

Devon Minerals Plan

Cross-boundary Minerals Issues

Scoping Report

June 2012

Version 1.1

<p>Devon County Council</p>	
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<p>County Hall Topsham Road Exeter Devon EX2 4QD</p>	
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*Devon Minerals Plan
Review of Cross-boundary Minerals Issues – Scoping Report*

Version 1.1 (June 2012) Figure 1 inserted

1. Introduction

Definitions

For the purposes of this report, the following definitions are adopted (and illustrated in Figure 1):

Plan Area	The area for which Devon County Council is the mineral planning authority (i.e. excluding Plymouth, Torbay and the National Parks of Dartmoor and Exmoor)
Greater Devon	The county of Devon, including Plymouth, Torbay, Dartmoor National Park and that part of Exmoor National Park within Devon
Minerals Plan	Unless mentioned otherwise, the Devon Minerals Plan being prepared by Devon County Council for the Plan Area

- 1.1 Section 33A of the Planning and Compulsory Purchase Act 2004 introduced a “duty to co-operate in relation to planning of sustainable development”. This requires county councils, local planning authorities and other prescribed bodies “to engage constructively, actively and on an ongoing basis” on strategic matters in connection with the preparation of local development documents.
- 1.2 The Act defines ‘strategic matter’ as including any ‘county matter’, and minerals development will therefore clearly fall within the scope of the proposed duty to cooperate.
- 1.3 The National Planning Policy Framework [NPPF] (March 2012) includes guidance on ‘planning strategically across local boundaries’, with an indication that planning authorities should provide evidence of “having effectively cooperated to plan for issues with cross-boundary impacts”. Suggested means of demonstrating this cooperation are:
 - ◆ plans or policies prepared through a joint committee;
 - ◆ a memorandum of understanding; or
 - ◆ a jointly-prepared strategy that is presented as evidence of an agreed position.
- 1.4 For aggregate minerals, mineral planning authorities [MPAs] are required to participate in an Aggregate Working Party, which will include adjacent MPAs. With specific reference to industrial minerals, the NPPF highlights the need for cooperation with neighbouring and more distant MPAs to ensure adequate provision.
- 1.5 Devon County Council is preparing a Minerals Plan¹ for the period to 2031 covering the area for which it is the MPA [i.e. the Plan Area], which does not include the unitary areas of Plymouth and Torbay or the National Parks of

¹ Previously referred to as the Minerals Core Strategy

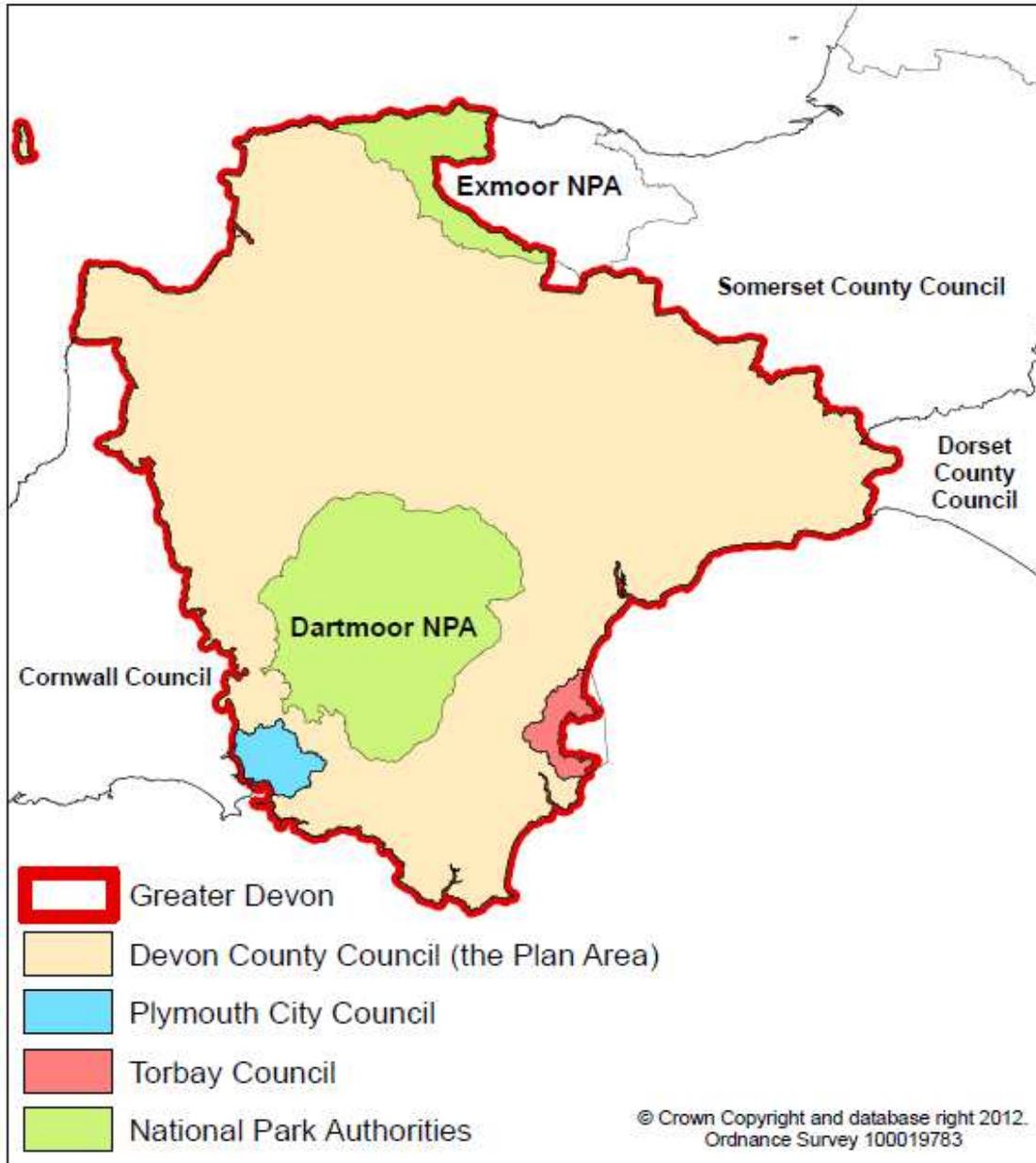


Figure 1: Mineral Planning Authorities within and adjacent to Devon

Dartmoor and Exmoor. However, there are several reasons for Devon County Council to maintain close links with its adjoining MPAs:

