Appendix A: Change notice – Regulation 22

Interest holder	Tamboran B2 Pty Ltd	**EMP Title**	Beetaloo Sub-basin Shenandoah South E&A Program EMP	**Unique EMP ID**	TAM1-3	**Mod #**	3	**Date**	19 December 2024
Brief Description	Inclusion of a horizontal flare to be constructed on the Shenandoah S2 well site. This provision includes the clearing of an additional 1.5 ha within the north-east corner of the well site, currently identified to in the EMP as an uncleared “exclusion area”.								
Geospatial files included?	N/A								

Does the proposed change result in a new, or increased, or potential or actual environmental impact or risk?	**If an INCREASE in the existing potential or actual environmental risk, is it provided for in the EMP?**	**Does the proposed change require additional mitigation measures to be included?**	**Has additional stakeholder engagement been conducted?**	**Does it require additional environmental performance standards and measurement criteria?**	**Does it affect compliances with Sacred Site Authority Certificates?**	**Does it affect current rehabilitation, weed fire, wastewater, erosion and sediment control, spill or emergency response plans?**	**Will the environmental outcome continue to be achieved, and will the impacts and risks be managed to ALARP and acceptable?**
No. There are no new or increased environmental impacts or risks through the use of a horizontal flare or the additional approximate 1.5 ha of clearing. Approved clearing on this well site is 34.5 ha. As at 8-Aug-2024, total area cleared was 24.20 ha, including 11.77 ha for the well pad. The additional 1.5 ha will take the total clearing to 36.0 ha. This additional clearing represents a percentage increase of approximately 4%.	N/A No increased impact or risk with sufficient controls outlined in the EMP. • The clearing provides adequate protection / buffer to adjacent vegetation and personnel with a 67 m buffer between the flare and surrounds. • Also, the use of a horizontal flare reduces potential risks during simultaneous activities on the well pad such as flaring and hydraulic fracture stimulation. The change notice has been revised to include the above statement against risk # 9 of Appendix O, noting that there is no material change to the “low” risk rating, which is ALARP and acceptable.	No. Existing mitigation measures are in place covering clearing and flaring.	Yes. Pastoral stakeholder engagement occurred on 4 December 2024. From a visual amenity perspective, a horizontal flare within a flare pit results in less impact compared to a vertical flare.	No. Environmental performance standards within the existing approved EMP are sufficient.	No. Activity is covered under the existing AAPA certificates C2024-030 and C2024-031.	Yes. The Shenandoah S2 site for Appendix B Bushfire Management Plan and Appendix O Rehabilitation Management Plan has been updated to include the additional clearing. These are provided as attachments to this change notice. All other plans remain valid and appropriate.	Yes. There environmental performance measures outlined in EMP *Table 68 Environmental outcomes, performance standards and measurement criteria – air quality and atmospheric processes* will be met.

Additional contextual information	Inclusion of a horizontal flare to be constructed on the Shenandoah S2 well site. This provision includes the clearing of an additional ~1.5 ha within the north-east corner of the well site, currently identified to in the EMP as an uncleared “exclusion area”. The additional clearing represents a percentage increase of approximately 4%. The inclusion of a horizontal flare increases flexibility and enables simultaneous activities on the well pad, such as flaring and hydraulic fracture stimulation to occur with less potential risk.

Interest holder	Tamboran B2 Pty Ltd	EMP Title	Beetaloo Sub-basin Shenandoah South E&A Program EMP	Unique EMP ID	TAM1-3	Mod #	3	Date	19 December 2024

Current EMP text

Executive summary

Table 1: Description of the proposed new exploration and appraisal activities for the Shenandoah South E&A program, including 2D seismic acquisition

Activity	Parameter	Description

Exploration-on site civil construction	Construction and ongoing maintenance of 4 new E&A sites- 34.5 ha total disturbance	• Construction of 4 new E&A locations:
		  • Shenandoah S2- (12.0 ha)
		  • Shenandoah S B- (12.0 ha)
		  • Shenandoah S C- (7.5 ha)
		  • Shenandoah N A-(3.0 ha)

Total disturbance and rehabilitation (approx.)	139.66 ha	Final rehabilitation activities to return all sites back to a safe, stable and non-polluting form consistent with pre-disturbed condition: • 119.26 ha new clearing across all sites, including seismic. • 20.40 ha approved clearing across Kyalla 117 N2site.

3.1 Activity summary

Table 9: Site activity summary

Activity	Parameter	Description

Exploration-on site civil construction	Construction and ongoing maintenance of 4 new E&A sites- 34.5 ha total disturbance	• Construction of 4 new E&A locations:
		  • Shenandoah S2- (12.0 ha)
		  • Shenandoah S B- (12.0 ha)
		  • Shenandoah S C- (7.5 ha)
		  • Shenandoah N A-(3.0 ha)

Total disturbance and rehabilitation (approx.)	139.66 ha	Final rehabilitation activities to return all sites back to a safe, stable and non-polluting form consistent with pre-disturbed condition: • 119.26 ha new clearing across all sites, including seismic. • 20.40 ha approved clearing across Kyalla 117 N2site.

Amended EMP text

Executive summary

Table 1: Description of the proposed new exploration and appraisal activities for the Shenandoah South E&A program, including 2D seismic acquisition

Activity	Parameter	Description

Exploration-on site civil construction	Construction and ongoing maintenance of 4 new E&A sites- 36.0 ha total disturbance	• Construction of 4 new E&A locations:
		  • Shenandoah S2- (13.5 ha)
		  • Shenandoah S B- (12.0 ha)
		  • Shenandoah S C- (7.5 ha)
		  • Shenandoah N A-(3.0 ha)

Total disturbance and rehabilitation (approx.)	141.16 ha	Final rehabilitation activities to return all sites back to a safe, stable and non-polluting form consistent with pre-disturbed condition: • 120.76 ha new clearing across all sites, including seismic. • 20.40 ha approved clearing across Kyalla 117 N2site.

3.1 Activity summary

Table 9: Site activity summary

Activity	Parameter	Description

Exploration-on site civil construction	Construction and ongoing maintenance of 4 new E&A sites- 36.0 ha total disturbance	• Construction of 4 new E&A locations:
		  • Shenandoah S2- (13.5 ha)
		  • Shenandoah S B- (12.0 ha)
		  • Shenandoah S C- (7.5 ha)
		  • Shenandoah N A-(3.0 ha)

Total disturbance and rehabilitation (approx.)	141.16 ha	Final rehabilitation activities to return all sites back to a safe, stable and non-polluting form consistent with pre-disturbed condition: • 120.76 ha new clearing across all sites, including seismic. • 20.40 ha approved clearing across Kyalla 117 N2site.

Interest holder	Tamboran B2 Pty Ltd	EMP Title	Beetaloo Sub-basin Shenandoah South E&A Program EMP	Unique EMP ID	TAM1-3	Mod #	3	Date	19 December 2024

Current EMP text

3.3.2 Location and disturbance summary of activity

Table 10: Location and disturbance summary of infrastructure on EP 117 and EP 98

Infrastructure	EP	Zone*	Easting (approx.)	Northing (approx.)	Existing disturbance (ha)	New proposed disturbance (ha)	Total disturbance (ha)
Shenandoah S2: well pad, access track and associated infrastructure	98	53	355291	8140676	–	29.50	29.50
Total clearing (ha)					20.40	119.25	139.66

3.3.2.1 Surface Disturbance – Regional Context

Including clearing proposed under this EMP, the combined land clearing on EP 117 and EP 98 from Tamboran's activities is ~320 ha, which represents ~0.019% of the combined surface area across the two EPs (16,675 km^2). Including new clearing proposed under this EMP (118.51 ha), the combined surface disturbance from all Tamboran activities is ~325 ha across 3 EPs (18,555 km^2), or ~0.018% of the total surface area.

