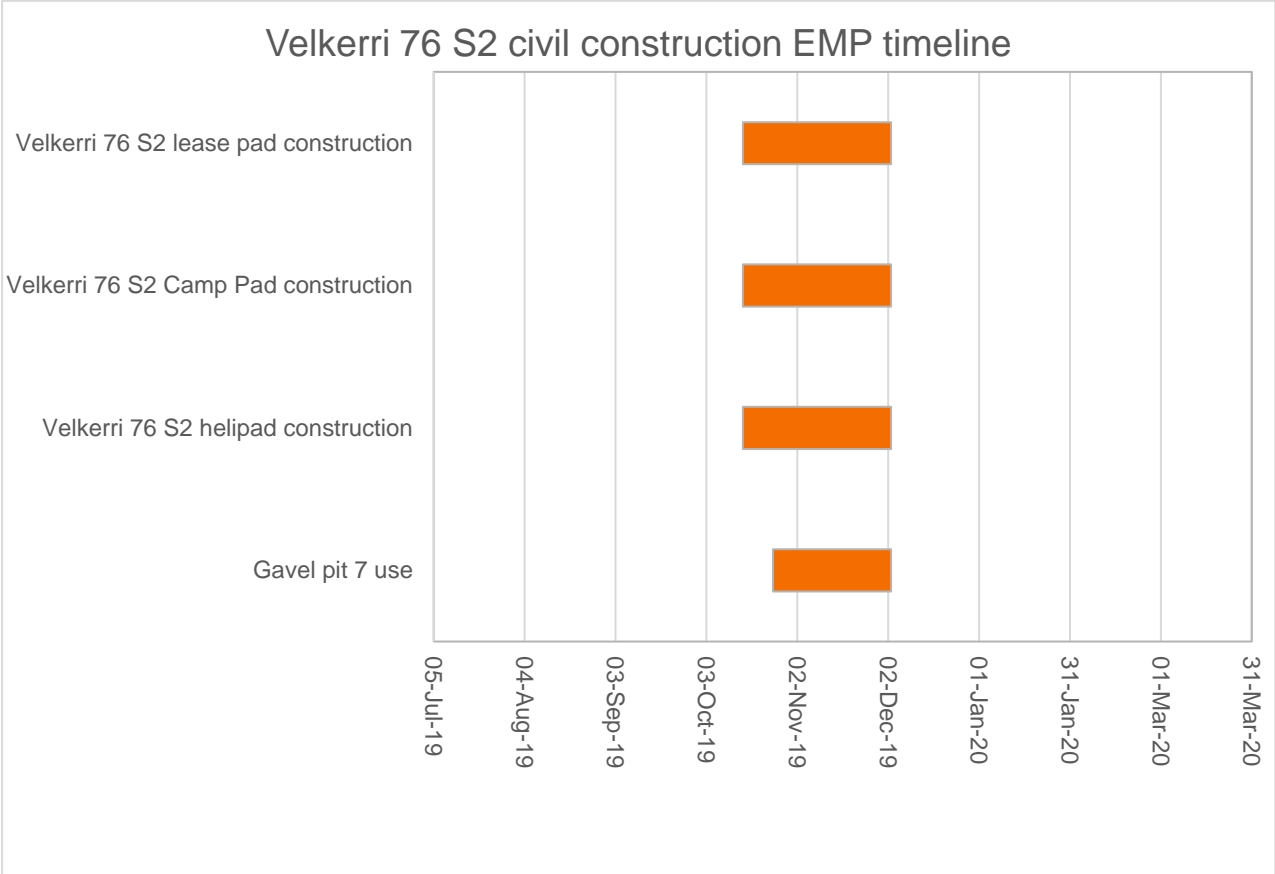


Figure 1 Gantt chart of activities completed under this AEPR

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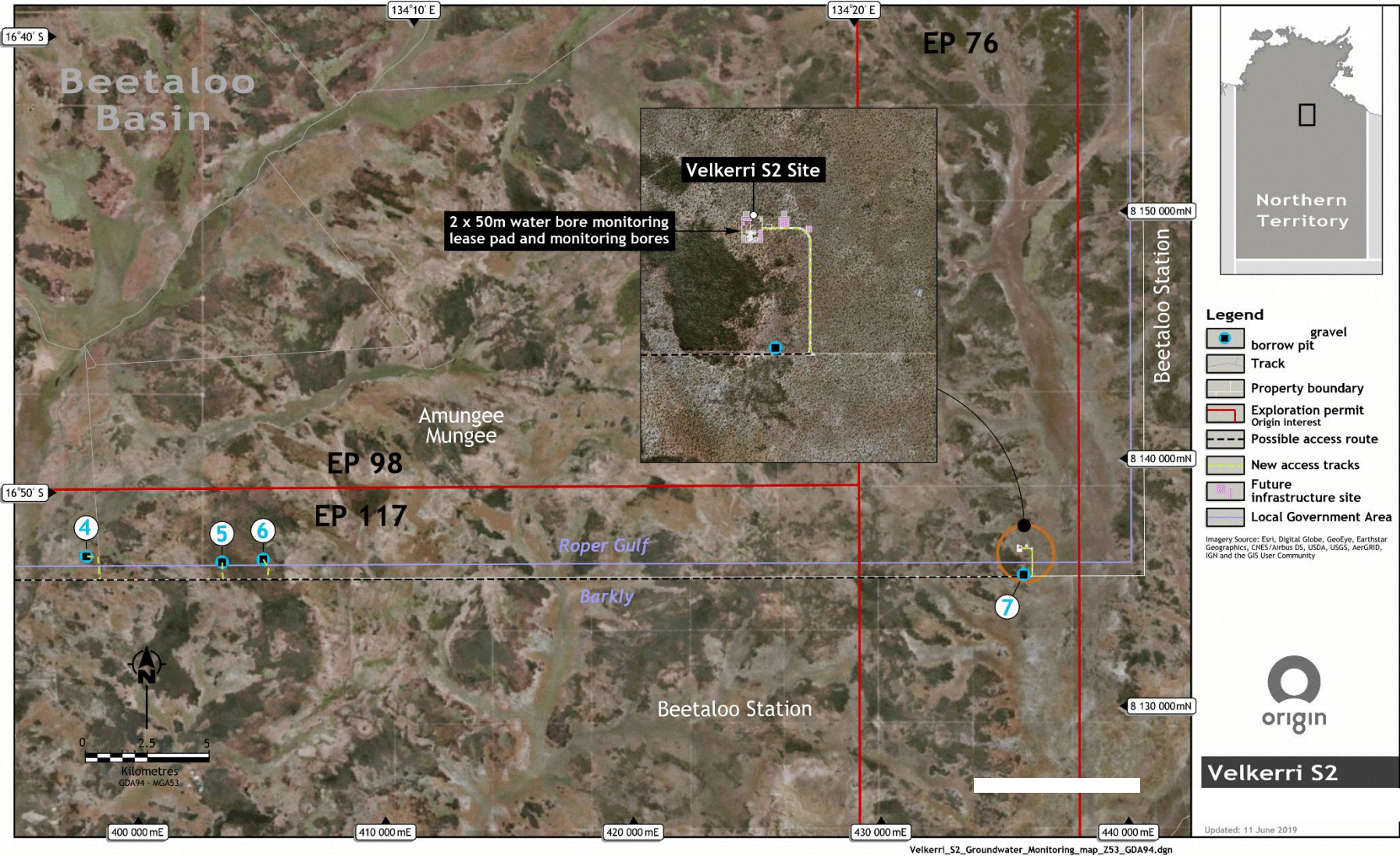


Figure 2 Beetaloo Velkerri 76 S2 Civil construction EMP location

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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 EMP's
3. compliance with reporting requirements in accordance with the Code and 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
Partially Compliant	Compliant with requirement for most of year, short periods of non-compliance
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 following sources of evidence are used to demonstrate compliance:

1. internal monitoring of compliance by Origin Energy through:
  - internal assurance audits, observations and incident reporting
  - Routine inspections, as committed to in the EMP/s, as follows:
    - i. Pre and post wet season weed inspections completed 22-25 October 2019 and 28 May 2020
    - ii. Weekly inspection and monitoring by site supervisors during operations
  - Internal formal annual audits of compliance, as follows:
    - i. Annual assurance of activities completed on 01 July 2020 by Environmental Approvals Lead
2. outcomes from regulatory inspection/s conducted by the Department of Environment, Parks and Water Security (DEPWS), Petroleum Operations
3. recordable and reportable incident reports submitted to DEPWS Petroleum Operations
4. reports provided to DEPWS, the Department of Industry, Tourism and Trade (DITT) and other government agencies.

