

Annual Environmental Performance Report 2022

McArthur Basin Hydraulic Fracturing Program EP 161

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Permit	EP 161
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Date approved	23 December 2022

Signature and Certification

I/We 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.

Asset/Project Approval


Signature	
Name (print)	Matt Densley
Position	General Manager New Ventures
Date	23 December 2022

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Abbreviations and Units

Acronym / Abbreviation	Description
AEPR	Annual Environmental Performance Report
ALARP	As low as reasonably practicable
Code	Code of Practice
DEPWS	Department of Environment, Parks and Water Security
DITT	Department of Industry, Tourism and Trade
EMP	Environmental Management Plan
EP	Exploration Permit
NT	Northern Territory
NT EPA	Northern Territory Environmental Protection Authority
Regulations	Petroleum (Environment) Regulations 2016

1.0 Introduction

The *Petroleum (Environment) Regulations 2016* (Regulations) include a requirement for the interest holder to provide a report to the Minister on an annual basis that outlines the environmental performance of the interest holder (the Annual Environment Performance Report).

Consistent with this Condition 2 of the McArthur Basin Hydraulic Fracturing Program EP 161 EMP STO3-8:

The interest holder must provide an annual report to DEPWS, via Onshoregas.DEPWS@nt.gov.au, on its environmental performance, in accordance with item 11(1)(b) in schedule 1 of the *Petroleum (Environment) Regulations 2016* (NT):

- i. the first report must cover the 12 month period from the date of the approval, and be provided within 3 calendar months of the end of the reporting period.
- ii. the annual environment performance report must align with the template and Guideline prepared by DEPWS for this purpose and be provided each year until such time a notification is made to the Minister under regulation 14 that the activity is complete, or until the EMP is revised and re-approved.

The report 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 EMP. The report is to consider information required to be recorded, monitored or reported under the Regulations and any other law in force in the Northern Territory related to conduct of the regulated activity.

This Annual Environmental Performance Report (AEPR) applies to the McArthur Basin Hydraulic Fracturing Program EMP STO 3-8 that was approved on 6 October 2021. The period covered by this AEPR is from 6 October 2021 until 5 October 2022.

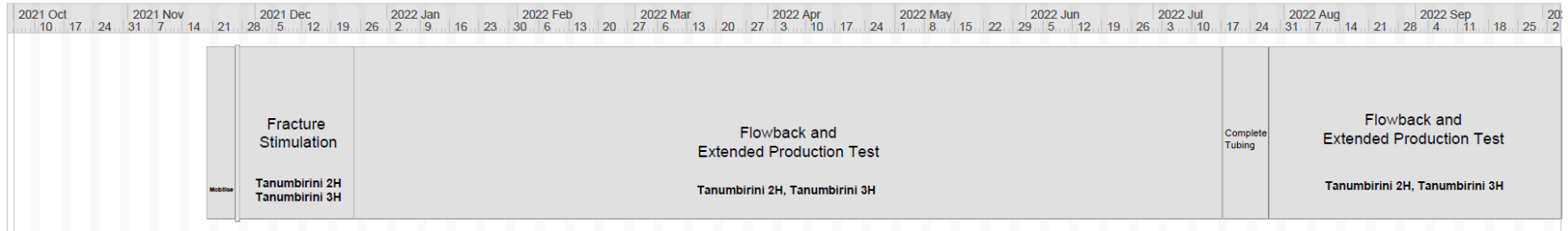


Figure 1 Timing of Regulated Activities Conducted During the Reporting Period

1.1 Background

Santos QNT Pty Ltd (Santos) submitted the *McArthur Basin Hydraulic Fracturing Program EP 161 EMP (STO3-8)* (EMP 2021) under the *Petroleum (Environment) Regulations 2016* that came into force 11 June 2019. EMP 2021 was submitted for Tanumbirini (Tanumbirini 1 (previously commenced), Tanumbirini 2H and Tanumbirini-3H), and the Inacumba (Inacumba-1/1H, Inacumba-2H) locations.

