



Black Country Authorities
Black Country Joint Core Strategy
Minerals Study 2008
Final Report

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1 Executive Summary

1.1 Background

- 1.1.1 The Black Country Authorities of Dudley, Sandwell, Walsall and Wolverhampton, are working in partnership to prepare a Joint Core Strategy that will form a key part of the Local Development Framework (LDF) for each authority. The Joint Core Strategy Preferred Options Paper (Regulation 26) is programmed to be published for consultation February 2008.
- 1.1.2 The Joint Core Strategy – Issues and Options Document (Regulation 25) was published for consultation in June 2007. A Minerals Background Paper was published in support of this document. Scott Wilson Consultant's were also commissioned to carry out a study to establish mineral reserves within existing quarries and mineral safeguarding areas.
- 1.1.3 The Authorities identified that further technical advice was required to review evidence already gathered in respect to mineral planning within the sub region, in order to identify potential gaps in evidence which may be necessary to inform the development of appropriate Core Strategy Preferred Option Policies.
- 1.1.4 RPS was instructed to carry out a Minerals Study which reviewed the evidence already gathered, confirm whether there were gaps in evidence and provide advice on how these gaps could potentially be addressed.
- 1.1.5 The key gap in evidence identified by the Sub Region Authorities related to the potential of mineral resources and an approach to safeguarding minerals that are considered to be of national, regional and local importance, and which may have economic potential.

1.2 Study Methodology & Approach

- 1.2.1 RPS carried out a review of evidence gathered prior and during the Joint Core Strategy Issues and Options stage. The evidence gathered by the Black Country Authorities was reviewed against a framework of relevant national, regional and local guidance. Appendix A provides Scoping and Review Table, providing a transparent point of reference to ensure that all relevant issues were reviewed and explored.

- 1.2.2 The strategic level study was carried out on a desk top basis informed by the best available information.
- 1.2.3 Within the time and other constraints of the Study, RPS endeavoured to address the “gaps” in evidence identified. The key gap in evidence, confirmed by RPS, is an approach to safeguarding minerals which may be of economic potential. The method and recommendations for addressing this issue is summarised in Chapter 4 of this Report.
- 1.2.4 Chapter 3 provides a summary of mineral planning issues considered, based on national guidance and evidence collected at a local level, relevant to spatial planning in the Black Country. The purpose of this section is to help inform potential options for inclusion in the emerging Core Strategy Preferred Options Document as well providing adequate information to consultees, allowing informed consultation responses.

1.3 Review of Evidence & Summary of Findings

- 1.3.1 Minerals are an essential resource for future development and urban renaissance in the Black Country. The Black Country cultural and industrial heritage has been in no small part influenced by the underlying geology of the area.
- 1.3.2 The sub-region has a relatively small number of operational mineral sites with permitted reserves. As the area is predominantly urban and densely developed, potentially valuable mineral resources have been sterilised.
- 1.3.3 The following summarises the reviewed evidence in relation to the national planning objectives, focusing on key issues relevant to the study area, taking account of the evidence already available which could help shape Mineral Preferred Options.

Supply and Safeguarding Minerals

- 1.3.4 The Black Country mineral resources considered of value and requiring safeguarding are sand and gravel for provision of aggregates to continue to contribute to the regional apportionment, brick clay (Etruria Marl) and

potentially coal with associated fireclay resources, Limestone, Dolerite, small scale building stone.

- 1.3.5 National guidance for defining Mineral Safeguarding Areas (MSAs) has been revised and the existing Black Country MSAs should be reviewed in this new national planning guidance context.
- 1.3.6 It should be noted that mineral resources within an MSA are not provided with a higher degree of certainty of future extraction. It is the key purpose of the MSA to provide an opportunity to consider the importance of protecting valuable mineral resources, prior to development which could potentially sterilise the resource.

Aggregate Supply

- 1.3.7 National policy guidance (MPS1, Annex 1) recommends mineral planning authorities should adopt a minimum 7 year landbank as an indicator of the adequacy of sand and gravel supplies. The rate of supply that is used to calculate the landbank requirement is the sub-regional apportionment. Current sub-regional aggregates apportionments are set out in the Regional Spatial Strategy for the West Midlands (WMRSS), which was published in June 2004. The Black Country is expected to contribute towards the apportionments for the West Midlands Metropolitan County area, of which it forms part. The current requirement (in WMRSS Policy M2) is for the West Midlands Metropolitan County area to provide 0.506 million tonnes of sands and gravels per annum between now and 2016.
- 1.3.8 The existing aggregates apportionments are now under review as part of the RSS Phase 3 Revision, but as this is at an early stage, it is not clear how they might change. It is therefore recommended that for the purposes of the Black Country Core Strategy, the existing West Midlands Metropolitan County sand and gravel apportionment should be rolled-forward beyond 2016 and regarded as the “benchmark” requirement, until such time as new apportionments are established through the RSS Phase 3 Revision.
- 1.3.9 The latest survey by the West Midlands Regional Aggregates Working Party indicates that at the end of 2005, the West Midlands Metropolitan area had

permitted reserves of around 2 million tonnes and a landbank of around 4 years. This means the West Midlands Metropolitan County area does not currently have a 7 year landbank of permitted reserves as required by national policy guidance (MPS1, Annex 1).