Table 11 shows the estimated cumulative clearing across Tamboran's and neighbouring EPs by onshore petroleum operators. Onshore petroleum activities have a disturbance below <0.02% of the total surface area of all current operational EPs. This figure (~888 ha) is highly conservative, as it indicates approved clearing levels and not actual clearing levels. Compared to the approved clearing (2003 – 2023) on neighbouring pastoral stations within the Barkly/Gulf districts (~26,000 ha), land clearing for onshore petroleum activities is negligible.[23]

Interest holder	EP	Exploration permit areas		Clearing	Land clearing
		km^2	ha	ha	%
Tamboran	117	6,375	637,500	144.76	0.0227
	98	10,300	1,030,000	172.50	0.0167
	76	1,800	188,000	7.65	0.0041
Sweetpea (a wholly owned subsidiary of Tamboran)	136	4,181	418,100	212.00	0.0507
Santos	161	13,350	1,335,000	99.20	0.0074
Imperial	187	2,998	299,800	252.00	0.0841
TOTAL		**39,084**	**3,908,400**	**888.11**	**0.0227**

Amended EMP text

3.3.2 Location and disturbance summary of activity

Table 10: Location and disturbance summary of infrastructure on EP 117 and EP 98

Infrastructure	EP	Zone*	Easting (approx.)	Northing (approx.)	Existing disturbance (ha)	New proposed disturbance (ha)	Total disturbance (ha)
Shenandoah S2: well pad, access track and associated infrastructure	98	53	355291	8140676	–	31.0	31.0
Total clearing (ha)					20.40	120.76	141.16

3.3.2.1 Surface Disturbance – Regional Context

Including clearing proposed under this EMP, the combined land clearing on EP 117 and EP 98 from Tamboran's activities is ~320 ha, which represents ~0.019% of the combined surface area across the two EPs (16,675 km^2). Including new clearing proposed under this EMP (120.76 ha), the combined surface disturbance from all Tamboran activities is ~325 ha across 3 EPs (18,555 km^2), or ~0.018% of the total surface area.

Table 11 shows the estimated cumulative clearing across Tamboran's and neighbouring EPs by onshore petroleum operators. Onshore petroleum activities have a disturbance below <0.02% of the total surface area of all current operational EPs. This figure (~889.61 ha) is highly conservative, as it indicates approved clearing levels and not actual clearing levels. Compared to the approved clearing (2003 – 2023) on neighbouring pastoral stations within the Barkly/Gulf districts (~26,000 ha), land clearing for onshore petroleum activities is negligible.[23]

Interest holder	EP	Exploration permit areas		Clearing	Land clearing
		km^2	ha	ha	%
Tamboran	117	6,375	637,500	144.76	0.0227
	98	10,300	1,030,000	174.00	0.0167
	76	1,800	188,000	7.65	0.0041
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Santos	161	13,350	1,335,000	99.20	0.0074
Imperial	187	2,998	299,800	252.00	0.0841
TOTAL		**39,084**	**3,908,400**	**889.61**	**0.0227**

Interest holder	Tamboran B2 Pty Ltd	EMP Title	Beetaloo Sub-basin Shenandoah South E&A Program EMP	Unique EMP ID	TAM1-3	Mod #	3	Date	19 December 2024

Current EMP text

3.6 Civil construction and maintenance

Table 15: Summary of civil construction activities at all sites (ha)

Infrastructure	Existing (ha)	New (ha
Shenandoah S2		
Well pad	-	12.00
Camp pad	-	1.00
Helipad	-	-
Access track, including turn ins and passing bays	-	7.50
Laydown / storage / contingent	-	5.00
Fence line and firebreak	-	4.00
Gathering lines: Kyalla 117 N2 to / from Shenandoah S2	Included under Kyalla 117 N2 total	
Gravel pit(s): SSGP3	-	5.00
Subtotal	-	34.50
TOTAL	20.40	101.50

3.10.1 Completion and well testing

The site will consist of new and existing E&A wells and several associated, temporary facilities that will be brought on to assist with completion and testing activities. The Shenandoah South and Kyalla 117 N2 sites will have the following equipment and infrastructure:

- Completion rig and associated equipment (which installs the production tubing)
- Well testing package, including:
  - Test separator (separates hydrocarbons from flowback fluid).
  - Vertical gas flare, a safe and accepted disposal method of volatile hydrocarbons.
  - Surface pipe work and manifolds.
  - Emergency shut down valves.
  - Workshops and storerooms.
  - Communications and generator shacks.
  - Bunded diesel and oil storage areas.
  - Wastewater (flowback) fluid storage, open-top and covered.
  - Water transfer equipment.
  - A camp.

3.10.2 Flaring

During well testing, produced gas and liquids will be separated to split out gas, condensate (if encountered) and flowback fluids. Flowback fluids will be sent to wastewater storage tanks for management as described in section Drilling waste composting/soil conditioner trial. Produced hydrocarbons (gas and condensate) will either be flared onsite or gathered to a centralised flare for management (such as Shenandoah S2). This will reduce the number of flares required to be operated and enable future appraisal gas sale (subject to a future EMP revision).

An example of a vertical flare is provided in Figure 29.

Amended EMP text

3.6 Civil construction and maintenance

Table 15: Summary of civil construction activities at all sites (ha)

Infrastructure	Existing (ha)	New (ha
Shenandoah S2		
Well pad	-	13.50
Camp pad	-	1.00
Helipad	-	-
Access track, including turn ins and passing bays	-	7.50
Laydown / storage / contingent	-	5.00
Fence line and firebreak	-	4.00
Gathering lines: Kyalla 117 N2 to / from Shenandoah S2	Included under Kyalla 117 N2 total	
Gravel pit(s): SSGP3	-	5.00
Subtotal	-	36.00
TOTAL	20.40	103.00

3.10.1 Completion and well testing

The site will consist of new and existing E&A wells and several associated, temporary facilities that will be brought on to assist with completion and testing activities. The Shenandoah South and Kyalla 117 N2 sites will have the following equipment and infrastructure:

- Completion rig and associated equipment (which installs the production tubing)
- Well testing package, including:
  - Test separator (separates hydrocarbons from flowback fluid).
  - Vertical or horizontal gas flare, a safe and accepted disposal method of volatile hydrocarbons.
  - Surface pipe work and manifolds.
  - Emergency shut down valves.
  - Workshops and storerooms.
  - Communications and generator shacks.
  - Bunded diesel and oil storage areas.
  - Wastewater (flowback) fluid storage, open-top and covered.
  - Water transfer equipment.
  - A camp.

3.10.2 Flaring

During well testing, produced gas and liquids will be separated to split out gas, condensate (if encountered) and flowback fluids. Flowback fluids will be sent to wastewater storage tanks for management as described in section Drilling waste composting/soil conditioner trial. Produced hydrocarbons (gas and condensate) will either be flared onsite or gathered to a centralised flare for management (such as Shenandoah S2). This will reduce the number of flares required to be operated and enable future appraisal gas sale (subject to a future EMP revision).

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Current EMP text

Figure 29: Vertical flare

Amended EMP text

The vertical flare at Shenandoah S2 is an unassisted flare, with the anticipated gas composition likely to achieve the required combustion efficiency without any additional support (Figure 29a).

Where flaring is undertaken concurrent with drilling and / or hydraulic fracture simulation, a horizontal flare will be used (Figure 29b). The horizontal flare will be located within a cleared 1.50 ha area to minimise radiant heat and provide sufficient buffer (e.g. ~65 m around the flare) to the surrounds. The bunded flare within the clearing will be an area of approximately 104 m x 102 m in size. The flare unit will have a continuous flare pilot burner to ignite any gases sent to the flare during well testing. The pilot flame will be supplied with an independent propane fuel source located at least 45 m from the flare.

