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Date: 24 April 2020

Email: planningresponse.team@daera-ni.gov.uk

Dear Sir/Madam

Planning Application Ref.: LA10/2017/1249/F
Location: Lands NW Of Greencastle E Of Rouskey N Of Crockanboy Rd
W Of Mullydoo Road N And S Of Camcosy Rd Including
Lands 165m W Of No. 45 Camcosy Road To The Junction Of
Camcosy Rd And Crockanboy Rd And Lands 47m To The SE
Of 73 Crockanboy Rd
Proposal: Underground valuable minerals mining and exploration,
surface level development including processing plant and
other associated development and ancillary works,
Greencastle, County Tyrone. Please see application form P1,
sheet 1 for full project description.
(Revised description and amendments to the planning
application, receipt of Further Environmental Information (FEI),
other information and updates to the Waste Management Plan
(WMP), supporting documents and provision of new and
amended drawings).

Thank you for your consultation on the above which was received by DAERA on 07/10/2019

We have reviewed the information provided and our environmental records in the vicinity of the proposed development.

Our comments are summarised below. Where provided, please also refer to additional details attached.

Drainage and water

The Drinking Water Inspectorate (DWI) has considered the application in relation to private water supplies used in the supply of drinking water. DWI notes the information provided in the applicant's Further Environmental Information (FEI) returns in October 2019 and has as-sessed this information against our consultation response issued on the 05/10/2018. On the basis of the additional information provided, DWI have provided a number of further explanatory notes. DWI is unable to provide its substantive response until a peer review by an independent expert has been completed, which is to progress once funding has been confirmed by the Planning Authority.

Water Management Unit (WMU) has considered the impacts of the proposal on the surface water environment. However, at this stage, WMU is currently unable to determine if the development has the potential to adversely affect the surface water environment.

Land, Soil and Air

The Industrial Pollution and Radiochemical Inspectorate advises that as no Part A or Part B PPC activities have been proposed in the "2019 update", no application for a Part A or Part B PPC permit is required.

Regulation Unit (Waste Licensing Team) was consulted on the waste management impacts of the proposal and provides comment that NIEA is not the competent authority with regard to the Mining Waste Management for this proposed facility. This is regulated by the Planning Authority.

Regulation Unit (Land and Groundwater Team (LGW)) has considered the impacts of the proposal on the groundwater environment. On the basis of the information provided LGW is unable to provide its substantive response until the outcome from the Dfl consultancy procurement process has been completed and reported.

Natural Heritage and Conservation Areas

Natural Environment Division (NED) has only carried out a desktop assessment for designated sites assessment and other natural heritage considerations, however the protected landscapes assessment included an actual site visit and assessment from viewpoints around the site and surroundings. Further information will need to be submitted to enable NED to carry out a full assessment of this proposal.

If you wish to discuss anything raised in our response, please do not hesitate to contact Planning Response Team (details above).

Kind regards

Planning Response Team

On behalf of DAERA

Drainage & Water

Section Reference:

WMU/PC/ 28851-2

Considerations:

Water Management Unit (WMU) has considered the impacts of the proposal on the surface water environment. However, at this stage, WMU is currently unable to determine if the development has the potential to adversely affect the surface water environment.

Explanatory Note:

All DAERA Standing advice referred to in this response unless otherwise stated can be found at the following link www.daera-ni.gov.uk/water-environment-standingadvice

1. The impact of this development upon the water environment (quality and resource) and therefore the impact upon the designated sites and associated features cannot be fully determined until:
 - The outcome from the Department of Infrastructure (DfI) consultancy procurement process (including the Mine Waste Management Plan) has been completed, reported, and considered.
 - Environmental authorisations, namely Discharge Consents and Abstraction Licences, have been applied for by the applicant and determined by NIEA, supported by Habitats Regulation Assessments.
 - Once the outcomes from these identified areas of work are known, WMU / Water Regulation Unit will be in a position to make a fully informed substantive response to this planning application.

(Please note this response makes reference to a number of possible conditions that WMU / Water Regulation Team would request be inserted in any decision notice in event this application be approved. WMU makes these comments without prejudice and these should not be construed as WMU being content with the application as the full impact of the development on the surface water environment cannot be made until the results of the independent review have been received, reviewed and assessed).

WMU has considered the Updated Environmental Statement (2019) (FEI) and further clarifications on the FEI provided to WMU by the applicant / agent received 26th February 2020 and would provide the following advice.

2. Modification of Waterways

- 2.1 With regard to the clarification provided in relation to the modification of waterways this project would require, WMU notes the Drainage Figure in section 2.5.26 of Vol 2 of the FEI has identified that a substantial length of waterway (approx. 1.1 km of stream channel and 5 km of drains) will be impacted / removed as part of this proposal.
- 2.2 The NI Planning Case Officer should note that where artificial modification of a waterway is proposed they must consider if this complies with Planning Policy Statement (PPS) 15 FLD 4.
- 2.4 WMU consider the definition of a 'waterway' to be as defined by the Water Order:
- "Waterway" includes any river, stream, watercourse, inland water (whether natural or artificial) or tidal waters and any channel or passage of whatever kind (whether natural or artificial) through which water flows
- In this Order any reference to a waterway includes a reference to the channel or bed of a waterway which is for the time being dry.
- 2.5 The applicant may find the following documents useful:
- DAERA Standing Advice - Culverting
 - A hydromorphology guidance booklet titled Surface Water Alterations Handbook can be downloaded from the following webpage:
<https://www.daerani.gov.uk/publications/surface-water-alterations-handbook>

3 Oil Separators

- 3.1 WMU notes the clarification provided by the applicant relating to the type, class and size of oil separators that are to be used at various outfall locations. The applicant must ensure that all separators are of a size, type and class suitable for the local circumstances and risk factors in line with the advice contained in Pollution Prevention Guideline (PPG) 3 which can be found at the NetRegs website www.netregs.org.uk/

Including:

- The discharge point of the proposed separator
 - The environmental sensitivity of the location and any discharge point
 - Activities on the site including the details of any oils / fuels to be stored in the area the separator will service
- 3.2 Where appropriate these separators should be fitted with a closure device and should also be fitted with alarms.
- 3.3 It is essential that these separators are regularly inspected, maintained, and used within manufacturing guidelines to ensure effective performance. Should this application be approved the applicant will be required to draw up a suitable inspection and maintenance regime for agreement with NIEA and to keep a detailed log of when the separator is inspected, maintained, emptied and serviced and also keep a log of specific events relating

to the separator system such as cleaning, repairs, accidents and incidents available for inspection at all times.

4 Wheel Washes

- 4.1 WMU notes the clarification that wheel washes will be temporary closed-circuit systems with the exception of a wash on the DSF access road during operation whose drainage will be captured and treated. The treatment and disposal of the operational wash effluent will need to be considered as a component of the discharge consent application. Should the applicant decide to use non closed-circuit washes during the construction phase this would need to be agreed in advance by WMU.

5 Outline CEMP (FEI Appendix B2)

WMU have considered the above document and would provide the following advice.

- 5.1 Section 2.3 and 3.4.8 proposes the use of waste rock as aggregate for construction of noise berms, in early construction and placed in the DSF as part of the toe drain. The applicant should note there is a significant risk of the escape of fines from this waste rock during its storage and use. The surface water management will need to be rigorously designed and put in place in order to address this issue and prevent the entry of suspended solids into any waterway.
- 5.2 Section 3.2 details potential sources of pollution and associated concerns, with the undertaking to adhere to best practice. There is also an undertaking displayed to agree with NIEA WMU in advance re planning, design, managing and monitoring of silt control, spill mitigation, prevention, and response measures. WMU welcomes this undertaking and should this application be approved WMU would envisage formalising this by way of a suitable condition. The applicant should note that while WMU is content to advise and agree measures it is still the responsibility of the applicant and their appointed contractors to ensure that no pollution occurs if these works are to be undertaken.
- 5.3 With regard to adherence to best practice, the applicant must note the following. The CEMP references, in section 3.2, a number of key environmental guidance documents that will be adhered to during all the construction works. The applicant has quoted three PPG's / GPP (Guidance for Pollution Prevention) documents. While these documents are appropriate there are also a number of other PPG GPP documents that are applicable to these works. These documents should also be included in any finalised CEMP and must be adhered to.
- 5.4 A number of documents relating to best practice especially with regard to CIRIA guidance are out of date or have been superseded. For example, the CIRIA Report C697 – The SuDS Manual quoted has been replaced by C753 SuDS Manual. While noting guidance is continually evolving it is essential that any best practice guidance that is to be adhered to during this project is the most relevant and up to date available, any future documents forwarded for agreement with WMU (such as a final CEMP for the project) must also reflect the most relevant and up to date guidance.