- 1.3.10 The only Metropolitan authorities that contribute towards the sand and gravel supply at the present time are Solihull and Walsall. The Black Country's current "share" of the sub-regional sand and gravel apportionment is estimated to be around 10%. This is based on the premise that Solihull provides around 91% of the total West Midlands Metropolitan area requirement, which is assumed in the adopted Solihull UDP. On that basis, the Solihull UDP has made provision for a 7-year landbank covering the period up to and beyond the end date of the plan, which is 2011. The Walsall UDP identifies the MSAs defined around existing quarries as the main source of supply within Walsall and states that these are considered to contain sufficient resources to enable Walsall to make a satisfactory contribution towards the sub-regional apportionment.
- 1.3.11 Like the Black Country Authorities, Solihull MBC is in the process of replacing its UDP with new LDF policies, and will be gathering more up-to-date evidence to inform policy options for future supply of sand and gravel in Solihull. It is possible that this evidence will show a 91% contribution is not appropriate or may not be sustainable in the longer-term.
- 1.3.12 The latest estimate of permitted sand and gravel reserves in the Black Country comes from the Scott Wilson survey (March 2007), which involved a survey of permitted reserves within existing quarries in the Black Country. This included an estimate of permitted reserves within active sand and gravel quarries in Walsall Borough, indicating that at March 2007, permitted sand and gravel reserves in Black Country stood at around 150,000 tonnes. This suggests the Black Country's contribution towards the West Midlands Metropolitan County area requirement currently falls short of what might reasonably be expected if a 10% share is assumed.

- 1.3.13 Discussions with local mineral operators in the context of the Black Country Core Strategy indicate that there are likely to be significant unexploited sand and gravel resources within the Aldridge and Stonnall areas of Walsall. The evidence available suggests that the current sub-regional apportionment to the West Midlands Metropolitan County is reasonable, and that the Black Country could continue to provide sands and gravels up to and possibly beyond 2026, at rates of around 10% of the total requirement (i.e. around 50,000 tonnes per annum).
- 1.3.14 However, even if it is assumed the Black Country should contribute around 10% of the total West Midlands Metropolitan County area requirement, current permitted reserves within the Black Country do not equate to a 7-year landbank up to and beyond 2026. National policy guidance requires the sub-regional apportionment to be provided for in local development documents, if necessary, through identifying specific sites, preferred areas and/ or areas of search (MPS1, Annex 1, 3.6 – 3.7). It is therefore recommended that the Core Strategy should identify preferred areas and/ or areas of search for sand and gravel working (taking into account environmental considerations), which can address the current shortfalls in supply as well as any potential increases in the requirement that might arise from the RSS Phase 3 Revision.”.

Brick Clay

- 1.3.15 There has been a long tradition within the Black Country of brick making for use within the area and to export to other regions. There is still a significant presence with six operational brick and tiles works in the sub region. The Black Country also has six active mineral workings where Etruria Marl is extracted.
- 1.3.16 Brick clay is considered an important scarce national resource. Etruria Marl is a high quality clay which is considered to be ideal brick clay, it is often used as a blend with other lower quality clays. Outcrops are restricted, much of which has been sterilised by development.
- 1.3.17 Brick clay extraction reflects the location of the brick manufacturing industry which has been consolidated to a few large companies. The West Midlands is one of the largest brick making regions.

- 1.3.18 Recently revised national guidance requires authorities where such mineral resources occur to ensure a stock of permitted reserves for a period of 25 years, to make provision to support individual brickworks. In the absence of a sub-regional apportionment for Brick Clay provision, the 25 year stock of supplies should be based on local production levels at individual plants.
- 1.3.19 There is no published information available for the Black Country on current levels of brick production. Around 613 million bricks were produced in the West Midlands Region in 2005 (Minerals Year Book 2006).
- 1.3.20 The Scott Wilson survey suggested that within Walsall, and grossed across all operators, there is a stock of permitted reserves to allow at least 25 years of production. Across Dudley, the assessment of the extent of permitted reserves is more problematic, as clay is used within the site where it is extracted and exported to other processing facilities.
- 1.3.21 However, concern has been expressed by the British Ceramics Confederation, reflecting national guidance as set out in MPS1, that provision should be made to support existing and proposed manufacturing plants, normally sufficient for 25 years of supply. National Guidance indicates that separate provision may be needed for particularly scarce clays such as Etruria Marl.
- 1.3.22 At the Issues and Options stage, the British Ceramic Confederation commented that the 25-year supply requirement should be met on a site specific basis, rather than grossed across all operators in each authority area. They advised that the most practical approach towards establishing the requirements was through direct liaison with the companies involved. The authorities followed this up by contacting local brick manufacturers and quarry operators, seeking their advice on the supply situation at each works. These discussions established that:
- There are currently 6 brick/ tile works supplied with Etruria Marl from sources within the Black Country;
 - Only 1 out of the 6 works has a 25 year supply of Etruria Marl;
 - 3 out of the 6 works have less than 15 years' supply of Etruria Marl and 2 clay pits are nearing the end of their operational life; and

- Some Black Country brickworks also use fireclay to make bricks but this is almost all imported and the only local sources of supply are stockpiles.

1.3.23 There is adequate evidence to suggest that an appropriate strategy with the following objectives should be a preferred option within the Core Strategy:

- Where possible (taking account of availability of resources, feasibility of extraction and environmental/other constraints), it should plan to maintain a stockpile of permitted reserves which allow for 25 years production of each brick making plant within the Black Country;
- Safeguarding brick clay (particularly focusing in the Etruria Marl Formation) from non-mineral development;
- Seek to remove the resource prior to permanent development and consider the location of suitable areas to stockpile material which is well related to where the material will be processed;
- Consider the allocation of areas of search or preferred areas for future clay extraction; and
- Establish the linkages between the spatial strategy for brick clay and plan growth and regeneration in the Black Country.