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## 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
Beetaloo Basin Velkerri 76 S2 Civil Construction EMP			
1	The Interest holder must provide a report to the Department of Environment and Natural Resources (DENR) where there is a non-compliance of an approval condition within 48 hours of becoming aware of the non-compliance.	Compliant	The report regarding the partial non-compliance associated with monthly reports was submitted to DENR as a part of the Kyalla 117 N2 civil construction AEPR submitted on the 27 of November 2020.
2	The interest holder must submit to DENR, an updated timetable for the regulated activity prior to the commencement of the activity and provide an updated timetable to DENR each month for the duration of the activity.	Partially Compliant	Monthly reports were provided to DEPWS, in addition to a weekly project update meetings. One monthly report in October 2019 was not submitted. Activity reports were submitted on the following dates: <ul style="list-style-type: none"> <li>• 25/09/2020</li> <li>• 15/11/2019</li> <li>• 20/12/2019</li> <li>• 13/01/2020</li> <li>• 14/02/2020</li> <li>• 17/03/2020</li> <li>• 23/04/2020</li> <li>• 04/05/2020</li> <li>• 17/06/2020</li> <li>• 15/07/2020</li> </ul>
3	The interest holder must provide DENR within 3 months of completion of regulated activity: <ol style="list-style-type: none"> <li>i. High resolution satellite imagery of the civil disturbance area</li> <li>ii. Digital aerial photography or UAV imagery, ortho-rectified using ground control points measured using a differential GPS (DGPS) and spatial accuracy of approximately 1-2 metres.</li> <li>iii. A spatial assessment report on the disturbance footprint for the approved regulated activity.</li> </ol>	Compliant	The regulated activity is still underway with this condition not triggered.



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No	Ministerial condition	Compliance Status	Evidence
4	<p>The interest holder must provide DENR within 1 month of approval of this EMP, a geotechnical assessment report, developed by a suitably qualified geotechnical professional that:</p> <ul style="list-style-type: none"> <li>i. Includes result of 60cm soil cores, taken at three sites across the well pad area for analysis of particle size distribution</li> <li>ii. Assesses in-situ infiltration</li> <li>iii. Determines the amount of excavation and quantity of surface material that will be required to be stripped at the well pad to ensure a stable base</li> <li>iv. Determines stockpiling requirements of stripped material; and</li> <li>v. Determines the amount of suitable gravel required to build the well pad.</li> </ul>	Partially compliant	<p>Geotechnical report provided to DEPWS on the 3<sup>rd</sup> of December 2019.</p> <p>The report was unable to be developed in time due to the requirement to mobilise contractors, collect laboratory samples and prepare the report.</p> <p>DEPWS was informed of the delays periodically, however the request for extension was not formally lodged.</p>
5	<p>The Interest holder must develop in consultation with DEPWS a rehabilitation plan for each disturbed area appropriate to the nature and scale of the activity. At a minimum, the plan should include:</p> <ul style="list-style-type: none"> <li>i. final land use rehabilitation objectives and details of how rehabilitation objectives will be achieved</li> <li>ii. commitment to stakeholder engagement where relevant</li> <li>iii. implement progressive rehabilitation, with the borrow pits rehabilitated before the wet season, to avoid depressions, make them self-draining with topsoil and seeding for return of vegetation</li> <li>iv. continuation of rehabilitation and monitoring for three years after completion of activities or until demonstration that rehabilitation objectives have been met;</li> <li>v. monitoring and maintenance program for reinstated and rehabilitated areas, including rehabilitation criteria to be met</li> <li>vi. timetable for implementation.</li> </ul>	Compliant	<p>Draft rehabilitation plan developed and submitted to DEPWS on the 20/01/2020. Final plans submitted and accepted by DENR 12/06/2020,</p>

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## 2.2 Environmental outcomes and performance standards

