

Local Plan Review

Topic Paper

Minerals

April 2023



1 Introduction

1.1 This minerals topic paper provides explanatory background to support the development of minerals policies in the forthcoming Local Plan.

1.2 This document sets out the position in the existing policy documents, the policy approach that these established and the issues arising that the Local Plan needs to address.

1.3 This report is structured on the basis of specific mineral types and other related development, as set out in the current Core Strategy. In a number of instances detailed information has not been provided because it is provided to the National Park Authority, as Mineral Planning Authority, in confidence by the mineral companies for commercial reasons. This particularly applies to output rates, remaining reserves with planning permission, and the locations to which sales from individual quarries are distributed. Where possible information has been presented in an aggregated form to ensure that commercially sensitive information is not made available.

2 National Policy

2.1 The National Planning Policy Framework (NPPF) sets out the national planning policy for England and this includes the approach to mineral planning for England. Paragraphs 209 to 217 set out provisions for 'Facilitating the Sustainable Use of Minerals'.

2.2 The NPPF sets out that 'It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation'. The NPPF also sets out that 'as far as is practical, provide for the maintenance of landbanks of non-energy minerals from outside National Parks...'

2.3 Specific Guidance on the planning for mineral extraction in plan making and the application process is set out in the national 'Minerals' guidance note.

2.4 The NPPF also sets out the general approach to major development in National Parks:

2.5 When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;

the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and

any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

2.6 This has particular relevance because applications for extraction and processing of minerals often are large scale and have significant impacts. Most proposals for fresh mineral working or extensions to existing mineral sites are likely to be viewed as 'major' for planning purposes given the context of the National Park and the existing and likely scale of mineral extraction being proposed.

2.7 The courts have established, with particular reference to *Aston & another v Secretary of State for Communities and Local Government*, that whether or not proposals are considered 'major' is a matter for the decision maker and should be addressed on a case-by-case basis.

2.8 The exceptional test set out in national planning policy has therefore influenced the overall approach to mineral development in the National Park, while recognising that national policy does set out a number of exceptional circumstances where mineral extraction may be acceptable within National Parks.

3 Background

3.1 The Peak District National Park's landscape is formed from the underlying geology. This is predominantly Carboniferous Limestone in the White Peak and Derbyshire Gritstone in the Dark Peak and gritstone edges at the fringes of the national park. Fluorspar is the other mineral worked commercially in the National Park. Other minerals exist but are not currently extracted in the National Park.

3.2 The extraction and use of minerals has been a feature of the National Park for thousands of years and has formed part of the culture and archaeology of the area today. The distinctive built heritage of the National Park reflects the landscape through the use of local building materials.

3.3 Limestone is extracted for use as crushed rock aggregate, for cement production, for production of industrial powders and for building stone.

3.4 Gritstone is extracted predominantly for use as a building stone. A small amount of gritstone is used as an aggregate although its lack of hardness does not make it suitable for many aggregate uses.

3.5 Fluorspar is extracted for use in the chemical industry. It is used to make hydrofluorocarbons which are used in the production of refrigerants, solvents, aerosol propellants and anaesthetics. Barytes and calcite are also found in the same geological deposits as fluorspar and where these occur they are extracted as a secondary mineral to the fluorspar. Barytes is processed by the chemical industry and is used as a fluid in oil and gas drilling, in paint manufacture and in other industrial products. Calcite is a crystalline form of calcium carbonate (limestone) and is used as a decorative aggregate. These are collectively known as 'vein minerals' as they occur in geological vein structures within host limestone.

4 The Current Position

4.1 Since the adoption of the Core Strategy in 2011 there has been a reduction in the number of sites and the output of mineral from the National Park.

4.2 The largest mineral extraction sites in the National Park are usually associated with the production of limestone for crushed rock (aggregate) or cement. Production of aggregate in the National Park increased progressively from 2011 to 2016 but has declined since then.