- Fracture stimulation preparation activities including cement bond logging, drifting and pressure testing
- Fracture stimulation and evaluation
- Pressure monitoring
- Flowback fluid recovery and well testing
- Installing appraisal (production) testing tubing
- Well appraisal testing

EMP 2021 was approved on 6 October 2021 for the Tanumbirini location only. This AEPR has been prepared to report on regulated activities that have occurred under EMP 2021 between 6 October 2021 and 5 October 2022.

1.2 Contents of Performance Report

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

1. Compliance with Ministerial approval conditions for the EMP.
2. Compliance with each environmental outcome and environmental performance standard within the approved EMP.
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.

1.3 Assessment of Compliance

Table 1 shows the compliance status indicators used in this AEPR.

Table 1 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

1.4 Evidence of Compliance

The following sources of evidence are used to demonstrate compliance:

1. Internal monitoring of compliance by Santos through internal audits of compliance and reporting including incident reporting.
2. Outcomes from regulatory inspections 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.

2.0 Demonstration of Compliance

Table 2 demonstrates Santos' compliance with Ministerial EMP approval conditions.

Table 2 Compliance with Ministerial EMP Approval Conditions

No	Ministerial Condition	Compliance Status	Evidence
1	<p>Condition 1: The interest holder must submit to the Department of Environment, Parks and Water Security (DEPWS), via Onshoregas.DEPWS@nt.gov.au the following:</p> <ul style="list-style-type: none"> i. an updated timetable for the regulated activity that is to be provided on the last day of each quarter (being 31 March, 30 June, 30 September and 31 December each year), that identifies activities completed in the current quarter. ii. notification of the commencement of hydraulic fracturing activities prior to commencement including notification of the installed enclosed wastewater tank volumes at Tanumbirini and Inacumba well sites. iii. during hydraulic fracturing, flowback and if wastewater is present in tanks, weekly reports indicating: <ul style="list-style-type: none"> • status and progress of hydraulic fracturing • weekly measurement of stored volume (in ML) and freeboard available (in cm) of wastewater storage tanks, unless operated in the wet season, during which it must be measured and reported daily 	Compliant	<ul style="list-style-type: none"> i. Timetables were provided to DEPWS <ul style="list-style-type: none"> Q4 2021 - 23 December 2021 Q1 2022 – 29 March 2022 Q2 2022 – 30 June 2022 Q3 2022 – 30 September 2022 Q4 2022 – 22 December 2022 ii. Notification with the required information was provided to DEPWS on 11 October 2021 iii. Daily and weekly reports with the required information were provided to DEPWS throughout the reporting period.

No	Ministerial Condition	Compliance Status	Evidence
	<ul style="list-style-type: none"> the outcome of general site inspections relevant to hydraulic fracturing and waste, and corrective actions taken. any halt to the regulated activity due to wet season conditions any fires potentially threatening the activity from external or internal sources. 		
2	<p>Condition 2: The interest holder must provide an annual report to DEPWS, via Onshoregas.DEPWS@nt.gov.au, on its environmental performance, in accordance with item 11(1)(b) in schedule 1 of the Petroleum (Environment) Regulations 2016 (NT):</p> <ul style="list-style-type: none"> i. the first report must cover the 12 month period from the date of the approval, and be provided within 3 calendar months of the end of the reporting period. ii. the annual environment performance report must align with the template and Guideline prepared by DEPWS for this purpose and be provided each year until such time a notification is made to the Minister under regulation 14 that the activity is complete, or until the EMP is revised and re-approved. 	Compliant	This Annual Environmental Performance Report.
3	<p>Condition 3: In support of clause D.6.2 of the Code of Practice: Onshore Petroleum Activities in the Northern Territory, 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.4 The emissions report should include:</p> <ul style="list-style-type: none"> i. a summary of regulated activities conducted which have contributed to greenhouse gas emissions 	Compliant	The emissions report was provided to DEPWS on 30 September 2022.