- 5.5 Section 3.2 refers to the timing of works likely to generate silt and those works close to / adjacent to waterways that are to be timed to avoid extreme spells of wet weather. WMU support this approach however this alone does not go far enough to protect environmental receptors. These works must be effectively designed, with managed surface water control in order to minimise the generation and mobilisation of silt laden water. Consideration of the establishment of suitable buffer zones to watercourse must be given. It should be noted that not all buffer zones will be the same and cognisance must be given to all factors such as slope of ground. The applicant must be confident that the size of any buffer strip chosen must be suitable for the task. All works in, near or liable to impact waterways must be planned to minimise impact and the methodologies for doing so agreed with WMU in advance. This includes all works whether temporary or permanent and all diversion or culverting works.
- 5.6 Section 3.3.1 and 3.4.13, drainage ditches are depicted in the Hoy Dornan Drawings. Consideration must be given to the design of these. With reference to lining and check dams, schematic drawing in 4.1 in the OCEMP, indicates lined ditches with straw bales as check dams. Experience has shown that straw bales are difficult to manage and might not be as effective as constructed check dams. (If using varying grades of aggregate this should be washed stone in the first instance). Lining the straw bales can help if the constructor insists on using this method instead of constructed check dams.
- 5.7 Section 4.1 and 4.3.1 reference PED ditches. These should be effectively designed to minimise the risk of suspended solid generation and mobilisation to promote settlement. Use of straw bales is again proposed for the use of check dams.
- 5.8 Section 4.1 indicates the use of detention ponds with silt busters rather than the design and use of adequately sized settlement ponds. Attenuation ponds can fill quickly, and levels can become difficult to manage. Silt busters have to be used within manufacturer's specifications and may not be capable of treating sufficient volumes to discharge and therefore may not be effective in managing pond levels. The applicant should give consideration if there is the scope for settlement features aided by silt busters instead of, or to compliment, attenuation ponds.
- 5.9 Figure 3-1: Proposed Drainage Management Plan Construction Phase, suggests discharge over land. WMU would have concerns that this will promote the generation of suspended solids if this is not responsibly managed, maintained and monitored.
- 5.10 Section 3.4.14 "Dewatering of the west pond is likely to be required." Dewatering activities need to be managed and monitored in a way to prevent the escape of pollutants to the environment. All pumping activities must be supervised, and water treated prior to discharge. Silt busters are proposed and WMU would have some concerns with the use of these as the volumes to be processed may be significant. If dewatering is not managed properly and responsibly including any overland flow, there is the risk of the generation of suspended solids at the discharge point.
- 5.11 Section 3.1.14, silt build up within ponds must be monitored and managed in order to ensure effective functioning. The applicant must ensure the positioning of conveyance pipes between ponds and the outlet pipe is correct in order to promote settlement.
- 5.12 Section 3.4.18, indicates the use of DSF cell one as a laydown area for equipment etc. The applicant will need to consider at what stage of the construction of the DSF this will take

place. WMU would have concerns if this were before the impermeable membrane was in place and the drainage from the cell was transferred to the wastewater treatment plant, particularly if there is the intention to store any fuels / oils.

- 5.13 Appendix A of the OCEMP in section 3 contains a number of proposals and methods for the management of contaminated site run off including from haul roads. These methods would need to be fully addressed and implemented.
- 5.14 Section 3.4.21 and 4.4.1 - Stockpiles must be created and maintained in accordance with industry best practice. Consideration should be given to the following:
- Lining of stockpiles
 - Re-vegetation
 - Use of Silt Fencing
- 5.14 In appendix A of the OCEMP, Section 5, mention is made of the use of flocculants. The applicant must note that the use of any flocculants must be agreed with NIEA WMU prior to their use.

6 Statutory Permissions

- 6.1 Should this application be approved this development will require a number of Environmental Authorisations relating to the water environment from NIEA.
- 6.2 Discharge Consent, issued under the Water (Northern Ireland) Order 1999, is required for any discharges to the aquatic environment and depending on circumstances may be required for site drainage during the construction phase and will be required for a number of discharges during the operational phase of the development. Any proposed discharges not directly related to the construction of the development, such as from septic tanks or wash facilities, will also require separate discharge consent applications. The applicant must refer and adhere to all the relevant precepts contained in DAERA Standing Advice - Discharges to the Water Environment.
- 6.3 WMU notes the clarification received in FEI Volume 2, 5.15 Drainage outfall information – FEI Ref 2.6 regarding the number and type of proposed discharges from the site. At the time of this response WMU consider that the discharges listed may require discharge consent issued under the Water (Northern Ireland) Order 1999. The applicant should also consider if they will require any “temporary” discharge consents for site drainage during the construction phase and consent for foul sewage before the sewage treatment plant (STW) is established. (If the applicant intends using chemical toilets during this phase, they should note that the waste from these will need to be removed by a licensed waste carrier). The discharge of water associated with dewatering may also require Discharge Consent under the terms of the Water (Northern Ireland) Order 1999.
- 6.4 WMU can only process a discharge consent application once it has been deemed complete (a completed application form, all necessary accompanying information required to determine the application and the associated fee). The applicant should note the minimum

processing time to obtain a discharge consent under the terms of the Water (Northern Ireland) Order 1999, if successful, is 4 months for industrial applications. For complex applications, the processing time may be longer.

- 6.5 Given the above, WMU recommends the applicant contact the consenting officer at their earliest convenience to discuss all the consents this project may require.
Industrialconsents@daera-ni.gov.uk
- 6.6 When formulating discharge consent conditions, the Department must ensure that the consented discharge is environmentally sustainable, taking into account the composition and volume of the proposed discharge, available dilution, and the relevant EU Directive and national requirements for the quality of the receiving waterway.
- 6.7 The applicant should be aware the granting of Water Order consent is therefore not guaranteed. No two locations or proposals are the same and where the site and/or the receiving medium (waterway or soil) prove unsuitable then the consent application will be refused.
- 6.8 WMU notes that it has received an application for discharge consent for Outfall 5 (Piped Outfall / WTP and Clean Water Pond Overspill Culvert) at the proposed site on the Pollanroe and an application for a new consent / review of the existing consent at the current site on the Curraghinalt. (These two discharges will be referred to as the main outfalls for the remainder of this response).
- 6.9 As part of the Environmental Statement the applicant has suggested proposed discharge consent conditions for these two main outfalls along with supporting information in the form of relevant types of environmental standards used to formulate these proposed conditions along with baseline information on the water quality baseline in the Pollanroe / Owenreagh and Curraghinalt / Owenkillew and predicted changes as a result of these proposed discharges.
- 6.10 With regard to the proposed main outfall discharge consent conditions, the applicant should make no assumptions based on these proposals (for example the required treatment standards and the purchase of any treatment plant / equipment required to meet these proposed standards) and that these proposed conditions are acceptable to WMU. WMU will only be in a position to ascertain if a feasible method of “effluent” disposal is available at these outfalls and the associated discharge conditions that would be required, once it has all the information it requires to consider the application i.e. the application for discharge is deemed complete. The applicant should note that this may include information over and above that presented in the Environmental Statement.
- 6.11 With regard to the proposed conditions, baseline information and predicted changes WMU would make the following comments.
- 6.12 The applicant has quoted the driving factor for the consent condition for Nitrate as being compliance with the Drinking Water Standard of 0.22 mg/l/N. The Drinking Water Standard is 0.50mg NO₂ /l at consumers’ taps. When converted to mg/l/N this is 0.152 mg/l/N. (The applicant appears to have used the conversion factor for Nitrate instead of Nitrite).
- 6.13 Cadmium. The applicant has quoted WFD annual mean standard as 0.00008 mg/l and 0.45 mg/l for the WFD max allowable concentration. However, the figure quoted for WFD max is incorrect, it should be 0.00045 mg/l.