4.3 An agreement was reached with Derbyshire County Council in the course of adopting the Development Management Policy Document and through the Joint Local Aggregate Assessment. This agreement acknowledges the national policy position and agrees that the future allocation of sites for extraction of limestone aggregate in Derbyshire County Council's MPA area will be sufficient to replace supply from sites in the National Park as they reach the end of their permitted reserves and/or consented operational periods. This ensures a continued sustainable supply of limestone for society but, in line with the NPPF, ensures that it is delivered from outside the National Park in future. It is intended that this agreement

is sustained through future Duty to Cooperate arrangements in the course of preparation of policy documents for both the County Council and the National Park Authority.

4.4 The Core Strategy accepted that there is a national need for fluorspar to be met from the National Park because it is an industrial mineral which in the UK, only exists in economically viable deposits in the National Park. It is therefore not practicable for extraction to take place outside of the National Park. The Core Strategy sets out (based on evidence available from the British Geological Survey) that most of the higher grade fluorspar ore in the National Park that was capable of being worked by opencast methods and was located in environmentally acceptable locations (typically outside of Schedule Ancient Monuments, designated sites for biodiversity or outside of the Natural Zone) had been, or was in the process of being, extracted. As a result of this, the Core Strategy directed future extraction of fluorspar to underground resources.

4.5 Gritstone has been a sought after building material for many years. It's suitability for masonry uses means that not only is it a material common to the National Park but also far beyond it. Gritstone features prominently in buildings in nearby cities of Sheffield, Derby, Birmingham and beyond. At the time of the Core Strategy there were a number of large scale gritstone sites which had resulted from old mineral permissions granted in the first half of the 20th Century which had few conditions controlling the impacts of the development. These sites have continued to deliver gritstone to a regional and national market and have all been subject to the Review of Old Mineral Permission process which determines modern working conditions. The East Midlands Aggregate Working Party Report in 2013 identified that around 25% of the UK's building sandstone output came from the Peak District.

4.6 The Core Strategy recognised that there remained a potential need for small scale building and roofing stone to be worked to meet the need of the built environment of the National Park if this could not be met from existing sites. Policies set out that small scale sites to meet a demonstrable local need would be acceptable in principle as long as the stone was retained in the National Park.

4.7 In the National Park there are currently:

- 31 active surface mineral extraction sites,
- 1 dormant surface extraction site
- 1 active underground mine
- 2 dormant underground mines (and one site seeking an extension of time)
- 7 sites in aftercare

The following table sets out the existing sites, mineral types and output.

Site	Mineral Type	Planning Permission End Date	Active or Dormant	Underground or Surface extraction	Description
Moss Rake East	Vein minerals and some limestone aggregate	Aftercare will cease end of 2023.	Active in aftercare	Surface	Site restored by Direct Action following Enforcement Action.
Arbour Low	Calcite	Aftercare will cease on 05/02/2025	Active in aftercare	Surface	
Shining Bank Quarry	Limestone aggregate	Extraction ceased 31/12/2015	Active in restoration	Surface	
Darlington Quarry	Limestone aggregate	Extraction ceased 30/06/2012	Active in aftercare	Surface	Planning permission for filming use covered part of the site. Restoration and aftercare of this area now delivered through that permission, but designed to tie in with the wider approved restoration/aftercare of the site.
Ivonbrook Quarry	Limestone aggregate	16/05/2024	Active in aftercare	Surface	
Arthurton West Extension	Fluorspar	Extraction ceased 07/09/2009	Active in aftercare	Surface	
Blakemere Pit	Vein Minerals	Extraction ceased 03/06/2005	Active in aftercare	Surface	Issues around restoration of white roads and walls

					following enforcement appeal. Requires resolution.
Hillhead Quarry	Limestone aggregate	No end date on permission but cannot be worked beyond 21/02/2042 due to the provisions of the Environment Act	Dormant	Surface	Small part of larger dormant site in Derbyshire County Council area. Dormant and working cannot resume until a scheme for modern conditions has been approved.
Chinley Moor Quarry	Gritstone	Extraction to cease 30/06/2026	Active	Surface	Only 350 tonnes can be worked per year. The stone worked can only be used in the National Park.
Shire Hill Quarry	Gritstone	22/02/2042	Active	Surface	Annual extraction limit of 200,000 tonnes per year.
Beelow	Limestone aggregate	No end date on permission but cannot be worked beyond 21/02/2042 due to the provisions of the Environment Act	Active	Surface	Not currently worked although a scheme to facilitate commencement of working has been submitted.
Wimberry Moss Quarry	Gritstone	22/02/2042 for extraction	Active	Surface	Site currently not worked. Output limit of 95,000 tonnes per annum.
Topley Pike Quarry	Limestone aggregate	31/12/2025 for extraction	Active	Surface	250,000 tonnes per annum limit