- ◆ Plymouth, Torbay and Dartmoor have been grouped with Devon County Council as 'Devon' for the purposes of the sub-regional apportionment of aggregate minerals;
- ◆ the 'Devon' area specifically for the sub-regional apportionment of sand and gravel also included Cornwall and Somerset due to the low levels of production in those counties;
- ◆ evidence indicates that cross-boundary movements of aggregates and other resources such as building stone occur, both within Greater Devon and between it and adjoining counties; and

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- ◆ the Plan Area includes mineral resources of national/international importance that occur only in limited areas of the UK (Devon and Dorset for ball clay, and Devon and Cornwall for china clay), with a need for coordination of policy between the relevant MPAs.
- 1.6 Since only a very small proportion (0.4% in 2009) of Devon's aggregates are sold to destinations within the South West region beyond the neighbouring counties of Cornwall, Dorset and Somerset, it is not considered necessary to include those additional counties within the scope of this report.
 - 1.7 Following a review of the current status of the minerals plans of the Plan Area's adjoining MPAs, the report outlines the pattern of working for each of the mineral types (together with the safeguarding of those minerals and associated infrastructure) and identifies the potential cross-border issues for each.
 - 1.8 A draft Scoping Report was produced to allow the Plan Area's neighbouring MPAs to (a) verify the information presented in section 2 on the status of their adopted or emerging development plans; (b) review and contribute to the information provided on different minerals and safeguarding in sections 3 to 9; and (c) endorse, question and/or add to the issues identified in section 10.
 - 1.9 Following the receipt of responses from all of the neighbouring MPAs to the draft, this Scoping Report has been published as a reference point. Devon County Council will continue to discuss relevant issues with each of the neighbouring MPAs with a view to resolving them constructively. The outcomes of this engagement will then be presented in a Final Report that will inform the Minerals Plan and form part of its evidence base.

2. Current Status of Minerals Plans in Adjoining Areas

Greater Devon MPAs

Plymouth²

- 2.1 There is only one operational quarry within Plymouth, Moorcroft Quarry (with its extension known as Hazeldene Quarry), which is a significant source of limestone crushed rock aggregates with permitted reserves that will allow production to continue for more than ten years beyond 2031. The city also provides important facilities for the outward and inward transportation of minerals by water, including china clay, ball clay and aggregates.
- 2.2 Also located within Plymouth is the now-closed china clay processing plant at Coypool that is connected to the Lee Moor operations in the Plan Area by pipeline.
- 2.3 Plymouth's Core Strategy (adopted 2007) includes a strategic objective for the delivery of mineral resources, supported by policies for safeguarding resources (CS23) and minerals development (CS24). There is no specific reference in the Core Strategy to the safeguarding of mineral wharves, although it does propose the safeguarding of key sites for sea and rail freight infrastructure. Plymouth City Council has also commissioned a Port of Plymouth Evidence Base Study to inform its future policies and plans³.
- 2.4 The North Plymstock Area Action Plan (adopted 2007) includes a proposal (NP13) for the safeguarding of land to the north of Hazeldene Quarry and criteria for considering minerals development. An Area Action Plan for Plymouth's East End and Eastern Gateway was commenced in 2005, with mineral wharves at Cattedown suggested for the safeguarding and enhancement of port-related employment, but no further progress has been made with this plan.
- 2.5 Plymouth's Waste Development Plan Document (adopted 2008) identified the northern part of the Coypool China Clay Works as a 'strategic integrated waste management site'.
- 2.6 Plymouth City Council is proposing to commence work in 2012 on a new Plymouth Plan to replace its Core Strategy.

Torbay⁴

- 2.7 Torbay currently has no operational quarries, with its last working quarry, Yalberton Tor, having no remaining reserves and now in use for waste management purposes.

² Plymouth's LDF documents can be viewed at: <http://www.plymouth.gov.uk/homepage/environmentandplanning/planning/planningpolicy/ldf.htm>

³ <http://www.plymouth.gov.uk/portofplymouthstudy.htm>

⁴ Torbay's LDF documents can be viewed at: <http://www.torbay.gov.uk/index/environment-planning/strategicplanning/ldf.htm>

- 2.8 The Torbay Local Plan was adopted in 2004, and the majority of its policies have been saved for an extended period. A general strategy for mineral development is included, but no proposals are made for individual sites and there is no reference to the safeguarding of mineral resources.
- 2.9 In 2009, Torbay Council consulted on options for growth as an early part of its Core Strategy preparation. This document did not make any reference to minerals, but concentrated on a range of spatial options for delivering growth. A further consultation is anticipated in 2012.

Dartmoor National Park⁵

- 2.10 Dartmoor National Park includes two large crushed rock aggregates quarries located close to its boundary, although one of these (the rail-linked Meldon Quarry) has recently been mothballed. Both of these quarries have permitted reserves that, at recent rates of production, would last for more than ten years beyond the end of the Minerals Core Strategy period. The National Park also includes two small building stone quarries, while parts of the Lee Moor china clay planning permissions fall within its boundary.
- 2.11 The Core Strategy (adopted 2008) opposes major new minerals development unless there is an overriding national need, but allows for the small scale quarrying of building stone (Policy COR22). A separate Minerals DPD is proposed, but has not yet been commenced.