…

An example of a vertical flare and horizontal flare is provided in Figure 29.

a)

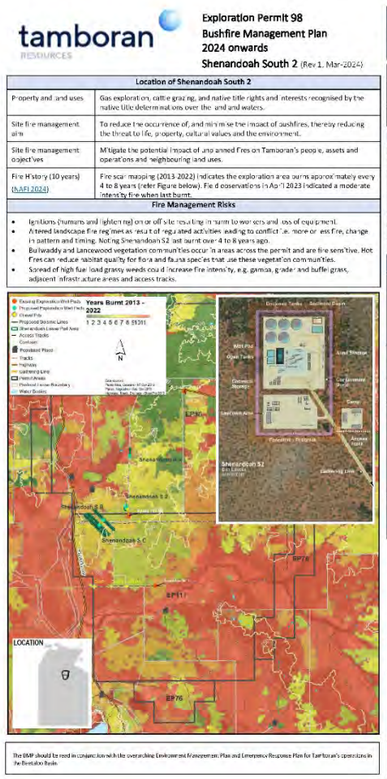
b)

Figure 29: Flare examples a) vertical flare and b) horizontal flare

Interest holder	Tamboran B2 Pty Ltd	EMP Title	Beetaloo Sub-basin Shenandoah South E&A Program EMP	Unique EMP ID	TAM1-3	Mod #	3	Date	19 December 2024

Current EMP text

Appendix A Bushfire Management Plan



Bushfire Officer	Contact Details	Name
	[redacted]	Robert Weir

Neighbours	Contact Details	Name
Beetaloo Station	[redacted]	Scotty & Jane Armstrong
Hayfield/Shenandoah Station	[redacted]	Justin Dyer & Sally Dyer

Stakeholders	Contact Details
National Response Centre	1800 076 251 (24/7 contact line)
Emergency	000 or 112 mobile
Bushfire NT Katherine office (Savanna)	(08) 8973 8871 / BushfiresNT.Katherine@nt.gov.au
Bushfire NT Alice Springs & Tennant Creek office (Barkly)	(08) 8953 9286
NAFI North	https://www.fire.nt.gov.au/nafi3/
Secure NT (Fire Bans and Alerts)	https://securent.nt.gov.au/alerts
Fire Incident map	https://www.pfes.nt.gov.au/incidentmap/

Bushfire Management Actions

Well pad	• Remove and or maintain vegetation within the well pad area and implement erosion and sediment control plan. • Treat emerging vegetation with herbicide. • Hot works are not permitted on total Fire bans days without written approval from a fire control officer or fire warden. • When the site is suspended, the well pad can be sufficient to satisfy APZ requirements depending on the level of infrastructure/ assets present.
Fire management break	• A 10 m wide cleared perimeter around well pads and tank pads during operations. • An additional 10 m wide bare earth fire break incorporating a 4 m wide fire access trail during operations.
Fire access trails	• Create and maintain 4 m wide access trail by grading or spraying.
Asset protection zones (APZ)	• Site manager to assess fuel load prior to camp establishment and again at end of wet season if infrastructure is still in place (refer to Fuel Load Criteria). • Establish a 20 m low fuel zone around well pads and well pads during operations (i.e. an area low in combustible material and obstructions). • Monitor for grassy weeds and control where appropriate. • If deemed necessary, conduct controlled burns where other controls are not effective and in consultation with neighbouring properties. • Ensure 4 m wide fire access trail around the perimeter of the asset protection zone is trafficable by fire fighting appliances.
Neighbouring property fire management zone	• Fire management planning meeting with neighbouring property prior to commencing activities and reviewed annually. • Neighbour to advise proponent of planned burns. • Working with pastoralist to assist in responding to fire where it is safe and practicable.

Annual Works Calendar

Jan	Low	• No fire management activity	July	Low	• Manage vegetation onsite (including weeds), fire break and fire access trail • Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
Feb	Low	• No fire management activity	Aug	High	• Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
Mar	Low	• Weed survey • Planning meeting with neighbour • Annual fire mapping to monitor changes to fire frequency in the area	Sep	High	• Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
Apr	Low	• No fire management activity	Oct	High	• Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
May	Low	• No fire management activity • Liaise with neighbour regarding bushfires • Review the preparedness planning requirements	Nov	Medium	• Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
Jun	Medium	• Manage vegetation onsite, fire break and fire access trail • Monitor NAFI, fire danger ratings and fire weather warnings • Review the preparedness planning requirements	Dec	Low	• No fire management activity • Review the preparedness planning requirements

Bushfire Preparedness and Planning

Mandatory for all Severe, Extreme and Catastrophic FDI days

The following must be reviewed daily. If fire alerts are active or presenting with a known fire risk, personnel must execute their contingency plans which need to encompass the following:

- ☐ Procedure on identifying and notifying of a bushfire.
- ☐ Critical equipment to be removed / isolated/ shut down.
- ☐ Safe evacuation routes from site and muster points.
- ☐ Communication methods:
  - ✓ Team channels and / or phone numbers
  - ✓ Area channels and/or phone numbers
- ☐ Closest safe havens.

Monitoring

- ☐ Provide timely advice on changes in level of fire risk as available.
- ☐ Monitor team and area common channels for bushfire early warning.
- ☐ Update changes in work location.

Bushfire First Responder Checklist

The following sequence must be followed by the first person responding to a fire:

1. **Danger** – Remove yourself and others from danger is safe to do so.
2. **Alarm** – Raise the alarm either on common radio channel or other agreed process.
3. **Gather Information** –
   - ☐ Location – Direction from known reference points, (e.g. roads and Tamboran's infrastructure such as well pad location).
   - ☐ Impacts (actual and potential) – Life, property and the environment.
   - ☐ Fire characteristics – Grass or woodlands, flame height, fire front and direction of travel.
   - ☐ Weather – Wind strength and direction.
   - ☐ Response in progress – What response is underway and by who (Tamboran contractors, pastoralist or Emergency Services).
   - ☐ Response required – Tamboran contractors and / or pastoralist and / or Emergency Services.
   - ☐ Access – Safe access and egress routes.
4. **Notify Tamboran** – Fire Officer/S.upervisor
5. **Notify Pastoralists** – Refer to property contacts
6. **Notify Emergency Services**—Call 000 or 112 if Tamboran and pastoralist unable to manage situation
7. **Respond and Monitor** —If safe to do so in consultation with pastoralist and Emergency Services.

CSIRO Fuel Load Criteria

- ☐ Fuel quantity (tonnes of fuel per ha).
- ☐ Assess vegetation type (i.e. grassland, shrub and, scrub, wood and or forest.
- ☐ Fuel size and shape (e.g. fine fuel such as grass that burns quickly vs coarse fue (thick branches/trunks) that burn slowly.
- ☐ Fuel arrangement (i.e. separation of understory to canopy, dense or light understory).
- ☐ Moisture content (strong winds, high temperatures and low humidity will decrease moisture content).

Appendix M Risk Register

Ref	Environmental Factor	Risk scenario description	Risk source	Code of Practice (the Code)	Prevention
9	Hydrological processes	Contamination of aquifer from surface activities (chemical and waste storage, handling, treatment, recycling and spills) impacting a receptor (groundwater user or GDE)	Storage, handling and transporation of produced hydrocarbons (condensate)	A.4.7 Containment of Contaminants C.3.3 Wastewater management legislative requirements C.8.2 Spill Management Plan	• Tanks to be compliant with AS 1692 and double-lined • Spill Management Plan implemented to prevent, detect and respond to spills. • Separation between condensate storages and closest aquifer over 70 m, with interbedded clays likely to limit any contaminant migration. • Any condensate transportation to be

Amended EMP text

Appendix A Bushfire Management Plan

Refer attached revised BMP for the Shenandoah S2 site provided separately.

Appendix M Risk Register

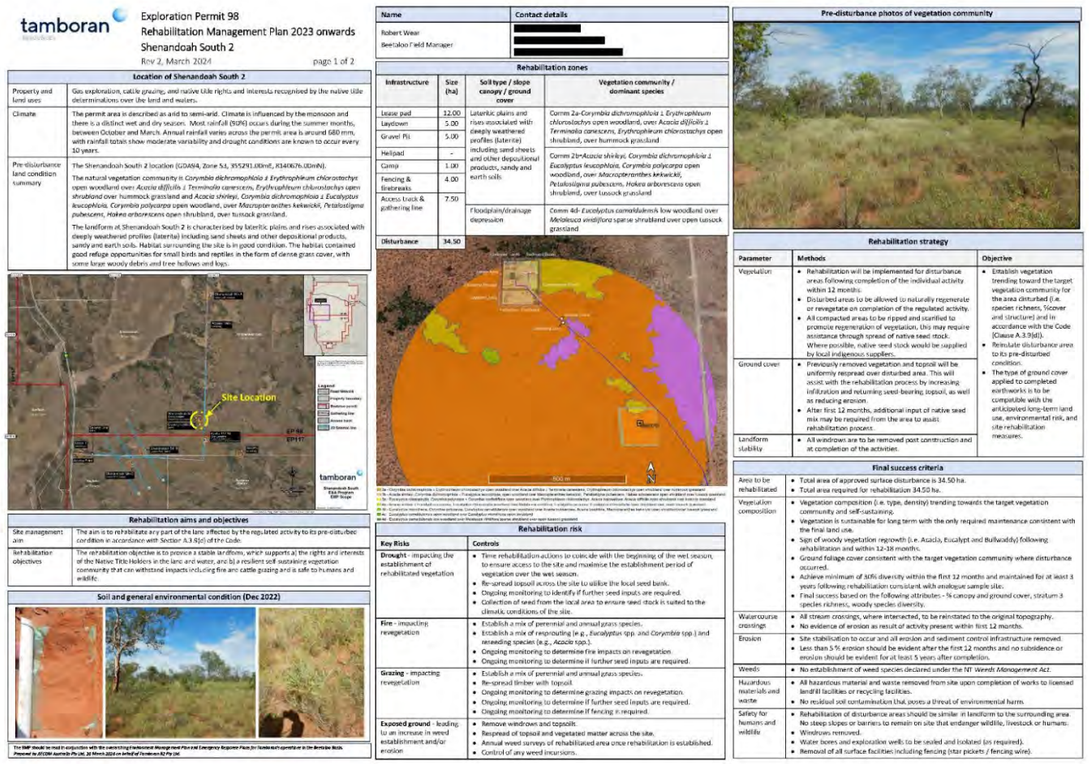
Note the flarepit will not be receiving condensates; only dry gas.