Old Moor (Tunstead)	Limestone aggregate, cement, industrial uses	31 January 2040 (extraction)	Active	Surface	
Milldam Mine	Vein Minerals (fluorspar)	31/12/2028	Active	Underground	
Nether Water Mine	Vein minerals	No end date on permission but cannot be worked beyond 21/02/2042 due to the provisions of the Environment Act	Dormant	Underground	
Hazelbadge Mine	Vein Minerals	No end date on permission but cannot be worked beyond 21/02/2042 due to the provisions of the Environment Act	Dormant	Underground	
Longstone Edge West	Vein Minerals (fluorspar)	30/11/2015	Active	Surface and Underground	The opencast areas included in this consent are in the restoration phase. A current application seeks permission for more time for restoration. Underground extraction is also permitted by the same permission and the current application is

					also seeking more time for this.
Burntwood Quarry	Gritstone	11/08/2044	Active	surface	Stone only to be used in the restoration of the Chatsworth Estate. No more than 1,992 tonnes per year.
Dale View Quarry	Gritstone	16/09/2028	Active	Surface	62,000 tonnes per year limit.
Stoke Hall Quarry	Gritstone	21/02/2042	Active	Surface	20,000 tonnes per year limit
Once a Week Quarry	Limestone (building stone and polished stone masonry)	30/09/2043	Active	Surface	2500 tonnes per year limit. 70% of stone worked to be used in the National Park.
Wattscliffe	Gritstone	21/02/2042	Active	Surface	Currently not working. No tonnage limit, but no more than 8 loaded vehicles with a gross vehicle weight of 32 tonnes may leave the site each day.
Ballidon Quarry	Limestone (industrial powders, some	31/12/2035	Active	Surface	1.1 million tonnes per annum output.

	aggregate uses)				
Birchover Quarry	Gritstone	31/03/2040	Active	Surface	22,000 tonnes maximum to be exported from the site.
New Pilhough Quarry	Gritstone	31/12/2022	Active	Surface	18,000 tonnes per year limit.
Bretton Moor Quarry	Gritstone	30/12/2030	Active	Surface	4250 tonnes per annum limit on extraction, limited to use in the National Park.
Hope Cement Works Limestone Quarry	Limestone (cement)	21/02/2042	Active	surface	47 million tonnes permitted to be extracted between October 2006 and 21/02/2042.
Hope Cement Works Shale Quarry	Shale (cement)	21/02/2042	Active	Surface	Low levels of working due to high levels of sulphur causing emission issues in cement manufacture. Alternative raw materials used in cement manufacture to some extent.
Smalldale Head Quarry	Vein Minerals (Fluorspar)	No end date on permission but cannot be worked beyond 21/02/2042 due to the provisions of the Environment Act	Active	Surface	No modern conditions have been determined, an appeal has been stalled awaiting environmental information for 15 years.

					Site operation is small scale and not causing environmental or amenity harm.
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5 LIMESTONE

5.1 Limestone is worked for aggregate, cement, industrial and building stone purposes in the National Park.

5.2 Limestone Aggregates

5.2.1 The trends for production of limestone for aggregate purposes are available from the Aggregate Working Party reports and the Derbyshire and Peak District Joint Local Aggregate Assessment.

	Limestone Crushed Rock sales MT	Limestone landbank MT
2011	1.491	78.2
2012	1.78	74.15
2013	2.6	71,050
2014	2.73	94,374
2015	2.84	103,563
2016	3.81	214,540
2017	3.32	238.75
2018	3.55	226,770
2019	3.36	112,980
2020	3.67	109,537
2021	3.91	160,147

5.2.2 The increase in landbank in 2016 is likely to be due to the way that reserves were calculated by mineral operators at cross boundary sites. The increase in reserves in 2021 is due to more accurate reporting of reserves after further assessment by mineral operators and the MPA.

5.2.3 The impact on the supply pattern of existing sites going out of production, or the rate of output changing in anticipation of this, is difficult to predict exactly.

