

Onshore Petroleum Activity – NT EPA Advice

SWEETPEA PTY LTD (SWP1-04) – ENVIRONMENT MANAGEMENT PLAN (EMP) FOR SEISMIC EP136, BEETALOO SUB-BASIN NT

BACKGROUND

The Minister for Environment has formally requested under section 29B of the *Northern Territory Environment Protection Authority Act 2012* (NT EPA Act) that the Northern Territory Environment Protection Authority (NT EPA) provide advice on all Environment Management Plans (EMPs) received under the Petroleum (Environment) Regulations 2016 (the Regulations).

That advice must include a recommendation on whether the EMP should be approved or not, supported by a detailed justification that considers:

- whether the EMP is appropriate for the nature and scale of the regulated activity to which the EMP relates (regulation 9(1)(b))
- whether the EMP demonstrates that the activity will be carried out in a manner by which the environmental impacts and environmental risks of the activity will be reduced to a level that is as low as reasonably practicable and acceptable (regulation 9(1)(c))
- the principles of ecologically sustainable development (regulation 2(a)), as set out in sections 18 to 24 of the *Environment Protection Act 2019*, and
- any relevant matters raised through the public submission process; for this EMP, no public consultation was required.

In providing that advice, the NT EPA Act provides that the NT EPA may also have regard to any other matters it considers relevant.

ACTIVITY

Subject	Description
Interest holder	Sweetpea Petroleum Pty Ltd (SWP1-04)
Petroleum interest(s)	Exploration Permit 136 (EP136)
Environment Management Plan (EMP) title	Seismic Environment Management Plan EP136 - Beetaloo Sub-Basin, NT
EMP document reference	SWP1-04
Regulated activity	The EMP proposes two 2D seismic surveys (549.28 km) to define the petroleum prospectivity of EP136 and inform proposed future exploration activities, across two distinct areas of EP136. EP136 is located approximately 300 km south-east of Katherine in the Beetaloo Sub-basin. The EMP also proposes the installation of two groundwater monitoring bores (4 in total) on pad sites 1 and 3, including approximately 5 km for access tracks to the sites.

	<p>The regulated activity across each survey area is as follows:</p> <ul style="list-style-type: none"> • northern survey area: <ul style="list-style-type: none"> • 14 seismic lines, covering a total length of 480 km x 5 m (240 ha) • operation of a 2 ha temporary field camp on the southern side of the Carpentaria Highway • passive ground gravity survey undertaken both during and just after the seismic survey • installation of a two groundwater monitoring bores (4 total) at pad sites 1 and 3, including access tracks. • southern survey area: <ul style="list-style-type: none"> • extending into the neighbouring exploration permit area EP169 • two seismic lines, covering a total length of 69 km x 5 m (34 ha) • operation of a 2 ha temporary field camp located at the intersection of the two seismic lines and adjacent to the Barkly Stock Route. • rehabilitation of seismic lines after data recording • vehicle and helicopter access, including exploration and support vehicles • any minor works ancillary of the above. <p>Seismic lines will be progressively rehabilitated concurrent with completion of the survey along each line. Any other rehabilitation works, such as rehabilitation after decommissioning campsites will occur within 12 months of completion of the seismic program across the two survey areas.</p>
Public consultation	Public consultation on the EMP was not required under regulation 8A(1)(b); as the EMP does not propose drilling or hydraulic fracturing.

NT EPA ADVICE

1. Is the EMP appropriate for the nature and scale of the regulated activity (regulation 9(1)(b))

Information relating to the nature and scale of the regulated activity is provided in a clear format. The technical works program includes 2D seismic and a (passive) ground gravity survey commencing in late 2020 for a maximum period of 70 days across two distinct areas (north and south) of EP136. The total kilometres (km) for the program across the two survey areas is 549 km/274 hectares (ha). The breakdown is north: 14 seismic lines, total length 480 km (240 ha); south: two seismic lines, total length 69 km (34 ha).

The seismic survey program involves total land clearing of up to 67 ha (278 km) of native vegetation along a 5 m wide track. The estimated land clearing equates to approximately 24% of the total seismic surveys in both areas (including campsites). Table 1 provides an overview of the key components of the regulated activity.