Exmoor National Park⁶

- 2.12 There are no extant planning permissions for mineral working within the Devon part of Exmoor National Park. The Authority's Local Plan (adopted 2005) opposes mineral extraction that harms the National Park (Policy M1), but does allow for the re-working of disused quarries for building stone (Policy M4).

Adjacent County MPAs

Cornwall⁷

- 2.13 Cornwall Council published preferred options for minerals in January 2012 alongside its Core Strategy preferred approach. Its preferred options for aggregates are to allow for further permissions where needs cannot be met from existing reserves, and to allow appropriate sites for high specification aggregates. Further exploitation of Cornwall's secondary aggregate resources is also encouraged, including use of china clay waste tips..
- 2.14 The preferred option for china clay would limit new permissions to sites within the St Austell (Hensbarrow) area, while a dispersed approach to metals is

⁵ Dartmoor National Park Authority's LDF documents can be viewed at: <http://www.dartmoor-npa.gov.uk/planning/pl-forwardplanning/pl-localdevframework>

⁶ Exmoor National Park Authority's LDF documents can be viewed at: http://www.exmoor-nationalpark.gov.uk/index/living_in/planning/ldf.htm

⁷ Cornwall Council's LDF documents can be viewed at: <http://consult.cornwall.gov.uk/portal/planning/>

identified. A criteria-based policy to allow further permissions for building and roofing stone is also advocated.

- 2.15 The minerals preferred options also identify a range of approaches for the safeguarding of individual groups of minerals and related infrastructure.

Dorset⁸

- 2.16 Dorset County Council published its Revised Draft Minerals Core Strategy in July 2011 (also covering the unitary areas of Bournemouth and Poole). It is proposed to make provision for supply of sand and gravel over the period to 2028 at an annual rate equivalent to the sub-regional apportionment for 2005-2020 (1.97 million tonnes per annum) through the identification of sites within the four sand and gravel resource blocks in the centre and east of Dorset.
- 2.17 Dorset County Council propose to maintain the supply of a range of grades of ball clay through the identification of sites in two areas of search, with allowance for further sites in specific circumstances.
- 2.18 It is proposed to safeguard a range of mineral resources including ball clay, aggregates and building stone, with a plan of safeguarded minerals showing areas of Upper Greensand abutting the boundary with Devon.

Somerset⁹

- 2.19 Somerset County Council's Minerals Local Plan was adopted in 2004. While aggregates working is mainly focused on the limestone resources in the Mendips area, provision is made for sand and gravel working through identification of a Preferred Area and Area of Search at Whiteball close to the border with Devon.
- 2.20 As an early stage of their Minerals Core Strategy, Somerset County Council published topic papers on aggregates and building stone in 2010. A Minerals Options Paper was published in December 2011, which included options for managing a shortfall in sand and gravel reserves.

⁸ Dorset County Council's MWDF documents can be viewed at:

<http://www.dorsetforyou.com/index.jsp?articleid=387370>

⁹ Somerset's consultation documents can be viewed at www.somersetconsults.org.uk

3. Aggregate Minerals

- 3.1 The Plan Area has a range of quarries producing primary and secondary aggregates, reflecting its geological diversity, and these are supplemented by crushed rock aggregates from Plymouth and Dartmoor. Major sources of primary aggregates and alternatives from within Greater Devon include (from the Plan Area unless stated otherwise):
- ◆ limestone from Westleigh, Stoneycombe, Moorcroft (Plymouth) and Linhay Hill (Dartmoor) quarries;
 - ◆ sandstone from several quarries in northern/western Devon, with one major quarry at Bray Valley;
 - ◆ igneous and metamorphic rock, although this has reduced significantly in recent years with the closure of Meldon Quarry (Dartmoor) and a decreased scale of extraction at Trusham Quarry;
 - ◆ sand and gravel, mainly from the Budleigh Salterton Pebble Beds in eastern Devon but also from smaller quarries in the Exeter and Newton Abbot areas;
 - ◆ marine sand and gravel dredged from the Bristol Channel and landed at Appledore in small quantities for the northern Devon market;
 - ◆ secondary aggregates from the processing of waste from china clay operations at Lee Moor and, to a lesser extent, from ball clay in the Bovey Basin and slate waste at Mill Hill Quarry; and
 - ◆ recycled aggregates from the processing of construction, demolition and excavation waste at a network of recycling facilities (including locations in Plymouth, Torbay and Dartmoor), some of which are located at operational quarries.
- 3.2 In recent years, quarries in Plymouth and Dartmoor have contributed around 45% of Greater Devon's crushed rock production, but none of its sand and gravel or secondary aggregates.
- 3.3 Other potential sources of aggregates that may be available in the future in the event of planned developments proceeding are:
- ◆ secondary aggregates from the processing of waste from tungsten and tin extraction at Hemerdon, near Plymouth, which is anticipated to commence extraction from late 2013; and
 - ◆ the recycling of incinerator bottom ash derived from waste incineration in Greater Devon.
- 3.4 Greater Devon currently has an extensive landbank of crushed rock aggregates that (using an average of the last ten years of production) amounts to 58 years. Approximately 35% of these crushed rock reserves are located outside of the Plan Area in Plymouth and Dartmoor, but these

quarries all have sufficient reserves to maintain supply at recent levels for at least ten years beyond the Minerals Plan timescale of 2031.

