

## Approval notice and statement of reasons

*Petroleum (Environment) Regulations 2016 (NT) (Regulations)*

Interest holder	Imperial Oil & Gas Pty Ltd ABN 92 002 699 578
Petroleum interest(s)	Exploration Permit EP187
Environment management plan (EMP) title	Imperial 2020-21 Drilling Program NT Exploration Permit (EP) 187
EMP document reference	IMP2-6.1
DEPWS EMP assessment document reference	NTEPA2020/0078-007~0008
Regulated activity	Drilling: construction of two wells and associated civil works (access tracks, well sites and accommodation camp)
Is the EMP a new plan submitted under reg 6 or a revision of a current plan submitted in accordance with reg 18?	This is a revision of a current plan submitted in accordance with regulations 15 and 17
Was the regulated activity referred <sup>1</sup> for consideration of whether environmental impact assessment was required?	No
Was environmental impact assessment required and by which assessment method?	N/A
Has an environmental approval under the <i>Environment Protection Act 2019</i> been issued for the regulated activity?	N/A
Has an Authority Certificate under the <i>Northern Territory Aboriginal Sacred Sites Act 1989</i> been issued for the regulated activity?	Yes Authority Certificate C2020/012
Date an EMP compliant with reg 8 was first submitted under reg 6	30 June 2020
Date within which the EMP was published for comment under reg 8A, if applicable	3 July 2020 to 31 July 2020 (Revision) (IMP2-5.1)
Date further information was required and submitted under reg 10, if applicable	Required 28 July 2020 Submitted 6 August 2020 (IMP2-6.1)
Date of resubmission notice under reg 11(2)(b), if applicable	N/A
Date EMP was resubmitted under reg 11(3), if applicable	N/A
Date a notice setting out a proposed timetable for consideration of the EMP was issued under reg 11(2A) if applicable	N/A
Proposed timetable given in notice under reg 11(2A) if applicable	N/A
Where provided under s 29B of the <i>Northern Territory Environment Protection Authority Act 2012 (NT) (NT EPA Act)</i> , the dates the Northern Territory Environment Protection Authority (NT	Date of Minister's request for advice: 25 February 2019 Date of NT EPA Advice: 9 September 2020 NTEPA2020/0049-002

<sup>1</sup> This means a referral under the *Environment Protection Act 2019 (NT) (EP Act)* or the *Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)*.

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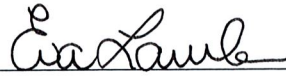
EPA) was requested to, and provided, advice on  
EMP

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Date of decision 30/9 / 2020

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Decision maker



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Signature

Hon Eva Dina Lawler MLA,  
Minister for Environment

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## 1 Approval notice

1. The EMP is approved.

reg 11(2)(a)

2. The approval is subject to the following conditions:

reg 12(2)

**Condition 1:** Prior to commencement of activities on the Carpentaria-2 well site, the interest holder must provide to the Department of Environment, Parks and Water Security (DEPWS), at least 4 weeks prior to commencement of the regulated activity:

- i. a detailed map and geo-reference location of the final Carpentaria-2 well site on EP187 selected, as referenced in the EMP
- ii. a geotechnical assessment report for the Carpentaria-2 well site, developed by a suitably qualified independent person, that:
  - includes results of 60cm soil cores, taken at three sites across the well pad area for analysis of particle size distribution;
  - 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;
  - determines stockpiling requirements of stripped material; and
  - determines the amount of suitable gravel material required to build the well pad.

**Condition 2:** The interest holder must provide to the DEPWS an updated timetable for the regulated activity prior to commencement of the activity and provide an updated timetable to the DEPWS each month following commencement.

**Condition 3:** In support of Schedule 1, item 11 of the Regulations and clause A.3.5 of the Code, the interest holder must provide geospatial files of the land disturbance footprint(s) to DEPWS within sixty (60) days of completion of each land clearing activity or within 6 months of approval of this EMP, whichever occurs first.

**Condition 4:** The interest holder must provide to DEPWS a cementing report for the 13-3/8" and 9 5/8" casing strings as soon as practicable but not more than 14 days after completion of the cementing job for the Carpentaria-1 and Carpentaria-2 wells on EP 187.