Table 1: Key components of the proposed Sweetpea 2D seismic program

COMPONENT	REGULATED ACTIVITY
Groundwater extraction licence	N/A (usage is < 5 ML)
Total area of exploration lease (EP136)	4,181 km ²
Total 2D seismic survey	16 lines 550 km; 279 ha
Seismic lines (north)	14
Approx. Total length (km)	480
Approx. Total area (ha)	240
Approx. Length of disturbance (km)	130
Approx. Area of disturbance (ha)	65
Approx. Percentage (%)	27
Seismic lines (south)	2
Approx. Total length (km)	69
Approx. Total area (ha)	34
Approx. Length of disturbance (km)	3
Approx. Area of disturbance (ha)	2
Approx. Percentage (%)	5
Number of creek crossings	41 (ephemeral creeks/drainage lines)
Number of groundwater monitoring bores	4 (2 per pad sites 1 and 3 on seismic lines 8 and 9)
Number of gravel pits	Nil
Timing of works	2020 – 2021 (commencing Q4 2020)
Camp capacity and workforce (per camp)	50 to 60 persons
Peak traffic movements (per day)	~30 to 40 (during mobilisation/demobilisation)
Average peak traffic movements – Carpentaria Highway (per day)	~200
Average peak traffic movements – Barkly Stock Route (per day)	~51
Estimated groundwater usage (kL)	~565 (seismic and groundwater bore construction)
Estimated potable water usage (kL)	~65 (at 1 kL /day)
Diesel (kL)	130 – 150
Emissions (tCO ₂ -e)	~4715
Rehabilitation (ha)	~72

The northern seismic survey line extends into neighbouring exploration permit areas EP76, EP161 and EP(A)354 and across two perpetual pastoral leases – (NT Portion (Por) 701) and (NT Por 702). The southern seismic survey line extends into neighbouring exploration permit area EP169 and across two perpetual leases (NT Por 3861) and (NT Por 244). Sweetpea has applied for, and DITT is currently managing, the grant of access authorities under the *Petroleum Act 1984* for the areas outside EP136.

In addition to the seismic program, Sweetpea intends to install two groundwater monitoring bores at pad sites 1 and 3, in proximity to seismic lines 8 and 9 in the northern section of EP136. These monitoring bores will be constructed to meet the mandatory requirements of clause B.4.17.2(b) of the Code¹, which requires interest holders to obtain 6 months of groundwater monitoring data prior to undertaking hydraulic fracturing.

A progressive rehabilitation plan (Appendix F) has been developed for the activity, to minimise the risk of site erosion and return the disturbed land to the original conditions long term, in accordance with clause A.3.5 of the Code.² Progressive rehabilitation along seismic lines will occur immediately after the completion of the seismic survey along each line. Overall land clearing and subsequent rehabilitation efforts will be limited by using existing pastoral/access tracks and existing cleared areas for the two campsites.

Information on the location and scale of the proposal is included in the EMP. The existing environment has been adequately described through baseline surveys and is suitably understood. There are no areas of high conservation value in the vicinity of the regulated activity. Areas of cultural significance were identified on seismic lines 1, 6, 7, 8, and 10 – 13 (Appendix B, Figure 5). These will be protected through:

- the implementation of restricted work area protocols, in accordance with the provisions outlined in the Aboriginal Areas Protection Authority (AAPA) Authority Certificate
- 250 m buffers either side of the proposed seismic lines to avoid disturbance of culturally significant areas
- inductions of all site personnel
- cultural monitoring during clearing
- implementation an “unexpected finds” procedure.

The interest holder has identified the impacts and risks associated with the regulated activity (44 in total). Mitigations outlined in the risk register, Appendix C, are classified based on the hierarchy of controls, and impacts and risks should be reduced to an acceptable level through the proposed mitigation and management measures. Environmental performance standards and measurement criteria have been provided in the EMP (section 7.0).

The level of detail and the quality of information provided in the EMP is sufficient to inform the evaluation, assessment and management of environmental impacts and risks, and meets the approval criteria under Regulation 9 for the Minister’s decision about approval of the environment management plan.