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

**Table 4 Environmental outcome and performance standard compliance summary**

NO#	Environmental outcomes	Environmental Performance Standard	Compliance	Evidence
<b>Beetaloo Basin Velkerri 76 S2 Civil Construction EMP</b>				
1	<ul style="list-style-type: none"> <li>Avoid, minimise and control, soil erosion and discharge of sediment or soil into Outcomes: waterways or established drainage systems</li> <li>Minimise disturbance of soil, vegetation and drainage during site activities</li> <li>Minimise the creation of dust.</li> </ul>	<ul style="list-style-type: none"> <li>Vegetation clearing &lt;7.4</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Actual land clearance of 7.09ha confirmed via site surveying</li> <li>GIS surveyed data of disturbance submitted to DEPWS 07/09/2020</li> </ul>
2		<ul style="list-style-type: none"> <li>No incidences of contamination and erosion and sedimentation that result in material environmental harm</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No incidences of erosion or soil contamination causing environmental harm recorded in Origin’s incident management system</li> <li>Periodic maintenance completed, evidenced through maintenance reports</li> <li>Routine and annual assurances completed confirming no material harm caused by erosion or soil contamination observed</li> </ul>
3	<ul style="list-style-type: none"> <li>Avoid and or minimise and control any potential contamination caused by the discharge of sediment to waterways or established drainage systems.</li> </ul>	<ul style="list-style-type: none"> <li>No use of surface water.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No surface water has been taken to support civil construction activities.</li> </ul>
4		<ul style="list-style-type: none"> <li>No release of fuel, oils or sediment into watercourses.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No incidents of spills or releases of fuels, oils or sediment into watercourses recorded in Origin’s incident management system.</li> </ul>

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NO#	Environmental outcomes	Environmental Performance Standard	Compliance	Evidence
5	<ul style="list-style-type: none"> <li>Contain all potential contaminants for treatment or disposal.</li> <li>Minimise the impacts on surface water drainage by preserving drainage system integrity and water quality.</li> <li>Maintain the natural flow regime of the area to avoid pooling or diversion of water away from wetlands.</li> </ul>	<ul style="list-style-type: none"> <li>No spills causing material harm.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No spill incidents have occurred that have caused material environmental harm</li> </ul>
6	<ul style="list-style-type: none"> <li>To manage exploration activities to prevent over-extraction of groundwater.</li> <li>Preserve groundwater quantity for potable and stock supplies</li> </ul>	<ul style="list-style-type: none"> <li>No drawdown &gt;1m standing water level decline due to Origin's activities.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Groundwater level has remained constant confirmed through quarterly groundwater monitoring</li> </ul>
7		<ul style="list-style-type: none"> <li>Monitoring completed as per Section 4.9</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Groundwater monitoring data provided to DEPWS on                             <ul style="list-style-type: none"> <li>15/08/2019</li> <li>15/11/2019</li> <li>24/01/2020</li> <li>30/04/2020</li> <li>08/06/2020</li> <li>25/09/2020</li> </ul> </li> </ul>
8		<ul style="list-style-type: none"> <li>Groundwater take less than the approved 20ML</li> </ul>	Partial compliance	<ul style="list-style-type: none"> <li>Approximately 24 ML was utilised for civil construction activities as verified by the flow meter.</li> <li>Volumes were below the Water Extraction Licence limit</li> <li>Quarterly groundwater volume usage reports submitted to DEPWS water resources</li> </ul>

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N0#	Environmental outcomes	Environmental Performance Standard	Compliance	Evidence
9	<ul style="list-style-type: none"> <li>Minimise disturbance to flora and fauna.</li> <li>Minimise disturbance to sensitive areas.</li> </ul>	<ul style="list-style-type: none"> <li>Vegetation clearing &lt;7.4</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Actual land clearance of 7.09ha confirmed via site surveying</li> <li>GIS surveyed data of disturbance submitted to DEPWS 07/09/2020</li> </ul>
10		<ul style="list-style-type: none"> <li>No native fauna impacts (injury or fatality) reported in OCIS during civil and drilling and stimulation related activities</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No native fauna impacts reported associated with civil construction activities as evidenced in Origins incident management system.</li> </ul>
11	<ul style="list-style-type: none"> <li>Avoid the introduction of weeds.</li> <li>Avoid the spread of existing weeds.</li> </ul>	<ul style="list-style-type: none"> <li>No introduction or spread of declared weeds resulting from Origins activities.</li> </ul>	Partially compliant	<ul style="list-style-type: none"> <li>Weed surveys identified the presence of several Hyptus plants (class B weed) introduced to the Velkerri 76 S2 site. These plants were removed, with ongoing treatment to occur every 6 months.</li> </ul>
12		<ul style="list-style-type: none"> <li>Six-monthly weed inspections completed.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>6 monthly weed inspections completed on the 22-25 October 2019 and 28 May 2020</li> </ul>
13	<ul style="list-style-type: none"> <li>Minimise impacts on soil, surface water, groundwater, sensitive habitat and air Outcomes quality.</li> </ul>	<ul style="list-style-type: none"> <li>Waste registers maintained for the duration of the project.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Waste data provided by contractors as a part of their monthly HSE reports to Origin</li> </ul>
14	<ul style="list-style-type: none"> <li>Minimise creation of food sources or habitat for pest species.</li> <li>Minimise waste generation through reduce, reuse, recycle programs</li> </ul>	<ul style="list-style-type: none"> <li>Waste transport certificates available for all wastes generated</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Limited listed waste generated from civil construction activities, with all major servicing completed offsite.</li> <li>Waste transport certificates retained by contractors where listed waste is transferred.</li> <li>Evidence of landfill receipts retained.</li> </ul>
15	<ul style="list-style-type: none"> <li>Minimise environmental nuisance at sensitive receptors.</li> <li>Minimise greenhouse gas emissions.</li> </ul>	<ul style="list-style-type: none"> <li>No complaints received for dust/air quality nuisance</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No complaints received during civil construction activities, as evidenced by no incidents recorded in Origin's incident management system</li> <li>Dust suppression in use as evidenced in daily construction reports</li> </ul>
16		<ul style="list-style-type: none"> <li>All complaints responded to and closed out</li> </ul>	Not Applicable	<ul style="list-style-type: none"> <li>N/A- no complaints recorded in Origin's incident management system.</li> </ul>