## 1 Approval notice

**Condition 5:** The interest holder must provide to DEPWS within six weeks of completion of drilling operations at the Carpentaria-1 well site, a laboratory analysis of drilling wastewater that may be contained in the drilling sump. The laboratory analysis must comply with the Code of Practice: Onshore Petroleum Activities in the Northern Territory, Table C.8: Wastewater chemistry analytes.

**Condition 6:** In addition to the minimum methane leak detection inspection frequencies required by the Code, the interest holder must undertake methane leak detection within seven (7) days of commissioning equipment that is in hydrocarbon service and under pressure and record to an auditable standard.

**Condition 7:** The interest holder must provide an annual report to DEPWS on its environmental performance, in accordance with item 11(1)(b) in schedule 1 of the Petroleum (Environment) Regulations 2016 (NT). The first report must cover the 12 month period from the date of this approval, and be provided within three 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 and must include a signed declaration by the interest holder or operator.

## 2 Material considered

1. The following material has been taken into account in making this decision:
  - a. Imperial Oil & Gas 2020-21 Drilling Program NT Exploration Permit (EP) 187, IMP2-6.1, Environment Management Plan dated August 2020
  - b. The principles of ecologically sustainable development referenced in the *Environment Protection Act 2019*.
  - c. The NT EPA advice provided at my request under s29B of the *Northern Territory Environment Protection Authority Act 2012*.
  - d. The Authority Certificate issued under the *Northern Territory Aboriginal Sacred Sites Act 1989* and associated response provided by the Aboriginal Areas Protection Authority.
  - e. The Code of Practice: Onshore Petroleum Activities in the Northern Territory (Code) as defined in reg 4A.
  - f. All public comments submitted under reg 8B.

## 3 Statement of reasons

The EMP meets the approval criterion in reg 9(1)(a), because it contains all the information required by Schedule 1 of the Regulations. reg 9(1)(a)

2. The EMP meets the approval criterion in reg 9(1)(b) for the following reasons: reg 9(1)(b)
  - a. The nature of the regulated activity is as follows:
    - i. drilling Carpentaria-1 vertical well on EP187 in the Beetaloo sub-basin in the first stage of the drilling program which is anticipated to take a maximum of 80 days and will extend into the 2020-21 wet season
    - ii. drilling Carpentaria-2 well will be dependent on results from drilling of the Carpentaria-1 well which will be available in 2021.
    - iii. the regulated activity does not include seismic survey, hydraulic fracturing or appraisal of a petroleum exploration well.
  - b. The scale of the regulated activity is as follows:
    - i. The expansion and upgrade of an existing roadside campsite for temporary 30-person camp accommodation
    - ii. Establishing/upgrading well site access tracks at 3.5 hectares with total land disturbance up to 14 hectares
    - iii. Establishing the Carpentaria-1 well site and Carpentaria-2 well sites at 1.44 hectares land disturbance each
    - iv. The drilling of Carpentaria-1 and Carpentaria-2 wells to approximately 3,000m Total Vertical Depth; well evaluation (including Formation Integrity Test (FIT), mudlogging, wireline, Cement Bond Logging (CBL), Diagnostic Fracture Injection Testing (DFIT) leak-off, coring, suspension; plugging and decommissioning of Carpentaria-1 and Carpentaria-2; care and maintenance.
    - v. Generation of approximately 240 m<sup>3</sup> of waste including drill cuttings and drilling mud

