TBR10 - Groundwater

Curraghinalt, Gortin

December 2025

Response to Transboundary Consultation Representations – [redacted] (SRK Consulting)

Representation Ref.	Comment/Issue	Addressed in applicant's submissions to date?	Applicant's Response
TBA0010; 0015; 0020; 0031; 0037; 0044; 0046; 0047; 0048; 0049; 0050; 0052; 0053; 0057; 0065; 0067; 0068; 0069; 0079; 0082; 0086; 0100; 0112; 0115; 0129; 0135; 0137; 0149; 0155; 0157; 0164; 0176; 0185; 0187; 0192; 0200; 0205; 0209; 0213; 0216; 0222; 0233; 0235; 0244; 0247; 0251; 0256; 0263; 0273; 0277; 0278; 0280; 0282; 0285; 0286; 0291; 0292; 0294; 0297; 0298; 0299; 0305; 0311; 0324; 0325; 0331; 0348; 0356; 0365; 0370; 0375; 0376; 0377; 0380; 0384; 0390; 0407; 0417; 0428;	One of the Water Abstraction applications is to abstract half a million gallons of water per day for 25 years from the peatland north of Dalradian's proposed site. Peatland is an efficient carbon store so this carbon would be lost, adding to climate change and impacting our ability to meet climate targets regionally. Furthermore, such abstraction of water would detrimentally affect the aquifers, streams and rivers in the area, including the headwaters of the River Foyle, which would lead in the long term to negative impacts on the whole River Basin. The second Water Abstraction application is to abstract 375,000 gallons of wastewater daily from the proposed mine and discharge it, following "treatment," into the Owenreagh River, via the Pollanroe Burn. This also would pose huge risks to the quality and quantity of water making its way to the Foyle River basin.	Yes .	Abstraction SOC, section 4, pg. 8 Mine Rebuttal RR10 Groundwater, Paragraph 7.21 No water will be abstracted from the bog/peatland. We assume that this refers to an application made by the applicant in July 2024 (Application AIL/2024/0009) for a licence to abstract *surface* water at a *maximum* rate of 2,250 m3 per day (or 495,000 UK gallons per day). This relates to diversion and capture of surface water runoff from the peat to the north of the infrastructure site and re-directing it to the Clean Water Pond. This does not relate to groundwater abstraction. This water is intended for industrial use and to maintain minimum flow in the Pollanroe Burn. Much of the peatland comprises blanket bog habitat which is supported by high rainfall as opposed to groundwater flow.

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0429; 0434; 0439; 0442; 0448; 0450; 0456; 0477; 0481; 0483; 0486; 0491; 0492; 0509; 0514; 0518; 0523; 0524; 0528; 0532; 0537; 0538; 0540; 0543; 0544; 0546; 0550; 0556; 0560; 0574; 0578; 0588; 0607; 0614; 0619; 0625; 0640; 0647; 0651; 0656; 0662; 0666; 0670; 0671; 0676; 0681; 0692; 0697; 0699; 0706; 0712; 0717; 0720; 0728; 0730; 0740; 0762; 0766; 0785; 0786; 0787; 0791; 0795; 0798; 0801; 0805; 0813; 0816; 0817; 0820; 0825; 0830; 0831; 0833; 0838; 0841; 0847; 0850; 0852; 0875; 0877; 0881; 0885; 0893; 0894; 0898; 0905; 0907; 0910; 0911; 0914; 0917; 0922; 0932; 0935; 0948; 0950; 0954; 0958; 0963; 0965; 0966; 0970; 0978; 0979; 0984; 0993; 0997; 1002; 1010; 1023; 1031; 1039; 1049; 1056; 1072; 1075; 1077; 1081; 1089; 1096; 1101; 1107; 1117; 1122; 1126; 1130; 1140; 1147; 1149; 1153; 1158;			There is predicted to be a minor increase in leakage from the peat to the underlying bedrock of up to 385 m3/day but this increased leakage is offset by surplus rainfall/runoff. There is no predicted drawdown impact on the peatland in the project area. Groundwater inflows to the underground mine are from the fractured basement rock and the overlying glaciofluvial deposits. See Groundwater SoC para 9.11, 9.26, and Groundwater rebuttal report paragraph 7.21-7.22.