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NO#	Environmental outcomes	Environmental Performance Standard	Compliance	Evidence
17	<ul style="list-style-type: none"> <li>Manage activities in accordance with occupational health and safety guidelines for Outcomes noise, vibration and light exposure</li> <li>Minimise nuisance noise and vibration impacts on surrounding communities or exploration workers</li> </ul>	<ul style="list-style-type: none"> <li>No valid nuisance-related complaints received from local communities/pastoralists.</li> <li>All complaints responded to and, where appropriate, corrective action taken</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>N/A- no valid complaints recorded in Origin's incident management system.</li> </ul>
18	<ul style="list-style-type: none"> <li>Minimise disruption to fauna and stock.</li> </ul>	<ul style="list-style-type: none"> <li>Amicable resolution of complaints</li> </ul>	Not Applicable	<ul style="list-style-type: none"> <li>No pastoralist complaints recorded during activity as evidenced by no incidents recorded in Origin's incident management system.</li> </ul>
19	<ul style="list-style-type: none"> <li>Minimise the risk of causing bushfires from Origin's activities. Outcomes</li> <li>Minimise impacts on environmental habitat and fauna, soil erosion, impacts on stakeholders, impacts on culturally significant sites, public infrastructure and community lands.</li> <li>Ensure proper health and safety plan for activities.</li> <li>Prevent accidental fire risk and ensure safe storage of chemicals to prevent fire damage.</li> <li>Minimise the risk of causing bushfires from Origin's activities. Outcomes</li> <li>Minimise impacts on environmental habitat and fauna, soil erosion, impacts on stakeholders, impacts on culturally significant sites, public infrastructure and community lands.</li> <li>Ensure proper health and safety plan for activities.</li> <li>Prevent accidental fire risk and ensure safe storage of chemicals to prevent fire damage.</li> </ul>	<ul style="list-style-type: none"> <li>No (0) uncontrolled fires occurring as a result of civil works.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No Bushfires recorded during civil construction activities as evidenced by no incidents recorded in Origin's incident management system.</li> <li>Annual fire report submitted to DEPWS on 20/11/2020 indicates no increase in fire frequency during reporting period.</li> </ul>