- 3.5 In contrast, the sand and gravel landbank (using the same time period) is 12.5 years, which will require the delivery of further resources within the Minerals Plan period¹⁰.
- 3.6 Within Greater Devon, only the Plan Area has existing or potential sand and gravel resources. Of the adjoining counties:
- ◆ Cornwall has one sand and gravel quarry with very limited reserves, and the county has little, if any, potential for delivering new primary sand and gravel resources (but does have substantial secondary aggregate resources from china clay waste believed to exceed 120 million tonnes);
 - ◆ Somerset has no operational sand and gravel quarries, but does have resources within the Budleigh Salterton Pebble Beds adjacent to the boundary with Devon¹¹; and
 - ◆ Dorset has substantial bedrock sand and gravel resources in the south east of the county, with smaller areas of river terrace gravels including within the Axe valley in the western part of the county.
- 3.7 The AM2009 aggregate survey provides some information on cross-boundary movements of aggregates, although the need for commercial confidentiality limits the release of more detailed data. Of the aggregates produced in Greater Devon in 2009, Figure 2 provides details of their destination.

Resource		Total	Greater Devon	Rest of South West Region	Outside South West Region
Sand and Gravel	Mt	0.48	0.43	0.05	Negligible
	%		89.8	10.0	0.2
Crushed Rock	Mt	1.73	1.49	0.19	0.05
	%		86.4	10.9	2.8
Secondary Aggregates	Mt	0.38	0.34	0.03	0.01
	%		88.3	8.4	3.3

Figure 2: Destinations of Greater Devon’s Primary and Secondary Aggregates in 2009 (Mt = million tonnes)

- 3.8 The AM2009 collation report¹² also identifies that Greater Devon ‘imported’ 93,000 tonnes of land-won sand and gravel and 426,000 tonnes of crushed rock in 2009, although no information is provided in that report on the sources of these materials.
- 3.9 Discussions with other MPAs and the minerals industry provide some further detail on cross-boundary flows of aggregates within the constraints of commercial confidentiality:
- ◆ the main destinations for the relatively small quantities of sand and gravel and crushed rock aggregates exported from Greater Devon are

¹⁰ For sand and gravel sub-regional apportionment purposes, Greater Devon is grouped with Cornwall and Somerset. These two counties have very limited reserves of sand and gravel which, if added to Devon’s reserves, would only extend the landbank to 13.0 years.

¹¹ Identified as a Preferred Area and Area of Search in the Somerset Minerals Local Plan.

¹² <http://www.communities.gov.uk/documents/planningandbuilding/pdf/1909597.pdf>

Somerset (mainly the south west of the county around Taunton) and, to a lesser extent, Cornwall;

- ◆ the main destinations for secondary aggregates from Greater Devon are Cornwall (most likely the eastern part of the county in the light of the availability of substantial secondary aggregate resources in the St Austell area) and Somerset;
- ◆ much of the sand and gravel imported into Greater Devon is likely to have originated in Dorset, which has an operational quarry located close to the eastern boundary of Devon in an area of the latter where there no operational quarries;
- ◆ the substantial quantity of crushed rock aggregates imported into Greater Devon is partly due to an absence of quarries producing the highest specification aggregates, with Cornish quarries close to the boundary with Devon being the main source, supplemented by imports from South Wales and Ireland; in addition, limestone from the Mendips is transported by rail to Exeter.

3.10 Adjoining counties provide marine-dredged sand and gravel through landings at Poole (Dorset) and Dunball, near Bridgwater (Somerset). The AM2009 collation report indicates that, while 94% of the 32,000 tonnes landed at Dunball was sold to destinations within Somerset, only 44% of the 78,000 tonnes landed at Poole stayed within Dorset, with 34% going elsewhere in the South West (although this is unlikely to include Devon) and 22% to destinations outside the region.

3.11 Further information on aggregate production and movements, including alternative sources, will be included within Devon's Local Aggregate Assessment, the first version of which will be published in Summer 2012, including data for 2011 sales and reserves.

Potential Cross-boundary Aggregates Issues for the Devon Minerals Plan

3.12 The information provided above indicates that flows of aggregate minerals out of Greater Devon are small and largely limited to supplying adjacent counties. However, the Plan Area relies on other parts of Greater Devon for substantial amounts of crushed rock, while significant volumes of crushed rock and, to a lesser extent, sand and gravel are imported from outside Devon.

3.13 Devon is relatively self-sufficient in aggregate resources in comparison with other counties, and this is consistent with the Minerals Plan's vision and its objective of minimal transportation of minerals by road. Where aggregate minerals are imported into Greater Devon, there appear to be two reasons:

- ◆ in some areas around the fringes of Greater Devon, aggregate quarries in adjacent counties are closer to local markets (e.g. Chard Junction Quarry in Dorset¹³ and Greystone, Pigsdon and Hingston Down Quarries in Cornwall); and

¹³ For which Dorset County Council have recently approved a 1.5 million tonnes extension.

- ◆ aggregates suitable for specific uses may not currently be available from operational quarries within Greater Devon (notably high-PSV sandstone).
- 3.14 With regard to the first of these points, the limited quantities of aggregates involved and the rural nature of the areas concerned limit the viability of attempting to address the issue by seeking to deliver new sources of aggregates from within the Plan Area. However, the more significant volumes of higher-specification crushed rock currently imported into Greater Devon do warrant attention, and the Minerals Plan will include a policy encouraging the development of new high-specification aggregate resources within the Framework Area.
- 3.15 As mentioned in 1.5, Greater Devon is grouped with Cornwall and Somerset for sand and gravel sub-regional apportionment purposes. It is assumed that, in the light of its geological characteristics and the availability of substantial alternative resources in the form of its china clay waste, Cornwall will not contribute any further primary sand and gravel.
- 3.16 However, Somerset has sand and gravel resources in the Whiteball area that are identified as a Preferred Area and an Area of Search within Somerset County Council's Minerals Local Plan. It is assumed that Somerset County Council will continue to identify these resources through its emerging Minerals Core Strategy and that they will be available for working following completion of extraction within the Town Farm (Devon) area of the Whiteball complex.