Coal and Fireclay

1.3.24 There are extensive coal seams underlying the Sub Region, much of which has been sterilised by previous development. There are no operational sites within the Black Country. However, there are permitted reserves at Brownhills Common within Walsall Borough which are covered by a “dormant” permission dating back to the 1950s. In addition, at the Issues and Options stage of the Core Strategy, a proposal was put forward to identify land at Big House Farm/ Wyrley Common (part of a larger site known as “Yorks Bridge”) as a potential site for opencast coal and fireclay working. The “Yorks Bridge” proposal lies mostly within the administrative boundary of Cannock Chase District in Staffordshire but also extends into Walsall Borough.

- 1.3.25 It is assumed that extensive exploitation of the coal seams is limited within the study area because the area is densely populated and urban in character. Opencast coal extraction can give rise to significant environmental and amenity impacts which is acknowledged in national guidance.
- 1.3.26 New technologies are emerging which may eventually allow the exploitation of very large deep coal resources including coal methane from virgin coal seams and underground coal gasification.
- 1.3.27 Industry evidence suggests that there may be scope for exploitation of the coal resource and that it would be appropriate to safeguard such resources. The inter-relationship of coal extraction and supply of fireclay is also a specific issue within the Black Country.
- 1.3.28 The Coal Authority has commissioned the BGS to assess the potential of coal resources within the Country. This report is due to be published at the end of January 2008. The findings of this survey may provide further guidance to inform strategic options for Coal in the Black Country.

Natural Stone

- 1.3.29 Hard rock mineral resources can be crushed for aggregate purposes or utilised for building stone and architectural products. The last remaining limestone aggregate quarry in the Black Country ceased operation in 2007. There is no contribution to the Regional Apportionment for aggregate provision apportioned to the West Midlands County (which includes the Black Country) for crushed rock.
- 1.3.30 Although much of the limestone resources have been sterilised by urban development in the study area the review of geological data suggests that there are resources which could be exploited. The supply natural stone and other products may be strategically important, supporting the local distinctive of the Black Country, conserving existing buildings of historic interest but also supporting the enhancement of the built environment when planning for future growth.

Other Planning Consideration

1.3.31 No additional significant gaps in evidence for the purposes of informing Preferred Option were identified. However the Study highlighted a number of mineral planning issues which should be considered in the emerging Core Strategy or addressed in other sites specific, area action plans or development control DPDs.

Prudent Use of Minerals

1.3.32 A key sustainable planning objective is to exploit alternatives to primary won minerals. This can result in a number of beneficial outcomes including:

- Creating a resource from materials previously considered waste; and
- Assisting the protection of finite resources.

1.3.33 The most common supply of alternative material is construction and demolition waste, which may be crushed and processed and used as a recycled aggregate. Bottom or fly ash resulting from thermal processes/energy recovery facilities can also be used as an aggregate.

1.3.34 Secondary and waste minerals, such as colliery spoil which is generated from historic coal extraction, can be used as a substitute for primary minerals. However old colliery spoil tips often now form a part of the landscape and are unlikely to significantly contribute as an alternative to primary minerals.

1.3.35 There are five sites producing secondary/recycled aggregates in the Black Country on a permanent or semi-permanent basis (excluding “mobile” plant operating on a short-term basis on demolition sites).

1.3.36 To support the sustainable trend for the recovery of materials to use as aggregates, existing sites need to be safeguarded and additional sites should be allocated to form part of the integrated network of waste management facilities within the Black Country.

Prudent use of resources and waste minimisation in non-mineral development

1.3.37 Provision of new housing and employment development and area and town centre regeneration will require mineral resources. Minimising the need for primary minerals requirements for new development can be achieved

through prudent use of construction materials and using construction and demolition waste which arise within development/redevelopment sites.

- 1.3.38 It must be a requirement when planning for proposed development, to minimise waste materials through all stages of development: design, construction and eventual use, which may be achieved through the requirement of waste management plans for individual proposals. Regulations will come into force in April 2008, which will require all developments over a build cost of £300,000 to be supported by a Site Waste Management Plan (SWMP), setting out details of the amounts of waste generated as part of the development process and how it will be managed. .

Minimising Waste in Mineral Development

- 1.3.39 Mineral operators have a role to play in the prudent use of mineral resources. Minimising waste through efficient working practices should be a key requirement for any future mineral development in the Black Country, ensuring that as much materials (quantity and type of mineral) is utilised when extracted and prior to restoration.

Safeguarding and Enhancing the Environment and Protecting Local Communities

- 1.3.40 The overall vision for the Core Strategy is re-positioning the Black Country as an “urban park” assisted by regeneration and future development and ensuring the protection and enhancement of the environment.
- 1.3.41 Mineral development can have an adverse impact on the environment and local communities. However, when carefully planned, mineral development can contribute to environmental enhancement through successful restoration and after uses and through the provision of minerals which will help assist the urban renaissance objectives of this Core Strategy.
- 1.3.42 In summary other spatial planning issues need to be considered in the context of Black Country mineral planning include:
- Protecting Sites of Importance for Nature Conservation
 - Assisting with the Objectives of Black Country Urban Park
 - Minimising Impact on Local Communities
 - Supporting the Industrial and Cultural Heritage and Local Distinctiveness

- Supporting climate change, air quality and sustainable transportation strategies
- Scope for Borrow Pits to support infrastructure projects
- Green Belt and Mineral Development
- Minerals Development and The Water Environment

1.4 Recommendations

1.4.1 The Study recommends options which should be considered for inclusion in the Black Country Joint Core Strategy Preferred Options Document:

- Options for Safeguarding Minerals;
- Options for supply of aggregate;
- Options for supply of other minerals;
- Options for sustainable mineral working; and
- Addressing Spatial Planning Issues – linkages to economy and environment, regenerations, growth, health, transport, climate change, and waste planning issues.
- A joined-up approach with adjacent authorities on mineral planning matters is recommended to ensure that Black Country spatial planning objectives are fully realised.