- 6.14 The applicant has quoted a Water Framework Directive (WFD) Standard for Silver of 0.0005 mg/l Annual Mean and 0.001mg/l Maximum as a %ile. Water Management Unit is unaware of any WFD standard for silver being adopted.
- 6.15 With regards to Cyanide, given that it is no longer proposed to utilise it as part of the processing of the ore it is unclear if the proposed consent conditions and predicted water quality results are still valid.
- 6.16 With regard to predicted water quality results it is not clear how the applicant has calculated the predicted concentrations for Chromium III and VI as greater than the predicted (combined) concentration for Total Chromium.
- 6.17 A number of the WFD standards quoted are for bioavailable metals. It is not clear if the suggested consent conditions or the baseline concentrations are for the total portion of the metals or are for the bioavailable concentration.
- 6.18 Surface Water Impact Assessment Table 4-9: Baseline Water Quality in the Owenreagh River and Pollanroe Burn and Table 4-10: Baseline Water Quality in the Owenkillew River and Curraghinalt Burn: These are annotated "Italics are below detection limit, shown as half detection limit" however some of the concentrations have some of their figures in a mixture of italics and normal font e.g. Table 4.10 shows the average concentration for mercury in the Curraghinalt *0.000037*, it is not always clear if the value is in fact below the detection level or not (although in this particular case it appears from other values that this is above the detection limit). In a similar vein Table 4.9 reports the concentration of Uranium in the Pollanroe to be an average of *0.0025* and the max as 00025, if the figure in italics is half of the detection limit it is not clear how a figure for the maximum concentration can be reported.
- 6.19 It is normal practice to report concentrations as below the reporting limit (limit of quantification) as opposed to below the detection limit therefore it is not clear where values are reported to be just above the detection limit whether in fact they are reliable.
- 6.20 The applicant has proposed a temperature condition of 20⁰C for the proposed consents. While noting that the WFD Absolute Temperature Standard for Rivers for cold water species in a High Class waters is 20⁰C, consideration will need to be given to whether this condition would be more appropriate as a temperature rise in the receiving waterway after the mixing zone.
- 6.21 The applicant has provided predicted concentrations (at 50 and 90 %iles) and for different flows in the receiving waterway (mean and low flows). It should be noted that with regard to the two main outfalls the Department may consider it necessary for the consent to include a condition relating to the rate of flow of the discharge and the flow in the receiving waterway. Should that be the case then the applicant will need to consider the installation of a suitable flow monitoring device / system.
- 6.22 The applicant should note that all consents will include a condition that suitable facilities are available at all times to allow the Department to sample any outfall or (where an appropriate condition exists) to measure any flow.
- 6.23 Anyone who does not obtain consent under the terms of the Water (Northern Ireland) Order for any discharge of trade or sewage effluent (including site drainage liable to contamination) arising from a development, and subsequently makes any such discharge, will be liable to enforcement action under the Water Order for discharge without consent. WMU notes and

welcomes the commitment displayed in Chapter 4 of the original ES that the construction phase of the project will not commence until all relevant approvals and agreements are in place.

6.24 In accordance with the Water Abstraction and Impoundment (Licensing) Regulations (Northern Ireland) 2006, it is a mandatory requirement that upon the abstraction and/or diversion and/or impoundment of water from a natural river channel/lake, coastal or groundwater source, an abstraction/impoundment licence should be obtained unless the operations specified are Permitted Controlled Activities (PCA). For further guidance on PCA please see the link below:

<https://www.daera-ni.gov.uk/publications/water-abstraction-and-impoundment-licensingregulations-northern-ireland-2006-permitted>

6.25 WMU recommends that developers should apply for the required statutory permissions prior to, or at the same time as, applying for planning permission. As previously stated WMU notes and welcomes the commitment displayed in Chapter 4 of the original ES that the construction phase of the project will not commence until all relevant approvals and agreements are in place.

6.26 There are a number of authorisation types that may be granted under the Abstraction and Impoundment Licensing (AIL) Regulations (Northern Ireland) 2006, the type of authorisation will be determined by the volume of water abstracted as detailed below:

- Less than 10m³ per day - authorisation is subject to activities complying with PCA conditions and no contact with NIEA is required.
- Between 10m³ to 20m³ per day - authorisation is subject to notification to NIEA and compliance with the PCA conditions.
- Between 20m³ to 100m³ per day - authorisation is subject to submission of an application to NIEA and the issue of a formal "simple" licence which may have conditions.
- More than 100m³ per day - authorisation is subject to submission of an application to NIEA and issue of a formal "complex" licence which may have conditions.

6.27 The applicant should refer and adhere to the precepts contained in DAERA Standing Advice - Abstractions & Impoundments.

6.28 At the time of this response the Department currently considers that this development if approved will require at least two licences, one for dewatering to the mine and one for the impoundment of surface water relating to the drainage system to be used on site. It is also noted that the applicant may need to dewater a pond (West pond as outlined in FEI Appendix B2 section 3.4.14) as part of the construction works. Water may also be required for irrigation and dust suppression. Depending on circumstances, these processes may also require licences.

6.29 Given the above, WMU recommends the applicant contact the Licencing officer at their earliest convenience to discuss all the licences this project may require. AIL@daera-ni.gov.uk

- 6.30 It should also be noted that WMU can only process an Abstraction / Impoundment Licence application once it has been deemed complete (a completed application form, all necessary accompanying information required to determine the application and the associated fee). The applicant should note the minimum processing time to obtain a licence, if successful, is 4 months. For complex applications the processing time may be longer.
- 6.31 When Licence applications are received, the Department must ensure that the proposed activity is environmentally sustainable, no two proposals are the same and where the activity proves to be unsuitable then a licence application will be refused.
- 6.32 To date WMU has not received any applications for Abstraction / Impoundment licences in relation to this project.
- 6.33 In our previous response WMU requested information on the following. “During drought conditions, production at the mine will be able to be supported by groundwater pumped from the underground mine and water stored in the Clean Water Pond. In the event that more water is required it would be possible to truck water to the site, but given the rate of groundwater inflow to the underground workings there is expected to be a source of water on site to allow production to continue during drought conditions”. Can the applicant clarify what the source of this water would be and the maximum quantity that would be required?” In reply the applicant did not identify a source of water but instead responded that it was unlikely that an additional source of water would be required. The applicant should note that in a significant time of drought the WMU would consider the granting of an abstraction licence to be highly unlikely. The applicant may need to consider an alternative source in such a circumstance. WMU notes the intention to obtain a mains water source from NIW.

7 Peat Management

- 7.1 WMU notes the clarification regarding peat storage and management. Should this application proceed WMU will be requesting by way of a condition inserted in the decision notice that requires the applicant to submit full details of the timing of peat works during the construction stage, containment measures, drainage features and any associated treatment for the drainage for both the peat to be stored in the rehabilitation area and the DSF. (This can be supplied as part of the final CEMP.

8 Reporting of Results

- 8.1 WMU notes the clarification provided relating to LOD's / LOQ's blank contamination and would make the following comments.
- 8.2 WMU is not clear what the applicant means with regard to the limit of reporting (LOR) and its relationship to LOD. (For the baseline concentrations the applicant states the LOD and LOR are the same). While the laboratory is correct that the LOQ is the LOD plus an uncertainty it is not clear why the laboratory cannot provide LOQ. The confusion may be due to the definitions used by WMU and the laboratory for each of the terms.

- 8.3 WMU notes the comments relating to the contamination of field blanks and acknowledges that glove type can be a potential source of contamination. It is essential that all contamination relating to blanks is thoroughly investigated. WMU in discussions with the applicant has learnt that currently they are only utilising trip blanks for organic parameters. The use of trip blanks for all parameters may help the applicant narrow down the cause of some of these blank failures.
- 8.4 Should this application be approved WMU will be requesting a condition be inserted in the decision notice relating to ongoing monitoring / sampling. This will need to be agreed with NIEA prior to works commencing. Given the above this plan will have to include a number of stipulations including:
- Agreement on how results will be reported in relation to LOD / LOQ/ LOR.
 - Agreement how non-conforming blanks / samples will be identified and reported.
 - Agreement on how non-conforming samples will be investigated.

9 Water Framework Directive

- 9.1 The Water Framework Directive (WFD) requires us to protect the status of water bodies from deterioration, and where necessary and practicable, to restore water bodies to good status/good ecological potential.
- 9.2 The applicant will need to ensure that any emissions both from the construction and associated surface level works and during the operational phase do not cause any deterioration or affect the possibility of achieving Good Status, or High Status for individual elements where appropriate, in the river water body and any other receiving water bodies downstream.
- 9.3 Mitigation measures must be in place to protect the water body and surrounding water bodies from any discharge into them that may damage ecological status. Measures must be in place to ensure that the WFD Objectives for the water body are not compromised nor the WFD Objectives in other downstream water bodies in the same and other catchments.
- 9.4 Should this application be approved WMU will require, by way of suggested Condition, that all the mitigation measures identified within the Environmental Statement, and associated documents, be implemented and adhered to. To achieve this, NIEA will request a standalone document be created by the applicant as a Schedule of all Mitigation, to include additional mitigation proposed by consultees.

