

Appendix A: Change notice – Regulation 22

Interest holder	Tamboran B2 Pty Ltd		loo Sub-basin Multi-well D g Program EMP	rilling, Stimulation and Well	Unique EMP ID	ORI10-3	Mod #	3	Date	2 November 2023		
Brief Description		· · · · · · · · · · · · · · · · · · ·	lated activities in the <i>Beet</i> ogram EMP – ORI10-3.4.	aloo Basin Groundwater Mon	itoring Bore Ins	tallation Pro	gram EMP	into the	Tamboran EMP tit	led: Beetaloo Sub-basin Multi-well		
Geospatial files included?	Attached.											
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?	require stakeholder additional environmental sto be conducted? additional environmental		Does it affect compliances with Sacred Site Authority Certificates?		rehabi waste sedim	and the state of t		rehabilitation, weed fire,		Will the environmental outcome continue to be achieved and will the impacts and risks be managed to ALARP and acceptable?
No. The existing CMB / water extraction bore RN040894 is already described in EMP ORI10-3 (refer Table 12, 31 and 35).	N/A No increased impact or risk.	No. Existing mitigation measures are in place covering CMB / production bores.	N/A Stakeholder engagement was completed as a part of the Origin EP 98 Monitoring Bore EMP and ORI10-3 EMP. The proposed modification results in a consolidation of administration and does not result in any new activities proposed.	No. Environmental performance standards within the existing approved EMP ORI10-3 are sufficient as they cover civils and monitoring bore maintenance and decommissioning activities (refer Appendix B).	No. Amendment t Certificates C and C2022/02 required.	2020/003	existing	existing plans within the ng approved EMP ORI10-3 red the proposed activities. The from the f		Yes. There will be no material change to this activity, as expected operation, monitoring and groundwater take from the CMB, remain within the ranges outlined in the approved EMP ORI10-3. Mandatory groundwater monitoring required by the Code as outlined in Table 31 Monitoring program summary, will be met. Groundwater take will be in accordance with the current water extraction licence WEL GRF 10285.		
Additional contextual information	The regulated activities being transferred under this Regulation 22 notification include: Clearing and construction of 60 m long x 10 m wide access track, which has already been incorporated into the existing site footprint covered by ORI10-3. Construction of a 50 m x 50 m drill pad which has already been incorporated into the existing site footprint covered by ORI10-3. Operation, maintenance and decommissioning of the monitoring bore, including groundwater extraction under WEL GRF 10285 and monitoring of one (1) control monitoring bore (CMB), RN040894 Installation of fencing which has already been incorporated into the existing site activity covered by ORI10-3. Surface disturbance ~0.25 ha, which has already been incorporated into the existing lease pad extension under the Beetaloo Sub-basin Multi-well Drilling, Stimulation and Well Testing Program EM ORI10-3.											

³ NB: Beetaloo Basin Groundwater Monitoring Bore Installation Program EMP, included provision for up to two groundwater monitoring bores based on the probable number of aquifers encountered during installation – i.e. the Gum Ridge Formation and the Anthony Lagoon Beds. Only the Gum Ridge Formation is present at the site.