2. Principles of ecologically sustainable development (regulation 2(a))

2.1 Decision-making principle (s 18 *Environment Protection Act 2019*)

The revised EMP adequately assesses the environmental impacts and risks associated with the regulated activity and outlines appropriate avoidance and mitigation measures. The regulated activity for EP136 is small scale and of short duration (approximately 65 days). The regulated activity will inform longer-term decision making on development of a petroleum resource.

¹ [Code of Practice: Onshore petroleum activities in the Northern Territory.](#)

² Ibid.

The impacts/risks and control measures associated with the northern and southern seismic surveys and installation of groundwater monitoring bores have been assessed as predominately low risk if carried out in accordance with the mitigations and controls proposed in the EMP. Wet season contingencies and controls are proposed to mitigate potential erosion and sediment impacts associated with 41 creek crossings. These controls have been assessed by NT Government agencies and deemed adequate.

The communications log reflects ongoing stakeholder communications in respect to the regulated activity covered under this EMP. The interest holder has demonstrated ongoing stakeholder engagement in the EMP as required by the Regulations with landholders and land managers, traditional owners, the Northern Land Council (NLC) and NT Government agencies.

2.2 Precautionary principle (s19 *Environment Protection Act 2019*)

The NT EPA considers there is a low risk of serious or irreversible damage from the regulated activity. The risks of undertaking seismic surveys at this time of the year in Barkly Region are well understood. The regulated activity will be conducted in compliance with the Code, and the EMP provides measurable performance standards to ensure that the environmental outcomes are met.

The risk assessment clearly classifies the hierarchy of controls for the mitigations applied to each risk (e.g. eliminate, substitute, engineering, administrative, personal protective equipment). Uncertainty in relation to the environmental features was assessed, with no areas of environmental uncertainty identified.

The interest holder has adopted mitigation controls for bushfire management and ecological protection as used by other petroleum companies who have undertaken seismic surveys in the Barkly Region during this time of the year. These include cleaning out of engine bay on machinery regularly; having a water cart on hand permanently during clearing to extinguish any fires; and carrying additional fire extinguishers during seismic surveys.

Measures for managing risks during wet season operations include a commitment to halt the seismic surveys and stabilise disturbed areas in the event of the 'onset of the wet season', as defined by the Bureau of Meteorology (BoM) (e.g. 50 mm of rainfall accumulated after 1 September).³ In addition, the NT EPA has recommended the interest holder provide to DEPWS an updated schedule of works; daily progress reports; five-day activity forecasts for the duration of the activity, and immediate written notification to DEPWS of any halt to the regulated activity due to the early onset of the wet season.

The NT EPA is of the view the precautionary principle has been considered in assessing the regulated activity and has not been triggered due to the low threat of serious or irreversible damage and a satisfactory scientific basis to assess potential impacts and risks. In addition, the environmental monitoring commitments contained in the EMP are compliant with the Code and should provide measureable performance measures to ensure that the environmental objectives are met.

2.3 Principle of evidence-based decision-making (s20 *Environment Protection Act 2019*)

The EMP proposes installation of the groundwater monitoring bores in Q4 2020, with the seismic survey commencing either late in 2020 prior to the onset of the wet season or in early 2021. The impact of undertaking seismic surveys after 1 October have been considered with wet season contingencies identified in the EMP for all aspects of the regulated activity. The EMP includes two schedule options with monitoring bore installation commencing Q4 2020, or in 2021 based on site access post the wet season.

A certified Erosion and Sediment Control Plan (ESCP) (Appendix J) contains design and management controls to mitigate potential erosion under sheet flow conditions. Elevation plans and layout for the groundwater monitoring pad locations 1 and 3, and the pad access tracks are provided

³ See BoM definition: <http://www.bom.gov.au/climate/rainfall-onset/>.

in the ESCP. The seismic survey areas will use a combination of whoa boys or roll over banks along existing access tracks, seismic lines and creek crossings, respectively.

A traffic impact assessment has been reviewed by the Department of Infrastructure, Planning and Logistics (DIPL) (Appendix K). Traffic impacts including traffic flow and composition have been assessed to be negligible, with the worst-case scenario within the capacity of the Carpentaria Highway and Barkly Stock Route. The interest holder has considered additional mitigations controls and guidance for single lane access.