5.2.4 Since 2011 permissions for limestone aggregate production have expired at Longstone Edge West in 2010, Ivonbrook in 2011, Goddards in 2012 and at Darlton in 2013, without significant reduction in total output figures.

5.2.5 While most of the remaining quarries have permissions to continue operation until around 2040 the reserves may be exhausted before this date at some quarries. At other sites, the reserve will exceed the volume that can be extracted in the period available. The end date of 21 February 2042 was a product of the Environment Act and the Review of Old Mineral Permission process, and was applied arbitrarily on all permissions that did not already have an 'end date'.

5.2.6 Limestone reserves are unevenly distributed amongst the quarries within the Park, with an especially large reserve remaining in the Old Moor permission (an extension to Tunstead Quarry in Derbyshire, east of Buxton, on the National Park boundary).

5.2.7 Apportionment is a system whereby each mineral planning authority is given a figure based on the last ten years of supply which it needs to ensure can be produced, in the interests of a steady and sustainable supply of minerals. The NPPF states a landbank of permitted reserves to deliver 10 years of production must be made available.

5.2.8 The landbank can be calculated in years by dividing the total landbank in million tonnes by the average production rate over ten years, this results in an estimated landbank of around 48 years. The Authority is therefore confident that there is the capacity available within existing permissions for the National Park to satisfy its apportionment, which will gradually be reduced and the shortfall taken up by delivery in Derbyshire County Council's control.

5.2.9 This approach is in line with National Policy. As sites have ceased to operate the resource has not been replaced with new sites or extensions to existing sites. While the landbank remains high (reflecting the size of existing sites) it is gradually reducing.

5.2.10 A sufficient volume of mineral can be allocated, permitted and produced from Derbyshire outside the National Park to meet the aggregate demands that are currently met from sites in the National Park.

5.2.11 While there is no evidence that a change is required to the broad policy approach, it is recognised that during the plan period the 2042 end date will be approaching and the future of a number of existing sites must be considered. Sites that already exist will not necessarily have a greater landscape impact than the current situation, so while recognising that major development can only take place in exceptional circumstances, does the existing nature of the site and the arbitrary nature of the 2042 end date weigh in favour of an 'in principle' exceptional circumstance in the planning balance or should these sites be dealt with on a case by case basis?

5.2.12 Discussion points:

- (a) Should the continuation of aggregate sites subject to the 2042 end date with limestone reserves at 2042 be considered an exception in principle or should these be dealt with on a case-by-case basis?**
- (b) How should the degree of landscape harm resulting in perpetuation of these developments be assessed? Case by case by applicants? Or as a stand alone SPD by the Authority?**
- (c) Is the continuation of existing sites different in planning terms to the consideration of a new proposal, or an extension to an existing site? How does this fit in with National Park Purposes?¹**

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¹ The statutory purposes of National Parks are:

- To conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks
- To promote opportunities for the public understanding and enjoyment of the special qualities of the Parks

In those cases where conflict exists between the two purposes and reconciliation proves impossible, the first purpose should take precedence. This is known as the Sandford Principle.

5.3 Limestone – Cement

5.3.1 The process of manufacturing cement involves mixing together limestone or chalk and clay/shale which are then fired in a rotary kiln to a temperature of about 1400-1500 degrees Celsius. Small amounts of other materials, such as silica sand, may be added to optimise the mix. During firing, water vapour is given off first, followed by CO₂, indicating the decomposition of first the clay/shale and then the limestone to a mixture of anhydrous compounds known as cement clinker.

5.3.2 On exit from the kiln, clinker is cooled from approximately 1200 degrees Celsius to less than 150 degrees Celsius. The clinker is then conveyed and stored in dedicated silos in readiness for being milled into cement. The milling process involves finely grinding the cooled cement clinker, typically with 5% gypsum/anhydrite to form the final cement.