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1164; 1167; 1173; 1180; 1185; 1189; 1194; 1204; 1207; 1222; 1226; 1227; 1230; 1243; 1245; 1253; 1255; 1258; 1259; 1261; 1264; 1266; 1267; 1269; 1271; 1281; 1287; 1289; 1300; 1304; 1308; 1312; 1318; 1322; 1327; 1331; 1332; 1335; 1338; 1344; 1352; 1358; 1359; 1363; 1365; 1369; 1378; 1381; 1382; 1384; 1391; 1392; 1394; 1401; 1415; 1421; 1432; 1440; 1446; 1452; 1457; 1472; 1480; 1481; 1482; 1485; 1491; 1507; 1515; 1520; 1540; 1541; 1556; 1563; 1573; 1574; & 1591- Pg. 3			
Response from Donegal Count Council TB Consultation 9.5.25 - Loughs Agency – Pg. 67 para 10.15	The groundwater impact assessment (Groundwater Impact Assessment Report (2020), Appendix C6 to the Second Addendum to the Environmental Statement) supplied by the applicant acknowledges a reduction in groundwater contribution to surface watercourses but does not directly address the potential impacts of this on the Unnamed Watercourse. The SWIA notes a diversion of 0.07 km² of the natural catchment to the Pollanroe Burn, reducing the Unnamed Watercourse's catchment area by 5%, and increasing the Pollanroe Burn's catchment by 6%. However, the combined effects of	Yes	Mine Rebuttal RR10 Groundwater, Paragraph 6.11 Baseflow reduction to the unnamed watercourse has been assessed using the same numerical modelling approach as used for other surface water courses in the area. No change in baseflow is predicted at the Unnamed Watercourse.

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	reduced groundwater baseflow and surface water flow on the Unnamed Watercourse are not adequately addressed.		
TBA1603 – Pg. 39	NIEA's groundwater vulnerability maps classify the Claudy and Gortin aquifers as Class 4, indicating high susceptibility to pollution. A 2020 report by the Geological Survey of Ireland highlights the prolonged recovery time for aquifers contaminated by heavy metals, often exceeding decades.	Yes	GIA, Second Addendum to the ES App C6, Section 4.6, Page 36 and Section 7, Page 68. Whilst both of these statements are correct, the vulnerability of the Gortin aquifer (within which the area of interest is located) has been taken into account in the groundwater risk assessment (GRA) and was one of the reasons why a comprehensive tier three groundwater impact assessment was undertaken using best available numerical modelling tools and based on over 11 years of baseline monitoring. The conclusions from the GIA was that the risk to the Gortin aquifer from contamination is negligible, as described in risk issues OP3 and 4, PP1 and 2, and CP2 described in Section 7 of the GIA (page 68).
TBA1603 – Pg. 40	The Environmental Impact Assessment (EIA) provided by Dalradian Gold inadequately addresses the transboundary effects on Donegal, failing to address the risks to groundwater in sufficient detail, as noted in the NIEA Water Management Unit's consultation response.	n/a	See ES App C6, Annex A, Figure 3-1, page 10. The study area over which potential impacts to groundwater were considered extends over a large area down as far as the confluence between the Owenkillew and the Owenreagh. Groundwater modelling demonstrated groundwater drawdown would not extend anywhere near the extents of this study area, even when considering the most conservative reasonable aquifer properties. The edge of this study area lies some 22km as the crow flies from the border with Donegal. Consequently, the risk of transboundary groundwater impacts was therefore discounted very early on in the GIA as negligible.
TBA0506 Wild Ireland Defence – Pg. 1	Dalradian has applied to use 3.5million litres of diesel on site every year for the duration of the mine	Yes	GIA Second Addendum to the ES App C6, page 51, Table 5-1

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	- the pollution potential of this has not been adequately measured in their EIA.		Risk CP2 describes the risk to groundwater from spillages. It finds that "with containment measures in place risks to groundwater from fuel spillages are very low.".
TBA0506 Wild Ireland Defence – Pg. 2 TBA0545 – Pg. 3 TBA0991 – Pg. 2 TBA1206 – Pg. 2	One of the Water Abstraction applications is to abstract 2.23million litres of water per day for 25 years from the peatland north of Dalradian's proposed site. This is a preposterous suggestion as peatland is a carbon sink and such water abstraction would affect local aquifers, streams and rivers, including the headwaters of the River Foyle, which would lead to long term negative impacts on the whole River Basin.	Yes	Abstraction SOC, section 4, pg. 8. We assume that this refers to an application made by the applicant in July 2024 (Application AIL/2024/0009) for a licence to abstract *surface* water at a *maximum* rate of 2,250 m3 per day (or 495,000 UK gallons per day). This relates to diversion and capture of surface water runoff from the peat to the north of the infrastructure site and re-directing it to the Clean Water Pond. This does not relate to groundwater abstraction. This water is intended for industrial use and to maintain minimum flow in the Pollanroe Burn. GIA Second Addendum to ES App C6 Annex D, section 4.1.3, pg. 63. The diversion of runoff from the peat has been modelled in the Groundwater Impact Assessment (GIA) using variable recharge zones. The impact on groundwater levels in the peat and recharge from the peat to underlying aquifers is considered low.
TBA0872 – Pg. 1	Numerous studies have been conducted to assess the levels of heavy metals in surface and groundwater sources in the vicinity of a gold mine in Iran....The findings of these studies revealed that in most cases, heavy metal concentration exceeded the recommended standards for drinking water quality.	n/a	No specific technical points to rebut. Impacts have been assessed and impacts from a mine in Iran are not relevant here.
TBA0945 – Pg. 1-2	There are multiple pathways by which the proposed goldmine would pose serious risks to the waters of County Donegal , including Potential failure of the	n/a	No specific technical points to rebut.

