

ATTACHMENT 1: WATER QUALITY MONITORING PLAN

				Sample Locations ¹				
				AUTHORISED DISCHARGE POINT (AD1) <i>located at end of pipe in the discharge channel</i>	COMPLIANCE POINT ² <i>located ~100m from the discharge point in the Darwin River</i>	INLET <i>Located at the water intake point on the Darwin River</i>	Production Bore RN033415 ⁴	
				Longitude	-12.716360°	-12.7163°	-12.718668°	-12.718227°
				Latitude	130.956849°	130.9543°	130.955361°	130.961869°
Parameter	Abbreviation	Units	Trigger Values ³	Monitoring Frequency				
In situ (field) measurements								
pH	pH	pH units	6.0 - 8.5	W	M	W	A	
Electrical Conductivity	EC	µS/cm	NA	W	M	W	A	
Dissolved Oxygen	DO	% saturation	>80 <100	W	M	W	A	
Temperature	T	°C	NA	W	M	W	A	
Turbidity	NTU	NTU	<4 ⁵	W	M	W	A	
Parameters to be assessed at a NATA accredited laboratory								
Biological Oxygen Demand	BOD	mg/L	NA	M	M	M	NA	
Total Suspended Solids	TSS	mg/L	<10	M	M	M	NA	
Filterable Reactive Phosphorous	FRP	µg/L	<10	M	M	M	NA	
Total Phosphorous	TP	µg/L	<30	M	M	M	A	
Ammonia	NH ₃	µg/L	<20	M	M	M	NA	
Total Nitrogen	TN	µg/L	<300	M	M	M	A	
Total Oxidised Nitrogen	NO _x	µg/L	<20	M	M	M	NA	
Nitrate	NO ₃	µg/L	NA	M	M	M	NA	
Nitrite	NO ₂	µg/L	NA	M	M	M	NA	
Chlorophyll-a	Chl-α	µg/L	<4	M	M	M	NA	
Major Ions	Ca, Mg, Na, K, CO ₃ , HCO ₃ , Cl, SO ₄	mg/L	NA	NA	NA	NA	A	
Dissolved and Total Metals	Al, As, Cu, Ni, Pb, U, Zn	µg/L	NA	NA	NA	NA	A	

W = Weekly M = Monthly A = Annually NA = Not Available

¹ Monitoring locations are shown in Attachment 3

² For monitoring at this location samples must be collected on an outgoing or turning tide and not an incoming tide.

³ Water Quality Objectives for the Darwin Harbour Region – Blackmore River Estuary, to be applied to the compliance point.

⁴ Sampling is to be undertaken when bore water is being pumped into the raceway system. If water is not pumped into the raceway system for that year of the licence then a sample must be taken on the licence anniversary.

⁵ Further to condition 35 – for turbidity a single exceedance of three times the trigger value or an exceedance on three consecutive sampling occasions is only a non-compliance when the turbidity value at AD1 is greater than the turbidity value at the Inlet for the same sampling date.