

Our Ref: KC2225/MS
Your Ref:



28th January 2022

Dalradian Gold
3 Killybrack Road
Omagh
BT79 7DG

For the attention of [REDACTED]

Dear Sir,

**Proposed Development of Curraghinalt Mine
Response to NIEA letter of 20th December 2021; Ref: AIL/2020/0105, AIL/2020/0106**

NIEA issued by letter of 20th December 2021 to DGL a Further Information Request under the Water (NI) Order 1999 and the Abstraction and Impoundment (Licensing) Regulations (NI) 2006 related to:

- AIL/2020/0105: Surface Water Abstraction Licence Application
- AIL/2020/0106: Groundwater Abstraction Licence Application

In respect to applications AIL/2020/0105 and AIL/2020/0106, NIEA requested further information on two points. This letter provides a response for Point 1, reproduced below:

- 1. Please confirm the actual volumes proposed for abstraction for both applications AIL/2020/0105 and AIL/2020/0106. Please provide a detailed schematic drawing of the full proposal setting out clearly the volumes for abstraction, storage volumes and finally discharge. NIEA recognise that these details may have been submitted previously however a range of figures have been provided, as such the information provided in response to this information request will be considered the final volumes proposed for abstraction.**

Abstraction volumes are confirmed below with a description of the reasons for the selection of the values within the abstraction licence applications and how the abstractions would vary through the life of mine.

The abstraction applications (dated September 2020) appended a Water Balance Report, dated July 2020. This report was updated in October 2020 and submitted as part of the planning application's Second Addendum to the Environmental Statement (ES). There were minor changes to the water balance calculations (based on review comments from the consultants appointed by NIEA and the Department for Infrastructure). These changes do not impact on the conclusions of the water balance report or the water management proposals, however, differences in values of relevance to the abstraction licence applications are outlined below.

AI/2020/0106

This application relates to groundwater entering the underground mine workings and which needs to be pumped to the surface to avoid flooding of the mining operations (called here 'mine water').

Abstractions will vary month by month depending on the stage of the mine life and the rock type. The abstraction figure of 1,700 m³/day used in the application refers to the maximum value predicted from groundwater modelling of water flowing into the underground mine. The Environmental Impact Assessment (EIA) for the project included groundwater modelling which considered a range of climatic conditions and other model parameters, producing a range of predictions for water entering the mine workings. The range of values are summarized in Figure 1, which was provided within the Abstraction Licence application documents.

Figure 1 illustrates how mine water inflows and abstractions would vary through the life of mine. The value in the abstraction licence application is illustrated in Figure 1 with a red circle. The value in the abstraction licence is the maximum predicted volume of 1,700 m³/day (70.8 m³/hour or 19.7 L/s). Within the October 2020 Water Balance Report the groundwater modelling was updated. Following this update the maximum discharge reduced to 1,610 m³/day. We are content to retain the maximum discharge rate of 1,700 m³/day, as per the application, given the small difference (5%) in values.

Schematics showing how water is used in the mine were provided within the project Water Balance Modelling report. The Water Balance Model considered all water flows within the mine site and used time varying input from the underground mine. One of the model schematics from the updated October 2020 water balance is re-produced in Figure 2, with figures for Years 6 and 20 of the mine life available in the Water Balance Model Report, along with tables of flow rates. Figure 2 shows annual average flow rates for Year 12 of the mine life. The underground mine is highlighted in the red circle.

AI/2020/0105

This application relates to surface water runoff that is routed into a surface water storage pond; 'Clean Water Pond'. Hillslope runoff (non-channelised) from land to the north of the mine site is routed along the edge of a diversion berm towards the pond.

Flows into the Clean Water Pond will vary month by month depending on climatic conditions. The abstraction figure used in the application refers to the maximum monthly value predicted from surface water modelling. The predicted inflow rate is summarised in Figure 3, which was provided within the Abstraction Licence application documents.

Figure 3 illustrates how runoff rates would vary throughout each year of mine life, with higher runoff rates in winter compared to those in summer. The value in the abstraction licence application is illustrated in Figure 3 with a red circle. The value in the abstraction licence is the maximum monthly inflow rate of 2,250 m³/day (93.8 m³/hour or 26.0 L/s). Within the October 2020 Water Balance Report the catchment areas and surface water runoff calculations received minor updates. Following this update the maximum discharge to the pond was reduced to 2,225 m³/day. We are content to retain the maximum discharge rate of 2,250 m³/day, as per the application, given the small difference (1%) in values.

Schematics showing how water is used in the mine were provided within the project Water Balance Modelling report. The Water Balance Model considered all water flows within the mine site and used

time varying input to the Clean Water Pond, based on rainfall inputs. One of the model schematics from the updated October 2020 water balance is re-produced in Figure 2. The figure shows annual average flow rates for Year 12 of the mine life. The Clean Water Pond is highlighted in the blue circle.

We trust the above is sufficient for your requirements. However, if you have any queries regarding this letter, please do not hesitate to contact us.