No	Ministerial Condition	Compliance Status	Evidence
	ii. explanation of differences between actual and predicted emissions with reference to all parts of the regulated activity with potential to create greenhouse gas emissions.		
4	<p>To support clause C.7.2 of the Code of Practice: Onshore Petroleum Activities in the Northern Territory, all accidental releases of liquid contaminant or hazardous chemical must be recorded in a spill register as soon as practicable. The spill register and geospatial files specifying the location of the spill must be submitted to DEPWS via Onshoregas.DEPWS@nt.gov.au with the Annual Environment Performance Report each year while the EMP is in force. The register must include:</p> <ul style="list-style-type: none"> i. the location source and volume of the spill ii. volume of impacted soil removed for appropriate disposal and the depth of any associated excavation iii. the corrective actions taken or proposed to be taken to prevent recurrence of an incident of a similar nature iv. GPS coordinates of the location of the spill. 	Compliant	The spill register is attached at Appendix 1 of this AEPR. The spatial data provided as a separate file.
5	<p>Condition 5: In support of clause 8.4.17.2 of the Code of Practice: Onshore Petroleum Activities in the Northern Territory, the interest holder must:</p> <ul style="list-style-type: none"> i. undertake quarterly groundwater monitoring at each control and impact monitoring bore for a minimum of three years after establishment, unless otherwise advised by DEPWS. ii. provide to DEPWS, via Onshoregas.DEPWS@nt.gov.au, the results of quarterly groundwater monitoring, as soon as practicable and no later than 2 months after collection, in a format to be determined by DEPWS. iii. provide to DEPWS, via Onshoregas.DEPWS@nt.gov.au, an interpretative report of groundwater quality based on the groundwater monitoring required to be conducted at the well site(s) in accordance with Table 6 of the Code. The interpretative report must be provided annually within 3 months of the anniversary of the approval date of the EMP and include: 	Compliant	<ul style="list-style-type: none"> i. and ii. Groundwater monitoring was provided to DEPWS on the following dates: <ul style="list-style-type: none"> 1 November 2021 14 January 2022 1 July 2022 21 September 2022 29 November 2022 iii. N/A iv. N/A

No	Ministerial Condition	Compliance Status	Evidence
	<ul style="list-style-type: none"> • identification of any change to groundwater quality or level attributable to conduct of the regulated activity at the well site(s) and discussion of the significance and cause of any such observed change • interpretation of any statistical outliers observed from baseline measured values for each of the analytes • discussion of any trends observed • a summary of the results including descriptive statistics • description of the layout of the groundwater monitoring bores and wells, indicative groundwater flow directions and levels in accordance with the <i>Preliminary Guideline Groundwater Monitoring Bores for Exploration Petroleum Wells in the Beetaloo Sub-basin</i>. <p>iv. develop site-specific performance standards for groundwater quality and interquartile ranges for analytes at each of the impact monitoring bore established, based on the first 3 years of groundwater monitoring, and provide to DEPWS, via Onshoregas.DEPWS@nt.gov.au within 6 months of the 3 year anniversary of approval of the EMP.</p>		
6	<p>Condition 6: In support of clause 16 of the Water Act 1992 (NT) and clause B.4.2 of the Code of Practice: Onshore Petroleum Activities in the Northern Territory, the interest holder must undertake groundwater level/pressure monitoring at each impact monitoring bore established, using a logger to record water level for 2 weeks prior to, during, and 4 weeks after completion of hydraulic fracturing operations at each well pad. Data logging should record at a minimum of every 4 minutes for the duration of the recording period. The logging data should be provided to DEPWS via Onshoregas.DEPWS@nt.gov.au within 2 weeks of completion of groundwater level monitoring in each impact monitoring bore.</p>	Compliant	The groundwater level/pressure data was provided to DEPWS on 31 January 2022.
7	<p>The interest holder must provide to DEPWS within 6 weeks of completion of well flowback operations at each new</p>	Compliant	The risk assessment was provided to DEPWS on 20 June 2022.

