WRITTEN EVIDENCE ON RESTORATION , SPECIFICALLY THE PROVISION OF RESTORATION MATERIALS (INERT FILL)

11 July 2025

Appeal Ref: CAS-03423-V9Z8M3

Author	Steven Richard Pearce, 64 Love Lane, Denbigh, LL163LU
Site:	Denbigh Quarry, Plas Chambres Road, Denbigh LL16 5US
Description:	Consolidating application for the extension of winning and working of limestone, importation of inert restoration material and restoration to amenity.
Appellant:	Chris Burgess
Representing:	Invited Party SOGS Dinbych, opposing the Quarry extension
Focus:	The provision of inert restoration materials (inert fill)

My Personal Background:

- More than 20 years of industrial experience in mining and environmental risk assessment
- Global industry specialist in mine waste management and mine closure with authorship/co-authorship of more than 40 published papers related to mine waste management
- Associate member of the Institute of Civil Engineers
- Fellow of the Geological Society

My involvement with the site:

I have been working with the other SOGS members since 2024 to provide support in my capacity as a specialist in mine waste management.

Declaration:

The evidence that I submit here is true and I can confirm that the opinions expressed are my true professional opinions.

Written Evidence:

Significant failure to adequately consider risks related to the import of restoration materials (inert fill)

Summary

1.1.1 Based on my assessment of the documentation provided in connection with the site, I conclude that there has been limited documented consideration of the economic, practical and logistical challenges associated with the ability to successfully achieve the restoration plan as detailed in the application, specifically with respect to issues related to the importation of suitable restoration materials (inert fill).

1.1.2 As a result there is inadequate documented acknowledgment of the potential risks that the restoration plan cannot practically or economically be achieved as outlined within the given time frames. As such the need for, or detail of, suitable risk mitigation measures have also not been adequately considered or documented.

1.1.3 The lack of adequate risk assessment in this area is of critical importance to consideration of the veracity of the findings of many of the technical documents related to assessment of various impacts, in particular biodiversity and ecology. For example, the biodiversity and ecological risk assessment(s) carried out indicate that while ecological impacts may potentially occur as a result of the project going ahead, these risks can be acceptably mitigated by achievement of the planned restoration.

1.1.4 The stated assumption(s) made to derive the conclusions made from these assessments of ecological risk are therefore implicit that **restoration is required to be achieved** as planned to ensure that ecological risks can be adequately mitigated.

1.1.5 The following statement is provided in core document CD1.22 (Environmental Statement) section 5.6.1 "*Following the implementation of the mitigation measures the impacts on all Important Ecological Features is considered to be negligible and Not Significant".* However although ecological risk(s) has been directly linked to the outcome of restoration success in this way, a scenario (or scenarios) where restoration cannot be achieved as planned is not considered in detail.

1.1.6 It is further noted that biodiversity metrics quoted in submitted documents (which are in themselves related to ecological impact assessment) also rely on the assumption that the restoration plan is delivered as stated. As such if a plausible scenario were to be considered where restoration cannot be

achieved as stated, then it could be inferred (based on the underlying assumptions of the assessments carried out) that material residual risks to ecology and biodiversity may be realised which have the potential to result in unacceptable impacts.

Documents related to waste management issues that are not in a suitable condition to comprise a core document, be relied on by other core documents, or be relied on as part of the planning process.

2.0.1 It is noted that the core document (CD1.21) "*Waste planning assessment – Denbigh Quarry, Denbigh*" has no stated author, or date and the signature page is blank with no evidence of this document being signed of as final.

2.0.2 This document is the only technical submission that relates to waste planning and is referred to by key submissions including the Statement of Common Ground document.

2.0.3 It is further noted to this regard that PEDW have provided written responses related to SOGS Dinbych questions about the original Statement of Common Ground document (which was not signed), from this correspondence we infer that unsigned documents such as CD1.21 should be given little weight :

Email from Rhys Spencer on 13th June 2025 "*The statement of common ground on our website is labelled 'Draft Statement of Common Ground'. The word Draft appears on every page and it is not signed. An agreed statement of common ground would be signed by the involved parties, in this case the appellant and the Council*".

Email from Rhys Spencer on 4th July 2025 "*Should the statement of common ground not be agreed it can't be a statement of common ground and would be given little weight".*

Use of the terminology "*restoration materials*" rather than "*inert waste*"

3.0 Use of the revised term to describe the required imported material in the application creates ambiguity about the source of the potential import materials.