- vi. Estimated water use of approximately 5 ML per well site. No surface water will be used for the activity.
  - vii. The interest holder has estimated the regulated activity will generate greenhouse gas (GHG) emissions of approximately 4200 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>-e), comprising approximately 3300 tCO<sub>2</sub>-e generated from land clearing and 900 tCO<sub>2</sub>-e generated from diesel combustion.
- c. The EMP contains an appropriate level of detail for the nature and scale of the activities proposed.
- i. The regulated activity is clearly described in the EMP.
  - ii. The EMP proposes the drilling of two exploration wells on EP 187. It is a revision of an existing EMP (IMP2-4) for drilling in the dry season that was approved by the Minister for the Environment on 2 March 2020. The EMP has been revised to address environmental impacts and risks associated with drilling activities extending into the wet season.
  - iii. The description of the existing environment is informed by adequate baseline surveys from 2015 and 2018, with additional opportunistic surveys undertaken where possible as well as desktop analysis from a range of information sources.
  - iv. Site suitability assessment for the well sites and access tracks is informed by adequate topographical and vegetation information.
  - v. The description of the existing subsurface environment is informed by EP187 2019 seismic survey and offset well information which confirms that the well sites are within the Beetaloo sub-basin.
  - vi. The identification of environmental impacts and risks including for wet season operations contains a sufficient level of detail to inform an assessment of the environmental impacts and risks.
  - vii. The EMP provides detail on environmental outcomes and performance standards, implementation strategy, personnel, emergency response plan, stakeholder engagement, legislative requirements, recording, monitoring, reporting and notifications to an appropriate level of quality and applicability.
- d. Having regard to the above, the information in the EMP is appropriate for the nature and scale of the regulated activity to which it relates.
3. The EMP meets the approval criterion in reg 9(1)(c) for the following reasons: reg 9(1)(c)
- a. In making my decision, I have considered reg 5A, which requires that I give fundamental consideration to the principles of ecologically sustainable development (ESD), including the decision-making principle (s18 *Environment Protection Act 2019*), as follows:
    - i. The regulated activity is low impact and of short duration (80 days plus rehabilitation) and forms one component of a broader onshore petroleum exploration program in the region. The regulated activity will inform decision-making about longer term petroleum activities.
    - ii. The EMP adequately assesses the environmental impacts and risks associated with the regulated activity and outlines appropriate avoidance, monitoring and mitigation measures.
    - iii. The interest holder has undertaken ongoing stakeholder engagement with the community, landholders and land managers, traditional owners,

representatives of local government, the Manager for the McArthur gas pipeline, the Northern Land Council (NLC) and NT Government agencies, in accordance with the provisions outlined in regulations 7 and 9 of the Regulations and section 41(6) of the *Aboriginal Land Rights (Northern Territory) Act 1976 (Cth)*. Stakeholder communication logs demonstrate ongoing community satisfaction with no outstanding concerns raised.

- iv. The EMP provides detail on environmental outcomes and performance standards, implementation strategy, personnel, emergency response plan, stakeholder engagement, legislative requirements, recording, monitoring, reporting and notifications, to an appropriate level of quality and applicability.
  - v. I believe the information regarding the proposed regulated activity adequately enables the integration of both long-term and short-term environmental and equitable considerations.
- b. In making my decision, I have considered reg 5A, which requires that I give fundamental consideration to the principles of ESD, including the precautionary principle (s19 *Environment Protection Act 2019*) as follows:
- i. There is a low threat of serious or irreversible environmental damage arising from the regulated activity and the presence of a satisfactory scientific basis to assess potential impacts and risks.
  - ii. The risks from the regulated activity, including drilling over the wet season, are well understood and the EMP demonstrates adherence to the Code that establishes best practice management measures for operations, as set out in the risk assessment and revised Wastewater Management and Spill Management Plans. Measures for managing risks during wet season operations includes a revised design of the drilling sump to address the risk of drilling fluids/cuttings remaining on site over the wet season and overtopping.
  - iii. At this stage, the interest holder has not conducted drilling in the Beetaloo sub-basin and therefore there is no laboratory analysis of drilling wastewater. I have imposed a condition requiring that the interest holder submit an assessment of the drilling material remaining in the drilling sump at the well site within six weeks of completion of drilling. The laboratory analysis must comply with the Code.
  - iv. The precautionary principle has been considered in assessing the regulated activity. The regulated activity does not pose a threat of serious or irreversible environmental damage.
- c. In making my decision, I have considered reg 5A, which requires that I give fundamental consideration to the principles of ESD, including the principle of evidence-based decision-making (s20 *Environment Protection Act 2019*) as follows:
- i. The EMP demonstrates an adequate understanding of the environment in which the regulated activity will be undertaken, and considers all relevant aspects of the environment that have potential to be affected. As the activity is focussed on drilling new wells extending into the wet season, a focus is on wastewater and transport, spill management, flooding and erosion control.
  - ii. Revised traffic management approved by the Department of Infrastructure, Planning and Logistics (DIPL) has been included in the EMP and the well site