No	Ministerial Condition	Compliance Status	Evidence
	<p>exploration well established under the EMP a report on the risk assessment of flowback wastewater from the hydraulic fracturing phase, via Onshoregas.DEPWS@nt.gov.au. The risk assessment must be:</p> <ul style="list-style-type: none"> i. prepared by a suitably qualified person ii. prepared in accordance with the monitoring wastewater analytes specified in section C.8 of the Code of Practice: Onshore Petroleum Activities in the Northern Territory. 		
8	The interest holder must provide fortnightly, via Onshoregas.DEPWS@nt.gov.au, forecast weather and forecast bushfire danger for the duration of the regulated activity.	Compliant	Forecasts were provided to DEPWS each fortnight throughout the reporting period.
9	In addition to the methane leak detection requirements of Section D.5.2 and Table 10 of the Code, the Interest Holder must also undertake leak detection and reporting (LOAR) within seven days of commissioning the well.	Compliant	On 17 December 2021 DEPWS confirmed initial leak detection monitoring is to be undertaken approximately 40 days after hydraulically fracturing Tanumbirini-2H and Tanumbirini-3H wells. The leak detection survey was undertaken on 28 January 2022 in accordance with the DEPWS correspondence, no leaks were detected.

Table 3 provides a systematic overview of Santos' compliance with the environmental outcomes and environmental performance standards within the approved EMP.

Table 3 Compliance with Environmental Outcomes and Environmental Performance Standards

No	Environmental Outcome	Environmental Performance Standard	Compliance Status	Evidence
1	No significant impact to threatened flora or fauna species, their habitat or sites of conservation significance resulting from conduct of the regulated activity.	<p>Avoid impacts to threatened flora or fauna species, their habitat or sites of conservation significance</p> <p>Avoid dust associated impacts to threatened flora or fauna species, their habitat or sites of conservation</p> <p>No introduction of new species of weeds or plant pathogens, or increase in abundance of existing weed species, as a result the regulated activity</p> <p>No uncontrolled fire in EP161 as a result of conduct of the regulated activity.</p> <p>No releases of wastes, wastewater, chemicals or hydrocarbons resulting in significant impact to threatened flora or fauna species, their habitat or sites of conservation significance</p>	Compliant	<p>Site induction records show all personnel have completed site inductions, which includes requirements for managing impacts to terrestrial fauna.</p> <p>There were no incidents in the Incident Management System relating to speed limits or driving off permitted access tracks.</p> <p>Daily checklist shows all domestic waste receptacles have lids secured.</p> <p>Daily checklist shows inspection of fences, excavations, pits, storages for entrapped fauna and fauna escapes intact.</p> <p>Daily checklist shows lighting at the camp inward-facing, adequate for safe operations.</p> <p>Daily checklist shows assessment of fire weather during dry season, and all site personnel notified of fire risk.</p> <p>Post wet season weed survey showed no increase in abundance of existing weed species.</p>
2	No significant impact to the quality and integrity of land and soils resulting from conduct of the regulated activity	<p>No unauthorised physical disturbance to soil.</p> <p>Weekly inspection checklists confirm all hazardous materials are stored and managed in accordance with the EMP, the Code of practice and the WOMP e.g. chemicals will be stored in a bunded dangerous goods storage area, routine inspection of chemical stores.</p>	Compliant	<p>Site induction records show all personnel have completed site inductions, which includes requirements for managing impacts to land and soil.</p> <p>There were no incidents in the Incident Management System relating to speed limits or driving off permitted access tracks.</p>