5.3.3 The principal materials used in the manufacture of cement are calcium carbonate, which in the Peak District is obtained from Carboniferous limestone, and mudstone, which in the Peak District has been traditionally obtained from shale. There is growing importance of blended or composite cements; in the UK these are mainly produced by adding alternative materials such as Pulverised Fuel Ash (PFA) from coal fired power stations, granulated slag from the iron industry or limestone fines, together with gypsum or anhydrite. These additives can be used as an alternative to mineral based raw materials or to change the qualities of the resulting cement (for example, reducing the carbon footprint of the cement, improving strength or durability), or to deliver both of those outcomes. The long-term availability of these alternative raw materials is not assured, because of the decline in coal fired power generation and steelmaking in the UK. Alternative raw materials are being trialled at several cement plants.

5.3.4 Cement plants are large consumers of raw materials (and energy intensive) with about 1.6 dry tonnes of materials being required for each tonne of cement clinker produced. Modern cement plants are highly capital intensive; the construction of a new plant costs around £250 million. Ongoing capital investment at individual plants can also typically amount to several million pounds a year. Cement raw materials must be available in sufficiently large quantities to justify these large capital investments. Consequently, modern cement operations are usually large-scale and long-lived. The economies of scale needed to make them viable demand long reserves of raw materials and mean that a typical plant has cement clinker capacity of between 0.48 million tonnes per annum (mtpa) to 1.5 mtpa.

5.3.5 Shale and limestone are found in close proximity at Hope (in the central east area of the National Park), where a cement works was first established in 1929. This is the only cement works in the National Park. The mineral permissions for the site expire just after the end of the current Local Plan period, which together with the huge amount of secured reserved needed and an ageing site means there is no long-term viability. Shale is currently being replaced in part by alternative raw materials of various types as the sulphur content in the shale is causing unacceptable emissions from the kiln.

5.3.6 In addition, limestone quarried within the National Park supplies the Tunstead cement works, just outside the Park. This cement works is part of the major Tunstead complex which uses material from the quarry's Old Moor extension inside the National Park to supply not only its own cement works but also to produce industrial limestone aggregates and other products.

5.3.7 Major limestone and shale quarrying and cement making at Hope – the only cement works in the National Park – is fundamentally incompatible with National Park purposes, it is also a major emitter of CO₂ and would almost certainly fail to be approved today against current policy.

5.3.8 While the existing permission for limestone extraction and production of cement, means that the principle of the operation is established. The Authority has worked constructively with the operator to minimise impacts where possible through support for proposals to import alternative raw materials, additives and carry out other ancillary development.

5.3.9 The period of relative stability will cease towards the end of the plan period as the limestone resource diminishes. The Authority will work with Breedon, or any future operator in relation to future plans for the site, but this must focus on cement making outside the National Park.

5.3.10 The production facilities at Hope would require major investment in order to continue to produce cement on the site beyond 2040, and in order to secure that, a certainty of supply would be required for the long term availability of limestone. This would be likely to equate to a consent for many million tonnes arising from extensions to the existing quarry covering many hundreds of hectares. This would have very significant and unacceptable consequences for the landscape and other special qualities of the National Park contrary to the statutory purposes of National Parks. Further reserves of this scale will not be allocated nor permissions granted where these would extend the life of operations beyond the current permission date. The extension of the limestone quarry would be major development and national policy dictates that major development should not take place in National Parks other than in exceptional circumstances.

5.3.11 The approach to cement making at Hope in the interim is for the Authority to commit to assisting in the delivery of efficient operations there until the consented reserves of limestone run out, or when the planning permission expires in 2042, whichever is the sooner.

5.3.12 Raw materials used in the production of cement are available outside the Park. After little new development in the market for many years, there are proposals to develop a new cement plant at Sheerness, Kent. This demonstrates that where the market will support the investment this results in development. There are no exceptional circumstances in relation to availability of materials that would justify a new or replacement cement plant in the National Park.

5.3.13 There are also reasonable alternative arrangements which could be made for supplying the market beyond the existing permitted reserves at Hope. These are indicated by: the closure of other cement works outside of the National Park, some with outstanding reserves; the lack of development of a permitted second kiln at Tunstead Quarry, and; the great distance from Hope to many of its markets for cement. In these circumstances there is evidence that alternative production can be delivered from outside the Peak District National Park.