3.1 For example "restoration material" may include virgin materials (e.g. topsoil) which would likely have higher costs and also would have higher environmental/sustainability costs (i.e. virgin materials would be displaced from the market resulting in increased demand). It is not clear if the majority of the material would be sourced from inert waste industry or from other sources (which are not provided).

Availability of sufficient quantities (1.7 million tonnes at a rate of up to 100,000 tonnes per year) of restoration materials and impact on the probability that restoration can be achieved as stated

4.0 It is clear that adequate volumes of inert fill materials are required to be responsibly sourced from a viable local supplier in a timely manner to facilitate restoration to occur in line with the restoration plan.

4.1 It is noted that a detailed annual restoration materials importation schedule has not been provided that identifies both the volumes of material to be imported, and the source (supplier) of the materials, for the duration of the restoration period.

4.2 This is relevant because adequate information is required to be presented to demonstrate that the source (proposed supplier) of the importation materials is viable with respect to both economics and environmental impact. Similar concerns were highly material to the Inspector's decision to dismiss the Appeal in the Lea Castle Farm case (Appendix 1: Appeal Ref: APP/E1855/W/22/3310099 Lea Castle Farm, Wolverley Road, Broadwaters, Kidderminster, DY10 3QA)

4.3 Viability for example should have been assessed with reference to all relevant environmental impact assessments for example the consideration of CO_2 emissions from haulage distances where non local sources of material are proposed (no limitation on the distance that material can be sourced has been provided).

4.3 There is very limited evidence provided in the application and associated documents to demonstrate clearly that the stated required volumes of imported restoration materials could be obtained with any reasonable amount of certainty. No specific sources for obtaining the stated total volumes of the material have been referenced and the assumed cost per unit tonne of imported material have not been provided.

4.4 It is noted that in the core document (CD1.21) "*Waste planning assessment – Denbigh Quarry, Denbigh"* (which has been previously noted has no stated author and is not signed and so is not considered a reliable source of evidence) *that "Potential sources of material include the project for the redevelopment of the North Wales hospital site and part of the HyNet North West pipeline and hydrogen project which is centred to the north of Chester. The operational areas of the Hy-Net proposal are close enough to provide restoration materials but are at a distance where there will be no environmental in-combination or cumulative effects other than transport which has been considered in the EIA process. Residential development at Old Ruthin Road may also provide some overburden*".

4.5 No estimates of volumes of materials that may be provided by these sources is given, however it should be obvious even to a non-technical specialist (and certainly to a technical specialist) that projects with relatively small cut and fill volume engineering works like the North Wales Hospital Site and residential development at Old Ruthin Road would not provide anywhere near the required amounts of material for Denbigh Quarry which is indicated to be ~1.7 million tonnes of material (volume given on restoration plan shown in core document CD1.06).

4.6 It is further noted that publicly available information on the HyNet project is provided on Cadents website noting that Cadent is the company responsible for developing the HyNet North West Hydrogen Pipeline (See Appendix 2 and at https://www.hynethydrogenpipeline.co.uk/dco-project/about-us/).

4.7 The information available includes the preliminary environmental information report (https://www.hynethydrogenpipeline.co.uk/knowledge-hub/) which has a technical assessment of agriculture and soils carried out by Wood group on behalf of Cadent (See Appendix 3 and at https://cadent-nwhp-pier.s3.eu-west-2.amazonaws.com/HyNet+PEIR+Chapter+13_Agriculture+PDF.pdf).

4.8 This document makes it clear that excavated materials are to be **kept within the project boundary** and so there is no firm basis to assume that this project will be a viable source of material for import as restoration materials "*Soils displaced from their original location during construction that cannot be reinstated at the same location due to the Project (e.g., soil removed from HAGIs and Block Valve compounds) will be conserved and reused within the Project boundary wherever possible. This will apply to topsoil and subsoil, with retention of topsoil prioritised. This will be incorporated in the Soil Management Plan and with reference to the Materials Management Plan*".

4.9 Further ,even if material was to be available to export to Denbigh Quarry from this project, the technical document suggests that not all of the material available from that project may be suitable for use as restoration material at the Denbigh quarry site in any case, for example various statements include "*The Salop 1 soil association is a seasonally wet deep red loam to clay. These soils are slowly permeable, seasonally waterlogged reddish fine loamy soil" and* "*There is a risk of surface water pollution associated with this soil association due to its drainage to local stream networks, for example by overland flow of silt-laden water from compacted fields*" and "*The soils are slightly acid, with low fertility, and are at risk of erosion by wind and water. They support habitats including acid dry pastures, acid deciduous woodland and coniferous woodland*". None of these properties appear to be compatible with the stated aims of the restoration plan. A

5.0 As such from the limited information provided in the documentation available (noting the core document relating to waste planning assessment is not signed and so is considered unreliable) it is not clear how it is possible to make a reasonably informed judgment about the viability of the proposed importation scheme with reference to practical, economic and logistical constraints.