No	Environmental Outcome	Environmental Performance Standard	Compliance Status	Evidence
				<p>Records show only waste from approved wastewater systems and grey water disposed of to land.</p> <p>Weekly inspection checklists confirm all hazardous materials and stored and managed in accordance with the EMP, the Code of practice and the WOMP.</p> <p>Records of spills and completed remediation in the Santos Incident Management System.</p> <p>Daily inspection records confirm the freeboard is sufficient to accommodate the relevant wet season and dry season freeboard requirements, and that the pit integrity is appropriate.</p>
3	No impact on Inland environmental water quality resulting from conduct of the regulated activity	<p>No releases of wastes, wastewater, chemicals, hydrocarbons resulting in contamination of the waters.</p> <p>No reduction to groundwater resource availability in the area as a result of the regulated activity.</p>	Compliant	<p>Records show drilling fluids and wastewater stored in lined tanks and lined pits.</p> <p>Daily inspection records confirm the freeboard is sufficient to accommodate the relevant wet season and dry season freeboard requirements for open tanks, and that the pit integrity is appropriate.</p> <p>Well control monitoring demonstrates adequate well control.</p> <p>Records of spills and completed remediation in the spill register.</p> <p>Daily and weekly inspection checklist confirms no releases resulting in contamination of waters.</p>
4	No significant impact on air quality and minimise greenhouse gas emissions as a result of the regulated activity.	Minimise greenhouse gas emissions as a result of the regulated activity.	Compliant	<p>Actual emissions were reported to DEPWS on 30 September 2022 in accordance with NGERs.</p> <p>In accordance with the Code and the Methane Emissions Management Plan, Leak Detection and Repair surveys were undertaken on 28 January 2022 and 16 August 2022, no leaks requiring repair were identified.</p>

No	Environmental Outcome	Environmental Performance Standard	Compliance Status	Evidence
				Audit records demonstrate vehicles compliant with Northern Territory Motor Vehicle registry regulation and work health and safety regulations.
5	No reduction in amenity or impact on the respiratory health of nearby stakeholders as a result of the regulated activity.	Dust generation on the well pad and access tracks in the dry season will be minimised.	Compliant	<p>Site induction records show all personnel have completed site inductions.</p> <p>There were no incidents in the Incident Management System relating to speed limits or driving off permitted access tracks.</p> <p>Stakeholder engagement records show no complaints were received regarding dust.</p>
6	Minimise negative impact to communities and enhance the economy as a result of the regulated activity.	<p>Noise complaints from vehicle movements and activities associated with the regulated activity are minimised.</p> <p>Disturbance, injury or death to livestock from vehicle movements and project activities avoided through active stakeholder engagement.</p> <p>Disturbance to landholders from vehicle movements and HFS activities minimised.</p>	Compliant	<p>Site induction records show all personnel have completed site inductions.</p> <p>Daily inspection records show fences are intact, gates are left in the condition in which they were found and no livestock entrapment.</p> <p>Stakeholder engagement records show notification prior to the commencement of activities.</p> <p>Stakeholder engagement records show no complaints were received regarding dust.</p>
7	Vehicle and plant movements throughout the project area results in disturbance to sacred sites.	No impact to sacred sites, culture and heritage as a result of project activities.	Compliant	<p>Audit records show that all activities occur within the areas shown in AAPA Authority Certificate C2019/043.</p> <p>There were no incidents in the Incident Management System driving off permitted access tracks</p> <p>Maintained a GIS database that includes project areas and cultural heritage sites. This database is updated when additional information is available. This data set in EP 161 was updated January 2022.</p>

Table 4 demonstrates Santos' compliance with reporting requirements in the Code of Practice: Onshore Petroleum Activities in the Northern Territory (Code of Practice) and the Petroleum (Environment) Regulations 2016 (NT).

Table 4 Compliance with Mandatory Reporting Requirements

No	Reference	Requirement	Compliance Status	Evidence
1	Code cl A.3.5	Geospatial information depicting areas cleared is to be provided to the Minister.	Not Applicable	No clearing was undertaken.
2	Code cl A.3.6 (b)	Weed management plan developed as part of the EMP must provide for ongoing weed monitoring.	Compliant	<p>Weed Management plan developed and attached to the EMP was endorsed by DEPWS (Appendix E of approved EMP) contains monitoring requirements. This plan was complied with during the reporting period.</p> <p>The post-wet annual weed monitoring was undertaken 20-25 June 2022 with the DEPWS Weed Management Officer.</p>
3	Code cl 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	<p>Fire management plan, section 7.2 of approved EMP makes provision for this requirement of the Code.</p> <p>In accordance with the fire management plan if a fire has occurred in and around the project footprint, Santos in consultation with the pastoralist and with the pastoralist's approval endeavour to map the extent of the fire and provide that information to DEPWS.</p> <p>There were no fires in and around the project footprint during the reporting period.</p>
4	Code cl A.3.9(c) Code cl 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	Not Applicable	<p>The EMP was revised to clarify and provide certainty that no clearing will be undertaken.</p> <p>Therefore no rehabilitation will be required as a result of activities undertaken in accordance with this EMP.</p>