Ref	Environmental Factor	Risk scenario description	Risk source	Code of Practice (the Code)	Prevention
9	Hydrological processes	Contamination of aquifer from surface activities (chemical and waste storage, handling, treatment, recycling and spills) impacting a receptor (groundwater user or GDE)	Storage, handling and transporation of produced hydrocarbons	A.4.7 Containment of Contaminants C.3.3 Wastewater management legislative requirements C.8.2 Spill Management Plan	• Use of a horizontal flare reduces potential risks during simultaneous activities on the well pad such as flaring and hydraulic fracture stimulation. • Tanks to be compliant with AS 1692 and double-lined • Spill Management Plan implemented to prevent,

Interest holder	Tamboran B2 Pty Ltd	EMP Title	Beetaloo Sub-basin Shenandoah South E&A Program EMP	Unique EMP ID	TAM1-3	Mod #	3	Date	19 December 2024

Current EMP text						Amended EMP text					
					undertaken by licenced transporters (for dangerous goods or wastes) • Flare pit to be lined and freeboard maintained to prevent contaminant releases or overflows. • Nearest landholder extraction bore 1 km. • Impact and control groundwater monitoring bores installed to detect any potential contamination. • Spills and leaks to be cleaned upimmediately. • No major GDE linked to CLA within 20 km of extraction point, although stygofauna eDNA has been detected in the Amungee NW1 bore; impact likely to be localised.						detect and respond to spills. • Separation between condensate storages and closest aquifer over 70 m, with interbedded clays likely to limit any contaminant migration. • Any condensate transportation to be undertaken by licenced transporters (for dangerous goods or wastes) • No indication of shallow groundwater in the vicinity of the flare pit. • Nearest landholder extraction bore 1 km. • Impact and control groundwater monitoring bores installed to detect any potential contamination. • Spills and leaks to be cleaned upimmediately. • No major GDE linked to CLA within 20 km of extraction point, although stygofauna eDNA has been detected in the Amungee NW1 bore; impact likely to be localised.

Interest holder	Tamboran B2 Pty Ltd	EMP Title	Beetaloo Sub-basin Shenandoah South E&A Program EMP	Unique EMP ID	TAM1-3	Mod #	3	Date	19 December 2024

Current EMP text	Amended EMP text
Appendix O Rehabilitation Management Plan 	**Appendix O Rehabilitation Management Plan** Refer attached revised RMP for the Shenandoah S2 site provided separately.

Interest holder	Tamboran B2 Pty Ltd	EMP Title	Beetaloo Sub-basin Shenandoah South E&A Program EMP	Unique EMP ID	TAM1-3	Mod #	3	Date	19 December 2024

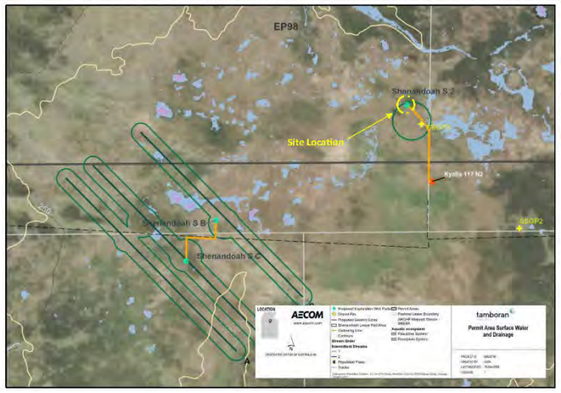
Current EMP text

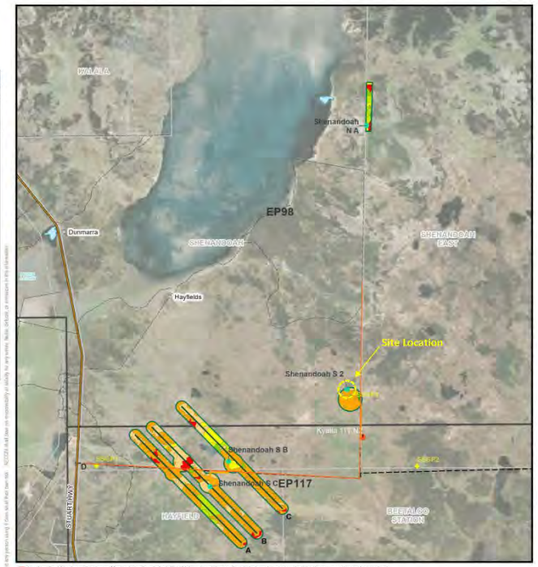
tamboran RESOURCES

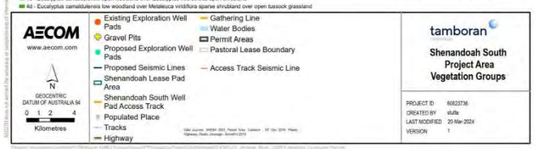
Exploration Permit 98
Rehabilitation Management Plan 2023 onwards
Shenandoah South 2
Rev 2, March-2024 Page 2 of 2

Monitoring program and schedule

Stage	Timing	Method	Measurable attributes
Progressive rehabilitation	Within 6-12 weeks of completion of activities	• Topsoil, windrows and cleared vegetation stockpiled are to be respread following the works. • Refer to detail in Tamboran's Erosion and Sediment Control Plan	• All disturbed areas must be considered suitably stabilised as per IECA Table in the Tamboran Erosion and Sediment Control Plan.
Preliminary assessment	Post rehabilitation, end of wet season survey (February to June) within 12 months.	• Analogue sites will be established for the two vegetation communities identified in the baseline Land Condition Assessment (AECOM 2023) at adjacent undisturbed sites. • Permanent 100 m x 4 m transects (one per vegetation community), will be established at disturbed and analogue sites including photo monitoring point(s). • Collect 1 x 1 m ground cover quadrats every 10 m along each 100 m transect. • Transects to be positioned <20 m from pastoral and gas infrastructure assets (i.e. access tracks, fence lines, well pads, water troughs) to reduce edge effects.	Following measurable attributes will be compared with analogue sites: • Seedling/sapling density of dominant species respective to each vegetation community. • Percentage of ground cover respective to bare land and vegetation. • Number of species at canopy, mid and ground strata. • Evidence of erosion (type of erosion, approximate area of erosion). • Weed presence/absence (species and density). • Disturbance (fire frequency and intensity, evidence of feral animal/ cattle) • Incidental observations.
Early rehabilitation	Years 1, 2 and 3 post rehabilitation, end of wet season survey (February to June)	• Monitoring to be undertaken using permanent transects at analogue and disturbed sites. • Collect data as per preliminary methods. • Compare results from monitoring sites with analogue sites and previous year's assessment to determine if require additional management inputs (i.e. seeding, stabilisation).	• Early assessment of rehabilitation will determine attributes of woody plants in each 100 m x 4 m transect. • Including assessment of species, DBH (>1.5 cm) and height (>2 m), in addition to parameters described within the preliminary assessment.
Long-term rehabilitation	Annually until final success criteria has been met, end of wet season survey (February to June).	• Implement reseeding if species richness does not show a trajectory to achieving pre-disturbance conditions 5 years post disturbance. • Species which fail to naturally recover from soil seed bank will be selected for reseeding. • Annually review success criteria.	• Long-term assessment to determine establishment, recruitment, and growth rate attributes of plant species, in addition to parameters described during early rehabilitation stage.