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able 6: Assoicia Exploration Ir	dary								Amen	ded EMP	text			
Exploration In						1.2 Project bou	undary							
Annual Manager Control	ated exploration sites and infrastruct	ure covered under	this EN	IP		Table 6: Assoi	ciated explora	ition sites an	d infrastruc	ture cove	red under this E	MP		
2	nfrastructure name	Station	Zone*	Approx. Easting	Approx. Northing	Exploration permit	Infrastructure	e name		Sta	tion	Zone*	Approx. Easting	Approx. Northing
mungee NW						Amungee NW								L.
	Existing approved Amungee NW ease pad and proposed expansion	Amungee Mungee	53	380859	8192299	EP98	Existing approp	_		Am	ungee Mungee	53	380859	8192299
EP98 Ex	Existing approved Amungee NW- 1H E&A well	Amungee Mungee	53	380859	8192299	EP98	Existing appro	oved Amunge	e NW-1H	Am	ungee Mungee	53	380859	8192299
	Proposed Amungee NW-2H E&A	Amungee Mungee	53	381023	8192312	EP98	Proposed Am	ungee NW-21	l E&A well	Am	ungee Mungee	53	381023	8192312
w	well					EP98	Proposed Am	ungee NW-31	HE&A well	Am	ungee Mungee	53	381040	8192311
	Proposed Amungee NW-3H E&A well	Amungee Mungee	53	381040	8192311	EP98	Existing Amungee NW main camp and proposed extension		Am	ungee Mungee	53	380855	8192763	
	Existing Amungee NW main camp and proposed extension	Amungee Mungee	53	380855	8192763	EP 98	Existing contr RN040894	<mark>rol monitorin</mark> g	<mark>; bore</mark>	Am	ungee Mungee	53	380944	8192235
EP98 P	Proposed Amungee NW helipad	Amungee Mungee	53	380950	8192781	EP98	Proposed Am	ungee NW he	elipad	Am	ungee Mungee	53	380950	8192781
EP98 P	Proposed Amungee NW laydown	Amungee Mungee	53	380889	892531	EP98	Proposed Am	ungee NW lay	/down	Am	ungee Mungee	53	380889	892531
	Proposed control monitoring bore at the Amungee NW2 location	Amungee Mungee	53	390693	8189431	EP98	Proposed con Amungee NW		ng bore at th	ne Am	ungee Mungee	53	390693	8189431
DOWNSON STATE	Proposed new Amungee gravel pit	Carpentaria Highway road corridor	53	390900	8188279	EP98	Proposed nev	w Amungee gr	avel pit	Hig	pentaria hway road ridor	53	390900	8188279
EP98 Ex	Existing access tracks	Amungee Mungee	Not A	Delicable		EP98	Existing acces	ss tracks		Am	ungee Mungee	Not Ap	pplicable	
/elkerri 76 S2						Velkerri 76 S2				*				
EP 76 Ex	Existing approved Velkerri 76 S2	Amungee Mungee	53	435557	8137497	EP 76	Existing appro	oved Velkerri	76 S2 lease	Am	ungee Mungee	53	435557	8137497
	ease pad	Amungos Mung-	FO	425570	0126221	EP76	Existing appro	oved Velkerri	76 S2-1 E&A	well Am	ungee Mungee	53	435578	8136331
	Existing approved Velkerri 76 S2-1 E&A	Amungee Mungee	53	435578	8136331	EP 76	Proposed Vell	kerri 76 S2-2H	I E&A well	Am	ungee Mungee	53	435578	8136346
	Proposed Velkerri 76 S2-2H E&A well	Amungee Mungee	53	435578	8136346	EP 76	Proposed Vell	kerri 76 S2-3H	I E&A well	Am	ungee Mungee	53	435578	8136362
EP 76 P	Proposed Velkerri 76 S2-3H E&A well	Amungee Mungee	53	435578	8136362	EP 76	Existing Velke	erri 76 S2 maii	n camp	Am	ungee Mungee	53	435632	8136163
EP 76 Ex	Existing Velkerri 76 S2 main camp	Amungee Mungee	53	435632	8136163	Ep 76 / 117	Existing acces	ss tracks		Am	ungee Mungee	Not a	pplicable	•
50-500 NO	Existing access tracks	Amungee Mungee	100000000	pplicable	The second second is a Total of Art	*! In: .c		./I ITNA\	whie ec!*	oko oveke :	is Geocentric Datu	of A.	atualia (CDA) 04	