10 General

- 10.1 Should the determination of the planning application for this development be protracted, WMU would request the applicant make provision for the ongoing collection of baseline data.

- 10.2 New data should be jointly interpreted with the existing baseline data to verify that baseline conditions have not changed considerably. For parameters where verification fails, models and impact assessments will need to be reviewed and updated.
- 10.3 In our previous response WMU provided clarification to the following statements in the Environmental Statement:
- The stretch of the Owenkillev adjacent to the application site is currently of Good status although the 2021 and 2027 objectives reduce to Moderate. This reduction in objective is unexplained. The upstream stretch of the Owenkillev River and the Coneyglen Burn are both currently of Moderate status”.
 - “Below the confluence of the Owenkillev and Owenreagh, the Owenkillev (Gortin stretch) is of Moderate status with both 2021 and 2027 objectives remaining as Moderate. The downstream Killymore stretch returns to Good status although again the 2021 and 2027 objectives are both Moderate. This reduction in objective is unexplained”.
- 10.4 WMU clarified “This statement has brought to light some errors in the information as presented on the NIEA webmapper. These are currently being investigated but are understood to affect only a very small number of water bodies. Due to the construction of the NIEA webmapper, it may not be possible to amend the data, in which case WMU will seek to have an erratum note added to the welcome page.
- 10.5 WMU can therefore confirm and the applicant should note that the information regarding the downgrading of objective for the Owenkillev is incorrect. All objectives for the Owenkillev are good for 2021.”
- 10.6 WMU are therefore disappointed that the FEI has chosen to reiterate these remarks in the supplied Shadow HRA in section 2.2.
- 10.7 The applicant should be informed that it is an offence under the Water (Northern Ireland) Order 1999 to discharge or deposit, whether knowingly or otherwise, any poisonous, noxious or polluting matter so that it enters a waterway or water in any underground strata. Conviction of such an offence may incur a fine of up to £20,000 and / or three months imprisonment.
- 10.8 The applicant should ensure that measures are in place to prevent pollution of surface or groundwater as a result of the activities on site, both during construction and thereafter.

Drainage & Water

Planning Reference No.: LA10/2017/1249/F [Dalradian]

Section Reference: GQ558

Considerations:

1. Private Water Supplies

The Drinking Water Inspectorate (DWI) has considered the application in relation to private water supplies used in the supply of drinking water. DWI notes the information provided in the applicant's Further Environmental Information (FEI) returns in October 2019 and has assessed this information against our consultation response issued on the 05/10/2018. On the basis of the additional information provided, DWI have provided a number of further explanatory notes. DWI is unable to provide its substantive response until a peer review by an independent expert has been completed, which is to progress once funding has been confirmed by the Planning Authority.

2. Public Water Supplies

DWI Response Section Ref GQ311 issued 05/10/2018 stated: In relation to the **public drinking water supply**, the applicant is required to consult with Northern Ireland Water (NI Water), who are the statutory water undertaker, to allow an assessment of any potential risks to drinking water supplies. NI Water has a regulatory obligation, under regulation 30 of The Water Supply (Water Quality) Regulations (Northern Ireland) 2017, to undertake risk assessments of all aspects of its drinking water supply systems from catchment through to consumers' taps. The applicant should provide all necessary data and models to allow NI Water to assess these within its risk assessments in relation to any potential impact on the management of its drinking water abstractions. The proposed development should not adversely impact on Drinking Water Protected Areas established under Article 7 of the Water Framework Directive, DWI could not find any specific reference to an assessment of these designations within the report.

Applicants Response: The Project area or potential groundwater impact area does not contain any public water supplies or intersect any source protection zones (appendix C6 section 4.5). However, all groundwater bodies in NI are designated as Drinking Water Protected areas under Article 7 of EFD (20060/EC). The model files for the groundwater and surface water models are provided as Appendix D3. Private water abstraction data is provided as Appendix D4.

DWI Comments: DWI notes NI Water's written response to the planning application on the 05/04/2019 and subsequent follow-up on the 28/10/2019, and is aware in liaison with NI Water that a further response is to issue. The applicant should address the points raised within NI Water's consultation responses in relation to any potential risk to the public water supply. The response within the FEI to the above query references Appendix C6 Section 4.5 which relates to groundwater, and also Appendix D3 for model files for surface water, DWI were unable to locate a summary of any assessment made on Drinking Water Protected Areas [designated bodies under Water Framework Directive 2000/60/EC Article 7].

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NI Water in their correspondence on the 05/04/2019 have stated *'the proposed development is within the drinking water catchment area for Derg WTWs'* the applicant should engage with NI Water on its current and any future responses in considering the locations and potential impacts on surface water sources used for abstracting the public water supply. A development should not impact on the quality or sufficiency of the public water supply

DWI will continue to engage with NI Water to provide an independent assurance on the safety of the public drinking water supply.

Explanatory Note:

The statements raised within DWI response **Section Ref GQ311** issued 05/10/2018 are referred to below.

Environmental Statement – Volume 3 – C3 Surface Water Baseline Report

EN 01: Section 3.3 Water Quality – at the time of the report the drinking water quality regulations quoted were from 2007 (as amended). Since the publication of the report new regulations are now in place from October 2017, which can be viewed at:

The Water Supply (Water Quality) Regulations (Northern Ireland) 2017
<http://www.legislation.gov.uk/nisr/2017/212/contents/made>

The Private Water Supplies Regulations (Northern Ireland) 2017
<http://www.legislation.gov.uk/nisr/2017/211/contents/made>

These new regulations do not change the drinking water quality standards but should be quoted in future reports for consistency.

DWI Comment EN 01: FEI still refers to previous regulations therefore point remains valid, although the 2017 regulations do not change the drinking water quality standards they should be quoted in future reports for consistency.

EN 02: Table 3-29 details project guideline values. These guidelines are considered against the regulatory drinking water standards, where there is no regulatory standard for a parameter under assessment then consideration should be given to the use of the World Health Organisation Guideline values for Drinking Water e.g. for barium a value of 1.3 mg/l should be considered www.who.int/water_sanitation_health/water-quality/guidelines/chemicals/barium-background-jan17.pdf?ua=1

DWI Comment EN 02: The above statement remains valid where applicable in the consideration of project guideline values.

EN 03: When assessment is made of potential limits on outputs from the site suitable warning or trigger values should be used in the management of monitoring programmes and to ensure actions are implemented in advance of any potential threat to drinking water quality. A threat to drinking water quality is considered as being where the outputs from the site would breach Article 7 of the Water Framework Directive. Consideration should be given to any potential increase of chemical loadings over time against the current background levels. The Company should engage with NI Water and NIEA on the established Drinking Water Protected Areas (DWPAs) to gather information on baseline levels for these parameters and to ensure the processes and any discharges from the site will not impact negatively on the water quality within these catchments.

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In developing monitoring plans cognisance should be given, in the first instance, to the regulatory drinking water standards (see above) and secondly to the drinking water standards set within the World Health Organisation Guideline values for Drinking Water:

http://www.who.int/water_sanitation_health/publications/drinking-water-quality-guidelines-4-including-1st-addendum/en/ or any subsequent amendments or revisions.

DWI Comment EN 03: The above statement remains valid, where applicable.

EN 04: Note table 3-29 (Page 70) has a project guideline level of 730 mg/l for molybdenum, this would seem to be a typo and should read 0.073 mg/l as detailed in CCME, this equates to WHO guideline level of 0.07 mg/l.

Applicants Response EN 04: It is a typographic error. Table amended to the correct value of 0.073 mg/L stated in the CCME guideline for Molybdenum. The value of 730 should have been expressed as micrograms per litre. Please note that the correct value is used in ES V3 C4 – Surface Water Impact Assessment. Refer to ES, 2017 Appendix C3 Surface Water Baseline Report.

DWI Comment EN 04: DWI is content with the above response.

EN 05: The applicant should future proof against potential changes to drinking water standards and note the current European Commissions consultation on the Recasting of the Drinking Water Directive which is currently ongoing. The consultation document can be accessed at:

https://ec.europa.eu/info/law/better-regulation/initiatives/com-2017-753_en Of particular relevance in the consultation is the consideration to reducing the lead standard from 10 µg/l to 5 µg/l.

DWI Comment EN 05: The above statement remains valid, where applicable.