1.4.2 This Study identifies proposed MSAs for the Black Country based on best practice as stated by the BGS, best available geological information and supplemented by evidence gathered in consultation with the minerals industry.

1.4.3 It is recommended that further consultation is conducted with industry and other stakeholders involved in the development plan process to achieve the following objectives:

- To confirm that the appropriate resource types are included within MSAs, for example is it appropriate to extend MSAs to cover the coal strata and associated fireclay;
- To further refine the MSAs which have been proposed; and

- To consider how the proposed MSAs may be incorporated within the emerging development plan documents to inform further development within the Black Country, that is:
 - o Illustrated on the key diagram within the Core Strategy;
 - o Guide development control processes, consideration of prior extraction of minerals for non-mineral development proposals; and
 - o To inform preferred areas and areas of search for future mineral working in the Black Country.

2 Background

- 2.1.1 The Black Country Authorities of Dudley, Sandwell, Walsall and Wolverhampton, are working in partnership to prepare a Joint Core Strategy that will form a key part of the Local Development Framework (LDF) for each authority. The Joint Core Strategy Preferred Options Paper (Regulation 26) is programmed to be published for consultation towards the end of February 2008.
- 2.1.2 The adopted Regional Spatial Strategy for the West Midlands (RSS formerly RPG11) includes policies related to mineral development. These policies were prepared in the context of national guidance, which has now been updated (principally by Minerals Planning Statement 1 and 2). Adopted Unitary Development Plans (UPDs) of the respective authorities include more detailed policies for local planning purposes. Certain policies of the UDP's are considered "saved" for a period of 3 years under transitional arrangement of the Planning and Compulsory Purchase Act 2004.
- 2.1.3 The approved RSS is currently being reviewed in three phases. Phase 1 comprised the Black Country Study, which identifies objectives for future development and regeneration in the sub-region. However the RSS Study does not provide guidance or policies on mineral development. Phase 3 of the RSS review is planned to consider this matter, but consultation on this document is not due to commence until later this year.
- 2.1.4 The Black Country Authorities published the Joint Core Strategy – Issues and Options Document (Regulation 25) for consultation in June 2007. A Minerals Background Paper was published in support of this document. Scott Wilson Consultant's were also commissioned to carry out a study to establish mineral reserves within existing quarries and mineral safeguarding areas.
- 2.1.5 The Authorities identified that further technical advice was required to review evidence already gathered in respect to mineral planning within the sub region, in order to identify potential gaps in evidence which may be necessary to inform the development of appropriate Core Strategy Preferred Option Policies.

- 2.1.6 RPS was instructed to carry out a Minerals Study which reviewed the evidence already gathered, confirm whether there were gaps in evidence and provide advice on how these gaps could potentially be addressed.
- 2.1.7 The key gap in evidence identified by the Sub Region Authorities related to the potential of mineral resources and an approach to safeguarding minerals that are considered to be of national, regional and local importance, and which may have economic potential.

3 Study Methodology & Approach

3.1 Black Country Authorities Requirements

3.1.1 The Authorities gathered sufficient baseline evidence on minerals to identify key issues and inform the Joint Core Strategy Issues and Options document.

3.1.2 Prior to progressing to the next stage of plan preparation with the publication of the Joint Core Strategy Preferred Options document, the Authorities, in line with guidance outlined in Planning Policy Statement 12, need to gather further evidence to ensure the “soundness” of the document, which following submission will be subject to independent examination.

3.1.3 The Authorities commissioned RPS to carry out a technical review, which will provide a robust and credible evidence base for the development of minerals strategy and policies in the emerging Preferred Options consultation document.

3.1.4 Scope/Objectives of Study and Outputs

3.1.5 The Client’s specific objectives for this study are:

- That the Joint Core Strategy addresses issues relating to minerals in an appropriate manner in accordance with current national policy guidance and regional/sub regional policy objectives, and
- That the Core Strategy minerals policies are sound and will stand up to scrutiny, being based on a “robust and credible” evidence based developed by people with expertise and experience in this field.

3.1.6 The study will be carried out as a desktop study based on best available information.

3.1.7 A final report produced will inform the preparation of the Core Strategy Preferred Options Document.

3.1.8 A review of the Joint Core Strategy Preferred Options Consultation Draft Minerals Policies will be carried out in light of the Minerals Study.

3.1.9 This evidence will also be fed into the emerging RSS Phase 3 Revision, which seeks to review the adopted RSS minerals policies.

3.1.10 RPS' Approach to Study

3.1.11 **Task 1:** The task comprised two key stages: A review of documents which would inform the scope of the evidence review was extended beyond that specified in the original project brief, that is the Minerals Background Paper (Prepared by Officers) and the A Survey of Current Mineral Resources in the Black Country (Scott Wilson Report – March 2007), to include the consideration of consultation responses received during the consultation period of the Core Strategy Issues and Options Document and follow up evidence gathered by the Authorities.