4. Ball Clay

4.1 Ball clays are fine-grained, plastic sedimentary clays that are an important material for the ceramics industry¹⁴. Within the UK, ball clays are only found in the Plan Area and Dorset in the following locations:

- ♦ the Bovey Basin near Newton Abbot in Devon, which provided around 50% of UK production in 2010;
- ♦ the Petrockstowe Basin in north-west Devon, which contributed 25% in 2010; and
- ♦ the Wareham Basin in Dorset, from which the remaining 25% of clays originated.

4.2 Ball clays exhibit wide variations in their composition and technical properties, not only between the different basins but within each basin and within individual pits. The Devon ball clays are derived from the Dartmoor granite, with the Bovey Basin clays including the whitest-firing clays, while Petrockstowe Basin clays include seams of high silica clay that are coarser than those in the other basins. Wareham Basin clays have high plasticity and unfired strength.

4.3 The ball clay industry relies on the availability of a wide range of different grades of ball clay to enable them to provide blended products to meet customers' requirements. It is therefore essential that operators have access to long term sources of these clays through the maintenance of a series of operational areas.

4.4 The UK ball clay industry comprises two operators:

- ♦ Sibelco UK Ltd are the larger operator in the Bovey Basin, and are also the only company working in the Petrockstowe Basin; and
- ♦ as well as working in the Bovey Basin, Imerys Minerals are the sole company operating in the Wareham Basin.

4.5 Estimates of reserves of ball clays within the three basins as at 2010 are shown in Figure 3.

Basin	Permitted Reserves (Mt)	Years	Unpermitted Reserves (Mt)	Years
Bovey	447	136	19	55
Petrockstowe	6	23	35	138
Wareham	1	4	6	24
Total	454	163	60	217

Figure 3: Estimated Reserves and Resources of UK Ball Clay, 2010 (source: BGS Ball Clay Mineral Planning Factsheet)

¹⁴ Much of the information in this section was obtained from the BGS Mineral Planning Factsheet for Ball Clay (June 2011) available at: <http://www.bgs.ac.uk/mineralsuk/planning/mineralPlanningFactsheets.html>

- 4.6 While reserves in the Bovey Basin appear to be considerable, certain high quality clays are in limited supply and the delivery of further sources of these is an issue for the 2031 timescale of Devon County Council's Minerals Plan. In Dorset, remaining reserves are at a low level and options for future resources are constrained by environmental designations.
- 4.7 Annual production of ball clay in the UK in recent years has been just over one million tonnes, but dropped to 727,000 tonnes in 2009 before rising again to one million tonnes in 2010. The main UK market is Staffordshire, with materials being transported by road. Clays destined for European markets are taken to the ports of Teignmouth, Bideford and Plymouth (from the Bovey and Petrockstowe Basins) and Poole (Wareham Basin), while materials for non-European destinations are transported in larger containers, mainly via Southampton but also using other ports in the south of England.
- 4.8 Small quantities of clay are transported by Imerys between their Bovey Basin and Dorset operations by road.

Potential Cross-boundary Ball Clay Issues for the Devon Minerals Plan

- 4.9 The key cross-boundary issue affecting ball clay supply from Devon is the continued availability of clays from Dorset and the potential increased pressure on the Framework Area if Dorset's supply were to be constrained.
- 4.10 Dorset County Council's Revised Draft Minerals Core Strategy identifies the key issue for ball clay in the county as being "the maintenance of a continued supply of a range of clays in an area of high landscape and ecological importance". It is anticipated that future annual production of ball clay in Dorset will be around 250,000 tonnes per annum (tpa), and the Strategy seeks to maintain this level of supply through the identification of sites (in the subsequent Site Allocations DPD) in two areas of search, together with potential for small scale extraction elsewhere.
- 4.11 While Dorset County Council has undertaken a landscape and ecological assessment that informed identification of the areas of search, it is not clear whether sufficient sites can be delivered through the Minerals Site Allocation Document to enable production to continue at 250,000 tpa for the plan period (i.e. to 2028). If this level of supply is not able to be maintained during and beyond that period, additional pressure is likely to be placed on ball clay resources within the Plan Area.

5. China Clay

- 5.1 China clay is derived from the *in situ* alteration of the feldspar element of granite through hydrothermal action and surface weathering to form kaolinite and mica¹⁵. The main uses are for paper, ceramics and other speciality uses.
- 5.2 Within the UK, china clay resources are limited to the granite intrusions of Devon and Cornwall, with current working confined to two areas:
- ♦ the St Austell (Hensbarrow) area of Cornwall; and
 - ♦ the south western edge of the Dartmoor granite in Devon around Lee Moor, where current working is limited to the Plan Area but with the planning permissions including inactive areas within Dartmoor National Park and an inactive processing plant within Plymouth (connected to Lee Moor by pipeline).
- 5.3 Cornwall provides the major part of UK china clay production, contributing 88% of output in 2008, with the remaining 12% coming from Lee Moor. With increasing competition from overseas, including Brazil and China, UK production of china clay has been declining in recent years from a peak of 2.78 million dry tonnes in 1988 to 1.06 million dry tonnes in 2009.
- 5.4 Most UK china clay is exported (88% in 2009), with Europe being the largest market. The bulk of production (77%) is exported by sea through the ports of Fowey and Plymouth, with lesser amounts going by rail (13%) and road (10%).
- 5.5 The UK china clay industry comprises three operators:
- ♦ Imerys Minerals, who are the major producer in Cornwall but have ceased extraction at Lee Moor (they are supplied with clay by Sibelco, and retain kilns at Lee Moor);
 - ♦ Sibelco UK Ltd, who only operate within Devon; and
 - ♦ Goonvean Ltd in Cornwall.
- 5.6 China clay from Lee Moor has lower iron and potash contents than in Cornwall, with a larger proportion of sales for ceramics and speciality uses, together with a significant output of calcined kaolin for enhanced brightness.
- 5.7 While a figure for total permitted reserves of china clay is unavailable for commercial confidentiality reasons, sufficient proven resources exist in Devon and Cornwall to maintain current rates of production, using existing technology, for at least 50 years (i.e. beyond the expiry of the current planning permissions in 2042).