Groundwater Impact assessment (SRK Consulting) – U6193 Hydrogeology Impact Assessment

EN 06: 4.1.2 Private Abstractions – Notes 61 private abstractions in the potential piezometric drawdown radius with 16 of these within layer 5 of the groundwater model. DWI was unable to fully determine from the report that the proposals would not have a negative impact on either quality or sufficiency of private water supplies used as drinking water supplies (as defined under the Drinking Water Directive 1998) i.e where it used for domestic purposes; in food production, where the quality of the water would impact on the final product; or where the water is made available as drinking water to the public. A summary table should be provided to DWI to indicate the private abstractions used as drinking water supplies which have been risk assessed by the developer, to include details on; location (Grid Reference, address, and a shapefile of these supplies); the type of supply (including use); the risk assessment undertaken; where risks have been established details of these and the proposed mitigations; where no risk has been established a statement confirming this; and where further information has to be established a plan to obtain this information. Details of monitoring programmes (location, frequency, and scope) to monitor and confirm drinking water quality (to include baseline monitoring of relevant drinking water standards), and in confirming the sufficiency of supplies. Trigger levels for action should also be included within the monitoring plan to ensure any remedial measures are undertaken in a timely manner to prevent a deterioration in drinking water quality or sufficiency of supplies. If not already in the risk assessment programme the following private water supplies which are registered with DWI under

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the Private Water Supplies Regulations (Northern Ireland) 2017, in Table 1, should as a minimum be included in this.

Table 1

DWI Site ID	Grid Reference
FO012Y	258694E 384453N
FO013Y	260071E 385327N
FO017	259842E 382896N

Applicants Response EN 06: The relevant details from the survey of private abstractions is provided at Table 1 at Appendix D4 and in GIS shapefile provided at the same location. This includes grid reference rounded to 100m and type of supply. Address and supply owner are not available due to data privacy. Table 1 (Appendix D4) contains the results of the risk assessment for each abstraction. The risk assessment undertaken for private abstractions is for groundwater level and groundwater quality. For groundwater level this assessment was undertaken for all abstractions within an area of interest defined by the largest cone of groundwater depression in the groundwater model for the EIA. For groundwater quality this was undertaken for abstractions down gradient of the DSF or in the area of influence of the underground mine workings. An overview of the relevant receptor linkages is defined in Table 5-2 of the Groundwater Risk Assessment (Appendix C6 of the ES, 2017). The results of the risk assessment in respect of where drawdown impacts were predicted at private abstractions is consistent with the results presented in Figure 6-5 and Table 6-3 of the Groundwater Risk

DWI Comments EN 06: DWI notes the information provided in Appendix D4 and has received the GIS shapefile as detailed [File Ref: 20190801_PrivateWaterSupplies.rar]. DWI notes water level impacts have yet to be determined on a number of wells and further information is needed on well depths, this should be determined and reported in an updated Appendix D. A mitigation measure offering a replacement source should only be offered where there is no breach of the Groundwater Regulations (Northern Ireland) 2009 (as amended), and on prior agreement with the owner of the private water supply. DWI notes information provided in Appendix D4 (footnote) which states 'The groundwater model used for these predictions incorporates *the 2017 EIA mine design. The 2019 underground mine design is larger in the west of the extraction area, therefore predicted impacts to supplies ID 11 and 56 are expected to increase*' appropriate monitoring and mitigations should be put in place to limit any impacts on these supplies. DWI acknowledge that monitoring and action plans have been provided within 'Draft Surface Water and Groundwater Environmental Monitoring and Action Plan, Curraghinalt project, County Tyrone' [Appendix D2 issued July 2019]. This plan will require further review on completion of the independent peer review of the groundwater and surface water modelling. DWI would request clarification on what proposals are to be put in place for baseline monitoring programme at private water supplies before commencement of work on-site.

EN 07: Table 6-10 (page 80) Prediction concentrations for separated paste and waste risk with 5% binder – Note the column NI Drinking Water Guideline Values are not all based on the standards within the 2017 drinking water quality regulations (e.g. As is given as 0.05mg/l whereas the drinking water standard is 0.01mg/l). The company should review, where appropriate, its use of drinking water guideline values to ensure they are comparable to those contained in the current legislation.

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Applicants Response EN 07: The use of an arsenic drinking water standard of 0.05mg/L was a typographic error in this section of the ES and table 6-10 of the Groundwater Impact assessment. Elsewhere in the report (i.e., ES, 2017 Appendix C4 – Surface Water Impact Assessment and both the baseline reports for surface water and groundwater) the correct arsenic standard (0.01mg/L) was stated. This value is not used in the groundwater risk assessment as a target concentration, therefore the typo is not of consequence to the assessment.

DWI Comment EN 07: DWI is content with the above response.

EN 08: Further details are required in the form of assessments and models, to demonstrate the activities undertaken during all stages of this development will not negatively impact on drinking water catchments (Drinking Water Protected Areas) and abstractions through a reduction in the established water quality. If there are potential risks identified then suitable mitigation measures should be proposed, along with monitoring (including baseline monitoring) where this is appropriate. The Drinking Water Inspectorate was unable to find such assessments within the current Environmental Statements. The applicant should provide all necessary data and models to allow NI Water to assess these within its risk assessments in relation to any potential impact on the management of its drinking water abstractions. The proposed development should not adversely impact on Drinking Water Protected Areas established under Article 7 of the Water Framework Directive, DWI could not find any specific reference to an assessment of these designations within the report.

Applicants Response EN 08: See responses to 1.2 [See Applicants Response: **Considerations** Point 2 Public Water Supplies] and 1.8 [See Applicants Response: EN 06] above. Data and models are provided to DWI through FEI requests 2.3 (WMU) and 5.2 (NIEA RU – L&G). Further information on private abstractions is provided under FEI request 1.8 (DWI).

DWI Comment EN 08: See DWI Comments within **Considerations** Point 2 Public Water Supplies.

DWI Comments General: In order to save on repetition of issues to be addressed, DWI endorses the Regulation Unit's, Land and Groundwater Team's Response [**Section Ref: AE1/19/969465**] and clarifications should be addressed in relation to private water supplies as highlighted within that response.

On completion of the peer review, clarification on the points above, and satisfactory engagement with NI Water, DWI will review any conditions in relation to the application.

Land, Soil & Air

Planning Reference: LA10/2017/1249/F

Section Reference: AE1/20/321141

Considerations

Regulation Unit (Waste Licensing Team) was consulted on the waste management impacts of the proposal and provides comment that NIEA is not the competent authority with regard to the Mining Waste Management for this proposed facility. This is regulated by the Planning Authority.

Regulation Unit (Land and Groundwater Team (LGW)) has considered the impacts of the proposal on the groundwater environment. On the basis of the information provided LGW is unable to provide its substantive response until the outcome from the DfI consultancy procurement process has been completed and reported.

Explanatory note

The comments below are not exhaustive but serve to capture key points in support of the Regulation Unit's (RU) position outlined above. These comments are made on consideration of:

- A. SRK Consulting: Curraghinalt Gold Project Addendum to Environmental Statement, Prepared for Dalradian Gold Limited; dated July 2019;
- B. SRK Consulting: Curraghinalt Project County Tyrone; Prepared for Dalradian Gold Limited, An Addendum to the Hydrogeology Baseline Report for the Curraghinalt Gold Project, Northern Ireland; dated July 2019;
- C. SRK Consulting: Curraghinalt Project County Tyrone; Prepared for Dalradian Gold Limited, Draft surface water and groundwater environmental monitoring and action plan, Curraghinalt Project, Northern Ireland; dated July 2019;
- D. SRK Consulting: Environmental Emergency Preparedness and Response plan protocol for the Curraghinalt Project, County Tyrone, Northern Ireland; Prepared for Dalradian Gold Limited; dated July 2019
- E. SRK Consulting: Letter entitled "RE: UK7511 – Clarifications to the Environmental Statement Addendum – DAERA Land and Groundwater Team"; Dated 06 April 2020. Clarification Questions Ref no. 1 – 5.

The Land and Groundwater Team, Regulation Unit, have reviewed the Clarifications to the Environmental Statement Addendum, dated 06 April 2020. The team find the clarifications reasonable in relation to the protection of the groundwater environment, if fully implemented through future conditions and reviewed by an independent peer review.

Need for Independent peer review of Groundwater Modelling

A number of Groundwater models have been used to assess the potential environmental impacts of the proposed developments on groundwater flows, geochemistry and water balance. These models include (list not exhaustive):

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- Modflow including FlowSource extension: To model the dewatering of the mine, the extent of the cone of drawdown and impact on potential receptors (private wells, baseflow to streams, peat).
- PHREEC + Excel: To model seepage from DSF (dry stack facility) and associated ponds during operation and closure; as well as seepage from the backfilled underground mine following closure and groundwater rebound.