- access track turnoff to the Carpentaria highway will be sealed to mitigate highway traffic risks.
- iii. A certified erosion and sediment control plan (CESCP) in Appendix 7 of the EMP contains specific design and management controls for the well site access track and Carpentaria-1 and Carpentaria-2 well sites to mitigate potential erosion under sheet flow conditions. The well sites will use bunding to divert stormwater flow around the gently sloping well sites. The well site sump will be bunded to prevent potential ingress of stormwater.
  - iv. The geotechnical assessment of the soil at the Carpentaria-1 well site provides load-bearing assessment, and the subsurface has been assessed as suitable for compaction rolling to provide a low permeability, low dust hardstand area for the drilling operations.
  - v. The definition of the subsurface formations is clearly described in Section 3 of the EMP, informed by the EP187 2019 seismic survey which confirmed the well site locations are within the Beetaloo sub-basin.
  - vi. The well design in the Well Operations Management Plan is compliant with requirements in the Code for isolation and protection of aquifers.
  - vii. I have imposed a condition requiring that the interest holder must provide to the department a cementing report for the aquifer isolation casing strings as soon as practicable but not more than 14 days after completion of the cementing job for wells on EP 187.
  - viii. The NT EPA has previously assessed the potential chemicals of concern contained in the drilling fluid which remain unchanged in the revised EMP. The information provided in the revised EMP confirms that the most toxic chemicals (short-acting biocides) which are used to maintain sterility in the drilling fluid during drilling operations, are classified as “readily biodegradable” and have a half-life of less than five days.
  - ix. I believe the information regarding the proposed regulated activity adequately provides the best available evidence in the circumstances that is reliable and relevant to the decision-making process.
- d. In making my decision, I have considered reg 5A, which requires that I give fundamental consideration to the principles of ESD, including the principle of intergenerational and intra-generational equity (s21 *Environment Protection Act 2019*) as follows:
- i. The potential environmental impacts and risks associated with the regulated activity can be adequately avoided or managed through the management measures and monitoring programs proposed in the EMP.
  - ii. The interest holder has undertaken ongoing stakeholder engagement with landholders and land managers as shown in the Communication log in Appendix 2. This includes Traditional Owners and the Northern Land Council (NLC), NT Government agencies and local pastoralists on EP187 in accordance with reg 7 and reg 9.
  - iii. The environmental burdens of the regulated activities will not disproportionately affect particular stakeholders. This includes final disposal of drill cuttings and drilling mud which will be guided by laboratory testing and either transported to a licensed waste disposal centre, or approved for onsite disposal if certification from a suitably qualified third party confirms

- the material is of acceptable quality for disposal to land by the proposed method.
- iv. Cumulative impacts of groundwater extraction have been assessed and will be regulated by the water extraction licence under the *Water Act 1992*.
  - v. Protection of cultural interests is achieved through compliance with the requirements of an Authority Certificate (C2020/012) issued by the Aboriginal Areas Protection Authority under the Northern Territory *Aboriginal Sacred Sites Act 1989* (NT), an archaeological heritage survey of the areas to be cleared and monitoring during clearing activities. All operations and vehicle movement is restricted to cleared areas. Appropriate measures are proposed for the management of items of heritage value should they be discovered.
  - vi. The EMP commits the interest holder to progressive rehabilitation throughout the life-cycle of the exploration activity which, combined with the Code requirements, is considered to have reduced the risk of soil contamination to a level that is ALARP and acceptable
  - vii. The environmental values will be protected in the short and long term from the activities outlined in the EMP and the health, diversity and productivity of the environment will be maintained for the benefit of future generations. Accordingly I do not believe that the carrying out of the regulated activity in accordance with the EMP would have an effect contrary to the principle of inter or intra-generational equity.
- e. In making my decision, I have considered reg 5A, which requires that I give fundamental consideration to the principles of ESD, including sustainable use of natural resources (s22 *Environment Protection Act 2019*) as follows:
- i. The regulated activity will generate approximately 4,200 tCO<sub>2</sub>-e of GHG emissions, with over 75% attributed to land clearing. This will result in an overall increase in NT GHG emissions of approximately 0.03%. Total cumulative GHG emissions for the approved activities in the Imperial 2019-21 exploration program on EP 187 are estimated to be 9,900 tCO<sub>2</sub>-e. The total estimated GHG emissions for the exploration program will likely result in an overall increase in NT GHG emissions of 0.06%. I consider the cumulative greenhouse gas emissions to be minimal in context of Northern Territory and Australian emissions.
  - ii. Total estimated water use for the drilling activity, including civil construction, is approximately 5 ML per well site. The interest holder has been issued a water extraction licence (GRF10316) for up to 22 ML per year from the Gum Ridge aquifer. Groundwater extraction is informed by the NT Water Allocation Planning Framework, which indicates the volume of groundwater held in storage in the Gum Ridge aquifer is estimated to range from 1,766,000 GL to 3,532,000 GL. Groundwater extraction volumes will be recorded and submitted to the DEPWS Water Resources Division, in accordance with the requirements of the groundwater extraction licence.
  - iii. I note the Northern Territory Government's commitment to implementing all recommendations of the Hydraulic Fracturing Inquiry, including seeking to ensure that there is no net increase in lifecycle GHG emissions emitted in Australia from any onshore petroleum produced in the NT.