5.3.14 The long term future of the Hope Cement Works site is a matter for consideration for the Authority, the landowner and to some extent the wider community. A full analysis will be required of the existing permissions and the restoration that will be achieved through those. Where there are no restoration requirements there will be opportunities for other outcomes and possibly other development that could take place on the land which would deliver positive outcomes for the National Park and the community including employment and economic opportunities. This work will be outside of the Local Plan and may be the subject of a separate Supplementary Planning Policy Document.

5.3.15 Discussion points

- a) **Broadly what type of other development might be suitable in the long term on the Hope Cement Works Site?**

b) Should a memorandum of understanding be sought with neighbouring authorities to actively direct cement production into areas outside the National Park?

5.4 Limestone Industrial Uses

5.4.1 The British Geological Survey (BGS) notes in the 2006 Factsheet on Industrial Limestone that Carboniferous Limestone is the main source of industrial limestone in England, with a high proportion coming from Derbyshire (both inside and outside the National Park). The Bee Low Limestone is the most extensively quarried type and is consistently of very high purity and consistency throughout the region. However, the conflict with protected areas is significant: 42% of the carboniferous limestone resource is found within National Parks (and a further 17% in Areas of Outstanding Natural Beauty) throughout England.

5.4.2 For limestone resources to be used for very high purity industrial or chemical purposes they must have a minimum calcium carbonate content of 98%. This is the level of purity adopted by BGS in their Mineral Resource Map for the Peak District.

5.4.3 In the excavation of high grade limestone, rock of other grades will often be produced which is suitable for uses which are not industrial or chemical and can include aggregates.

5.4.4 The two main quarries in the National Park supplying industrial limestone are Ballidon and the Old Moor extension to Tunstead, both operated by Tarmac. The specific importance of Ballidon for industrial limestone is acknowledged through a legal agreement which requires that at least 40% of the production is used for non-aggregate (i.e. industrial) purposes, reflecting the geology of the site. The Secretary of State permitted the working of 205mt of limestone at Old Moor within the National Park in 1980 in large measure due to the suitability of the limestone for industrial uses, but no restriction was imposed on end uses. The mineral from Old Moor is therefore used to produce a range of industrial, cement and aggregates end uses.

5.4.5 The main industrial uses to which very high purity limestone from Ballidon and Old Moor is put includes fillers (in animal feeds, polymers, paints, paper and pharmaceuticals), chemical manufacture, lime mortar, flux in iron and steel and other metal manufacture and agriculture and horticulture uses.

5.4.6 Ballidon and Old Moor have substantial reserves and their permissions last until 2035 and 2040 respectively, reserves at Old Moor may well exceed the permitted period and consideration of this is covered in the aggregate section above.

5.4.7 There are working quarries within Derbyshire, outside the National Park, which supply industrial limestone from the same geological resources, though each site has its specialist processing and marketing arrangements. Close to Ballidon, are the quarries of Brassington Moor and Grangemill; while close to Tunstead are Dowlow, Hindlow, Brierlow, Hillhead and Ashwood Dale. Between them, these quarries have very substantial permitted reserves and long-life permissions outside the National Park.

5.4.8 Proposals for quarrying limestone for industrial purposes may be capable of satisfying the strict tests which apply in nationally-designated landscapes. Any applicant would be required to show in particular:

- that alternative sources of high purity limestone could not be used instead, e.g. existing permitted reserves outside the National Park (considered to be well in excess of 250mt in Derbyshire alone);
- evidence on whether or not existing permitted sources of high purity limestone were being used unnecessarily for aggregates uses; and
- Need for the minerals including consideration of the scope for end users to adjust their needs so that these could be satisfied by lower grade limestone.

5.4.9 If these conditions were satisfied, and permission granted for an acceptable working scheme, the developer would be expected to agree to end-use controls over mineral extraction to conserve better quality materials for high-purity non-aggregate uses.

5.4.10 The Authority's preferred approach to the release of additional limestone for industrial and chemical purposes is informed by the existence of significant permitted reserves of limestone for these purposes, both within the National Park and nearby in Derbyshire.

5.4.11 There is therefore no case for identifying additional sites for limestone for industrial and chemical purposes, because prospective applications for planning permission would be unable to demonstrate that other sources are not available.