To support NIEA's substantive advice to Planning, it is necessary for an Independent Peer review of the Groundwater Modelling to be undertaken.

In the absence of this Independent peer review the Regulation Unit is not able to comment further on the proposed application including the backfilling of the mine utilising tailings; and impacts on groundwater geochemistry and groundwater resources (i.e. levels).

Risks of major accidents and/ or disasters

The Land and Groundwater Team are content with the Environmental Emergency Preparedness and Responses plan protocol which has been provided. A condition will be recommended to the Planning Authority relating to its submission will be provided on completion of the peer review.

Potential impact on sensitive receptors, especially private water supplies

The applicant has used the Modflow software and model to assess the potential impacts resulting from dewatering operations of the mine. The input parameters and model outputs require further review of assessment through the independent review of model.

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LA10/2017/1249/F

Section Reference: P0572/18A

Considerations

The proposed development is for underground valuable minerals mining and exploration, surface level development including processing plant and other associated development and ancillary works, Greencastle, County Tyrone.

The following documents, which were received as part of the package of Further Environmental Information (FEI), have been considered:

- Guide to the Planning Application Addendum – July 2019
- Addendum to Environmental Statement – July 2019 including:
 - Appendices A1-3;
 - Appendices B1-3, B7-9 and B11/12;
 - Appendices C3, C5, C7-10, C12-14, C16-23;
 - Appendices D1-6;
- Non-Technical Summary for the Addendum to Environmental Statement Curraghinalt Gold Project – July 2019; and
- Waste Management Plan for the Curraghinalt Project, County Tyrone, Northern Ireland – July 2019

The “**2019 update**” to the proposed development (i.e. the “**2017 design**”) is understood to be as follows:

- Changes in infrastructure linking mine operations to surface operations;
 - Relocation of primary (first-stage) crushing underground;
 - Introduction of ore-sorting equipment underground;
 - Introduction of a conveyor to be used as the primary method to transport material from the underground mine to surface;
 - Change in the orientation of the portal to accommodate the conveyor system;
- Process and product changes;
 - Simplified ore processing resulting in the removal of cyanide from the process and consequent change in product;
 - Transportation of concentrate off site and out of Northern Ireland;
 - Changes to tailings and paste backfill;
- Optimisation of the mine design and changes in the mine waste management; and
- Changes to construction management.

As cyanide is not used in the “**2019 update**” of the proposed development a Hazardous Substances Consent is not required, (refer to Informative 1). IPRI understands that the Hazardous Substances Consent application for the handling, storage and use of cyanide for the “**2017 design**” has been withdrawn by the applicant.

On 9th September 2019 the applicant withdrew the application for a Part A PPC permit associated with the “**2017 design**” for the following prescribed activities:

- Crushing, grinding and other size reduction activities, Schedule 1 - 3.5 Part B (a), (pre-treatment of ore containing gold and silver);
- Production of non – ferrous metals (gold and silver) from ore by metallurgical chemical or electrolytic activities, Schedule 1 - 2.2 Part A (a) (cyanide leaching and electro winning);
- Disposal or recovery of hazardous waste with a capacity >10 tonnes per day by physio –chemical treatment activities, Schedule 1 - 5.3 Part A (ii) (detoxification of cyanide tailings); and

- Melting non-ferrous metals in a furnace with a capacity of <10 tonnes per day and a holding capacity <0.5 tonnes, Schedule 1 - 2.2 Part C (a) (producing Gold and Silver).

Although the proposed design changes in the FEI, (i.e. the “**2019 update**” as detailed in the above documents), removed the above Part A and Part C PPC activities, the “**2019 update**” will have underground and above ground crushing, grinding and other size reduction activities that potentially require permitting as a Part B PPC installation under the Pollution Prevention and Control (Industrial Emissions) Regulations (NI) 2013 (The PPC Regulations) prior to being operated. However, neither of these crushing, grinding and other size reduction activities should be regulated as Part B PPC installations for the following reasons:

- The underground crushing, grinding and other size reduction activities, Schedule 1 - 3.5 Part B (a), (pre-treatment of ore containing gold and silver), is excluded as a PPC Part B prescribed activity as “**Nothing in this Part applies to any activity carried out underground**”.
- The above ground crushing, grinding and other size reduction, Schedule 1 - 3.5 Part B (a), (pre-treatment of ore containing gold and silver), is exempt as it is a wet* and enclosed process that produces a damp ore concentrate and “**unlikely to result in the release into air of particulate matter**”.

[Notes *

“**The ore will be milled in the semi autogenous grinding (SAG) mill as described in the 2017 design and then in the newly proposed ball mill.**” - Section 2.4.1 of the 2019 Addendum to the Environmental Statement.

“**There will be a single stage grinding process using a Semi-Autogenous Grinding (SAG) mill in closed circuit. The mill uses grinding media (steel balls) and water to grind the feed into a slurry of finer particles.**” - Section 4.6.2 of Chapter 4:Project Description for the “**2017 design**” Environmental Statement.]

As no Part A or Part B PPC activities have been proposed in the “**2019 update**”, (other than any potential specified waste management activities referred to Informative 2), no application for a Part A or Part B PPC permit is required, (refer to Informatives 3 and 4).

If any waste materials produced by the process contain naturally occurring radioactive materials (NORM) in quantities above the exempt criteria specified in the Radioactive Substances Exemption (NI) Order 2011, the company will have to apply for a Certificate of Authorisation under the Radioactive Substances Act 1993. During the application process for a Certificate of Authorisation, the applicant is expected to demonstrate that the best practicable means will be used to minimise the creation of radioactive waste and the activity in (and volume of, where appropriate) radioactive waste to be disposed of. The use of appropriate disposal routes would also need to be demonstrated and discharge limits would be applied to any gaseous or liquid discharges.

Appendix C7 (Radon and NORM Emissions Impact Assessment) from the “2017 design” documents and the Addendum to the Assessment of Radon Gas and NORM Emission Impacts from the “2019 update” documents have been reviewed. IPRI is content with the methodology used and the impact assessment carried out. In order to ensure that no waste materials produced by the process contain NORM in quantities above the exempt criteria, IPRI is content with the proposed quarterly monitoring of waste water samples for NORM radionuclides in a laboratory capable of achieving detection limits well below the out of scope levels for the first 12 months of operation (refer to Informative 5). If any of these monitoring results show that waste materials produced by the process are above the exempt criteria specified in the Radioactive Substances Exemption (NI) Order 2011, the company should apply for a Certificate of Authorisation under the Radioactive Substances Act 1993, (refer to Informative 6).

Any transport of material off site which contains NORM above the exemption levels specified by the Carriage of Dangerous Goods and Use of Transportable Pressure

Equipment Regulations (Northern Ireland) 2010 will need to be done in compliance with those regulations, (refer to Informative 7).

Informatives

- 1. The operator will be required to apply for and obtain a Hazardous Substances Consent prior to handling, storing or using cyanide.**
- 2. NIEA-Waste Management should be consulted about the potential for any Part A Specified Waste Management Activity prescribed in Schedule 1, Chapter 5, Sections 5.2 to 5.5 of the Pollution Prevention and Control (Industrial Emissions) Regulations (NI) 2013.**
- 3. The operator will be required to apply for and obtain a Part A Pollution Prevention and Control permit (PPC permit) prior to operating an installation with cyanide. The operator will be required to apply for and obtain a Part B Pollution Prevention and Control permit (PPC permit) prior to operating an installation with an above ground crushing, grinding and other size reduction activity if that activity is likely to result in the release into the air of particulate matter.**
- 4. Fermanagh and Omagh District Council should be consulted about the potential for any Part C Pollution Prevention and Control permits for the bulk cement activity or medium combustion plant and specified generators prescribed in Schedule 1 of the Pollution Prevention and Control (Industrial Emissions) Regulations (NI) 2013.**
- 5. Quarterly monitoring of waste water samples for NORM radionuclides should be carried out for the first 12 months of operation in a laboratory capable of achieving detection limits well below the out of scope levels specified in the the Radioactive Substances Act 1993 (Amendment) Regulations (Northern Ireland) 2011.**
- 6. If any waste materials produced by the process contain naturally occurring radioactive materials (NORM) in quantities above the exempt criteria specified in the Radioactive Substances Exemption (NI) Order 2011, the operator will have to apply for a Certificate of Authorisation under the Radioactive Substances Act 1993.**
- 7. Any transport of material off site which contains NORM above the exemption levels specified by the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (Northern Ireland) 2010 will need to be done in compliance with those regulations.**

Natural Heritage

Section Reference: CB25686-2

Planning Application number: LA10/2017/1249/F

Summary

Natural Environment Division (NED) has only carried out a desktop assessment for designated sites assessment and other natural heritage considerations, however the protected landscapes assessment included an actual site visit and assessment from viewpoints around the site and surroundings. Further information will need to be submitted to enable NED to carry out a full assessment of this proposal.