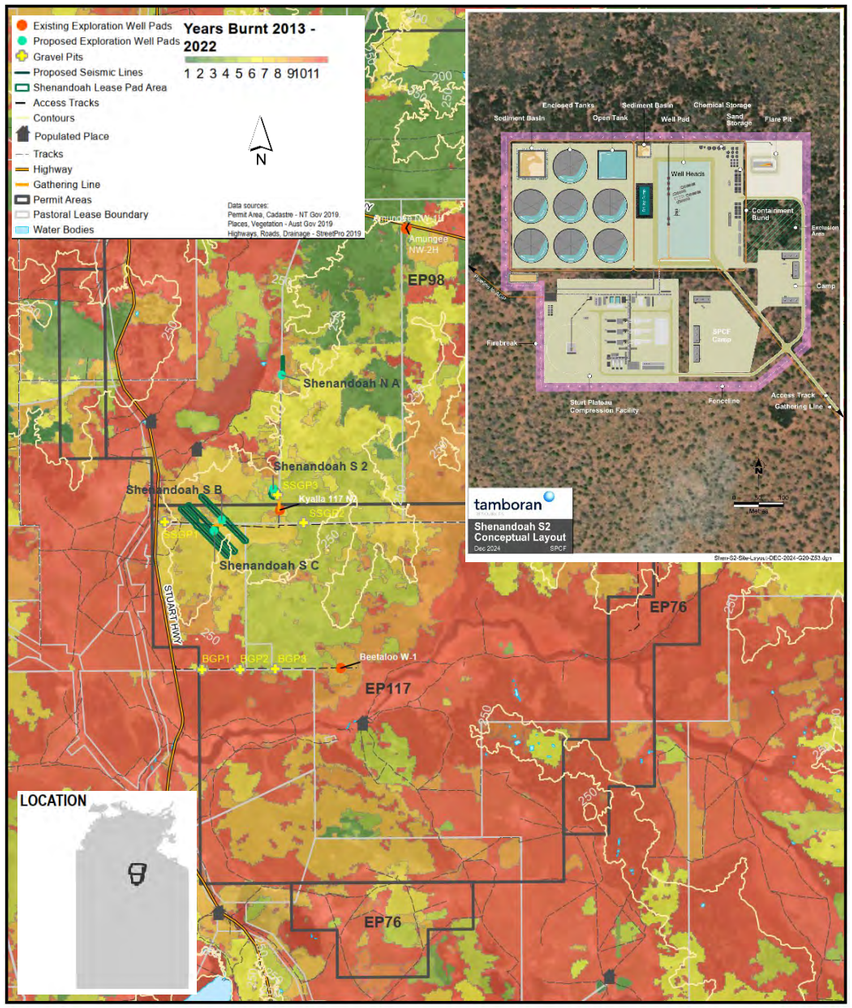
Amended EMP text

Exploration Permit 98
Bushfire Management Plan 2024 onwards
Shenandoah South 2 (Rev 2, Dec-2024)

Location of Shenandoah South 2	
Property and land uses	Gas exploration, cattle grazing, and native title rights and interests recognised by the native title determinations over the land and waters.
Site fire management aim	To reduce the occurrence of, and minimise the impact of bushfires, thereby reducing the threat to life, property, cultural values and the environment.
Site fire management objectives	Mitigate the potential impact of unplanned fires on Tamboran's people, assets and operations and neighbouring land uses.
Fire History (10 years) (NAFI 2024)	Fire scar mapping (2013-2022) indicates the exploration area burns approximately every 4 to 8 years (refer Figure below). Field observations in April 2023 indicated a moderate intensity fire when last burnt.

Fire Management Risks

- Ignitions (humans and lightening) on or off site resulting in harm to workers and loss of equipment.
- Altered landscape fire regimes as result of regulated activities leading to conflict i.e. more or less fire, change in pattern and timing. Noting Shenandoah S2 last burnt over 4 to 8 years ago.
- Bullwaddy and Lancewood vegetation communities occur in areas across the permit and are fire sensitive. Hot fires can reduce habitat quality for flora and fauna species that use these vegetation communities.
- Spread of high fuel load grassy weeds could increase fire intensity, e.g. gamba, grader and buffel grass, adjacent infrastructure areas and access tracks.



The BMP should be read in conjunction with the overarching Environment Management Plan and Emergency Response Plan for Tamboran's operations in the Beetaloo Basin.

Bushfire Officer	Contact Details	Name
	Mobile: [redacted] Satellite Phone: [redacted] Email: [redacted]	Robert Wear

Neighbours	Contact Details		Name
Beetaloo Station	[redacted]	[redacted]	Scotty & Jane Armstrong
Hayfield/Shenandoah Station	[redacted]	[redacted]	Justin Dyer & Sally Dyer

Stakeholders	Contact Details
[redacted]	[redacted]
Emergency	000 or 112 mobile
Bushfire NT Katherine office (Savanna)	(08) 8973 8871 / BushfiresNT.Katherine@nt.gov.au
Bushfire NT Alice Springs & Tennant Creek office (Barkly)	(08) 8951 9266
NAFI North	https://www.firenorth.org.au/nafi3/
Secure NT (Fire Bans and Alerts)	https://securent.nt.gov.au/alerts
Fire incident map	https://www.pfes.nt.gov.au/incidentmap/

Bushfire Management Actions

Well pad	• Remove and or maintain vegetation within the well pad area and implement erosion and sediment control plan. • Treat emerging vegetation with herbicide. • Hot works are not permitted on total fire ban days without written approval from a fire control officer or fire warden. • When the site is suspended, the well pad can be sufficient to satisfy APZ requirements depending on the level of infrastructure/ assets present.
Fire management break	• A 10 m wide cleared perimeter around well pads and tank pads during operations. • An additional 10 m wide bare earth fire break incorporating a 4 m wide fire access trail during operations.
Fire access trails	• Create and maintain 4 m wide access trail by grading or spraying.
Asset protection zones (APZ)	• Site manager to assess fuel load prior to camp establishment and again at end of wet season if infrastructure is still in place (refer to Fuel Load Criteria). • Establish a 20 m low fuel zone around well pads and well pads during operations (i.e. an area low in combustible material and obstructions). • Monitor for grassy weeds and control where appropriate. • If deemed necessary, conduct controlled burns where other controls are not effective and in consultation with neighbouring properties. • Ensure 4 m wide fire access trail around the perimeter of the asset protection zone is trafficable by firefighting appliances.
Neighbouring property fire management zone	• Fire management planning meeting with neighbouring properties prior to commencing activities and reviewed annually. • Neighbour to advise proponent of planned burns. • Working with pastoralist to assist in responding to fire where it is safe and practicable.

Bushfire Preparedness and Planning

Mandatory for all Severe, Extreme and Catastrophic FDI days

The following must be reviewed daily. If fire alerts are active or presenting with a known fire risk, personnel must execute their contingency plans which need to encompass the following:

- ☐ Procedure on identifying and notifying of a bushfire.
- ☐ Critical equipment to be removed / isolated/ shut down.
- ☐ Safe evacuation routes from site and muster points.
- ☐ Communication methods:
  - ✓ Team channels and / or phone numbers
  - ✓ Area channels and/or phone numbers
- ☐ Closest safe havens.

Monitoring

- ☐ Provide timely advice on changes in level of fire risk as available.
- ☐ Monitor team and area common channels for bushfire early warning.
- ☐ Update changes in work location.

Bushfire First Responder Checklist

The following sequence must be followed by the first person responding to a fire:

1. Danger – Remove yourself and others from danger is safe to do so.

2. Alarm – Raise the alarm either on common radio channel or other agreed process.

3. Gather Information –

- ☐ Location – Direction from known reference points, (e.g. roads and Tamboran's infrastructure such as well pad location).
- ☐ Impacts (actual and potential) – Life, property and the environment.
- ☐ Fire characteristics – Grass or woodlands, flame height, fire front and direction of travel.
- ☐ Weather – Wind strength and direction.
- ☐ Response in progress – What response is underway and by who (Tamboran contractors, pastoralist or Emergency Services).
- ☐ Response required – Tamboran contractors and / or pastoralist and / or Emergency Services.
- ☐ Access – Safe access and egress routes.