¹⁵ Much of the information in this section was obtained from the BGS Mineral Planning Factsheet for Kaolin (September 2009) available at:
<http://www.bgs.ac.uk/mineralsuk/planning/mineralPlanningFactsheets.html>

Potential Cross-boundary China Clay Issues for the Devon Minerals Plan

- 5.8 There are not considered to be any significant cross-boundary issues for china clay, given the extent of permitted reserves in Devon and Cornwall. However, it should be noted that some china clay originating in Cornwall is exported from wharves in Plymouth, while the informal commitment to relinquishing working and tipping rights within Dartmoor National Park requires formalising.

6. Metalliferous Minerals

- 6.1 The Plan Area and Dartmoor National Park, together with Cornwall, were major centres of metalliferous mining in the past, but production in the two counties ceased in 1998 with the closure of South Crofty at Camborne in 1998. While the reopening of South Crofty remains a prospect, proposals are also being pursued to recommence the extraction of tungsten and tin at Hemerdon in Devon.
- 6.2 The site at Hemerdon lies within the Plan Area close to its boundaries with Plymouth and Dartmoor National Park, and has the benefit of an existing planning permission granted in 1986 that extends to 2021. However, it is anticipated that the operator will be unable to fully implement the permission within that timescale, and an application seeking a longer period would therefore be required.
- 6.3 The tungsten deposit at Hemerdon is understood to be the fourth largest in the world and the largest in Europe, and the EU has included tungsten as one of its 14 ‘critical raw materials’¹⁶.
- 6.4 Extraction of the minerals will be through open-cast methods that will generate a substantial volume of waste materials that will be deposited on Crownhill Down. Transportation of these waste materials, either directly from the pit or from the processing plant to tip, will be undertaken on internal haul roads.
- 6.5 It is anticipated that the partly-processed materials will be transported from the site by road for export by sea from Plymouth to a plant elsewhere in Europe. The planning permission allows for the processing of the waste materials for use as secondary aggregates, with a limitation on the number of associated lorry movements and tonnages of materials, together with a requirement for the prior completion of a new link road (a small part of which lies within Plymouth).
- 6.6 Other than Hemerdon, no planning permissions for the working of metalliferous minerals exist in Greater Devon, and it is not anticipated that further working will become economically viable within the Minerals Plan timescale of 2031.

Potential Cross-boundary Metalliferous Mineral Issues for the Devon Minerals Plan

- 6.7 Potential working of metalliferous minerals in Devon and Cornwall are not linked and will largely serve national and international markets. It is therefore considered that there are no significant cross-boundary issues, although policy development concerning future working within the Cornwall and West Devon Mining Landscape World Heritage Site has cross-boundary implications.

¹⁶ http://ec.europa.eu/enterprise/policies/raw-materials/critical/index_en.htm

7. Building Stone

- 7.1 Devon's very diverse geology has, in the past, yielded a wide range of building stones that have contributed to the locally-distinctive character of its settlements, individual buildings and landscape. These stones range from those used over large parts of the county and, in some cases, outside it, such as Beer stone and granite, to stones of lesser quality that were only quarried for local use.
- 7.2 Devon County Council has undertaken a Strategic Stone Study on behalf of and funded by English Heritage for Greater Devon¹⁷, the purpose of which is to identify key building stones and former workings to assist in the potential safeguarding and use of these resources. Seventy-six different building stones have been identified, and the study will assist in identifying those of strategic value as the key building stones in the County.
- 7.3 Only small quantities of building stone are currently produced in Greater Devon, with the quarries mainly working the sandstones of northern Devon; granite, metamorphic rocks and slate within and around the fringes of Dartmoor; and some limestones in south Devon. Large parts of southern and eastern Devon have no operational building stone quarries, sometimes leading to the use of inappropriate stones from elsewhere.
- 7.4 In contrast with other counties such as Dorset, the building stones currently quarried in Devon are largely for local markets. Small-scale movements of building stone take place between the Devon MPA areas, and between Greater Devon and adjacent areas

Potential Cross-boundary Building Stone Issues for the Devon Minerals Plan

- 7.5 Building stones from current and former quarries within neighbouring Devon MPAs have been used within the Plan Area, and stones have also travelled in the reverse direction. The future maintenance of historic buildings and the character of settlements within Greater Devon may therefore require continued or new supply of stones from sources within the different MPA areas. This can be achieved through the allocation or safeguarding of sites that are capable of providing the key building stones, informed by the Strategic Stone Study.

¹⁷ The outcomes of the Strategic Stone Study will be published at http://www.bgs.ac.uk/mineralsuk/mines/stones/EH_atlases.html

8. Brick Clay

- 8.1 Brick clay has been worked in a number of locations in Greater Devon for the local manufacture of bricks, but this industry has declined in recent years. Two sites still have planning permission for brick clay extraction in the Plan Area, each of which has been associated with an adjacent brickworks. Of these, the brickworks at Pinhoe in Exeter has permanently closed, and the owner of the related quarry is seeking alternative uses for the site. At Steer Point near Brixton, the brickworks is being dismantled and clay extraction has ceased; however, no alternative uses are being proposed, and there remains the potential for reopening of this site at some time in the future with the use of mobile kilns.
- 8.2 It would not be economic for brick clay from either of these two quarries to be transported to a brickworks elsewhere, the nearest facilities being at Bristol and near Swanage in Dorset.