Designated Sites

There are two SACs in the vicinity of the development:

1. Owenkillew River SAC, designated for woodlands, *Ranunculus* communities, and Freshwater Pearl Mussels: https://www.daera-ni.gov.uk/sites/default/files/publications/doe/land-information-reasons-for-designation-special-area-of-conservation-river-foyle-and-tributaries-2006_0.pdf
2. River Foyle and Tributaries SAC, designated for *Ranunculus* communities and Atlantic Salmon: https://www.daera-ni.gov.uk/sites/default/files/publications/doe/land-information-reasons-for-designation-special-area-of-conservation-river-foyle-and-tributaries-2006_0.pdf

Areas of Special Scientific Interest (ASSIs)

1. Owenreagh ASSI, designated for Freshwater Pearl Mussels and *Ranunculus* communities: <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Owenreagh%20River%20ASSI%20Citation%20and%20map.pdf>

The Owenkillew SAC Freshwater Pearl Mussel feature has been assessed by Natural Environment Division (NED) as being in unfavourable condition (date of last assessment September 2011). This has been attributed to suboptimal water quality, including eutrophication of the river from elevated nitrogen and phosphorus levels, and also high sediment contamination. The river features are also assessed as being in unfavourable condition (date of last assessment September 2011), due to impacts from organic enrichment. Existing pressures on water quality within the river have been attributed to diffuse surface water pollution from agricultural and forestry activities, household sewage and waste waters and diffuse groundwater pollution from agricultural and forestry activities. Owenreagh ASSI was declared in March 2018 and has not been assessed as part of the Natural Environment Division monitoring programme.

NED has reviewed the responses and updated documentation provided with the Further Environmental Information, submitted to the Department of Infrastructure in July 2019, and has the following comments to make:

1. Throughout the documentation, NED have noted that standards for water to be re-introduced into the environment are set to meet agreed drinking water standards. With regards to the Reverse Osmosis Plant and any water managed from the development, which will eventually be discharged from the site into the receiving streams, it should be treated to the appropriate standards required for the two protected rivers within the vicinity of the development. These standards should be based on the conservation objectives of the site. Due to the sensitivity of freshwater pearl mussels (a feature of both rivers) and their current population status and recognised pressures on the population, NED would advise the applicant the agreed water quality standards as set out in the draft INTERREG Sub Basin Management Plan for the Owenkillev River SAC, are used for any relevant parts of the project. Although this is a draft document, it is widely acknowledged water quality standards in this document are the accepted approved levels for sensitive receptors, such as Freshwater Pearl Mussel and Atlantic Salmon, which have spawning records in the rivers downstream of the development. These should be adopted as part of the project plan as appropriate, to ensure highest standards are met during the relevant phases of the project and form part of an adaptive monitoring plan.

A precautionary approach should be taken towards any treated water introduced to the catchment, to avoid adding any additional loading to the rivers, which are currently in unfavourable condition. NED would advise that monitoring is put in place to ensure the relevant standards are met and to ensure adaptation where required, based on the flow in the receiving stream, the river body and any long term data results. This is an iterative process and if the applicant proceed with such a plan, this should also be reflected in the HRA throughout the process and any separate protected sites assessment. It is advised, if there are proposed deviations from these standards, then it is expected full justification and reasoning is provided within the appropriate sections of the ES and the HRA assessment and if a planning permission is granted based on other standards, the applicant should be able to demonstrate that whatever standards are met for water managed across the site, will not have an adverse impact on the site features.

Section 6.5.35 in the FEI provides a response to commentary by NED on the Total Suspended Solids (TSS) standards to be reached and although NED appreciate the clarification provided and note the modelling and monitoring that will be implemented as part of the scheme, NED would suggest the applicant should be able to demonstrate that this (albeit what they consider a low level) increase of TSS will not lead to an indirect impact on the protected features of the rivers via a long term sustained increase of TSS. Also, if further discharge points will contribute to the increasing TSS in either the Owenreagh or the Owenkillev River, an assessment should be made to consider whether there is an additive and/or synergistic effects. Any consideration of standards to be met for the project, should take account of all phases including construction and operation phases of the project

2. NED note the response to the query FEI Response Section 6.5.6 and consider this element of the project will require further consideration, in the appropriate phase. NED expect that any decommissioning plan will involve prior engagement, to ensure relevant monitoring plans are put in place, to safeguard the protected rivers in the vicinity of the development. NED would also expect the mine closure plan written to achieve the highest standards of environmental protection and therefore ensure the conservation objectives of the protected rivers are maintained through the de-commissioning phase of the project.
3. FEI Response Section 6.5.7 and 6.5.8 deal with impacts of flow on protected rivers and the response indicated that flow rates are expected to increase during and after operations, but it is not clear from the documentation provided to date (including the shadow HRA) if this has been considered fully in relation to potential changes or impacts on the rivers in relation to baseline conditions for the designated features of the rivers and ensuring there is no significant deviation from these existing baseline levels. Alteration of natural hydrological regime can have significant effect on freshwater pearl mussel. The applicant should ensure this is considered as part of the final environmental monitoring package and assessed appropriately through the HRA process. It is recognised the HRA assessment can be difficult due to the potential for other activities to have indirect effects on the species and their habitats, however, there is a high risk noted in the documentation from potential erosional impacts and/or morphological changes. Detailed studies of potential hydrological and morphological impacts and changes (Including monitoring) are expected as part of the project plan. This should be an iterative process.
4. NED note the updated Peat Management Plan and Peat Landslide Hazard Risk Assessment document, and have some comments to make in terms of the risk of a peat slippage to the freshwater environment. Firstly (and based on windfarm guidance for FWPM), stacks should be avoided on slopes greater than 15 % and level areas draining onto slopes greater than 15 % because of the risk from sediment run off and increased nutrient run off to the freshwater environment. Removal of blanket bog can also have negative impacts due to the change (increase) of evapotranspiration. Sub-surface/shallow groundwater flows to rivers help maintain oxygen levels in the substratum and influences sediment mobilisation and deposition, thus contributing to favourable juvenile freshwater pearl mussel habitat condition. High evapotranspiration can mean a reduction of groundwater flow to the river, which influences the near flow velocity of the river. Similarly new drains and roads can pose higher risks because of the alteration of the flow and risk of higher run-off, especially in high peat areas. Any new drains and roads must only be constructed, if it can be demonstrated there is no likelihood of a significant risk to the protected rivers. Finally, NED would also like to outline that the seepage from the DSF should be monitored at all times and any seepage from the DSF liner is considered appropriately in the final calculations of potential impacts on the protected sites.
5. The updated AQIA and the assessment on protected sites is noted. Table 16 of Section 5.4 of the EIA (2017) refers to results of an Air Quality Impact Assessment carried for NO_x emissions in relation to the following designated sites: Owenkillev River SAC/ASSI, Drumalea & Mullan Woods ASSI and Owenreagh River ASSI, which fall

within the zone of influence. For each of these sites the Process Contribution has been calculated as <1% of the Critical Level. This is in line with DAERA's operational protocol. The applicant, however, has not provided justification for the results stated in Table 16, such as output data from the model in the form of annual predicted levels, from which the final PC value for each site has been derived and the co-ordinates used to model source and receptor to the nearest point of each designated site. NED would request these details are provided.