3.1.12 The evidence gathered by the Black Country Authorities was reviewed against a framework of relevant national, regional and local guidance which was devised to take account of mineral planning within the new development plan process introduced under the Planning and Compulsory Purchase Act 2004, with particular reference to the “Preferred Options Stage” (Regulation 26).

3.1.13 In summary consistent with the “front-loading” plan making process, gather evidence in consultation with stakeholders, developing spatial options, considering fully realistic alternative strategies/options to help identify the key choices and options available, ultimately ensuring the “soundness” of Development Plan Documents which comprise the LDF.

3.1.14 Appendix A provides Scoping and Review Table, which has guided this aspect of the Study, providing a transparent point of reference to ensure that all relevant issues were reviewed and explored. This is supplemented by a summary of consultation responses from stakeholders engaged during the “Issues and Options” stage of the Core Strategy (See Appendix B), as well as evidence already gathered by the Black Country Authority summarised in the Black Country Core Strategy – Minerals Background Paper – Version 1 and the Scott Wilson summary report.

3.1.15 The findings of this stage are summarised in Chapter 3 of this Report.

- 3.1.16 **Task 2:** Within the time and other constraints of the Study, RPS endeavoured to address the “gaps” in evidence identified during Task 1. The key gap in evidence which was previously identified by the Black Country Authorities, and confirmed by RPS is an approach to safeguarding minerals which may be of economic potential. The method and recommendations for addressing this issue is summarised in Chapter 4 of this Report.
- 3.1.17 Chapter 3 provides a summary of mineral planning issues considered, based on national guidance and evidence collected at a local level, relevant to spatial planning in the Black Country. The purpose of this section is to help inform potential options for inclusion in the emerging Core Strategy Preferred Options Document as well providing adequate information to consultees, allowing informed consultation responses.
- 3.1.18 The following points should be noted with regards the approach to this Study:
- The Study was principally a desk top study based on the “best available information”, including all relevant guidance, studies and published information relating to minerals in the Black Country.
 - The Study has been carried out in isolation of the Sustainability Appraisal process with the understanding that recommended spatial strategies and options arising from this Study will be assessed independently against the Core Strategy SA framework.
 - Additional consultation has been carried out by the Authorities with key stakeholders during the period in which this Study was carried out, which has informed the recommendations and conclusions of this report. RPS also carried out supplementary consultation with stakeholders to gather further evidence where necessary.
 - The Study has been carried out at a strategic level only appropriate to support the Sub Region Core Strategy; further detailed assessment related to local or area wide mineral planning issues may be appropriate at a later stage.
 - Care has been taken with the management of evidence supplied in confidence or considered commercially sensitive for the Black Country.

Reference to individual mineral operations permitted reserves or potential resources has only been referenced within this report with the express permission of the relevant Company.

3.2 Report Format

3.2.1 The format of the report is as follows:

- Chapter 2 Study Methodology and Approach
- Chapter 3 Review of Evidence & Summary of Findings
- Chapter 4 Safeguarding Minerals
- Chapter 5 Conclusion and Summary of Recommendations

4 Reviewing Evidence – Summary of Findings

4.1 Role of Minerals in the Black Country

- 4.1.1 Minerals are an essential resource for future development and urban renaissance in the Black Country. The sub-region's underlying geology affords the area with mineral resources which are either nationally scarce, can contribute to regional supplies of aggregates and/or support the local distinctiveness of the area.
- 4.1.2 The Black Country cultural and industrial heritage has been in no small part influenced by the underlying geology of the area. The legacy of past and the contribution of future mineral working help shape this environment and contribute to economic and social well-being.
- 4.1.3 The early economic prosperity of the Black Country was derived from the coal and associated fireclay, ironstone, brick clay and carboniferous limestone resources. Mineral extraction peaked in the 19th Century. Development of iron processing during the Industrial Revolution ensured that the majority of industry in the Black Country related to iron making, with the development of canals and latterly rail network to assist the movement of materials.
- 4.1.4 The sub-region has a relatively small number of operational mineral sites with permitted reserves (see Figure 1). As the area is predominantly urban and densely developed, potentially valuable mineral resources have been sterilised.
- 4.1.5 The current drive for regeneration and future development in the Black Country is dependent on a ready supply of minerals (primary and alternatives) but may without careful planning result in such resources being sterilised.
- 4.1.6 Minerals may only be worked where they occur and is a finite resource which must be carefully used. Considerable progress has been made both nationally and locally to use alternative materials which substitute for primary minerals, such as secondary minerals or recycled aggregates (principally construction and demolition waste). It is important in the interest of sustainable development to support this trend.

- 4.1.7 Mineral development, if not carefully controlled, can result in unacceptable impacts on local communities and environmental assets. However it is a “temporary” land-use, where sites can be progressively restored with scope to enhance the local environment through assisting in achieving BAP targets or improving community’s access to open spaces.
- 4.1.8 Sustainable development requires the careful management of finite and environmentally sensitive natural resource such as minerals. The careful and continued planning of mineral extraction is essential, as well as developing strategies to improve the sustainable sources of alternative materials. Appropriate mineral strategies should ensure supply, safeguard resources, encourage the prudent use of primary natural uses and be complementary and consistent with other spatial and land-use strategies.