- iv. The EMP has assessed the cumulative impacts of groundwater extraction from the Gum Ridge aquifer and a groundwater extraction licence has been granted to the interest holder for up to 22ML/year
- v. Accordingly, I am satisfied that the concept of sustainable use of natural resources has been taken into account.
- f. In making my decision, I have considered reg 5A, which requires that I give fundamental consideration to the principles of ESD, including the conservation of biological diversity and ecological integrity (s23 *Environment Protection Act 2019*) as follows:
  - i. I believe the information I have regarding the existing biodiversity and ecosystems that are to be affected by the regulated activity, the effects that are likely and the mitigation measures reasonably available, is sufficient.
  - ii. The regulated activity poses a low risk to the ecosystem within the Sturt Plateau bioregion or the Gulf Falls and Uplands bioregion. Given the relatively small area of impact (~14ha for this regulated activity and 65 ha in total including the 2019 2D Seismic Works Program approved via a separate EMP and presently being rehabilitated), and the very large area of similar habitat within the region, the regulated activity does not pose a significant risk to any regional populations of threatened species. Six threatened species were identified as potentially occurring in the area. Due to the management strategies outlined in the EMP, the short period of activity, and the small area of impact it is unlikely that the regulated activity will pose a risk to the identified threatened species or exacerbate key threatening processes. Impacts and risks to flora, fauna, and ecosystems have been mitigated to an acceptable level.
  - iii. No additional clearing is proposed in the revision to the approved EP187 Drilling EMP and the NT EPA has previously advised of its view that the conservation of biological diversity and ecological integrity would not be impacted by the activity.
  - iv. I have imposed a condition requiring that the interest holder must provide geospatial files of the land disturbance footprint(s) to DEPWS within two months of completion of each land clearing activity or within 6 months of approval of this EMP, whichever occurs first, to ensure biodiversity protection requirements in the Code are met and land disturbance is consistent with the approval.
  - v. The proposed activities do not pose a significant risk to threatened species at a population level, due to the low likelihood of threatened species inhabiting the area and the implementation of the proposed control measures to avoid impacts to fauna.
  - vi. Fauna ingress and egress mitigation measures to the drilling sump have been provided in the EMP. This includes the sump fitted with mesh panel fencing no greater than 150mm x 150mm to prevent livestock and large fauna entry. Daily checks of engineered sumps during the drilling program and weekly site inspections will be undertaken during periods of site inactivity.
  - vii. I have imposed a condition requiring that the interest holder should provide to DEPWS, within six weeks of completion of drilling operations at the Carpentaria-1 well site, a laboratory analysis of drilling wastewater that may

be contained in the drilling sump to ensure it does not pose a threat to fauna (e.g. birds) which may potentially ingest it.