5.4.12 While there is no evidence that a change is required to the broad policy approach, it is recognised that during the plan period the future of existing sites which will have resources beyond the end date on the planning permission must be considered. Sites that already exist will not necessarily have a greater landscape impact than the current situation, so while recognising that major development can only take place in exceptional circumstances, does the existing nature of the site and the arbitrary nature of the 2042 end date weigh in favour of an 'in principle' exceptional circumstance in the planning balance or should these sites be dealt with on a case-by-case basis.

5.4.13 Discussion points

- a) Despite long term resources, should a memorandum of understanding be sought with neighbouring authorities to seek the future supply of industrial limestone from outside the National Park to establish an 'in principle' position?**
- b) Should the continuation of industrial limestone sites with significant reserves beyond their end date be considered an exception in principle or should these be dealt with on a case-by-case basis?**

6 Limestone and Gritstone Building Stone

6.1 Limestone and gritstone building stone is an important feature in the built heritage of the Peak District National Park. Locally produced stone has been used in the construction of most of the existing buildings in settlements and the particular characteristics in terms of colour, grain size and variations in appearance of a locally produced stone is a key part of the appearance of the character of the area. A sustainable supply of local stone ensures that the built environment continues to be a key part of the character of the National Park.

6.2 The southern Peak District around Stanton Moor is an area of key importance for the supply of Carboniferous Millstone Grit. Here there is a concentration of active sites (Birchover, Dale View and New Pilhough quarries) and intermittently worked Wattscliffe quarry, collectively with a significant output of sandstone in a variety of hues and textures. The large majority is sold for use outside the National Park rather than to serve the repair and maintenance of vernacular structures in the locality.

6.3 Gritstone reserves, around the northern and eastern fringes of the National Park in particular, have also been used to provide stone slate for roofing. Geologically this product was worked from thinly bedded gritstone resources which split to produce the slates. This traditional building material was common in the past on agricultural and domestic buildings and remains a feature in the National Park landscape. However, the diminishing availability of stone slate has led to loss of stone slate from non-listed buildings and an overall reduction in stone slate in the built environment of the National Park which is harmful to the historic environment.

6.4 There are no sites permitted at the moment which are producing stone slate in the National Park and there are concerns that the skills needed to produce this material are being lost. The site at Bretton Moor was permitted in part because it was hoped to deliver stone slates but this has not occurred. There is a site outside the National Park at Moorhay Quarry, Brampton which is delivering stone slates commercially. Under the current policies, if an application came forward which was suitably located, and it demonstrated that the site was geologically suitable to produce stone slate, then it could be supported.

6.5 During the plan period permissions at New Pilhough and Dale View will come to an end. Reserves at Birchover and Wattscliffe are diminishing over time and may be exhausted prior to the permission end dates.

6.5 There is a range of other established sandstone quarries in the National Park producing building stone, with sites at Chinley Moor (Hayfield), Shire Hill (Glossop), Stoke Hall (Grindleford) and Wimberry Moss (Rainow).

6.6 All serve a variety of local and more remote markets. The range of sites reflects the varieties available within the gritstone. Total sandstone output for building stone was 26,711 in 2021. Sandstone reserves are in theory 8.6 million tonnes, though these are unevenly distributed: for example, more than half the total is at Wimberry Moss and significant reserves also exist at Shire Hill.

6.7 Building and walling stone is also obtained from the Carboniferous Limestone at the small Once-a-Week quarry (Ashford) which is limited to predominantly serve the National Park. Because this is the only source of local limestone there are vulnerabilities associated with it being a sole source but potential viability issues if more sites are permitted, given the relatively small demand for stone in the National Park based on the low levels of development permitted.

6.7 The existing policy position allows for the development of small scale building stone sites in the National Park where a demonstrable need exists that cannot be met from existing permissions, and where the stone will be used in the National Park and the impacts on amenity and the environment can be mitigated.

6.8 This approach is in line with National Policy.

6.9 Discussion Points

- a) Is the current policy position meeting the need for building stone in the National Park?**

7 Vein Minerals - Fluorspar

7.1 Mineralised veins running through the Carboniferous Limestone of the Peak District have been of economic importance for centuries. Lead has historically been the major mineral worked, but currently the primary interest is in fluorspar. Lead, calcite and barytes are also likely to be obtained from fluorspar workings, in varying proportions, as secondary materials.