4.2 Geology of the Black Country

- 4.2.1 The 'Black Country' is defined by its geology. The solid bedrock geology of the study area is complex and wide ranging and comprises a broad variety of bedrock strata, igneous intrusions and superficial drift deposits. Given the industrial history of the area with mining and various heavy industry, significant worked, filled and Made Ground is also present across the region.
- 4.2.2 The following represents a generalised summary of the key strata and deposits studied as a background to this mineral study (see Figure 2 and 3) The bedrock geology comprises mainly sedimentary rocks, including strata, limestones, sandstones, siltstones, mudstones, ironstone, shales, claystones and Coal Measures strata and coal seams representing Silurian to Triassic age. Igneous intrusions of dolerite rock occurred through the sedimentary strata in the Carboniferous. In many parts of The Black Country superficial (drift) deposits overly the bedrock strata predominantly comprising recent river Alluvial and Terrace deposits, Glacial and Fluvio-glacial deposits of primarily boulder clays, silts, sands and gravels.
- 4.2.3 The principal formations are outlined below, together with a summary of lithologies, mainly in relation to their identification as potential mineral resources with an emphasis on relevant lithologies within each formation

and their geographical location in The Black Country. The key formations have been identified on the MSA (See Figure 3)

4.3 Bedrock Geology

Silurian/Devonian strata

4.3.1 The oldest formations of interest are of Silurian age outcropping in two main areas, shales with subordinate limestone and sandstone in the north east near Walsall, and hard limestones interbedded with softer shales between Dudley and Sedgley. The basal units are the Wenlock Series and of main interest are the limestone strata, including the Barr Limestone and the Much Wenlock Formation (locally known as the Dudley Limestone). The latter has been worked extensively and subdivided into the Lower and Upper Quarried Limestones of separated by the Nodular Limestone. The Coalbrookdale Formation (formerly Wenlock Shales) comprises is a thick series of shales and interbedded limestones between the Barr and Much Wenlock Limestones.

4.3.2 The younger Ludlow Series comprises the Elton formation of shales, the Aymestry Limestone (known as the Sedgley Limestone locally) of interbedded predominantly limestones and mudstones and the Whitecliffe Formation of mainly flaggy shales with limestone nodules.

4.3.3 The Downton Group comprises the Downton Castle Sandstone (cross bedded sandstones and shales), the Temeside Shales (predominantly mudstones and siltstone) and the Ledbury Formation of siltstones and sandstones.

4.3.4 The Barr, Aymestry and Much Wenlock Limestones are considered the main sources of limestone in the region all having been worked historically, hence the locations of these key formations are indicated on the Figure 3.

Carboniferous Rocks

4.3.5 The Coal Measures strata represent the largest outcrop of Carboniferous strata across the study area, comprising very variable strata of mainly a series of mudstones, siltstones, shales, fireclay, sandstone and occasionally ironstone rocks. Coal seams make up typically around 15% of the total thickness of Coal Measures strata here, hence the coal has been

extensively exploited historically across The Black Country by shallow and deep underground mining and open cast extraction pits. As the Coal Measures dominate the geology of the study area, they have also been included, with undifferentiated strata, however, and only indicative locations of the larger coal seams annotated.

- 4.3.6 The Etruria Formation (locally termed the Etruria or Old Hill Marl) comprises a substantial sequence of mudstones (marl) and siltstones with occasional poor quality thin coals, and outcrops across a broad area surrounding the coal Measures. The strata has been extensively worked historically for brickmaking and remains a strategically [nationally] important resource of brick clay.
- 4.3.7 The Halesowen Formation is a variable series of mudstones and siltstones, sandstones, occasionally thin coals and fireclays and thin limestone bands. Locally the sandstone bands have been worked as building stone in the locality, hence have been included as a potential mineral resource.
- 4.3.8 The Halesowen Formation grades into the The Keele Formation comprising typically mudstones, siltstones and sandstones with occasional nodular limestones. The younger Enville Formation has similar lithology to the Keele Formation but also has extensive pebble conglomerates and pebbly sandstones. The clay rich beds of the both the Keele and Enville Formations have been historically worked for brickmaking in the locality.
- 4.3.9 Igneous intrusions, veins and dykes of Dolerite (basalt) occurred during the Carboniferous, penetrating the sedimentary strata, leading to isolated outcrops of grey crystalline rock, and with it being much harder than the surrounding strata, has shaped the higher ground around Rowley Regis, Pouk Hill, Wednesfield, Barrow Hill, Netherton and Gornal Wood. Locally known as Rowley Rag, this has been exploited extensively historically.

Permian Strata

- 4.3.10 In the Clent Hills, the Clent Formation comprises a coarse breccia within a mudstone matrix, grading more to mudstones and siltstones with less breccia and occasional thin sandstones.

- 4.3.11 The Bridgnorth Sandstone is a fine to medium grained cross-bedded poorly cemented sandstone outcropping as a narrow strip to the west of the study area, historically exploited as a moulding sand and as a building sand aggregate.

Triassic Strata

- 4.3.12 The Sherwood Sandstone Group outcrops along the eastern and western flanks of The Black Country, subdivided into three principal formations in the locality, namely the Kidderminster Formation, the Wildmoor Sandstone and the Bromsgrove Sandstone.

- 4.3.13 The Kidderminster Formation comprises a weakly cemented sandstone matrix with a pebble conglomerate in the lower part, grading up to a sandstone with subordinate thin beds and lenses of conglomerate, and grades further into the overlying Wildmoor Sandstone.

- 4.3.14 The Wildmoor Sandstone is similarly poorly cemented weak sandstone with thin mudstone beds and was also worked historically as a foundry moulding sand. Both of these formations have the potential for future sand and gravel resources and have been included on Figure 3.

- 4.3.15 The Bromsgrove Sandstone comprises a strongly bonded sandstone, pebbly sandstones and conglomerates and was worked historically in small pockets as a building stone.