- viii. A freeboard of 1600mm for all open engineered sumps reduces the likelihood of a release of drilling wastewater from the HDPE lined and bunded drilling sump. Should the risk eventuate, the interest holder must notify under the Regulations and has committed in the Spill Management Plan to remediating any spill area in accordance with the National Environment Protection Measure (NEPM) requirements.
  - ix. Where relevant, management and monitoring measures are consistent with the requirements of the Code and the Preliminary Guideline: Groundwater Monitoring Bores for Exploration Wells in the Beetaloo Sub-basin.
  - x. The conservation of biological diversity and ecological integrity is vital to the achievement of ecologically sustainable development. Given the fundamental nature of this consideration, I have given central importance to the conservation of biodiversity and ecological integrity in weighing whether I am satisfied the approval criterion in reg 9(1)(c) has been met.
  - xi. If carried out in accordance with the EMP, the risks of the regulated activity to the conservation of ecological integrity and biological diversity are considered to be mitigated to an acceptable level.
- g. In making my decision, I have considered reg 5A, which requires that I give fundamental consideration to the principles of ESD, including the promotion of improved valuation, pricing and incentive mechanisms (s24 *Environment Protection Act 2019*) as follows:
- i. In accordance with the 'polluter pays principle':
    - (1) The interest holder has committed to the remediation of impacts of the regulated activities, as is set out in the EMP.
    - (2) If the interest holder fails to remediate the impacts, an environmental rehabilitation bond has been provided by the interest holder, which is considered to be adequate to cover the resulting costs.
    - (3) As with any business undertaken in the NT, the interest holder is required to pay full life cycle costs for goods and services used.
    - (4) The EMP considers the progressive rehabilitation of infrastructure including the petroleum well and surface disturbances during the full-life cycle of the exploration program
  - ii. I do not believe that the carrying out of the regulated activities in accordance with the EMP would have an effect contrary to the principle of improved valuation, pricing and incentive mechanisms.
- h. The NT EPA did not require the EMP to be referred under the *Environment Protection Act 2019*, as the regulated activity does not have the potential to cause a significant impact on the environment. reg 9(3)
- i. The NT EPA has provided the following in relation to the regulated activities and the EMP:
- i. In accordance with my request under s29B of the NT EPA Act, the NT EPA reviewed the EMP against the approval criteria in regulations 9(1)(b), 9(1)(c) and 9(2)(a) of the Regulations and other matters the NT EPA considered relevant, and has provided advice about the EMP. Relevantly:

- (1) The NT EPA recommended that should the revised EMP be approved, it be subject to four conditions in addition to the approval conditions applied to the existing EMP. The NT EPA's recommendations have informed the conditions of this approval. All conditions are outlined in section 1 (2) of this Approval Notice.
  - (2) The NT EPA concluded that the EMP for the regulated activities, subject to the recommended approval conditions, is appropriate for the nature and scale of the regulated activities and demonstrates that the regulated activities can be carried out in a manner that environmental impacts and environmental risks of the activity will be reduced to a level that is as low as reasonably practical and acceptable.
- ii. I have considered the NT EPA's advice and recommendations and these have been incorporated where relevant into the comments in this statement of reasons and the conditions in the Approval Notice.
- j. The existing environment along with its particular values and sensitivities is appropriately identified in Section 4 of the EMP, and to the extent I do not agree or there is some uncertainty, I have imposed conditions to address the relevant risk or risks. reg 9(1)(c)
- k. I agree with the risk assessment set out in Section 6 of the EMP, and to the extent I do not agree I have imposed a condition or conditions to address the relevant risk or risks. The cumulative effects of the regulated activity have been identified and assessed to the extent possible.
- l. The interest holder's risk assessment is applicable to activities in all seasons and the outcomes are reflected in the EMP that includes a series of management plans in Section 7, including: a ground water monitoring plan; certified erosion and sediment control plan; weed management plan; bushfire management plan; wastewater management plan and spill management plan; rehabilitation management plan; emergency response plan; methane emissions management plan and wet season site shut-in monitoring (controls identified Table 31). The EMP includes the required elements for the ongoing management of erosion and sediments in accordance with the previously approved erosion and sediment control plan. This is consistent with the requirements of the Code that allows for the regulated activities to occur in the wet season months when contingency planning is provided and minimum freeboard in wastewater infrastructure is maintained.
- m. Public consultation on the revision to the Revision to the EMP was required under the *Petroleum (Environment) Regulations 2016*, as the EMP proposes drilling activities. The Revision to the EMP was made available for public comment for 28 days from 3 July to 31 July 2020.
- n. DEPWS received a total of 284 public submissions on the EMP, of these 276 were form email letters via an internet campaign and eight were individual submissions. Approximately 32% of submissions were from the NT. 87% of the submissions were a campaign form letter that canvassed a wide range of issues regarding petroleum production and the forecast effects of fossil fuel emissions on the world's climate. Thirteen topics were identified in the public submissions. Wastewater (24%), climate change (21%), water resources (16%) and heritage (8%) were the major issues raised. The matters directly relevant to consideration of the revised EMP that were raised in the public submissions related to wastewater management and wet season operations.