5.1 It is further noted that with respect to the potential source of material being the inert waste sector, NRW published a document in 2020 (See Appendix 4 and at https://cdn.naturalresources.wales/693283/sonarr2020-theme-waste.pdf) that evaluated the supply and use of waste materials in Wales.

5.2 This document indicates that, based on annual volumes of inert waste production in Wales, the stated 100,000 tonnes per annum required for restoration purposes at Denbigh Quarry would comprise ~30% of the entire volume of inert waste produced in whole of North Wales (based on data in the 2020 report).

5.3 Given that the same document states that the recycling rate for inert waste in North Wales in that year was 93% (i.e. only 7% was not already utilised) then it is considered unreasonable to assume that 100,000 tonnes of inert waste material could be reasonably, practicably or economically obtained from the local inert waste market.

Risk that the local market for inert fill becomes distorted because of the demands needed to meet the restoration plan

6.0 It is noted that there are publicly available case studies from other sites which can be cited, where restoration was delayed with the stated issues relating specifically to market conditions for inert fill (See Appendix 5 and at https://www.hampshirechronicle.co.uk/news/25152719.marchwood-quarry-hampshire-lodges-plans-extend-restoration-phase/).

6.1 Location: Bury Road, Marchwood, Hampshire, Operator: Marchwood Aggregates Ltd, Restoration Plan: The site was to be restored for nature conservation and agricultural use through the import of inert waste. Delay Cause: The restoration phase was delayed because of poor market conditions, which led to lower-than-expected input rates for inert fill. Impact: As a result, the restoration fell behind schedule.

6.2 Given that very large volumes of inert fill are required to be imported to the Denbigh site there is a significant risk that the local market for inert fill would become distorted which would potential have a number of possible implications for example:

1. The market response would be higher prices being demanded for the imported materials which implies economic risk for restoration

(i.e. cost for restoration would be higher than anticipated or budgeted for).

2. Materials are required to be imported from non-local sources which may extend the market distortion to a larger area perhaps outside of North Wales (and would have higher CO_2 impacts for the project)
3. Other projects are unable to obtain inert fill materials and they would have to incur higher costs or import materials from further distances

6.3 Because of the not insignificant potential for the market for inert waste materials in the local area to become distorted (i.e. the risk that demand for inert waste materials may exceed local supply) by the large volumes of materials required for the restoration activities, a risk assessment should have been carried out that identifies the likely impacts (economic and environmental) of importing inert waste materials in accordance with the schedule.

Risks that restoration cannot be completed as planned

7.0 Insufficient evidence has been provided to demonstrate how economic, social and environmental risks can be mitigated in the event that restoration could not be completed as outlined, as a result of failure to import sufficient material.

7.1 There are many examples in Wales of failure to achieve restoration in the wider resource extraction industry and so this is a well understood risk that requires assessment.

7.2 Examples are provided in "*Research into the failure to restore opencast coal sites in South Wales – Welsh Government – April 2014*").

7.3 This is of critical importance because risks related to restoration not being completed to the level stated in the application, are significant and material to the stated findings of many of the impact assessments (environment, biodiversity, ecology).

7.4 The risks of not having sufficient material to the viability of the restoration plan is also stated clearly in the core document CD1.21 "*waste planning assessment – Denbigh Quarry, Denbigh*" where it states "*without the availability of this material the restoration would have to be low-level, consisting of several benches which would make the restoration to woodland both* ***challenging and non-viable*****"**.

7.5 This statement is a tacit admission that without sufficient inert material restoration would not be viable.

Case studies from other Breedon sites where restoration was not achieved as planned

8.1 It is noted that there are publicly available case studies from other Breedon sites e.g. Flixton Park Quarry in Suffolk (https://www.suffolknews.co.uk/beccles/timeline-to-restore-former-quarry-to-farmland-pushed-back-to-9221606/) which can be cited where restoration was delayed (up to 6 years) with stated issues including the sourcing of sufficient volumes of suitable restoration material because of unpredictable market for fill material.

8.2 This case study provides direct evidence that the risk of restoration material supply is a credible and material risk to restoration being achievable.

8.3 It is noted that there are no references to case studies such as these in the application which highlight the high level of risk that reliance on importation of inert waste may have on the likelihood to meet restoration plans.