The NT EPA has assessed the potential for spills from chemicals and hydrocarbons (e.g. diesel) stored in designated bunded areas at the campsite and used in situ along seismic lines. The mitigation controls described in the EMP include: portable bunding; containment of hydrocarbons in double-lined diesel storage tanks in accordance with Australian Standard 1940:2004; and spill prevention and response procedures for hazardous spill prevention, monitoring, assessment, response and clean-up. Predicated waste volumes and disposal methods are detailed in the EMP (Tables 12 and 24).

The interest holder has committed to incident reporting of any chemical spills >10 L or hydrocarbon spills >20 L (section 7.6.3). Further, NT EPA has recommended the interest holder provide DEPWS with a written report of any contaminant incidents exceeding 200 litres, within 24 hours of the incident being detected.

The NT EPA is of the view that the evidence-based decision-making principle has been considered in assessing the regulated activity.

2.4 Principle of intergenerational and intra-generational equity (s21 *Environment Protection Act 2019*)

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.

The GHG emissions from the activity is approximately 4715 tonnes of carbon dioxide equivalent (tCO₂-e), generated, comprising approximately 4311 tCO₂-e from land clearing and 403 tCO₂-e from diesel combustion. This represents approximately 0.03% of the 2018 – 2019 NT estimated GHG emissions (16.0 million tCO₂-e).⁴ The NT EPA notes that the Government has committed to implementing all recommendations of the Hydraulic Fracturing Inquiry, including that the NT Government seeks to ensure there is no net increase in the lifecycle GHG emissions emitted in Australia from any onshore petroleum produced in the NT.

The regulated activity will be subject to requirements of an Aboriginal Areas Protection Authority (AAPA) Authority Certificate and cannot be approved until this Certificate is obtained. Protection of cultural interests is achieved through compliance with the requirements of the Authority Certificate issued by AAPA, including restricted work zones. Additional controls to minimise disturbance to archaeological heritage, include: 250 m buffers either side of seismic lines to allow flexibility; implementation of an “unexpected finds” procedure; and collaboration with the NLC for the employment of two cultural monitors for the duration of the seismic surveys.

The interest holder has identified relevant stakeholders and carried out stakeholder engagement in accordance with regulation 7. This includes obtaining temporary access authorities in accordance with the *Petroleum Act 1984* and *Commonwealth Native Title Act 1993* where northern and southern seismic survey areas extend into adjacent exploration permits. Interactions between the regulated activity and pastoral operations have been assessed; the interest holder is committed to regular engagement with pastoralists via progress updates.

The NT EPA considers that environmental values will be protected in the short term and in the long term, and that the health, diversity and productivity of the environment will be maintained for the benefit of future generations.

⁴ Source: DISER 2020. *State Greenhouse Gas Inventory*. <https://ageis.climatechange.gov.au/SGGI.aspx>.

2.5 Principle of sustainable use (s22 *Environment Protection Act 2019*)

At this stage, the interest holder does not require a groundwater extraction licence as groundwater take from an existing bore is well below the 5 ML per year threshold. Groundwater take will be metered; the combined total of groundwater from all sources is approximately 0.63 ML comprising approximately:

- 0.36 ML for the seismic program
- 0.20 ML for the installation of groundwater monitoring bores
- 0.06 ML externally sourced potable water for campsites.

The interest holder has assessed the cumulative impacts of future groundwater use (between 77 and 208 ML/annum), which should not adversely affect current and/or projected consumptive use up to a maximum of 20% of the sustainable yield from the Gum Ridge Formation.

The interest holder has committed to complying with the following groundwater exemption requirements to manage groundwater extraction from third party bores:

- water may only be extracted from bores in accordance with the bore owner's consent
- if any bores are within 1 km of another bore used for water extraction the proponent interest holder must also obtain permission from the second bore owner of the bore within 1 km
- permission must be obtained from the Controller of Water Resources in accordance with s. 81(2) of the *Water Act 1992*, prior to taking water from any NT Government bore (section 3.3.6).

The interest holder has demonstrated a commitment to reuse, recycle, and minimise the use of natural resources wherever possible, without introducing significant environmental impacts and risks.

Land disturbance will be limited and avoid large trees and/or culturally and environmentally sensitive areas. All disturbed land during seismic surveys will be rehabilitated immediately after the activity to minimise erosion and promote early regeneration of the natural vegetation.