4.4 Superficial Deposits

- 4.4.1 Superficial drift deposits provide a cover overlying the bedrock across much of the region. The principal lithologies are Till (Boulder Clay), sand and gravel, silts and clay. They were deposited in Quaternary and Recent times during glacial, interglacial, periglacial, post glacial, fluvial and lacustrine environments. Locally the drift deposits have filled historical channels or valleys in the bedrock and reach significant thicknesses in the deeper channels.

Till

- 4.4.2 Typically comprising stiff clay with poorly sorted sands, pebbles, cobbles and boulders (commonly known as Boulder Clay), Till is often associated with other fluvioglacial sands and gravels and other glacial deposits. Various Lithological content varies widely throughout the deposits across the region and with depth.

Glaciofluvial Deposits

- 4.4.3 These drift deposits also have variable lithology, but typically comprise various grades of sands and gravels deposited by meltwaters from glacial ice sheets. For the purposes of this summary they have been grouped together to include Undifferentiated Glaciofluvial Deposits, Glaciofluvial Fan Deposits, Glaciofluvial Sheet Deposits and Glaciofluvial Terrace Deposits, dependent on their typical form. They are typically interbedded with other superficial deposits with lithology varying, depending on their depositional environment, some well sorted lenses and sheets can be good resources for grades of sand and gravel, or sands and gravels. They have been exploited in the past and form a useful future resource of sand and gravel minerals.

River Terrace Deposits

- 4.4.4 These comprise primarily sands and gravels of various ages, occurring as remnants of former sequentially deposited alluvial plains, located at a variety of elevations above the present day alluvial flood plain, deposited as the rivers eroded down to their present levels. They can also form a useful source of well sorted sands, gravels or sands and gravels.

Alluvium

- 4.4.5 The Alluvium is found along the courses of larger streams and rivers across the area and generally comprise interbedded and mixed lithologies. Typically finer grained clay and silt materials overly coarser sand and gravel beds, but lenticular and cross bedded lithologies are common. It has been included as a possible source of sands and gravels given the likelihood of significant resources of these minerals at shallow depth.

4.5 National and Regional Guidance

- 4.5.1 Mineral planning objectives are guided by European, National and Regional legislation, circulars, guidance and local policy consideration.
- 4.5.2 PPS1 seeks to secure sustainable development. National policy objectives for mineral planning are set out in Minerals Planning Policy Statement 1: Planning and Minerals (MPS1).
- 4.5.3 The West Midland Regional Spatial Strategy (RSS) mineral policies are currently under review as part of the RSS Phase 3 Revisions. Once adopted it may be necessary to amend the Core Strategy to conform with these revised policies.

4.6 Summary of Findings

- 4.6.1 The following section summarises the reviewed evidence in relation to the national planning objectives, focusing on key issues relevant to the study area, taking account of the evidence already available which could help shape Mineral Preferred Options, and finally advising on evidence which may be available or where it may be appropriate to clarify through the Core Strategy Preferred Options stage the soundness of proposed policies.
- 4.6.2 This section is sub divided into topic specific issues as well as more general over-arching issues. Note that a summary of the evidence which shaped these findings is provided in the Appendices to this Report; other key references include the Scott Wilson Report on Permitted Mineral Reserves, the Black Country Mineral Core Strategy Minerals Background Paper Version 1 and 2 and the West Midlands Regional Aggregate Working Party Annual Report 2005.
- 4.6.3 Over-arching and general mineral planning issues were initially developed by Planning Officers of the Authorities for the purposes of the Core Strategy Issues and Options consultation document. A Mineral and Waste Stakeholder Event was held March 2007 to complement the Core Strategy Issues and Options consultation document. General Issues raised at this event confirmed the issues already highlighted by the Officers but have also provided the focus for developing Core Strategy Preferred Options related to future mineral planning in the sub-region, to summarise:

- Reflecting national guidance Minerals are a key issue – not peripheral;
- Minerals and Waste need to be considered with a consistent approach to overlapping issues;
- Need to address implications of new housing/economic development proposed in the Black Country for minerals, such as likely need/demand for primary minerals and alternatives, and maximise recycling of construction and demolition waste;
- Core Strategy should be followed up by detailed policies set out in another DPD;
- Need to adopt a flexible approach towards planning for minerals in the Black Country - cannot predict future needs of building industry with certainty;
- Public perception/negative image of mineral extraction is an important problem and a barrier to bringing forward new reserves - need for better understanding of the importance of minerals to society and the local economy.

4.7 Supply and Safeguarding Minerals

- 4.7.1 In accordance with national guidance it is appropriate to identify potential mineral resources and safeguard minerals which may be of national, regional and local significance.
- 4.7.2 There is documentary evidence relating to the Black Country's geological resource drawn together from various sources by the British Geological Survey (BGS). The sources which form this baseline information are acknowledged by the BGS as inconsistent and not necessarily in a convenient form. However it is considered to be the "best available information" and has informed the development of potential strategic minerals planning options.
- 4.7.3 National and regional guidance supported by comments received during the Core Strategy Issues and Options stage of consultation/evidence gathering have highlighted the importance of safeguarding potentially valuable minerals resources in the Black Country. These are considered to be sand and gravel for provision of aggregate to continue to contribute to the regional

apportionment, brick clay (Etruria Marl) and potentially coal with associated fireclay resources, Limestone, Dolerite, small scale building stone.