terest holder			EMP Beetaloo Su Title Program EM	b-basin Multi-well Drilling, St 1P	imulation and Well Testin	g	Unique EMP ID	ORI10-3	Mod #	3	Date 2	November 2023
			EMP text	"			EMPID	A	nded EMP	10		
		Current	EIVIP LEXT					Ame	naea EIVIP	lexi		
6.6 Community					6.6.6 Community							
able 54: Environme bration and visual			ards and measurement criter	ria – Lighting, noise,	Table 54: Environme	10 2000			andards a	nd meas	urement crite	eria – <mark>Community</mark>
					Environmental perfo	rmance n	neasures – Co	ommunity	100			
Environmental perfo	rmance r	neasures – Community	Environmental	Enviror	mental perf	ormance	Mea	surement	criteria	Records		
Environmental	Enviro	nmental performance	Measurement criteria	Records	outcome	standa						
outcome	standa	An Alexandra ma			No significant	CO-1	All valid co			alid comn		OCIS records of
No significant	CO-1	All valid community	All valid community	OCIS records of	negative impacts to the			s of nuisance ed and resolv		ZA:	sponded to rs with actior	community complaint s and actions completed
negative impacts		complaints of nuisance	complaints responded to	community complaints	community as a		liivestigati	eu anu reson	1,000,000	medy nu		s and actions completed
to the community as a		investigated and resolved	within 24 hours with actions to remedy nuisance	and actions completed	result of						as soon as	
result of Origin's			implemented as soon as		[Tamboran's]						epending on	
exploration			practicable (depending on		exploration				the	nature of	the complain)
activities			the nature of the complaint)		activities	CO-1	AND THE PROPERTY OF THE PROPER	ddressable	0.5		diture data	Data on NT business
	CO-1	>60% of addressable	Project expenditure data	Data on NT business			spend9 to be from NT				NT business	spend retained
		spend9 to be from NT	confirms the NT business	spend retained			businesse	S			Beetaloo	
		businesses	spend on the Beetaloo							-	roject exceed: essable spenc	62
			exploration project exceeds >60% of addressable spend ⁹							e project		
			of the project		Risk sources	• Indus	strialisation	of landscape	09.001.00 100.00		2	
Risk sources	• Indu	ı strialisation of landscape (Ris			1	Increased traffic (Risk ID 46)						
		eased traffic (Risk ID 46)			• Light emissions impact on sensitive receptor (such as pastoralist) (Risk ID 47)							
	200000000000000000000000000000000000000	POTENTIAL SANDERS AND COLOR DE PRESENTA CONTROL NO PRESENTADO NOS CONTROL DE PROFESSOR DE PROFESSOR DE LA PROFESSOR DE PRO	ve receptor (such as pastoralist	t) (Risk ID 47)			• Influx of workers to region (Risk ID 48)					
		x of workers to region (Risk II		 Noise emissions from activities (Risk ID 49) Introduction and spread of weeds in the area (Risk ID 50) 					sk ID 50)			
		e emissions from activities (R duction and spread of weeds				of groundwa						
		extraction of groundwater (10-340-340-340-3			ACCURATE ON PROPERTY OF THE PARTY OF	1000ac 9 ec.	ire (Risk ID 52)
			ces water capture (Risk ID 52)						tion by site	activities	s (civil works,	drilling, flaring grinding) or
			by site activities (civil works, d	rilling, flaring grinding) or		(4)	onnel (Risk I			•	/p: .p = .*	
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		eased risk of vehicle accident		סמונפא (עואגווא סט)						The second secon	ndustry for re	sources (Risk ID 57)
			th agricultural industry for reso	ources (Risk ID 57)		¥12						
6.7 Cultural heritag	le				6.6.7 Cultural heritag	ie						
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outcome	standa	nmental performance rds	Measurement criteria	Records	outcome	standa	mental performent	ormance	ivieas	urement o	лкепа	Records
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EC-1

No non-compliances with

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No unauthorised work within

Restricted Work Areas

(RWA)

No non-compliances with

AAPA certificate

conditions

No unauthorised work within OCIS incidents retained

where unauthorised

activities are identified

Restricted Work Areas

(RWA)