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NO#	Environmental outcomes	Environmental Performance Standard	Compliance	Evidence
20	<ul style="list-style-type: none"> <li>Avoid disturbance or damage to Aboriginal cultural heritage artefacts or sacred Outcomes sites.</li> <li>Minimise impacts and disruption to activities of Indigenous stakeholders in culturally significant areas.</li> <li>Ensure adequate background information and training is provided to employees and contractors working in culturally significant areas.</li> <li>Ensure that the health and safety of employees, contractors and the community is not compromised through management of cultural and environmental awareness.</li> </ul>	<ul style="list-style-type: none"> <li>No (0) unauthorised activities within or access to a Restricted Work Area.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No unauthorised access to AAPA restricted areas as evidenced by no incidents within Origin's incident management system.</li> </ul>
21	<ul style="list-style-type: none"> <li>Minimise impacts on the local community and services.</li> <li>Minimise safety risks to the public and other third-parties.</li> <li>Maintain and enhance partnerships with the local community, including using local contractors and maximising opportunities for local employment and training.</li> <li>Minimise reduction in the capacity of road infrastructure</li> <li>Minimise safety risks to the tourists and other road users</li> <li>Maintain the level of surface for the Stuart Highway in the vicinity of activities</li> </ul>	<ul style="list-style-type: none"> <li>Local (NT) employment used for &gt;90% for the civil campaign</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Civil construction activities completed by a local NT business (Arnhem Earth Moving)</li> </ul>
22		<ul style="list-style-type: none"> <li>All complaints are responded to and closed out</li> </ul>	Not Applicable	<ul style="list-style-type: none"> <li>No complaints received as evidenced by no incidents within Origin's incident management system.</li> </ul>
23		<ul style="list-style-type: none"> <li>Zero traffic incidents associated with project traffic</li> </ul>	Complaints	<ul style="list-style-type: none"> <li>Zero traffic incidents observed, as evidenced by no incidents within Origin's incident management system.</li> </ul>

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## 2.3 Mandatory reporting requirements

Table 5 demonstrates Origin Energy's compliance with reporting requirements in the Code of Practice: Onshore Petroleum Activities in the Northern Territory (Code of Practice) and interest holder's compliance with reporting requirements under the Petroleum (Environment) Regulations 2016 (NT) schedule 1, item 11(2), which requires all information required to be recorded, monitored or reported has been provided. Where relevant, Origin Energy has also confirmed that all records, monitoring or required reporting under the Petroleum (Environment) Regulations 2016 (NT)<sup>2</sup> has 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.	Compliant	GIS surveyed data of disturbance submitted to DEPWS 07/09/2020. Please note the final survey data will be submitted upon completion of the outstanding civil construction activities planning for 2021.
2	COP A.3.6 (b)	Weed management plan developed as part of the EMP must provide for ongoing weed monitoring.	Compliant	<ul style="list-style-type: none"> <li>Weed management plan developed, with 6 monthly weed monitoring completed.</li> <li>Weed management plan submitted to DEPWS 15/11/2018</li> <li>Annual weed monitoring report submitted to DEPWS on 20/01/2020</li> </ul>
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.	Compliant	<ul style="list-style-type: none"> <li>Fire management plan implemented.</li> <li>Annual fire mapping has been provided to DEPWS on the 20/11/2020</li> </ul>
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	Compliant	<ul style="list-style-type: none"> <li>The rehabilitation requirements are not applicable as all sites remain operational, with rehabilitation activities not undertaken to date.</li> </ul>

<sup>2</sup> Petroleum (Environment) Regulations 2016 (NT) sch 1, item 11(2).

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		the land. It also requires regular maintenance and annual monitoring of rehabilitated areas.		
5	COP B.4.13.2(c)	<p>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):</p> <p>a) total volume of hydraulic fracturing fluid pumped,</p> <p>b) quality of water used (tested for analytes in section C.8 of this Code. Analyses do not need to be repeated if the same water source is used for multiple stages) and</p> <p>typical and maximum concentrations of chemicals or other substances used.</p>	Not Applicable	<ul style="list-style-type: none"> <li>Not Applicable as no exploration well drilling, hydraulic fracturing or well testing activities were completed under this approval</li> </ul>
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"> <li>Not Applicable as no exploration well drilling, hydraulic fracturing or well testing activities were completed under this approval</li> </ul>
7	COP B.4.14.2(c)	All new barriers or new well operating envelopes must be verified and	Not Applicable	<ul style="list-style-type: none"> <li>Not Applicable as no exploration well drilling, hydraulic fracturing or well testing activities were completed under this approval</li> </ul>



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		clearly documented and reported by submission of an updated well barrier integrity validation (WBIV) report to DPIR.		
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"> <li>Not Applicable as no exploration well drilling, hydraulic fracturing or well testing activities were completed under this approval</li> </ul>
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.	Compliant	<ul style="list-style-type: none"> <li>All water monitoring bore completion reports have been submitted to DEPWS, including initial water quality data post completion.</li> <li>Groundwater monitoring has been completed in accordance with the Preliminary guidelines for groundwater monitoring bore for exploration petroleum wells in the Beetaloo sub-basin</li> <li>Groundwater monitoring data provided to DEPWS on               <ul style="list-style-type: none"> <li>15/08/2019</li> <li>15/11/2019</li> <li>24/01/2020</li> <li>30/04/2020</li> <li>08/06/2020</li> </ul> </li> </ul>
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"> <li>Not Applicable as no exploration well drilling, hydraulic fracturing or well testing activities were completed under this approval</li> </ul>