2.6 Principle of conservation of biological diversity and ecological integrity (s23 *Environment Protection Act 2019*)

The EMP for the regulated activity has been informed by two separate field surveys in November 2019 and May 2020. These surveys are supplemented by field assessments at locations along the proposed seismic lines, observations via helicopter, detailed desktop analysis incorporating a variety of sources and historical surveys (2004 – 2018), and anecdotal evidence (Appendix A).

The two survey areas occur across several land systems. The majority of the northern survey area lies within the Beetaloo Land System, which consists of gently undulating lateritic plains and rises of lateritic red earths and podzolic soils dominated by *Acacia shirleyi* (Lancewood) forest. The southern survey area occurs across four distinct land systems and is predominantly situated on black soil plains:

- Creswell Land System and Barkly1 Land System: both characterised by black soil clay plains/soils, typically dominated by *Astrelba* sp. (Mitchell Grass) tussock grasslands
- Pollyarra/Creswell and Wonorah/Creswell Land Systems: both characterised by lateritic plains and rises.

There are no threatened vegetation communities listed or likely to occur within the northern or southern seismic survey areas.

Several areas of conservation significance occur within the vicinity of the proposed seismic survey areas including:

- Bullwaddy Conservation Reserve: 20 km to the west of EP136 in the northern survey area
- Lake Woods: approximately 140 km south-east of the southern seismic survey area on Newcastle Waters Station
- Tarrabool Lake: a Site of Conservation Significance located approximately 50 km south-east of the southern seismic line
- Eva Downs Swamp: listed in the Directory of Important Wetlands in Australia approximately 15 km south of the southern seismic lines.

The EMP identifies 21 fauna species listed as threatened under the EPBC Act and/or the TPWC Act. An assessment of the likelihood of occurrence indicates five listed threatened species that are likely to occur based on habitat suitability and previous records:

1. Gouldian Finch *Erythrura gouldiae* (Endangered EPBC Act, Vulnerable TPWC Act).
2. Grey Falcon *Falco hypoleucos* (Vulnerable TPWC Act).
3. Crested Shrike-tit (northern) *Falcunculus frontatus whitei* (Vulnerable EPBC Act, Near Threatened TPWC Act).
4. Painted Honey Eater *Grantiella picta* (Vulnerable EPBC Act, Vulnerable TPWC Act).
5. Yellow-spotted Monitor *Varanus panoptes* (Vulnerable TPWC Act).

The EMP also identifies an additional 14 migratory and marine bird species either likely (four) or possibly (10) occurring in the area.

The DEPWS Flora and Fauna Division is satisfied that that the regulated activity does not pose a significant risk to threatened species, important habitats or significant vegetation types. Further, the mitigation controls identified in the EMP are adequate to reduce risks associated with vehicle strike, dust, erosion and/or spills to as low as reasonably practicable, in relation to potential impacts on biodiversity. This includes clearing for the activity avoiding riparian vegetation and additional disturbance to watercourses, and avoiding larger trees with trunk diameters greater than 25 cm at 1.3 m above the ground to minimise disturbance to potential nesting trees.

The EMP proposes to minimise impacts to lancewood (*Acacia shirleyi*) by retaining surface cover and root stock to facilitate regrowth of vegetation along the seismic lines. Where patches of lancewood cannot be avoided, the proposed clearing areas does not represent significant biodiversity impact. Lancewood woodland is not considered to be a significant or sensitive vegetation.

The interest holder has committed to providing geospatial files of surface disturbance to DEPWS before, during and after line preparation/recording, and then at intervals of 6 months, 1 year and 2 years until rehabilitation is determined successful and complete. The NT EPA has recommended the interest holder provide to DEPWS an updated rehabilitation plan, concurrent with submission of the annual environment performance report.

The EMP outlines measures to minimise impacts on affected environmental values, including the management of threatening processes such as weeds and fire. Where relevant, management measures for the threatening process are consistent with the requirements of the Code, NT Land Clearing Guidelines and Weed Management Planning Guideline: Onshore Petroleum Projects.