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OCIS incidents retained

activities are identified

where unauthorised



Interest holder		Tamboran B2 Pty Ltd	EMP Title	Beetaloo Sub-basin Multi-well Drilling, Stimulation and Well Testir Program EMP			g	Unique EMP ID	ORI10-3	Mod #	3	Date	2 November 2023	
Current EMP text			nt EMP text				Amended EMP text							
environmental values as a result of Origin's exploration activities	EC-2		No impacts to s Site inductions on all employee contractors whi information on approved activi	completed es and ch include RWAs and	OCIS incidents retained where unauthorised activities are identified Records of inductions retained		environmental values as a result of [Tamboran's] exploration activities	EC-2			Site i on al conti infor	nductions I employe ractors wh	ich include RWAs and	where unauthorised activities are identified Records of inductions retained
Risk sources	 Sites disturbed directly by exploration activities (Risk ID 41) Accidental ignition by site activities (civil works, drilling, grinding) or site personnel (Risk ID 42) Flowback tank structural failure (Risk ID 43) Personnel unauthorised access to sacred site (Risk ID 44) 			Risk sources	• Accide 42) • Flow	disturbed di dental ignitio back tank str onnel unauth	n by site ac	tivities (civi	l works, d	rilling, grind	ding) or site personnel (Risk ID			



Appendix B: Environmental performance standards and environmental outcomes

The table below lists the environmental outcomes and performance standards applicable to Beetaloo Basin groundwater bore EMPs. For comparison each table demonstrates where the old criteria have been met under the Beetaloo Sub-basin Multi-well Drilling, Stimulation and Well Testing Program EMP (ORI10-3.4).

В	eetaloo Basin Groundv	water Monitoring Bore Installation Progra	am EMP, approved 22 November 2018	Beetaloo Sub-basin	Multi-well Drilling, Stimulation and Well Testing Program	EMP – ORI10-3.4				
E	nvironmental objective	e (outcome)	Environmental performance measures	Environ mental outc	ome	Environme	ental performance standard			
1	Land – soil and erosion (Table 18)	 Minimise disturbance to land and land use (including soils and terrain, flora and fauna). Protection of waterways. Avoid site contamination and remediate land areas disturbed by water bore drilling activities, including contaminated land. Optimise (in order of most to least preferable) waste avoidance, reduction, reuse, recycling, treatment and disposal and remove and disposal of regulated waste as soon as practicable to a licensed waste disposal facility or recycling facility. 	Areas left uncontaminated, safe, stable and non-polluting.	Soils (Table 49)	No significant impact to the ecological function and productivity of surrounding soils as a result of [Tamboran's] exploration activities.	S-1: S-2–S-3: S-4–S-5:	No releases of contaminants (chemicals, hydrocarbon, drilling wastewater or flowback wastewater) outside of [Tamboran's] lease pad. No reportable spills, including wastewater tank/sump overtopping events, resulting from [Tamboran's] exploration activities. Erosion and sediment control in place and working effectively.			
2	Surface water and groundwater resources (Table 19)		 No unacceptable risk or long-lasting change to surface and/or groundwater resources (quantity and quality). No release of site stormwater or wastewater exceeding baseline surface water quality. No long-lasting change in soil and surface water quality. 	Surface water (Table 50) Groundwater (Table51)	No significant impact on surface water quality as a result of [Tamboran's] exploration activities. [Tamboran's] exploration activities do not reduce the environmental values of the underlying groundwater resources.	SW-1: SW-2: SW-3: SW-4: GW-1: GW-2: GW-3: GW-4:	During chemical and wastewater storage activities, no off-site release of contaminants from chemical, hydrocarbon and waste storage. No seismic events over MI 3.5 attributable to [Tamboran's] activities. No reportable spills, including offsite releases of contaminants resulting from [Tamboran's] exploration activities. Erosion and sediment control in place and working effectively. All regional aquifers isolated through cement and casing. No failure of wastewater tank secondary liner. No seismic events over MI 3.5 attributable to [Tamboran's] activities. No long-term (>12 month) reduction in quality of an impact groundwater monitoring bore that is attributable to [Tamboran's] activities. A decline is defined as a change in water chemistry that exceeds the ANZECC guidelines for Livestock (the primary Environmental Value) of groundwater in the region. 7-6: No long term (>12 month) reduction in groundwater level observed in the impact monitoring bore that results in >1m decline in groundwater water level.			
3	Vegetation, flora, fauna and habitat (Table 20)	 Minimise disturbance to flora and fauna. Minimise disturbance to sensitive areas. 	Monitoring bore lease located to minimise impacts to fauna habitat and sensitive vegetation.	Ecology (Table 52)	No significant impact to high valued habitats and threatened flora and fauna as a result of [Tamboran's] exploration activities.	EC-1:	No releases of wastewater (drilling fluid and flowback) off the lease into the surrounding vegetation.			