No	Reference	Requirement	Compliance Status	Evidence
		maintenance and annual monitoring of rehabilitated areas.		
5	Code cl 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> <ul style="list-style-type: none"> 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 need to be repeated if the same water source is used for multiple stages) and c) typical and maximum concentrations of chemicals or other substances used. 	Compliant	Reports for Tanumbirini 2H and Tanumbirini 3H were provided to DITT on 24 January 2022.
6	Code cl 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.	Compliant	Where technically feasible (sufficient gas flow) all gas produced during testing was flared. The volumes of gas flared and vented were reported in the Annual Emissions Report 2022 provided to DEPWS on 30 September 2022.
7	Code cl 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	The regulated activity conducted during the reporting period did not include drilling.
8	Code cl 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	The regulated activity conducted during the reporting period did not include any aspects of decommissioning for the reporting period.

No	Reference	Requirement	Compliance Status	Evidence
9	Code cl 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	Reporting and data submission, and groundwater monitoring data standards were in accordance with <i>Preliminary Guideline: Groundwater Monitoring Bores for Exploration Petroleum Wells in the Beetaloo Sub-basin</i>
10	Code cl 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.	Compliant	The wastewater management plan, Appendix G and spill management plan Appendix H, of the EMP 2021 makes provision for this requirement of the code. Various daily and weekly inspection reports provided to DEPWS provide outcomes of the routine inspections on wastewater tanks, secondary containment and wastewater storage levels and volumes implemented onsite.
11	Code cl C.6.1(d)	Wastewater tracking documentation must be reported to the Minister at least annually in accordance with the framework (Spill Management Plan and Wastewater Management Plan) outlined in the EMP	Not Applicable	The regulated activity conducted during the reporting period did not move wastewater off site.
12	Code cl 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.	Compliant	The Wastewater Management Plan, Appendix G of the approved EMP makes provision for this requirement of the code.
13	Code cl 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	There were no unusual readings of methane detected.

No	Reference	Requirement	Compliance Status	Evidence
14	Code cl D.5.9.2(c)	Emissions from exploration, well construction (including during flowback) and workovers must be measured and reports submitted.	Compliant	The Annual Emissions Report 2022 was provided to DEPWS on 30 September 2022
15	Code cl 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	The regulated activity did not include a gas processing or downstream facility.
16	Code cl D.6.1	All mandated government reporting is complied with; and all detectable leaks and emissions are reported on an annual basis.	Not Applicable	As there was no detectable leaks or emissions generated during the activities conducted under this EMP, reporting under the Code cl D.6.2 was not required.
17	Code cl D.6.2(a)	Reports of baseline assessments must be submitted at the conclusion of each field campaign.	Compliant	Baseline assessment reports have been submitted in the form of groundwater monitoring reports, and weed management plans appended to the approved EMP.
18	Code cl 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.	Compliant	The Annual Emissions Report 2022 was provided to DEPWS on 30 September 2022.
19	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	The current EMP remains in force.

No	Reference	Requirement	Compliance Status	Evidence
20	Regulations Schedule 1, item 9(2)	Interest holders are required to conduct future engagement with stakeholders, in accordance with the description in the EMP.	Compliant	Stakeholder engagement logs indicate that engagement with stakeholders has been ongoing.
21	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.	Compliant	Santos notified the Minister on 11 October 2021 and notified the pastoralist on 7 October 2021.
22	EMP Section 8.8 Incident Reporting 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. A written report must be provided within 24 hours if the initial report was made orally.	Not Applicable	There were no reportable incidents during this period.
23	EMP Section 8.8 Incident Reporting Reg 34	Reports on reportable incidents are to be provided to DENR as soon as practicable and within 72 hours of the event occurring. A final report must be provided to DENR within 30 days after remediation/cleanup of the affected area.	Not Applicable	There were no reportable incidents during this period.