4. Notify Tamboran – Fire Officer/Supervisor

5. Notify Pastoralists – Refer to property contacts

6. Notify Emergency Services—Call 000 or 112 if Tamboran and pastoralist unable to manage situation

7. Respond and Monitor —If safe to do so in consultation with pastoralist and Emergency Services.

CSIRO Fuel Load Criteria

- ☐ Fuel quantity (tonnes of fuel per ha).
- ☐ Assess vegetation type i.e. grassland, shrubland, scrub, woodland or forest.
- ☐ Fuel size and shape e.g. fine fuel such as grass that burns quick vs course fuel (thick branches/trunks) that burn slowly.
- ☐ Fuel arrangement (i.e. separation of understory to canopy, dense or light understory).
- ☐ Moisture content (strong winds, high temperatures and low humidity will decrease moisture content).

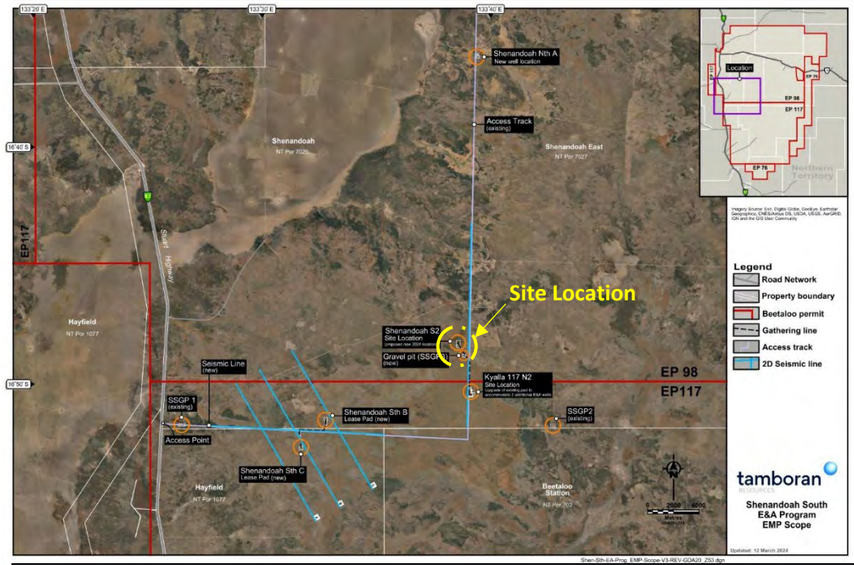
Annual Works Calendar

Jan	Low	• No fire management activity	**July**	High	• Manage vegetation onsite (including weeds), fire break and fire access trail • Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
Feb	Low	• No fire management activity	**Aug**	High	• Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
Mar	Low	• Weed survey • Planning meeting with neighbour • Annual fire mapping to monitor changes to fire frequency in the area	**Sep**	High	• Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
Apr	Low	• No fire management activity	**Oct**	High	• Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
May	Low	• No fire management activity • Liaise with neighbour regarding bushfires • Review the preparedness planning requirements	**Nov**	Medium	• Monitor NAFI, fire danger ratings and fire weather warnings (daily or as required), and visually check horizon for smoke • Liaise with neighbour regarding bushfires
Jun	Medium	• Manage vegetation onsite, fire break and fire access trail • Monitor NAFI, fire danger ratings and fire weather warnings • Review the preparedness planning requirements	**Dec**	Low	• No fire management activity • Review the preparedness planning requirements

Exploration Permit 98
Rehabilitation Management Plan 2024 onwards
Shenandoah South 2

Rev 3, December-2024

Location of Shenandoah South 2	
Property and land uses	Gas exploration, cattle grazing, and native title rights and interests recognised by the native title determinations over the land and waters.
Climate	The permit area is described as arid to semi-arid. Climate is influenced by the monsoon and there is a distinct wet and dry season. Most rainfall (90%) occurs during the summer months, between October and March. Annual rainfall varies across the permit area is around 680 mm, with rainfall totals show moderate variability and drought conditions are known to occur every 10 years.
Pre-disturbance land condition summary	The Shenandoah South 2 location (GDA94, Zone 53, 355291.00mE, 8140676.00mN). The natural vegetation community is *Corymbia dichromophloia ± Erythrophleum chlorostachys* open woodland over *Acacia difficilis ± Terminalia canescens, Erythrophleum chlorostachys open shrubland* over hummock grassland and *Acacia shirleyi, Corymbia dichromophloia ± Eucalyptus leucophloia, Corymbia polycarpa* open woodland, over *Macropteranthes kekwickii, Petalostigma pubescens, Hakea arborescens* open shrubland, over tussock grassland. The landform at Shenandoah South 2 is characterised by lateritic plains and rises associated with deeply weathered profiles (laterite) including sand sheets and other depositional products, sandy and earth soils. Habitat surrounding the site is in good condition. The habitat contained good refuge opportunities for small birds and reptiles in the form of dense grass cover, with some large woody debris and tree hollows and logs.



Rehabilitation aims and objectives	
Site management aim	The aim is to rehabilitate any part of the land affected by the regulated activity to a safe condition consistent with industry standards, the Code and in consultation with the landholder.
Rehabilitation objectives	The rehabilitation objective is to provide a stable landform, which supports a) the rights and interests of the Native Title Holders in the land and water, and b) a resilient self-sustaining vegetation community that can withstand impacts including fire and cattle grazing and is safe to humans and wildlife.

Soil and general environmental condition (Dec 2022)

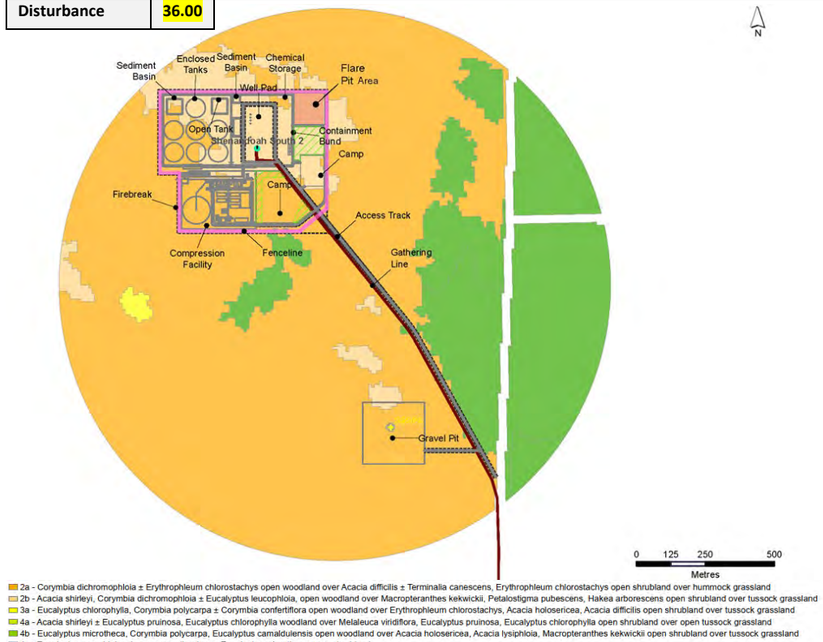


The RMP should be read in conjunction with the overarching *Environment Management Plan and Emergency Response Plans for Tamboran's operations in the Beetaloo Basin. Prepared by AECOM Australia Pty Ltd, 20 March 2024 on behalf of Tamboran B2 Pty Ltd.*

Name	Contact details
Robert Wear Beetaloo Field Manager	Mobile: [redacted] Satellite Phone: [redacted] Email: [redacted]