Potential Cross-boundary Brick Clay Issues for the Devon Minerals Plan

- 8.3 As identified above, it would not be viable for brick clay to be transported from Devon elsewhere, and it is therefore considered that there are no cross-boundary issues.

9. Safeguarding Mineral Resources and Infrastructure

- 9.1 Devon County Council’s emerging approach to the safeguarding of mineral resources and infrastructure through its Minerals Plan is to safeguard the following (subject to detailed definition to exclude, for example, existing settlements):
- ◆ the full extent of the mineral resources of national importance (i.e. ball clay, china clay and tungsten), including tipping capacity and processing plant;
 - ◆ key aggregate resources (Budleigh Salterton Pebble Beds, certain limestone formations, and Aller Gravels and Upper Greensand in the Newton Abbot area);
 - ◆ former sources of the key building stones (to be identified through the Strategic Stone Study and additional work);
 - ◆ existing quarries with planning permission outside of the above areas; and
 - ◆ existing and potential facilities for the movement of minerals by rail or water.
- 9.2 In a number of cases, these areas will abut the Plan Area’s boundaries with adjoining MPAs:
- ◆ the ball clay resource in the Bovey Basin extends across the boundary with Dartmoor National Park, and Devon County Council’s Mineral Safeguarding Area [MSA] will therefore abut the National Park boundary;
 - ◆ the china clay planning permissions extend into Dartmoor National Park¹⁸, while the associated pipeline crosses from the Plan Area into Plymouth, and the china clay MSA will therefore adjoin the boundaries with those MPAs;
 - ◆ the limestone resources to be safeguarded within the Plan Area extend into Dartmoor National Park and Torbay, and Devon County Council’s limestone MSAs are therefore likely to adjoin its boundaries;
 - ◆ the Budleigh Salterton Pebble Beds extend into Somerset in the Whiteball area, and Devon County Council’s MSA will therefore abut the intervening boundary; and

¹⁸ However, it is anticipated that provision will be made for the relinquishment of those parts of the planning permissions lying within Dartmoor National Park.

- ◆ existing quarry MCAs also adjoin boundaries at Trusham Quarry and Whitecleaves Quarry (Dartmoor National Park) and Sherford (Plymouth)¹⁹.
- 9.3 Within adopted minerals plans of adjoining MPAs, there are cases where existing MSAs or Mineral Consultation Areas [MCAs] adjoin the Plan Area:
- ◆ the MSA for Hazeldene Quarry within Plymouth²⁰;
 - ◆ the MCAs for Linhay Hill Quarry and Lee Moor in Dartmoor National Park (the latter being contiguous with the MCA in the Plan Area);
 - ◆ the sand and gravel preferred area and area of search MCA at Whiteball in Somerset; and
 - ◆ MCAs in Cornwall for Greystone and Pigsdon Quarries.
- 9.4 Dorset County Council published a Revised Draft Minerals Core Strategy in July 2011, with provision made for the safeguarding of a range of mineral resources. These include areas of Upper Greensand that abut the boundary with Devon that, within Dorset, have been included by the British Geological Survey [BGS] in the Mineral Resource Map for that county. However, the BGS omitted Upper Greensand from Devon's Mineral Resource Map on the basis that it is "unlikely to be of economic interest because of its fine-grained nature".
- 9.5 There are four instances of adjoining MPA areas including infrastructure for the current or potential transportation of minerals originating within the Plan Area:
- ◆ china clay from Lee Moor and Cornwall, and some ball clay from the Bovey Basin, are shipped from wharves in Plymouth, together with aggregates from quarries in Plymouth and Cornwall, and the port is also likely to handle tungsten and tin (and potentially secondary aggregates) from Hemerdon;
 - ◆ part of the pipeline carrying china clay from Lee Moor to the processing plant at Coypool in Plymouth is within the city's boundary;
 - ◆ while the railhead at the recently closed Meldon Quarry in Dartmoor National Park has only been used for the movement of aggregates from that quarry, the National Park Authority has varied the planning permission for the quarry to allow minerals to be brought by road from elsewhere (potentially including secondary aggregates from Lee Moor) for onward transportation by rail; and

¹⁹ The mineral planning permission at Sherford has expired since publication of the Minerals Local Plan, and the site forms part of the proposed new community that is allocated in South Hams District Council's Sherford Area Action Plan; it is therefore unlikely that this former quarry will continue to be safeguarded.

²⁰ The MSA for Hazeldene Quarry identified in the North Plymstock AAP adjoins the boundary with the Framework Area, with the adjacent part of the latter being within the site of the proposed Sherford new community. The Sherford AAP prepared by South Hams District Council identifies a 'mineral buffer zone' adjacent to the MSA and allocates the land within it for sport and recreation. It is therefore considered that the Minerals Core Strategy does not need to make any further provision for safeguarding the Hazeldene resource.

- ◆ the main rail line through Greater Devon carries china clay and aggregates from Cornwall to markets in the South East.

Potential Cross-boundary Safeguarding Issues for the Devon Minerals Plan

- 9.6 There are four key cross-boundary issues related to the safeguarding of mineral resources and infrastructure:
- ◆ the potential desirability for adjacent MPAs to include provision within their minerals plans for the safeguarding of mineral resources within the Plan Area that adjoin their boundary;
 - ◆ similarly, the potential desirability for Devon County Council's Minerals Plan to make provision for the safeguarding of mineral resources within the areas of adjoining MPAs that abut the intervening boundary;
 - ◆ the need to ensure that transportation infrastructure within other MPA areas that is used for the movement of minerals originating within the Plan Area (and which supports the vision and objectives of the Minerals Plan) is safeguarded, together with infrastructure within the Plan Area that supports the movement of minerals originating within adjoining MPA areas; and
 - ◆ as highlighted in 7.5, the need for the Greater Devon MPAs to safeguard potential sources of key building stones that may be required for the maintenance of historic buildings or local distinctiveness within the Plan Area and other parts of Devon.