Specific examples of mitigation controls include training for all personal on the use of protective equipment and bushfire awareness; daily inspections of all machinery and vehicles for any trapped vegetation that may cause a spark or ignite a fire; visual inspection and dry removal of debris; regular inspections along seismic lines to reduce the spread of weeds; and ensuring that all equipment is cleaned and has valid weed hygiene declarations prior to accessing pastoral properties.

The NT EPA considers that implementation of the EMP for the regulated activity should ensure the conservation of biological diversity and ecological integrity.

2.7 Principle of improved valuation, pricing and incentive mechanisms (s24 Environment Protection Act 2019)

The interest holder will be required to prevent, manage, mitigate and make good any contamination or pollution arising from the regulated activity, including contamination of soils, groundwater and surface waters through accidental spills.

All stages of the regulated activity, including progressive rehabilitation of all disturbed areas to an acceptable standard, will be at the cost of the interest holder.

The interest holder is required to provide an adequate environmental rehabilitation security bond to indemnify the NT Government. This is based on an assessment by DEPWS of the estimated rehabilitation cost submitted by the interest holder. The rehabilitation costs for the regulated activity is supported by independent contractor quotes.

The NT EPA is of the view the principle of improved valuation, pricing and incentive mechanisms has been considered in assessing the regulated activity and is based on the interest holder bearing any environmental costs for the activity.

3. Does the EMP demonstrate that the activity will be carried out in a manner by which the environmental impacts and environmental risks of the activity will be reduced to a level that is as low as reasonably practicable and acceptable (regulation 9(1)(c))

The interest holder has undertaken measures to avoid impacts on environmental values, informed by a detailed understanding of site conditions, obtained through baseline studies and surveys conducted on EP136.

The EMP demonstrates a systematic identification and assessment of environmental impacts and risks associated with the regulated activity. The key potential environmental impacts and risks considered in the EMP are:

- impacts to fauna and flora, resulting from civil works including clearing of seismic lines, vehicle movements, fire, weeds and erosion
- impacts to soil resulting from the use of heavy machinery, including potential spills, leaks and loss of containment of chemicals/hydrocarbons during transport, storage and use
- impacts to cultural heritage/scared sites resulting from proximity of seismic lines, fire and movement of heavy machinery
- impacts to surface water quality, resulting from clearing in the vicinity of creek crossings (erosion and sedimentation), spills of chemicals or hydrocarbons, flooding
- impacts to sensitive receptors, resulting from fire, inadequate or lack of stakeholder engagement, increase in traffic and noise
- negligible contribution to greenhouse gas emissions from combustion of fuel and land clearing.

Cumulative impacts to greenhouse gas emissions, groundwater, surface water, conservation significant flora and fauna, visual amenity and generation of waste were also considered.

The EMP has considered the hierarchy of controls (elimination, substitution, engineering, administration) and demonstrated that the controls to be implemented are considered ALARP. Of the 44 environmental risks identified by the interest holder, 43 are considered 'low' risk, and therefore are ALARP. The remaining risk pertains to erosion and sediment control and is considered 'medium'. The interest holder has included justification as to why no further controls can be implemented and therefore this aspect can be considered as ALARP. Specifically:

1. Increased likelihood of sheet flow across the sites during monsoon rain events, which could increase flow around installed infrastructure if the Erosion and Sediment Control Plan (ESCP)

is not effectively implemented. The ESCP has considered the hierarchy of controls avoiding clearing of native vegetation and slopes in excess of 2%. Standard drawings for all proposed erosion and drainage controls are included in the ESCP. The 'medium' risk ranking is based on the consequence of the event occurring being considered 'major'; the likelihood of occurrence is considered 'unlikely'.

2. Although assessed as a low risk, fire from heavy machinery ignition sources during clearing, could adversely impact flora, fauna and cultural heritage if it spreads uncontrollably. The interest holder has committed to complying with total fire ban days; carrying sufficient fire extinguishers; regularly cleaning the undercarriage of machinery to minimise the build-up of debris on ignition sources; having a water cart on hand during seismic surveys; and reviewing the NAFI website each day prior to the commencement of any works.
3. Damage to, or loss of, culturally significant artefacts, areas or species has been assessed as a low risk. The cultural heritage assessment (Appendix B, Figure 5), identifies seismic lines 1, 6, 7, 8; and 10 – 13 in the northern survey area intersecting two AAPA restricted works areas, and occurring in close proximity to five registered sacred sites and two Aboriginal Heritage Registered sites. Four sacred sites are identified near the southern portion of lines 1, 11 and 12; one sacred site is located west and adjacent to the upper northern region of line 11; and two Aboriginal Heritage Registered sites occur to the west and adjacent to the middle line 10. There are no sacred sites identified in the southern seismic survey area.