Rehabilitation zones

Infrastructure	Size (ha)	Soil type / slope canopy / ground cover	Vegetation community / dominant species
Lease pad	13.50	Lateritic plains and rises associated with deeply weathered profiles (laterite) including sand sheets and other depositional products, sandy and earth soils	Comm 2a-*Corymbia dichromophloia ± Erythrophleum chlorostachys* open woodland, over A*cacia difficilis ± Terminalia canescens, Erythrophleum chlorostachys* open shrubland, over hummock grassland
Laydown	5.00		
Gravel Pit	5.00		
Helipad	-		Comm 2b-*Acacia shirleyi, Corymbia dichromophloia ± Eucalyptus leucophloia, Corymbia polycarpa* open woodland, over *Macropteranthes kekwickii, Petalostigma pubescens, Hakea arborescens* open shrubland, over tussock grassland
Camp	1.00		
Fencing & firebreaks	4.00		
Access track & gathering line	7.50		
		Floodplain/drainage depression	Comm 4d- *Eucalyptus camaldulensis* low woodland over *Melaleuca viridiflora* sparse shrubland over open tussock grassland
Disturbance	**36.00**		



Rehabilitation risk

Key Risks	Controls
Drought - impacting the establishment of rehabilitated vegetation	• Time rehabilitation actions to coincide with the beginning of the wet season, to ensure access to the site and maximise the establishment period of vegetation over the wet season. • Re-spread topsoil across the site to utilise the local seed bank. • Ongoing monitoring to identify if further seed inputs are required. • Collection of seed from the local area to ensure seed stock is suited to the climatic conditions of the site.
Fire - impacting revegetation	• Establish a mix of perennial and annual grass species. • Establish a mix of resprouting (e.g., *Eucalyptus* spp. and *Corymbia* spp.) and reseeding species (e.g., *Acacia* spp.). • Ongoing monitoring to determine fire impacts on revegetation. • Ongoing monitoring to determine if further seed inputs are required.
Grazing - impacting revegetation	• Establish a mix of perennial and annual grass species. • Re-spread timber with topsoil. • Ongoing monitoring to determine grazing impacts on revegetation. • Ongoing monitoring to determine if further seed inputs are required. • Ongoing monitoring to determine if fencing is required.
Exposed ground - leading to an increase in weed establishment and/or erosion	• Remove windrows and topsoils. • Respread of topsoil and vegetated matter across the site. • Annual weed surveys of rehabilitated area once rehabilitation is established. • Control of any weed incursions.

Pre-disturbance photos of vegetation community

Rehabilitation strategy

Parameter	Methods	Objective
Vegetation	• Rehabilitation will be implemented for disturbance areas following completion of the individual activity within 12 months. • Disturbed areas to be allowed to naturally regenerate or revegetate on completion of the regulated activity. • All compacted areas to be ripped and scarified to promote regeneration of vegetation, this may require assistance through spread of native seed stock. Where possible, native seed stock would be supplied by local indigenous suppliers.	• Establish vegetation trending toward the target vegetation community for the area disturbed (i.e. species richness, %cover and structure) and in accordance with the Code (Clause A.3.9(d)). • Reinstate disturbance area to its pre-disturbed condition. • The type of ground cover applied to completed earthworks is to be compatible with the anticipated long-term land use, environmental risk, and site rehabilitation measures.
Ground cover	• Previously removed vegetation and topsoil will be uniformly respread over disturbed area. This will assist with the rehabilitation process by increasing infiltration and returning seed-bearing topsoil, as well as reducing erosion. • After first 12 months, additional input of native seed mix may be required from the area to assist rehabilitation process.	
Landform stability	• All windrows are to be removed post construction and at completion of the activities.	