- o. The EMP provided a detailed well site layout that identified storage and containment of chemicals on site during wet season operations. This shows:
- drilling mud will be stored in above ground engineered tanks located on the well lease pad
  - the above ground storage tanks for recirculating drilling muds will have spill containment provisions installed, comprising of a secondary containment barrier that sits underneath the tanks
  - drill cuttings will be separated from the drilling fluid system and transferred to the drilling sump cuttings containment section.
- p. Wastewater in the drilling sump will be managed through design, construction and operation of a 1.6m freeboard to prevent overtopping in a 1 in 1000 year rainfall event. The interest holder is required to ensure all waste is classified and ensure that all listed waste is only disposed of through licensed waste contractors under the *Waste Management and Pollution Control Act 1998*. The Code mandates that all backflow be recycled and re-used to maximum potential and the off-site transport and disposal of fluids should be minimised.
- q. Drilling waste that is not compliant with the Code requirements (e.g. elevated NORM) will be considered a listed waste and must be managed under the waste provisions of the *Waste Management and Pollution Control Act 1998*.
- r. The anticipated environmental impacts are appropriately identified in Section 6 of the EMP. The regulated activities are a continuation of current activities and cumulative effects have been identified and assessed. In EMPs for subsequent stages (if they proceed) the interest holder will need to continue to address cumulative effects.
- s. The EMP demonstrates how the interest holder will comply with relevant requirements of the Code in undertaking these regulated activities. This includes reference to applicable Australian and international standards that have been adopted for regulated activities, as applicable. The EMP cross references relevant sections of the Code that apply to the mitigation and management measures to enable the reviewer to identify and confirm that the proposed activities comply with the Code, as applicable.
- t. I am satisfied that the interest holder has conducted ongoing stakeholder engagement in accordance with the Regulations. The EMP provides details of stakeholder engagement that meets Regulation 7 and Schedule 1, Clause 9 of the Regulations in Section 9 and Appendix 2. Ongoing Stakeholder engagement records demonstrate that stakeholders did not raise objections about environmental impacts of the proposed activity that required specific changes from the interest holder. The EMP provides a Communication Log (Appendix 2) that provides details of written feedback and input from stakeholders as part of the stakeholder engagement records. The risk assessment in the EMP details the potential environmental impacts of the activity and proposed environmental outcomes to manage impacts on social and cultural surroundings.
- u. I recognise the importance the community places on the protection of the environment, water resources and management of chemicals and waste. Specific concerns regarding storage of drilling waste in an engineered sump during the wet season have been addressed in the EMP and in this Statement of Reason. I have taken into account all public comments in making my decision and these have been reviewed and addressed in the EMP and this Statement of Reason. The EMP appropriately identifies the risks and potential impacts from the

regulated activities and commits to mitigation, management and monitoring measures to address these risks and potential impacts. This includes relevant issues raised in the public submissions.

- v. There are no environmental impacts or environmental risks relating to the proposed regulated activities that I consider to be unacceptable.
- w. Overall, having regard to the above, I am satisfied that the EMP demonstrates that the regulated activity is to be carried out in manner by which the environmental impacts and environmental risks are reduced to a level that is:
  - i. as low as reasonably practicable; and
  - ii. acceptable.