10. Cross-boundary Environmental Issues

- 10.1 In addition to the cross-boundary minerals issues outlined in preceding chapters, consideration will also need to be given to the manner in which the Devon Minerals Plan addresses designated areas of national or international significance that cross or abut the Plan Area's boundaries.
- 10.2 The Plan Area wholly surrounds **Dartmoor National Park** and adjoins a large part of the southern boundary of **Exmoor National Park**. While planning policy within the National Parks is the responsibility of the relevant national Park Authority, Devon County Council has a role in ensuring that minerals development within the Plan Area does not impact on the special qualities of the National Parks.
- 10.3 Policy CO2 of the Devon Structure Plan 2001 to 2016 provides a general requirement to ensure that development outside the National Parks does not damage their special qualities or otherwise prejudice the achievement of National Park purposes, but this will shortly lapse under the provisions of the Localism Act. The saved Policy MP2 of the Devon County Minerals Local Plan also highlights the need to avoid harming National Parks.
- 10.4 The **Dorset and East Devon World Heritage Site**, designated for its geological value, lies partly within the Plan Area. While the designated area is effectively limited to the foreshore and cliffs, there is a need to ensure that its setting is not adversely affected. Since much of East Devon adjoining the World Heritage Site lies with an Area of Outstanding Natural Beauty [AONB], there will already be a strong presumption against major mineral development.
- 10.5 The **Cornwall and West Devon Mining Landscape World Heritage Site** includes land in Devon between Tavistock and the River Tamar that has a rich heritage arising from metalliferous mining. This area lies within the **Tamar Valley AONB** that also straddles the boundary between Devon and Cornwall. While major new minerals development is unlikely in these parts of the Plan Area, an approach to their special qualities and setting that is consistent with Cornwall Council's emerging plan is desirable.
- 10.6 Planning for **green infrastructure** inevitably requires cross-boundary cooperation as natural areas such as river catchments invariably do not follow administrative boundaries. An example of such work is the Plymouth Green Infrastructure Delivery Plan²¹, which includes a project covering the Lee Moor and Hemerdon mineral areas within the Plan Area.

Potential Cross-boundary Environmental Issues for the Devon Minerals Plan

- 10.7 The Minerals Plan should ensure that any policies and proposals relevant to cross-boundary environmental designations and initiatives such as green infrastructure are coordinated with similar provisions by adjoining MPAs.

²¹ <http://www.plymouth.gov.uk/greeninfrastructureproject>

11. Collation of Cross-boundary Issues

11.1 To assist with clarity, the issues highlighted in the previous sections are presented below by individual MPA. In addition, coordination of approaches to protecting environmental assets such as National Parks and World Heritage Sites should be pursued with relevant MPAs.

Plymouth

- ◆ the safeguarding of the Coypool china clay works and the pipeline between that site and Lee Moor;
- ◆ the safeguarding of the wharves within Plymouth used for the outward transportation of minerals originating within the Plan Area and Cornwall and for the importation of minerals for markets within that Area; and
- ◆ the safeguarding of potential sources of key building stones within the Plan Area that have been used within Plymouth.

Torbay

- ◆ the safeguarding of the limestone resource on either side of the boundary and its relationship with other planned development; and
- ◆ the safeguarding of potential sources of key building stones within Torbay that may be required for the maintenance of historic buildings or local distinctiveness within the Plan Area, together with sources of stones in the Plan Area that have been used within Torbay.

Dartmoor National Park

- ◆ the safeguarding by Dartmoor National Park Authority of mineral resources and existing quarries within the Plan Area that abut the National Park boundary (i.e. ball clay in the Bovey Basin, china clay at Lee Moor, limestone, Trusham Quarry and Whitecleaves Quarry);
- ◆ the safeguarding by Devon County Council of mineral resources and existing quarries within the National Park that abut the Plan Area's boundary (i.e. Linhay Hill Quarry and Lee Moor);
- ◆ formalisation of the relinquishment of permissions for china clay extraction and tipping within that part of the Lee Moor operations within the National Park;
- ◆ the safeguarding of the railhead at Meldon Quarry for the potential transportation of minerals from within the Plan Area; and
- ◆ the safeguarding of potential sources of key building stones within Dartmoor National Park that may be required for the maintenance of historic buildings or local distinctiveness within the Plan Area, together with sources of stones in the Plan Area that have been used within the National Park.

Exmoor National Park

- ◆ the safeguarding of potential sources of key building stones within the Plan Area that have been used within the National Park..

Cornwall

- ◆ the continued availability of high-specification sandstone aggregates from North Cornwall;
- ◆ the scope for Cornwall to contribute to sub-regional sand and gravel supply, especially from its secondary aggregate resources; and
- ◆ the safeguarding by Devon County Council of mineral resources and existing quarries within Cornwall that abut the Plan Area's boundary (including Greystone and Pigsdon Quarries).

Dorset

- ◆ the potential for the current supply of sand and gravel from Dorset to East Devon to be maintained for the MCS period to 2031;
- ◆ the feasibility for adequate sites being allocated to enable the supply of ball clay from Dorset to be maintained at recent levels; and
- ◆ the safeguarding of resources within Dorset that abut the Plan Area.

Somerset

- ◆ the scope for Somerset to contribute to sub-regional sand and gravel supply; and
- ◆ the safeguarding of existing quarries/processing plant and resources within the Budleigh Salterton Pebble Beds within and abutting the Plan Area.