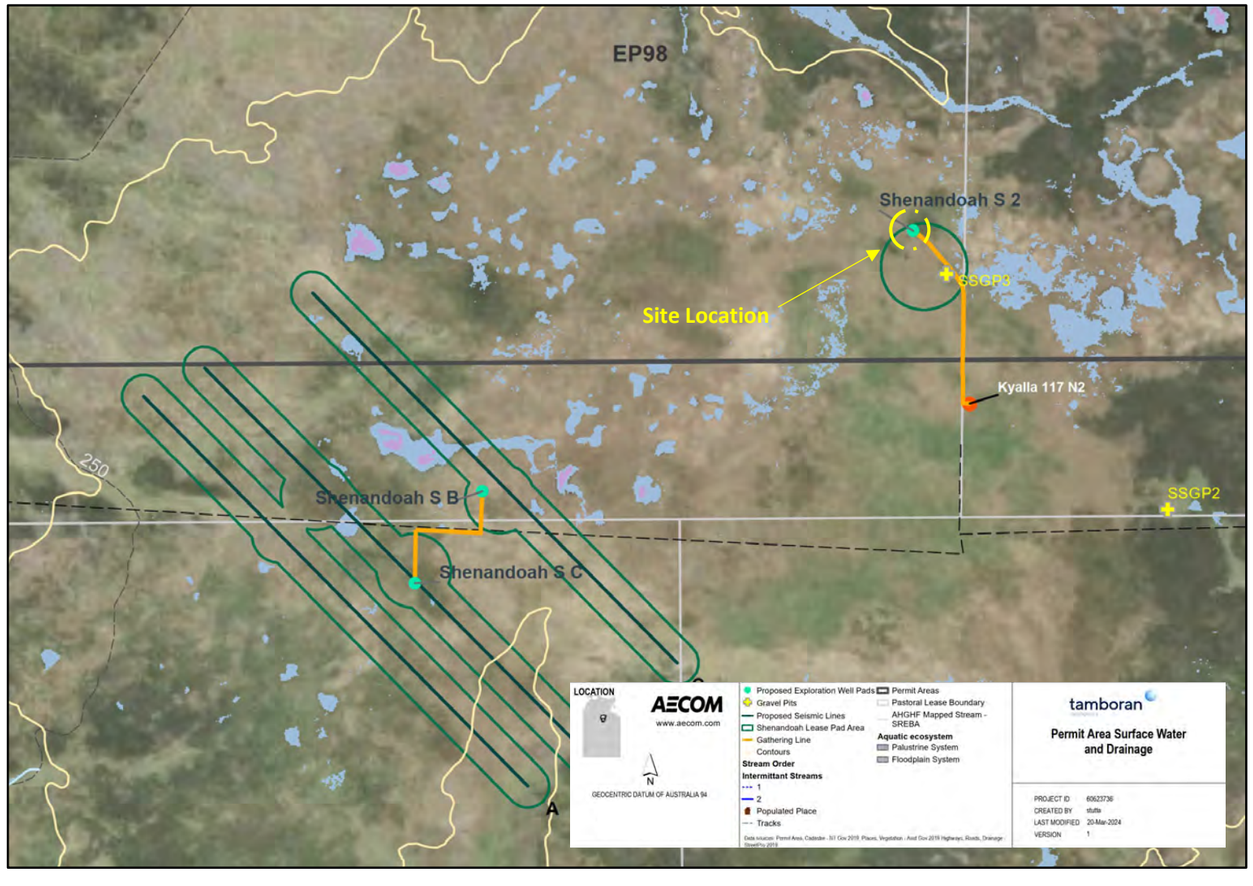
Final success criteria

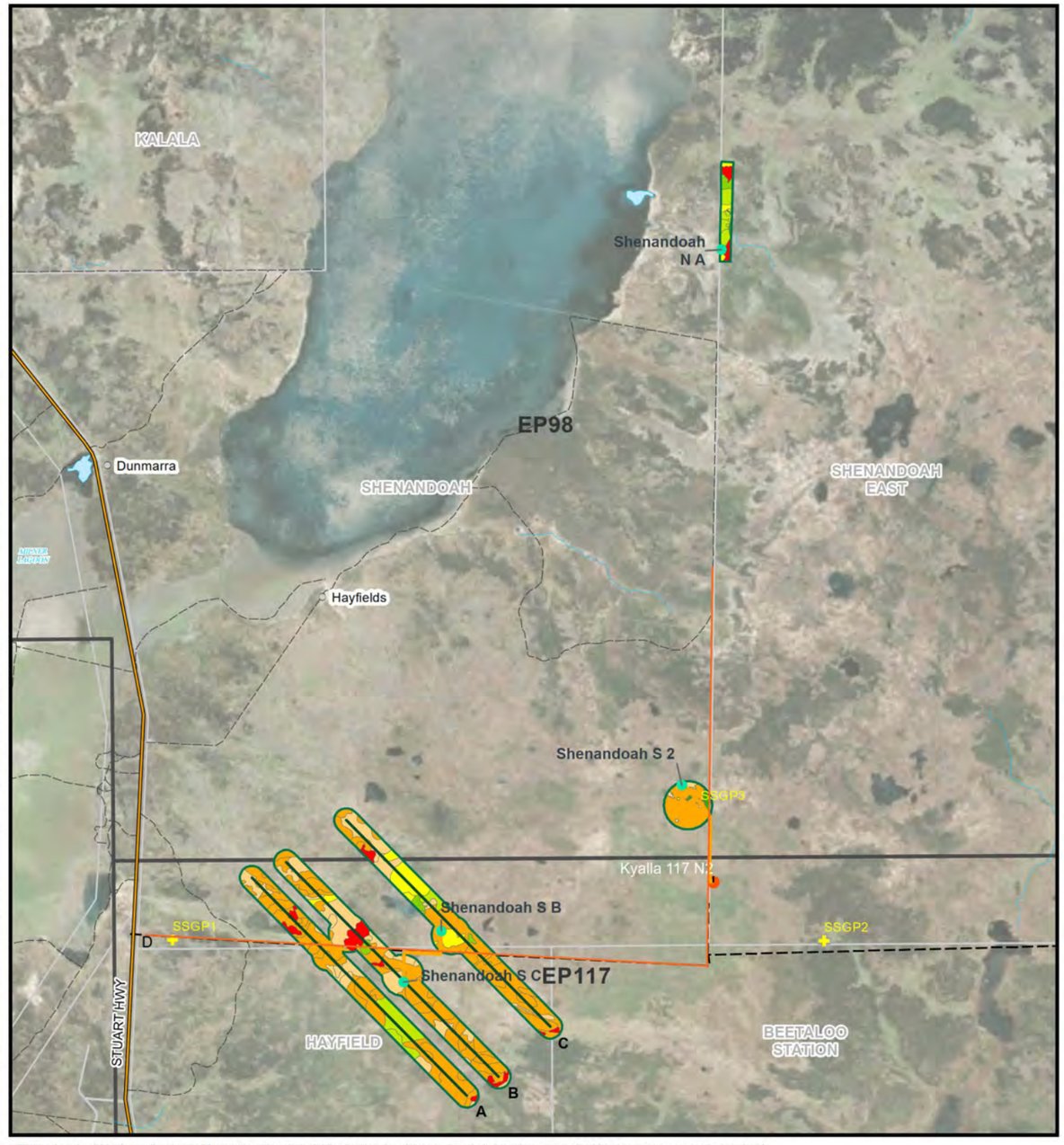
Area to be rehabilitated	• Total area of approved surface disturbance is 36.00 ha. • Total area required for rehabilitation 36.00 ha.
Vegetation composition	• Vegetation composition (i.e. type, density) trending towards the target vegetation community and self-sustaining. • Vegetation is sustainable for long term with the only required maintenance consistent with the final land use. • Sign of woody vegetation regrowth (i.e. Acacia, Eucalypt and Bullwaddy) following rehabilitation and within 12-18 months. • Ground foliage cover consistent with the target vegetation community where disturbance occurred. • Achieve minimum of 30% diversity within the first 12 months and maintained for at least 3 years following rehabilitation consistent with analogue sample site. • Final success based on the following attributes - % canopy and ground cover, stratum 3 species richness, woody species diversity.
Watercourse crossings	• All stream crossings, where intersected, to be reinstated to the original topography. • No evidence of erosion as result of activity present within first 12 months.
Erosion	• Site stabilisation to occur and all erosion and sediment control infrastructure removed. • Less than 5 % erosion should be evident after the first 12 months and no subsidence or erosion should be evident for at least 5 years after completion.
Weeds	• No establishment of weed species declared under the NT *Weeds Management Act*.
Hazardous materials and waste	• All hazardous material and waste removed from site upon completion of works to licensed landfill facilities or recycling facilities. • No residual soil contamination that poses a threat of environmental harm.
Safety for humans and wildlife	• Rehabilitation of disturbance areas should be similar in landform to the surrounding area. No steep slopes or barriers to remain on site that endanger wildlife, livestock or humans. • Windrows removed. • Water bores and exploration wells to be sealed and isolated (as required). • Removal of all surface facilities including fencing (star pickets / fencing wire).

Monitoring program and schedule			
Stage	**Timing**	**Method**	**Measurable attributes**
Progressive rehabilitation	Within 6-12 weeks of completion of activities	• Topsoil, windrows and cleared vegetation stockpiled are to be respread following the works. • Refer to detail in Tamboran's Erosion and Sediment Control Plan	• All disturbed areas must be considered suitably stabilised as per IECA Table in the Tamboran Erosion and Sediment Control Plan.
Preliminary assessment	Post rehabilitation, end of wet season survey (February to June) within 12 months.	• Analogue sites will be established for the two vegetation communities identified in the baseline Land Condition Assessment (AECOM 2023) at adjacent undisturbed sites. • Permanent 100 m x 4 m transects (one per vegetation community), will be established at disturbed and analogue sites including photo monitoring point(s). • Collect 1 x 1 m ground cover quadrats every 10 m along each 100 m transect. • Transects to be positioned <20 m from pastoral and gas infrastructure assets (i.e. access tracks, fence lines, well pads, water troughs) to reduce edge effects.	Following measurable attributes will be compared with analogue sites: • Seedling/sapling density of dominant species respective to each vegetation community. • Percentage of ground cover respective to bare land and vegetation. • Number of species at canopy, mid and ground strata. • Evidence of erosion (type of erosion, approximate area of erosion). • Weed presence/absence (species and density). • Disturbance (fire frequency and intensity, evidence of feral animal/ cattle) • Incidental observations.

Early rehabilitation	Years 1, 2 and 3 post rehabilitation, end of wet season survey (February to June).	• Monitoring to be undertaken using permanent transects at analogue and disturbed sites.
		• Collect data as per preliminary methods.
		• Compare results from monitoring sites with analogue sites and previous year's assessment to determine if require additional management inputs (i.e. seeding, stabilisation).
		  • Implement reseeding if species richness does not show a trajectory to achieving pre-disturbance conditions 5 years post disturbance.
		  • Species which fail to naturally recover from soil seed bank will be selected for reseeding.
		• Annually review success criteria.
			• Early assessment of rehabilitation will determine attributes of woody plants in each 100 m x 4 m transect.
			• Including assessment of species, DBH (>1.5 cm) and height (>2 m), in addition to parameters described within the preliminary assessment.

Long-term rehabilitation	Annually until final success criteria has been met, end of wet season survey (February to June).		• Long-term assessment to determine establishment, recruitment, and growth rate attributes of plant species, in addition to parameters described during early rehabilitation stage.





1a - Acacia shirleyi woodland over Macropteranthes kekwickii ± Atalaya hemiglauca, Acacia holosericea open shrubland over open tussock grassland
2a - Corymbia dichromophloia ± Erythrophleum chlorostachys open woodland over Acacia difficilis ± Terminalia canescens, Erythrophleum chlorostachys open shrubland over hummock grassland
2b - Acacia shirleyi, Corymbia dichromophloia ± Eucalyptus leucophloia, open woodland over Macropteranthes kekwickii, Petalostigma pubescens, Hakea arborescens open shrubland over tussock grassland
2c - Eucalyptus leucophloia, Corymbia dichromophloia, Acacia shirleyi woodland over Dodonaea hispidula, Calytrix exstipulata open shrubland over open hummock grassland
3a - Eucalyptus chlorophylla, Corymbia polycarpa ± Corymbia confertiflora open woodland over Erythrophleum chlorostachys, Acacia holosericea, Acacia difficilis open shrubland over tussock grassland
4a - Acacia shirleyi ± Eucalyptus pruinosa, Eucalyptus chlorophylla woodland over Melaleuca viridiflora, Eucalyptus pruinosa, Eucalyptus chlorophylla open shrubland over open tussock grassland
4b - Eucalyptus microtheca, Corymbia polycarpa, Eucalyptus camaldulensis open woodland over Acacia holosericea, Acacia lysiphloia, Macropteranthes kekwickii open shrubland over tussock grassland
4c - Eucalyptus camaldulensis open woodland over Eucalyptus microtheca open shrubland
4d - Eucalyptus camaldulensis low woodland over Melaleuca viridiflora sparse shrubland over open tussock grassland

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