Be	etaloo Basin Groundv	water Monitoring Bore Installation Progra	am EMP, approved 22 November 2018	Beetaloo Sub-basin Multi-well Drilling, Stimulation and Well Testing Program EMP – ORI10-3.4							
En	vironmental objective	e (outcome)	Environmental performance measures	Environmental outo	ome	Environmental performance standard					
			 No native fauna impacts (injury or fatality) reported in OCIS during civil and water bore drilling related activities. Security bond maintained until such time DPIR is satisfied remediation of site. No loss of sensitive vegetation resulting from [Tamboran's] activities. 			EC-2–EC-3:<7 individual fauna deaths per week for 2 consecutive weeks caused by flowback water storage. EC-4–EC-5:<0 threatened fauna deaths caused by flowback storage. EC-6: No uncontrolled bushfires caused by [Tamboran's] exploration activities. EC-7: Weed surveys completed on all [Tamboran] disturbed areas. EC-8: Year-on-year decline in the size and density of weed infestations introduced as a result of [Tamboran's] activities.					
4	Weeds (biosecurity) (Table 21)	 Avoid the introduction of weeds. Avoid the spread of existing weeds. 	No introduction or spread of declared weeds resulting from [Tamboran's] activities.	Ecology (Table 52)	No significant impact to high valued habitats and threatened flora and fauna as a result of [Tamboran's] exploration activities.	EC-7: Weed surveys completed on all Origin disturbed areas. EC-8: Year-on-year decline in the size and density of a weed infestations introduced as a result of [Tamboran's] activities.					
5	Waste (Table 22)	 To minimise impacts on soil, surface water, groundwater, sensitive habitat and air quality. To minimise creation of food sources or habitat for pest species. To minimise waste generation through reduce, reuse, recycle programs. 	 The outcomes of waste management practices can be assessed against the performance criteria for: The absence of wastes remaining on site at completion of operations (i.e. general rubbish, waste chemicals, workshop wastes including oily rags, containers etc.). Waste registers maintained for the duration of the project. Pest species not encouraged to the site. 	Soils (Table 49) Surface water (Table 50) Air quality and GHG emissions	No significant impact to the ecological function and productivity of surrounding soils as a result of [Tamboran's] exploration activities. No significant impact on surface water quality as a result of [Tamboran's] exploration activities. No significant impact on air quality and no excess greenhouse gas emissions as a result of [Tamboran's] exploration activities.	S-1: No releases of contaminants (chemicals, hydrocarbon, drilling wastewater or flowback wastewater) outside of [Tamboran's] lease pad. S-2–S-3: No reportable spills, including wastewater tank/sump overtopping events, resulting from [Tamboran's] exploration activities. S-4–S-5: Erosion and sediment control in place and working effectively. SW-1: During chemical and wastewater storage activities, no off-site release of contaminants from chemical, hydrocarbon and waste storage. SW-2: No seismic events over MI 3.5 attributable to [Tamboran's] activities. SW-3: No reportable spills, including offsite releases of contaminants resulting from [Tamboran's] exploration activities. SW-4: Erosion and sediment control in place and working effectively. AQ-1: Venting to be eliminated as far as reasonably practicable.					
6	Air quality (dust	Minimise environmental nuisance	Minimal complaints regarding dust/air quality.	(Table 53) Air quality and	No significant impact on air quality and no excess	AQ-2: All greenhouse gasses reporting in accordance with NGERS requirements. AQ-3-AQ-5: All leaks detected and repaired in accordance with code of practice. AQ-1: Venting to be eliminated as far as reasonable.					
	and emissions) (Table 23)	due to dust for sensitive receptors resulting from [Tamboran's] activities. Minimise greenhouse gas emissions.	Amicable resolution of complaints.	GHG emissions (Table 53) Community (Table	greenhouse gas emissions as a result of [Tamboran's] exploration activities. No significant negative impacts to the community as a	practicable. AQ-2: All greenhouse gasses reporting in accordan with NGERS requirements. AQ-3-AQ-5: All leaks detected and repaired in accordance with code of practice. CO-1: All valid community complaints of nuisance					
7	Lighting, noise, vibration and visual amenity (Table 24)	Minimise the environmental nuisance for sensitive receivers as a result of civil and water bore	 Minimal nuisance-related complaints received from sensitive receptors, including landowners. Amicable resolution of complaints. 	54) Community (Table 54)	result of [Tamboran's] exploration activities. No significant negative impacts to the community as a result of [Tamboran's] exploration activities.	investigated and resolved. CO-1: All valid community complaints of nuisance investigated and resolved.					