7.2 UK extraction of fluorspar ore is currently confined to the southern Pennine orefield, mainly within the Peak District National Park. It is not practicable for this mineral to be provided from outside of the National Park, without the UK relying on imported resource.

7.3 In the Peak District, fluorspar mineralisation is largely confined to the eastern half of the limestone outcrop. Fluorspar ore dug from the ground in England is processed to produce acid-grade fluorspar (over 97% CaF₂). Fluorsid operate Milldam Mine, sites in restoration on Longstone Edge West and the country's only primary processing plant at Cavendish Mill near Stoney Middleton. All primary processed mineral is shipped to Fluorsid's chemical plants in Italy and Norway.

7.4 The mineralisation occurs in major east-west veins (rakes) and stratabound replacement deposits (flats) together with some cave infill deposits (pipes). The richest mineralisation is concentrated in the uppermost limestone beneath the overlying cover of Millstone Grit, which acted as a cap rock to the mineralising fluids. Fluorspar ore working has taken place in the National Park for many years, and the more readily accessible deposits have been worked out. The only site with consent to extract vein minerals opencast is Smalldale Head which is small scale and has very limited reserves.

7.5 Research led by Leicester University in 2000-2004, the 'Fiesta' project, experimented with different ways of identifying underground fluorspar deposits occurring as 'flats' (rather than the more normally accessed vertically-bedded veins) in the limestone. It produced no conclusive results.

7.6 The major known deposits which remain to be worked, and which have planning permission, are in underground veins. Because the more readily accessible deposits had been worked out, the Core Strategy directed future working to the underground resource and principal operations recently have been at Milldam Mine.

7.7 The 2013 application at Milldam Mine identifies reserves of over 2.5 million tonnes. In addition, there remains reserves of at least half a million tonnes from Watersaw Mine, the underground mine on Longstone Edge where Fluorsid is seeking consent for additional time to extract vein minerals.

7.8 The underground extraction at Milldam Mine has also been controversial. As working has increased in production rates, the frequency of collapses of ground at surface has also increased. Work undertaken by GWP (a geotechnical consultancy) commissioned by the Authority suggests that the mineral extraction is having a causative effect on the surface and directly and indirectly (through disturbance of old mine workings) leading to the surface collapse. Fluorsid dispute these suggestions.

7.9 The underground working has also deviated from the approved plans in relation to phasing and methodology. An application has been sought from the operator to provide revised working plans and agree a methodology for working that reduces the risk of surface collapse.

7.10 Although there are operational issues as set out above, these are capable of being addressed. It is not viable to return to opencast working as this is incompatible with the conservation and enhancement of the special qualities of the National Park. Equally the mineral cannot be delivered in the UK outside the National Park.

7.11 The policy of directing fluorspar extraction towards underground operations is therefore robust.

8 Other Issues

8.1 Safeguarding

8.1.1 The NPPF directs mineral planning authorities to carry out mineral safeguarding. This designates land with mineral resource and ensures that the resource is not sterilized by major non-mineral development which may make the mineral unavailable for future generations.

8.1.2 In the Core Strategy and the subsequent detailed development management policies, mineral safeguarding areas safeguard designated resources of minerals based on the BGS geological maps.

8.1.3 This is considered to adequately address the policy requirements.

8.2 Ancillary Mineral Development

8.2.1 The Development Management Policy Document includes a policy that deals with ancillary mineral development including processing. This ensures that mineral processing only takes place on sites that have existing quarries where the winning and working of mineral is taking place.

8.2.2 There are a number of quarries that have been found to be unsuitable for processing, and equally, sites with on site processing are usually restricted to process only stone from the on-site quarry.

8.2.3 This can mean that sites without processing facilities are obliged to send stone outside of the National Park boundary for processing, which can be unsustainable and due to transport costs can increase the chances of stone being sold outside of the National Park rather than transported back in. For small scale quarries that are obliged to sell their product in the National Park, it increases costs and reduces viability and sustainability.

8.2.4 Issues arising

- a) Are there appropriate locations (sites with B2 industrial uses) for the small scale processing of stone worked in the National Park?**
- b) Should sites with ancillary processing in the National Park be able to import stone from other quarries in the National Park for processing?**