Impact on climate

9.0 It is noted that the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) related to the consideration of restoration (which requires large volume of imported restoration material) has not been clearly demonstrated.

9.1 This is evidenced because there is no consideration of the sustainable availability of the volume of resources required for restoration and further there is no assessment of climate change resulting from the import of the materials.

Metrics quoted for habitat creation and biodiversity net gain

10 A summary table “Vegetation _ Habitat Phases & Final Restoration” is provided that has been referenced in the ES to estimate biodiversity net gains and describes the areas of habitat lost and created as a result of the proposed restoration.

10.1 It is noted that the table references the 2023 final habitat restoration plan drawing on this as evidence to support the areas of habitat quoted. It states that calcareous grassland will include 11.467 ha and the ephemeral water feature will cover 0.28 ha (It is noted that neither of these figures are fully supported by the original EIS or the revised EIS and so do not seem a reliable basis for making estimates of biodiversity net gains).

10.2 In any case it is noted that the type and availability of restoration materials (and ability to deliver the restoration plan) would have a direct impact on habitat creation and biodiversity net gains (biodiversity metrics).

10.3 No consideration has been given to the risks that habitats cannot be created as planned or biodiversity net gains cannot be realised as a result of challenges related to the importation of restoration materials (as detailed in this statement)

or that the types of material available are not suitable to meet the habitat creation plan because no materials specification has been provided for the materials except to call them “restoration materials” which is a generic term that may apply to a wide range of materials ranging from boulders to clay (for example materials are too acid/alkaline or are low permeability because of high clay content etc).

Flood risk related to properties of imported materials

11. Flood risk is noted in section 9.3.15 of the original Environmental Statement as follows “*Off-site flooding will not occur as the freeboard at the site is 108mAOD before flows could occur to the site entrance*”. This is a definitive statement of flood risk (i.e. no risk).

11.1 However this is **not substantiated** by the information provided and findings of technical reports including the hydrogeological assessment completed by BCL Hydro (2022)

11.2 It is noted in section 9.3.15 of BCL Hydro report that the proposed fill material will be “*inert infill materials for the site restoration introduces material of lower permeability than the aquifer material which it replaces*” further it is noted that groundwater levels in the restoration area are documented in BCL Hydro (2022) to be >108mAOD.

11.3 As such given these two documented assumptions, and uncertainty regarding the properties of the inert infill material (since no specification is provided such as minimum permeability) the risk of surface water rising to a level equal to the freeboard of 108mAOD and thus causing offsite flooding cannot be definitely discounted, and it is therefore concluded that the definitive statement of fact that “*Off-site flooding will not occur*” cannot be reliably substantiated based on the information provided.

Conclusion

12 Based on the detailed evidence provided, it is clear that the appeal should be dismissed due to the substantial and unaddressed risks associated with the importation of inert restoration materials. The documentation submitted by the Appellant fails to demonstrate a credible, practical, or economically viable plan for sourcing and transporting the approximately 1.7 million tonnes of inert fill required.

12.1 The evidence highlights that the waste planning assessment, a core document relied upon by other submissions, is unsigned, undated, and lacks author attribution—undermining its admissibility and reliability. Furthermore, there is no verifiable sourcing plan for restoration material, and the reliance on speculative and insufficient sources such as the HyNet project and residential developments fails to meet the threshold for a robust restoration strategy.

12.2 Critically, the assumption that restoration will proceed as planned underpins several key environmental and ecological assessments in the appeal. However,

the lack of detailed material specifications, logistical plans, and mitigation strategies if material sourcing fails, introduces a serious risk that restoration may not be achievable.

12.3 This fundamentally undermines the validity of conclusions presented in biodiversity, ecological, and climate impact assessments, as they depend entirely on successful restoration.

12.4 In particular, the biodiversity net gain claimed by the appellant is contingent on the creation of specific habitats, which cannot be assured without certainty around the type, quality, and volume of restoration material—none of which are adequately evidenced.

12.5 The submission also clearly identifies additional risks, including potential market distortion of inert waste, environmental impacts from extended haulage, and increased costs—all of which further compromise the feasibility of the restoration plan.

12.6 Precedents from other quarries, including Breedon-operated sites, show that delays and failures in restoration due to material sourcing are real and significant.

12.7 Given the weight of this evidence, it is irrefutable that the appeal lacks the technical and practical foundation necessary to proceed and must therefore be dismissed.

12.8 This position is fully supported by Planning Policy Wales (Edition 12, 2024), which requires that mineral development proposals demonstrate credible and deliverable restoration strategies, minimise environmental harm, and ensure sustainable use of resources. These fundamental policy requirements have not been met in this case.