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11	COP C.6.1(d)	Wastewater tracking documentation must be reported to the Minister at least annually in accordance with the framework provided in the EMP.	Not Applicable	<ul style="list-style-type: none"> <li>Not Applicable as no exploration well drilling, hydraulic fracturing or well testing activities were completed under this approval</li> </ul>
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"> <li>Not Applicable as no exploration well drilling, hydraulic fracturing or well testing activities were completed under this approval</li> </ul>
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"> <li>Not Applicable to the scope of the AEPR- this condition is associated with a larger field development program.</li> </ul>
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"> <li>Not Applicable to the scope of the AEPR as no hydraulic fracture stimulation or well testing activities completed.</li> </ul>
15	COP D.5.9.3(a)	Where natural gas is vented or flared at a gas processing or other downstream facility,	Not Applicable	<ul style="list-style-type: none"> <li>Not Applicable to the scope of the AEPR as no hydraulic fracture stimulation or well testing activities completed.</li> </ul>

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		emissions must be estimated and reported.		
17	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"> <li>Not Applicable to the scope of the AEPR. CSIRO completed baseline assessments through DITT.</li> </ul>
18	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"> <li>Emission reporting, as per section 5.6 will be provided in the subsequent AEPR as no hydraulic fracturing or well testing activities were completed in the reporting period.</li> </ul>
19	PER Reg 14	A current EMP remains in force until the interest holder notifies the 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.	Compliant	<ul style="list-style-type: none"> <li>The EMP is still in force and have approximately 3.5 years remaining before the next review.</li> </ul>
20	PER Reg 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.	Compliant	<ul style="list-style-type: none"> <li>No reportable incidents have been recorded.</li> </ul>

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		A written report must be provided within 24 hours if the initial report was made orally.		
21	PER Reg 34	<p>Reports on reportable incidents are to be provided to DEPWS as soon as practicable and within 72 hours of the event occurring.</p> <p>A final report must be provided to DEPWS within 30 days after remediation/clean-up of the affected area.</p>	Compliant	No reportable incidents have been recorded.
22	PER Reg 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).	Partial compliance	<p>Quarterly recordable incidents reports were provided as follows:</p> <ul style="list-style-type: none"> <li>Q4 2019 No recordable incidents occurred during reporting period and no written report provided. Incident discussions were included in weekly operations meeting with DEPWS.</li> <li>Q1 2020 report provided 17/03/2020, with recordable incident summary provided in the monthly report</li> <li>Q2 2020 report provided 17/06/2020</li> <li>Q3 2020 report provided 15/09/2020</li> </ul>
23	PER Reg 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"> <li>Not Applicable as no exploration well drilling, hydraulic fracturing or well testing activities were completed under this approval</li> </ul>
24	PER Reg 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"> <li>Not Applicable as no exploration well drilling, hydraulic fracturing or well testing activities were completed under this approval</li> </ul>

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25	PER Schedule 1, item 9(2)	Interest holders are required to conduct future engagement with stakeholders, in accordance with the description in the EMP.	Compliant	<ul style="list-style-type: none"> <li>Land access agreements are in place covering all current and future activities.</li> <li>Stakeholder engagement with immediately affected parties is ongoing, with the frequency of the engagement dependent on the level of activity being completed onsite at a given point of time</li> </ul>
26	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.	Compliant	<p>Persons were notified as follows:</p> <ul style="list-style-type: none"> <li>Minister – 11/07/2019</li> <li>Pastoralist- Amungee Mungee Station - 11/07/2019- Via email and telephone</li> </ul>
27	Environment Protection Act 2019 (NT) div 8	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	Compliant	<ul style="list-style-type: none"> <li>No incidents which could cause or threaten to cause material or significant environmental harm occurred during reporting period.</li> </ul>
28	Waste Management and Pollution Control Act 1998 (NT) s 14	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	Compliant	<ul style="list-style-type: none"> <li>No incidents which could cause or threaten to cause material or significant environmental harm occurred during reporting period.</li> </ul>

# Beetaloo Basin Velkerri 76 S2 Civil Construction AEPR

## 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's.

**Table 6 Velkerri 76 S2 civil construction EMP compliance summary**

Compliance Indicator	Number	Percentage
Compliant	35	61%
Partially Compliant	5	9%
Not Compliant	0	0%
Not Applicable	17	30%

### 3.2 Overview of Items Found Not Compliant or Partially 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 or partial 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

##### 3.2.1.1 Description

Two partial non-compliances with Ministerial conditions were observed during the reporting period. Both were considered administrative in nature.