The interest holder has committed to: a 250 m buffer either side of the seismic lines (500 m total) to mitigate potential impacts and risks to culturally significant artefacts, areas or species; site inductions for all personnel to ensure they are aware of culturally sensitive aspects within the project area; implementation of an "unexpected finds" procedure; and using two cultural heritage monitoring personnel during clearing/seismic surveys.

The measures provided are appropriate to the nature and scale of the activity, and if implemented, the residual risk to the environment is likely to be acceptable.

The NT EPA considers that all reasonably practicable measures will be used to control the environmental impacts and risks, considering the level of consequence and the resources needed to mitigate them. The NT EPA considers that the environmental impacts and risks will be reduced to an acceptable level, considering the sensitivity of the local environment, relevant standards and compliance with the Code.

4. Other relevant matters

Regulation 9 requires that an EMP provides a comprehensive description of the regulated activity, including provision of a detailed timetable for the activity. The EMP includes two indicative schedules (Tables 10 and 11), outlining the sequencing of works. The NT EPA has provided advice that the interest holder be required to submit an updated timetable for the regulated activity prior to commencement. The timetable should address all aspects of the activity and include, but not be limited to, dates for the implementation of commitments and should be updated monthly or as other constraints, such as seasonal weather forecasts or travel restrictions emerge.

CONCLUSION

The NT EPA considers that, subject to the recommended EMP approval conditions, the EMP:

- is appropriate for the nature and scale of the regulated activity
- demonstrates that the regulated activity can be carried out in a manner such that the environmental impacts and risks of the activity will be reduced to a level that is as low as reasonably practicable (ALARP) and acceptable.

In providing this advice the NT EPA has considered the principles of ecologically sustainable development.

RECOMMENDATIONS

The NT EPA recommends that should the EMP for Sweetpea Petroleum Pty Ltd 2D seismic EP136 be approved, the following conditions be considered:

Condition 1: The interest holder must submit to DEPWS:

- i. an updated timetable (including time-bound commitments) for the regulated activity prior to commencement of the activity and each month, thereafter
- ii. daily on-site reports indicating the status and progress of the groundwater bore installation and seismic surveys, kilometres of clearing per seismic line; and progressive rehabilitation completed
- iii. a five-day activity forecast for the duration of the activity during the wet season (1 October – 30 April),
- iv. written notification of any halt to the activity due to early onset of the wet season, within 24 hours of taking action; and
- v. notification of any fires potentially threatening the works.

Condition 2: In the event of any accidental release (overflow, failure, spill or leak), to ground of contaminants that exceeds 200 litres, the interest holder must provide a written report to DEPWS Petroleum Operations within 24 hours of the incident was detected. The report must include:

- i. details of the incident specifying material facts, actions taken to avoid or mitigate environmental harm
- ii. the corrective actions taken including the volume and depth of impacted soil removed for appropriate disposal if required, and
- iii. any corrective actions proposed to be taken to prevent recurrence of an incident of a similar nature.

Condition 3: 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. The first report must cover the 12 month period from the date of the approval, and be provided within three calendar months of the end of the reporting period. The annual environment 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.

Condition 4: To support clause A.3.9 of the Code and the EMP rehabilitation plan, the interest holder is to provide an updated rehabilitation plan to DEPWS, concurrent with submission of the annual environment performance report. The amended rehabilitation plan must include:

- i. auditable success criteria for rehabilitation and corrective actions in the event rehabilitation monitoring shows success criteria are not achieved
- ii. an annual summary of progressive rehabilitation outcomes, and
- iii. be accompanied by geospatial files of all surface disturbance areas, including those under rehabilitation.

The rehabilitation plan must be implemented until a successful outcome is achieved and documented.



PAUL VOGEL AM
CHAIRPERSON

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

23 OCTOBER 2020