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	DSF; Acid Mine Drainage; Discharge of contaminated water; Large-scale Water Abstraction; Inadequate Closure Plan		
TBA1019 – Pg. 1	Natural heritage and biodiversity also include water quality and we all know how any mining operation will seriously and negatively impact our water resources and their ecosystems.	n/a	Impacts to water have been carefully considered in the GIA and SWIA.
TBA1206 – Pg. 2	Abstraction of water would detrimentally affect the aquifers, streams and rivers in the area, including the headwaters of the River Foyle, which would lead in the long term to negative impacts on the whole River Basin. The second Water Abstraction application is to abstract 375,000 gallons of wastewater daily from the proposed mine and discharge if, into the Owenreagh River, via the Pollanroe Burn. This also would pose huge risks to the quality and quantity of water.	Yes	Claim: Abstraction would detrimentally affect auifers. Mine SoC TR10– Groundwater, pg 13.10, pg. 82 Response: 13.10 The GIA predicts that the project will have negligible to low impacts on groundwater levels, baseflow, and groundwater quality in the surrounding area. The risk to surface water quality is low, described in the SWIA. Monitoring plans are in place to detect any changes as outlined in the SGEMAP. Claim: Abstraction from peatland will dry out the area and cause long-term damage. Mine SoC TR10– Groundwater, pg 9.26, pg. 57 Response: This relates to diversion and capture of *surface water* runoff from the peat to the north of the infrastructure site and re-directing it to the Clean Water Pond. This does not relate to groundwater abstraction. No groundwater will be abstracted from peatland. The peatland is rain-fed and not groundwater-supported. Modelling shows no drawdown impact on peatland areas. Some runoff from the peat will be diverted to the Clean Water Pond but

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			this abstraction is non consumptive as water is returned to the catchment after use.
TBA1406 – Pg. 2	Such abstraction of water would detrimentally affect the aquifers, streams, and rivers in the area, including the headwaters of the River Foyle. We have seen direct and devasting evidence of this during flooding in 2017, a situation which has become more common since the hills above us were planted with forest plantations in the past few decades. The roots of those trees suck up all the water from the peat soil, leading to the same effect there will be if water is taken out of a bog for mining, when heavy rain falls it flows off quickly into the streams instead of absorbing into the bog, and it rushes downstream to cause flooding in towns below.	Yes	Mine SoC TR10– Groundwater, pg 9.26, pg. 57 No significant change in peat water levels is predicted. The groundwater model forecasts no phreatic drawdown in the peatland areas overlying the underground mine. Monitoring data also show that peat water levels typically remain close to ground surface with only minor seasonal fluctuations. This stability is due to three key factors: - Rain-fed hydrology: Blanket bog peatlands in the area are primarily rain-fed rather than groundwater-fed. This means their water levels are more influenced by rainfall than by changes in underlying groundwater levels. - Peat remains saturated year-round: The peat has low hydraulic conductivity, meaning water moves through it slowly. It also has a very high water storage capacity. This is consistent with its role in retaining water and buffering fluctuations in the water table. - Rejected recharge: Far more water is available from precipitation and surface water runoff than can infiltrate due to peat already being saturated. Recharge is therefore rejected and released downstream as runoff. This helps maintain saturation in the peat even if mining-induced drawdown results in an increase in vertical drainage from the peat to the underlying aquifer. Limited vertical connectivity: The vertical hydraulic conductivity between peat and underlying bedrock is low, restricting downward drainage. This limits the extent to which

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			mining drawdown at depth can influence the shallow peat water table.
TBA1492 – Pg. 2 TBA1495 – Pg. 3	Acid Mine Drainage evidence on the site in 2013 but covered up - still evident in 2020 - DGL ignoring the causes.	Yes	TR10 Groundwater, Section 8, pg. 8.3, 8.4 and Appendix A. Summary: - No acid mine drainage has been identified at the existing site. - SRK have investigated, documented, and addressed these anomalies transparently, as described in Section 8 and Appendix A of the 2024 Groundwater TR. - SRK found that elevated metals identified at downstream of the infrastructure area (GW05 and GW06) were likely caused by sampling method changes and well integrity issues, not mining activity. - The exclusion of affected data from the baseline dataset is to ensure a conservative (precautionary) baseline, not a cover-up, where inclusion would risk allowing higher limit values for ongoing operations.