- The October 2019 monthly written activity report was not submitted to DEPWS. Origin had verbally informed DEPWS of their activities, however this was not in written form as per the condition.
- The geotechnical report provided to DEPWS was outside of the 30 day time period. DEPWS was engaged about the potential delays associated with this report, however a time extension was not formalised meaning a partial non-compliance with this condition.

##### 3.2.1.2 Analysis of Potential environmental harm or Impact

Both incidents are considered administrative in nature and did not result in any actual or potential environmental harm.

##### 3.2.1.3 Corrective Actions

Origin has rolled out a new compliance management system (CMS) which will capture all ongoing compliance obligations. The monthly reports and deliverables associated with ministerial conditions have been added to the CMS and are tracked. Where a condition cannot be met in the required timeframe a formal extension will be requested.

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## 3.2.2 Environmental Performance Standards

### 3.2.2.1 Description

Two partial non-compliance with an environmental performance standard was recorded during the reporting period. These include:

- Introduction of several Hyptus plants on the Velkerri 76 S2 camp site: These plants were removed, with ongoing treatment to occur every 6 months.
- Water take was recorded at 24ML, above the estimated 20ML for civil construction activities. The water use level was within the Water Extraction Licence approved limit.

### 3.2.2.2 Analysis of Potential environmental harm or Impact

The potential environmental harm and impact from both incidents are considered low. A summary of each is provided below:

- **Introduction of several Hyptus plants on the Velkerri 76 S2 camp site:** The potential impact is considered low as weed species were restricted to the disturbed area and promptly removed. It is possible that the weeds were relocated on equipment used to grade the existing property access track. Ongoing monitoring and treatment will be applied every 6 months prevent the weeds from establishing and spreading at the site.
- **Water take was recorded at 24ML:** Water use for the Velkerri 76 S2 civil program was above the estimated volume within the EMP. The level was below the WEL limit, meaning this is an administration type non-compliance. No environmental harm or impact is anticipated, which is confirmed through groundwater monitoring at the extraction point.

### 3.2.2.3 Corrective Actions

The following corrective actions have been implemented:

- **Introduction of several Hyptus plants on the Velkerri 76 S2 camp site:** It is considered that the existing controls were effective, with introduced weeds promptly identified and removed. Controls implemented included selection of equipment from NT suppliers, routine washdowns/blowdowns, equipment inspections for seed bearing material and certification prior to mobilising to site and routine weed inspections and treatment.
- **Water take was recorded at 24ML:** To prevent the incident from re-occurring, the performance measure will be set at the WEL limit. This will ensure the approved levels in the EMP and WEL are consistent.

## 3.2.3 Regulatory Reporting

### 3.2.3.1 Description

A partial non-compliance with the PER regulation 35 occurred during the reporting period, with recordable incident reports not submitted in Q4 2019.

### 3.2.3.2 Analysis of Potential environmental harm or Impact

No potential environmental harm or impact, with this partial non-compliance being of administrative nature. Recordable incident reports were provided when recordable incidents had occurred.

### 3.2.3.3 Corrective Actions

The quarterly recordable incident reports will be prepared quarterly, with a task added to the compliance management system to track the delivery of recordable incident summary reports.

## 3.3 Application of Lessons Learned Across Origin's Onshore Interests

In addition to the corrective actions discussed in section 2.2 of this report, the following additional lessons learnt have been imported into Origin's forward exploration program:

- Contractors are providing routine waste tracking data, however waste certificates were only sent to Origin upon request. This has made demonstrating compliance with waste tracking requirements difficult, as there is sometimes a long period between Origin requests and receiving the required evidence. Origin is working with its service providers to collect waste tracking and disposal certificates as they are generated. This will allow Origin to access information more readily to demonstrate compliance