Yours faithfully,

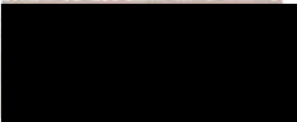
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Figure 1: Inflows to Underground Mine from abstraction licence application and July 2020 water balance – groundwater model predictions, with highest total (used in abstraction licence application) highlighted by red circle

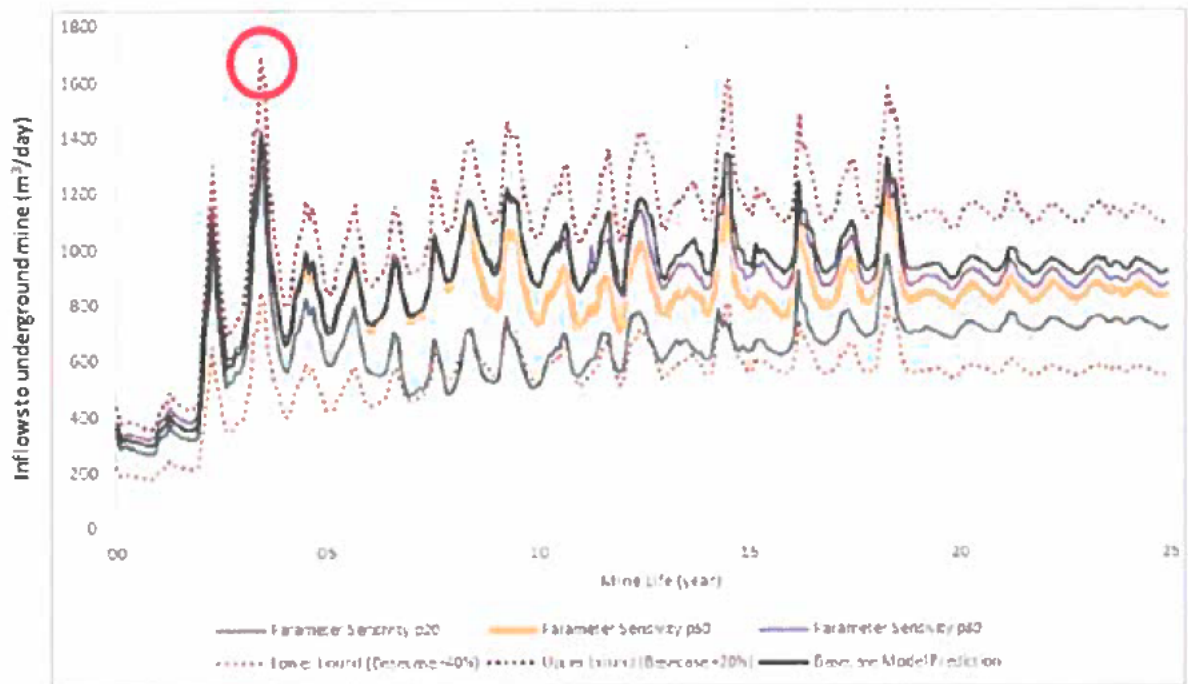


Figure 2: Water Balance Schematic for Year 12 and annual average flows, from updated October 2020 water balance. Figure includes comments highlighting selected differences from July 2020 water balance and providing pond storage volumes (as requested by NIEA)

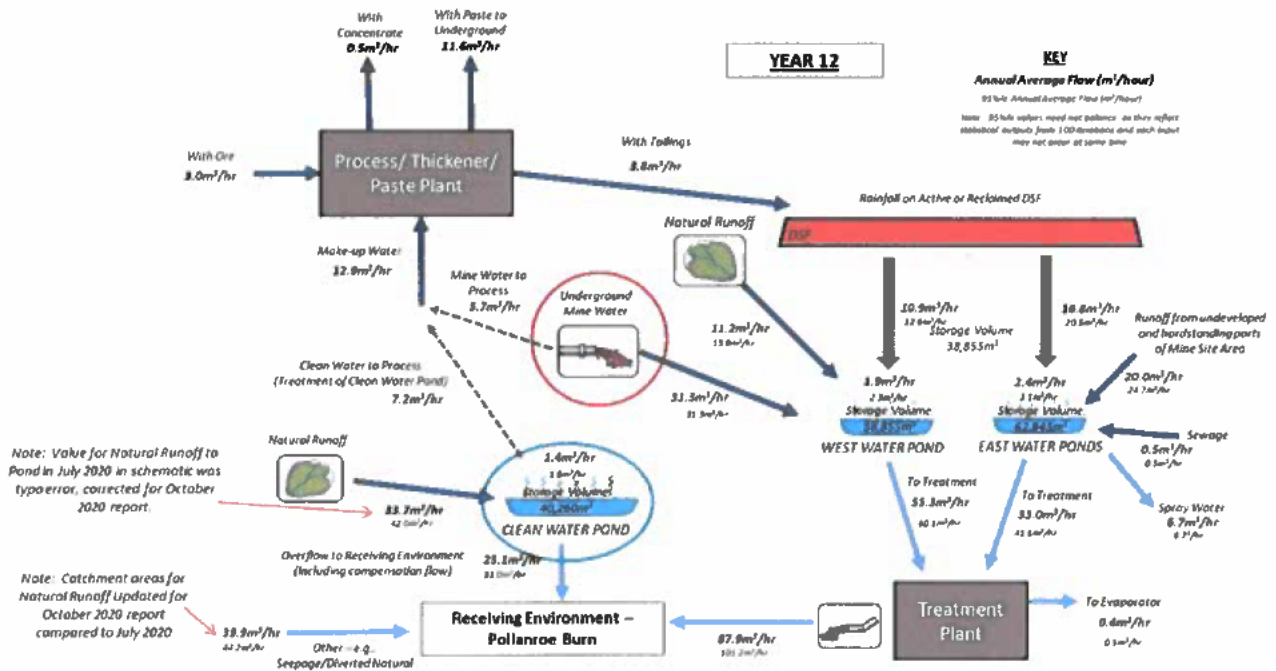


Figure 3: Predicted inflow to Clean Water Pond, from abstraction licence application and July 2020 water balance, with highest value (used in abstraction licence application) highlighted by red circle

