

APPENDIX H7

GROUNDWATER TRIGGER ACTION RESPONSE PLAN (TARP) DRAFT

BIRD IN HAND GOLD PROJECT MINING LEASE PROPOSAL MC 4473



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Unit 7 / 202-208 Glen Osmond Road | Fullarton SA 5063

Monitoring	Impact	Monitoring Site	Monitoring parameter	Frequency	Trigger	Trigger reference	Action
Mine inflows	Expansion of cone of drawdown & associated impacts to private wells, GDE's, groundwater salinity due to mine inflows	Rising main flow meter	Extraction rate and weekly volume	Daily	Deviation outside of predicted inflow trend over 3 months (for adopted water management strategy) Inflow rate of 20% greater than predicted for the stage of mining sustained for 1 month Trending towards annual groundwater allocation sooner than expected	Mine inflow graph (of adopted water management scenario) - Figure 55	Investigate potential contributing factors: -Confirm trends or anomalies by monitoring inflows and undertaking water level sampling at higher frequency as required. -Compare exceedance with climatic conditions -Undertake a preliminary investigation and report on any identified changes if required. -Where investigations determine that impacts are the result of mine operations or may potentially impact on adjacent bores or surface water users, implement Section X
		Rising main	TDS Suite A Suite B	Field parameters: weekly: Suite A Monthly Suite B Quarterly	Changing trend in measured parameters outside limits of baseline levels	Table C.1	Obtain full suite of major ion and monitor GWL al obs
Groundwater levels	Groundwater supply to private bores from depressurisation	Regional monitoring bore network and background monitoring network	GWL	Weekly	Groundwater level decline greater than predicted drawdown for relevant stage of mining	Figure 55	Investigate potential contributing factors: -Confirm trends or anomalies by repeating water level sampling as required. -Compare exceedance with climatic conditions -Undertake a preliminary investigation and report on any identified changes if required. -Where investigations determine that impacts are the result of mine operations or may potentially impact on adjacent bores or surface water users, implement Section X
	Change to GWM Zone by removal of groundwater flow divide	Monitoring bores positioned along catchment boundary					
	Base flow reduction to Inverbrackie Creek	Monitoring bores positioned next to Inverbrackie Creek pools					
Groundwater quality	Groundwater salinity increase to private wells from lowering GWL	Regional monitoring bores	TDS Suite A Suite B	TDS: Monthly Suite A Quarterly Suite B Biannual	Changing trend in measured parameters outside limits of baseline levels	Table C.1 and C.2	Confirm trends by repeating water sampling of impacted and adjacent bores as required. Engage a hydrogeologist to undertake a preliminary investigation and report on any identified changes. Where investigations determine that impacts are the result of mining operations or may potentially impact on adjacent bores or surface water users, implement Section X
	Saline groundwater migration from WMR	Monitoring bores on catchment boundary					
	Base flow	Monitoring bore next to Inverbrackie Creek Springs					
Water supply reduction to private bores	Yield decrease due to lowering GWLs	Regional monitoring bores, background monitoring bore	GWL	Monthly during irrigation season	Reported adverse impact on the yield of an existing water supply well or bore. Observed variation in measured groundwater levels outside of the predicted levels.	Figure 55	Investigate potential contributing factors: -Confirm trends or anomalies by repeating water level sampling as required. -Compare exceedance with climatic conditions -Undertake a preliminary investigation and report on any identified changes if required. -Where investigations determine that impacts are the result of mine operations or may potentially impact on adjacent bores or surface water users, implement Section X
Groundwater salinity increase to private wells	Increase in TDS	Private wells, Regional monitoring bore network and background monitoring network	TDS Suite A	TDS: Monthly during irrigation season (Nov-March) Quarterly outside of irrigation season; Suite A: Quarterly	Changing trend in measured parameters outside limits of baseline levels	Table C.1 C.2	Confirm trends by repeating water sampling of impacted and adjacent bores as required. Undertake a preliminary investigation and report on any identified changes. Where investigations determine that impacts are the result of mining operations or may potentially impact on adjacent bores or surface water users, implement Section X
Acid Mine Drainage from supergene zone	Oxidation of supergene layer due to lowering GWL	Monitoring bores within up and down gradient of supergene zone	GWL	Monthly	Groundwater level decline greater than predicted drawdown for relevant stage of mining. Groundwater level approaching 10 m above supergene elevation	Figure 58	Investigate potential contributing factors: -Confirm trends or anomalies by repeating water level sampling as required. -Compare exceedance with climatic conditions -Undertake a preliminary investigation and report on any identified changes if required. -Undertake a preliminary investigation and report on any identified changes. -Where investigations determine that impacts are the result of mine operations or may potentially impact on adjacent bores or surface water users, implement Section X
			Field Parameters (TDS, pH etc.) Suite A Suite B	TDS: Monthly Suite A Quarterly Suite B Biannual	Changing trend in measured parameters outside limits of baseline levels	Table X	Confirm trends by repeating water sampling of impacted and adjacent bores as required. Undertake a preliminary investigation and report on any identified changes. Where investigations determine that impacts are the result of mining operations or may potentially impact on adjacent bores