Be	etaloo Basin Groundv	ater Monitoring Bore Installation Progra	am EMP, approved 22 November 2018	Beetaloo Sub-basin	Multi-well Drilling, Stimulation and Well Testing Program	EMP – ORI10-3.4
En	vironmental objective	(outcome)	Environmental performance measures	Environmental outo	ome	Environmental performance standard
		 activities, including Tourist visual amenity. 				
8	Bushfire (Table 25)	 Minimise the risk of causing bushfires from [Tamboran's] activities. To minimise impacts on environmental habitat and fauna, soil erosion, impacts on stakeholders, impacts on culturally significant sites, public infrastructure and community lands. To ensure proper health and safety plan for activities. To prevent accidental fire risk and ensure safe storage of chemicals to prevent fire damage. 	Successful fire management will be indicated by having no uncontrolled fires occurring as a result of civil works and water bore drilling activities.	Ecology (Table 52)	No significant impact to high valued habitats and threatened flora and fauna as a result of [Tamboran's] exploration activities.	EC-6: No uncontrolled bushfires caused by [Tamboran's] exploration activities.
9	Cultural heritage and sacred sites (Table 26)	 To avoid disturbance of or damage to Aboriginal or cultural heritage artefacts or Sacred Sites. To minimise impacts upon or disruption to activities of Indigenous stakeholders in culturally significant areas. To ensure adequate background information and training is provided to employees and contractors working in culturally significant areas. To ensure that the health and safety of exploration workers and the community is not compromised through management of cultural and environmental awareness. 		Cultural heritage (Table 55)	No significant impact on sacred sites and environmental values as a result of [Tamboran's] exploration activities.	CH-1-CH-3: No non-compliances with AAPA certificate conditions.
10	Community (Table 27)	 Minimise impacts upon environmental values of the local community. Minimise impacts on cultural heritage. Minimise safety risks to the public and other third parties. Maintain and enhance partnerships with the local community, including using local contractors. 		Community (Table 54)	No significant negative impacts to the community as a result of [Tamboran's] exploration activities.	CO-1: All valid community complaints of nuisance investigated and resolved. CO-2: >60% of addressable spend to be from NT businesses.