No	Reference	Requirement	Compliance Status	Evidence
24	EMP Section 8.8 Incident Reporting Reg 35	A written report of all recordable incidents must be provided to DENR not later than 15 days after the 90 day reporting period (unless otherwise agreed).	Compliant	Reports on all recordable incidents were provided: <ul style="list-style-type: none"> Q4 2021 report provided 17 January 2021 (report due on a Saturday, report provided next working day) Q1 2022 report provided 14 April 2022 Q2 2022 report provided 14 July 2022 Q3 2022 report provided 17 October 2022 (report due on a Saturday, report provided next working day)
25	Reg 37A	A report about flowback fluid from hydraulic fracturing must be provided to the Minister within 6 months of the flowback occurring.	Compliant	The report was provided to DEPWS on 20 June 2022.
26	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	The regulated activity did not include produced water during the reporting period.
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	Not Applicable	No incidents which could cause or threaten to cause material or significant environmental harm occurred during reporting period.

No	Reference	Requirement	Compliance Status	Evidence
28	Waste Management and Pollution Control Act 1998 (NT) s14	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	No incidents which could cause or threaten to cause material or significant environmental harm occurred during reporting period.

3.0 Summary of Compliance

3.1 Overview of Compliance

Table 5 provides a summary of the results of the compliance assessment against the 44 total compliance items.

Table 5: Compliance Summary

Compliance Indicator	Number	Percentage
Compliant	30	68%
Not Compliant		
Not Applicable	14	32%

3.2 Overview of Items Found Not Compliant or Partially Compliant

3.2.1 Ministerial Approval Conditions

Not applicable: compliant with Ministerial approval conditions.

3.2.2 Environmental Performance Standards

Not applicable: compliant with environmental performance standards.

3.2.3 Regulatory Reporting

Not applicable: compliant with regulatory reporting standards.

3.3 Application of Lessons Learned Across Santos' Onshore Interests

Recordable incidents during the reporting period were very low consequence, and the regulated activity complied with environmental performance standards. Moving forward all frames and IBC containers will be inspected before use and transport. For hydraulic fracturing tanks, there will be a visual inspection of tank level as part of standard practice prior to activity commencing, and a spotter/verifier will observe throughout the cleaning operation.

Appendix 1

McArthur Basin Hydraulic Fracturing Program EMP (STO3-8) Spill Register										
Date	Lease	Contractor	Contaminant	Spill Volume (L)	Soil Volume Recovered (m3)	Brief Summary	Immediate and Corrective Actions	Recordable	Reportable	
9/11/2021	Tanumbirini 3H	Frontier Cement	Frac Chemical	0.5	0.0	<p>Whilst in transit, two corroded Halliburton IBC frames rubbed through the plastic skin of the containers causing ~5L to spill onto the trailer deck & ~0.5L to spill to ground on the Carpentaria Highway.</p> <p>Spill location: S16 28'55.7" E134 38'1.0"</p>	Leaking totes transferred to IBC's with full integrity. Very minor impacted area- size of a fist. Ensure IBC frames are adequately assessed prior to mobilisation for corrosion and potential for rubbing. The containers already on site were inspected and all were intact.	x		
19/12/2021	Tanumbirini 2H	Halliburton	Frac Chemical	7.0	0.007	<p>Blender operator was transferring clean up fluid from frac tanks to open top flowback tank. As the tank filled near top, fluid has flowed from the tank overflow pipe to bund. Approximately 7L of fluid to grade due to bund not sitting exactly flat.</p> <p>Spill location: S16 23' 58.3" E134 42' 11.3"</p>	Well test operator sighted fluid draining to flowback tank bund and heard high level alarm activation signalling to frac operator to ceasing pumping. The impacted soil was removed and placed in the lined cuttings pit. Secondary spotter to be used going forward to monitor tank volumes.	x		