6. NED note the response 6.5.13 in the FEI to the original comment on the power line and would consider this aspect of the project is interdependent with the main planning proposal and should be considered for its effects either alone or in-combination with other projects or plans, which will include the current proposed planning application, assuming it has not yet started. If the project has started then the effects will form part of the background baseline and either way the combined effects of the current planning proposal and the transmission power line should be considered.
7. NED note in response to FEI 6.5.14, this is not a request for further environmental information, however, the main points still stand in that any water to be discharged (planned or unplanned) from the site that has undergone acidification, should ensure it does not impact upon the features of the protected sites and the standards of the water entering the tributaries should factor this requirement in. If modelling is predicting that acidification will not lead to an impact on the protected rivers, NED would expect adaptive management/monitoring to verify such modelling, relevant for all phases of the project.
8. In relation to the commentary on vibration impacts on Atlantic Salmon, NED would suggest that an iterative monitoring plan is put in place to ensure the receptors and monitors are adequately picking up any potential impacts on sensitive receptors in the river especially salmon and otter. NED acknowledge in a face to face meeting, the applicant outlined that the Alaskan Standards to be met, were what they applicant has considered as accepted industry levels. NED would note that the applicant should ensure the appropriate noise levels as used in these studies are not breached. Monitoring should ensure these standards are met, but this should also be reflected appropriately in the HRA. NED have also noted there appears to be a discrepancy between the noise levels outlined in the HRA (possibly expected levels) and the levels noted in the FEI response. In addition, as outlined previously, consideration should be given to the timing of works to avoid potentially impacting spawning Salmon.
9. NED acknowledge the OCEMP has been updated in 2019 and provided with the suite of Further Environmental Information, in order to provide clarification on certain points raised by NED. While it is noted the CEMP is an outline phase, it is expected a final CEMP will be provided if a final permission is granted. Also, it is noted in the CEMP, that the mitigation methods will be utilised and adapted as required and while NED are aware this may need to be the case in some situations, any necessary mitigation should be in place before any discharge takes place from the water management ponds and it should be ensured they are functioning properly before any activity commences. The reporting mechanism should also include a format to involve informing NED if an

incident occurs, which may potentially lead to impacts on protected sites. NED would request the final CEMP is provided before any works begin.

Please also note, the impact of this development upon the water environment (quality and resource) and therefore the impact upon the designated sites and associated features cannot be fully determined until:

- The outcome from the DfI consultancy procurement process has been completed and reported;
- Environmental authorisations, namely Discharge Consents and Abstraction Licences, have been applied for by the applicant and determined by NIEA, supported by Habitats Regulation Assessments.

Once the outcomes from these identified areas of work are known, NED will be in a position to make a fully informed substantive response to this planning application

Other Natural Heritage Considerations

Considerations

NIEA Natural Environment Division (NED) has assessed the impacts to non-designated Natural Heritage features within the site.

On the basis of the further environmental information provided, NED now has no concerns, but as stated in our previous response, some features will require conditions to be included in the final decision notice to ensure that these features are not adversely impacted. NED will provide these conditions in the final DAERA response.

Explanatory note

NED acknowledges the receipt of Curraghinalt Gold Project Addendum to Environmental Statement, July 2019, which has been submitted in response to NED's request for more information made on the 5th October 2018.

NED's previous response of the 5th October 2018 provides an assessment of the features of the site, this response deals solely with regard to the further ecological information submitted in the above document.

Addendum to Environmental Statement

This document provides more information in relation to the NED's consultee response made on 5th October 2018. Specifically, section 6.4 of chapter 5 ref numbers 6.6.1 – 6.6.3.

- 6.6.1 addresses NED's request for clarification in regard to mapping and definition of the fen habitat.
 - NED are satisfied with the domin values for the species composition of the quadrats taken at the valley mire presented in Annex C – Phase 1 habitat and Phase 2

- vegetation survey report at appendix 04 of the Ecological Impact Assessment (EclA) as submitted under appendix C8 of the ES.
- NED are content that the valley mire supports the NI Priority Habitat of Fen (poor fen) and not as previously assessed as Upland Flushes, Fens and Swamps and that defining the Valley Mire as poor fen does not alter the ecological evaluation of these features and the overall assessment of effects and the significance of the mine development as presented in the Ecological Impact Assessment (EclA).
 - NED are content that there is potential to create fen habitat within management units 4 and 5 as detailed in Annex Q – Ecological Mitigation and Management Plan (EcMMP) of the Ecological Impact Assessment (EclA).
 - 6.6.2 addresses NED’s request for further information in regard to loss of headwaters at the Pollanroe burn and compensation.
 - NED are satisfied that the Pollanroe Burn does not meet the criteria of a headwater and due its highly modified current state and are content that to the extent possible the watercourses will be naturalised after the operational phase in accordance with the conceptual Closure Plan Appendix B5 and the Landscape Restoration Plan.
 - 6.6.3 addresses NED’s request for further information in regard to loss of and compensation for Hedgerows.
 - NED are satisfied that the proposed loss of Hedgerows do not qualify as NI Priority Habitat and that the compensatory measures detailed within the Landscape Plan presented at Appendix C17 of the Environmental Statement, that allows for the planting of native woody species, represents adequate compensation.

Protected Landscapes

Considerations:

These can be separated out as:-

1. *The impact of the proposal on the visual amenity and landscape character of the area;* and
2. *The impact of the proposal on the Sperrin AONB.*

1. *The impact of the proposal on the visual amenity and landscape character of the area*

There are a number of issues we would like clarity on from the Agent’s Landscape Architect relating to the landscape and visual assessment of the proposal. These are as follows:-

- i. The proposal will entail the creation of an extensive raised platform-like hill in order to facilitate the DSF, as shown in Figure 9.1 (which indicates the contours at year 20). This will appear as a separate hill on the side of Crocknamoghil hillside. Some of the original 2017 photomontages such as in Figure 9.1d and 9.7c (Full extent DSF at Year 20) show how steep and angular the proposed hill will be. Figure 9.7c (Removal of componentry and post closure DSF) whilst showing that the profile would not break the skyline looks like an incongruous intrusion into the landscape.

This is contrary to Volume 3 of the original ES(C16 LVIA) which states in para 7.9 ‘ Construction Phase Mitigation ’ that “Regular looking engineered profiles will be avoided

where practical. Irregular concave and convex slopes mimicking existing contours, which match the scale of the existing hill slopes, will be created as far as possible during construction of the DSF and other necessary ground works for process plant componentry of the project.”

The FEI confirms that the DSF feature has not altered. Looking at the photomontages and model view imagery, the straight lines and relatively sharp angles of the platform-like hill are still in evidence. We would recommend that the contours of both the existing receiving landscape and the profiling of the proposal should be considered again in order to try to blend the two together in a more appropriate degree.

We would also recommend that the restoration proposals should be re-considered in order to lessen the visual impact and better visually integrate the proposal into the landscape. Factors that should be further considered are as follows:-

- The existing field pattern;
 - The colours of the landscape on and around the site – there is very little in terms of homogenous colours in the receiving landscape;
 - The texture of the landscape – again there are a blend of textures on and around the site;
 - The generally scattered vegetation pattern (including native species woodland pockets, hedgerows, scrub vegetation, Individual boundary trees etc);
- ii. Although we have noted the contents of Vol 3 – App B11 – Lighting Specifications – received 06.09.2019, there are a number of concerns which we would have in terms of the impact on landscape character. These are as follows:-
- What guarantees are there in terms of the impact of lighting on the landscape character of the area during the operational phases of the proposal? The proposal would undoubtedly be introducing lighting to the hillside above Greencastle and the effects on tranquillity and sense of remoteness should be fully assessed.
 - What evidence is there to suggest that the impact of the lighting will be as suggested in para 3.8 of Appendix C.16 in the FEI: ‘Addendum to the LVIA and Visualisations’ ie:- that the proposal will be “ experienced in a context where views of subdued lighting associated with housing and farms along Camcosy Road are already apparent.”
 - Mid Ulster Council have approval for a Dark Skies Observatory which is to be located approximately 10 miles away in Darvagh Forest. Any additional lighting to the hillsides around this observatory should be minimised or avoided.
- iii. We would recommend that additional visuals/photomontages should be submitted to show the proposal at the end of years 4 and 8 (as opposed to baseline and Year 20 photomontages). This is necessary in our view in order to assess the impact of the proposal at these junctures in the operational phasing.

- iv. We are uncertain as to whether or not drawing LUC_6335_LP_PLN_002 Issue D still applies within the documents for the application? If it does Ash would need to be omitted from the planting proposals due to our concern over Ash Dieback in NI. The key to this drawing shows a symbol for ' Ash Woodland and Understorey ' but the symbol doesn't seem to match up with any of the graphics on the plan.

2. *The impact of the proposal on the Sperrin AONB.*

We would broadly agree with the findings of the updated LVIA in the FEI in terms of the impact of the proposal on the Sperrin AONB. There would undoubtedly be significant landscape and visual impacts, including substantial land modelling as evidenced in the photomontages, particularly during the construction and operational phases. It will be essential therefore for the applicant to fully demonstrate that all appropriate steps have been taken to minimise and mitigate all landscape and visual impacts associated with the proposal.

Our position is that whilst we would maintain that the proposal, by its nature, would not be in-keeping with the character of the Sperrin AONB in this locality, the impact would not undermine the rationale for the whole AONB designation.