4.7.4 In the new context of spatial planning in which this Core Strategy is developed it is appropriate to consider the continued supply of minerals in the wider context of future development needs within the sub region.

4.7.5 It is therefore appropriate to review the current MSAs defined within the Black Country to assess whether they are adequate to protect the range of potentially valuable resources occurring as well as to ensure that future development within the Black Country is compatible with the continued supply of minerals.

4.7.6 The adopted Dudley and Walsall UDPs have defined MSAs around the existing mineral workings. These MSAs have not been defined in the context of more recently adopted national mineral guidance (MPS1) or based on best practice guidance as stated in the in “A Guide to Mineral Safeguarding in England” BGS October 2007.

4.7.7 It should be noted that mineral resources within an MSA are not provided with a higher degree of certainty of future extraction. It is the key purpose of the MSA to provide an opportunity to consider the importance of protecting valuable mineral resources

4.8 Aggregate Supply

4.8.1 National guidance recommends that a 7 year landbank period is appropriate to ensure supply of sand and gravel for aggregate purposes.

4.8.2 The rate of supply that is used to calculate the landbank requirement for sand and gravel is the sub-regional apportionment. The current national guidelines on the provision of aggregates (published in 2003) provide a regional apportionment indicating for the respective regions of England the level of aggregates for which provision should be made in development plans.

4.8.3 For the period of 2001 – 2016 the West Midlands Region is required to make provision for 359 million tonnes (mt). It is assumed that 88mt will be provided by alternative aggregate sources (recycled and/or secondary minerals). Based on the regional share of production and average sales, the remaining

255mt has been apportioned by the West Midlands Regional Assembly through the RSS to sub-regional areas in the West Midlands, on the basis of advice provided by the West Midlands Regional Aggregates Working Party (WMRAWP) in liaison with the respective Counties and Unitary Authorities.

- 4.8.4 The regional and sub-regional apportionment is under review in the RSS as part of the Phase 3 Revision. However, the timetable for this does not coincide with the timetable for preparing the Joint Core Strategy so it is unlikely that any revised apportionments arising from the RSS Phase 3 Revision will be available in time to inform the submitted Core Strategy. The current sub regional apportionment is identified for a horizon period until 2016. Until such time that the RSS is reviewed and adopted it is considered appropriate to carry the existing apportionment beyond 2016.
- 4.8.5 Permitted reserves in the West Midlands County (comprising Walsall and Solihull) reflect national and regional trends and are declining. However other authorities which comprise the West Midlands region retain a landbank of permitted reserves for sand and gravel which reflect national guidance. (see forthcoming West Midlands Regional Aggregate Working Party – Annual Report 2005)
- 4.8.6 The Scott Wilson report (March 2007) confirmed that permitted reserves were very low and that the Black Country was not contributing much towards the landbank provision for the West Midlands County sub regional area. However, the report indicated that further permitted reserves were in the process of being (or were shortly to be) sought by the operators, and that resources within the currently designated mineral safeguarding areas (MSAs) around Aldridge and Branton Hill Quarry in Walsall may if permitted have the potential to provide around 3 million tonnes of material.
- 4.8.7 The current sub regional sand and gravel contribution to the West Midlands regional apportionment expressed on an annual basis is approximately 0.5 million tonnes. The only Metropolitan authorities that contribute towards the sand and gravel supply at the present time are Solihull and Walsall.
- 4.8.8 The Black Country's current "share" of the sub-regional sand and gravel apportionment is estimated to be around 10%. This is based on the premise that Solihull provides around 91% of the total West Midlands Metropolitan

area requirement, which is assumed in the adopted Solihull UDP. On that basis, the Solihull UDP has made provision for a 7-year landbank covering the period up to and beyond the end date of the plan, which is 2011.

- 4.8.9 The Walsall UDP identifies the MSAs defined around existing quarries at Aldridge and Branton Hill as the main source of supply within Walsall and states that these are considered to contain sufficient resources to enable Walsall to make a satisfactory contribution towards the sub-regional apportionment. This appears to be confirmed by the findings of the Scott Wilson survey and evidence provided by quarry operators (see paragraphs 4.8.6 above and 4.8.11 – 4.8.12 below).
- 4.8.10 Like the Black Country Authorities, Solihull MBC is in the process of replacing its UDP with new LDF policies, and will be gathering more up-to-date evidence to inform policy options for future supply of sand and gravel in Solihull. It is possible that this evidence will show a 91% contribution is not appropriate or may not be sustainable in the longer-term.
- 4.8.11 The latest estimate of permitted sand and gravel reserves in the Black Country comes from the Scott Wilson survey (March 2007), which involved a survey of permitted reserves within existing quarries in the Black Country. This included an estimate of permitted reserves within active sand and gravel quarries in Walsall Borough, indicating that at March 2007, permitted sand and gravel reserves in Black Country stood at around 150,000 tonnes. This suggests the Black Country's contribution towards the West Midlands Metropolitan County area requirement currently falls short of what might reasonably be expected if a 10% share is assumed.
- 4.8.12 Consultation has been carried out in the context of the Black Country Core Strategy. This has provided evidence to suggest that the level of aggregate provision arising from resources in the Black Country is reasonable, and subject to other planning considerations a landbank of permitted reserves in line with national guidance and reflecting current regional apportionment can be maintained during the period for which the Core Strategy will cover.
- 4.8.13 National guidance states that local development documents should allocate preferred areas and/or areas of search taking into account environmental considerations. The purpose is to provide a greater degree of certainty of

where minerals will be worked. Furthermore it is advisable for Mineral Planning Authorities to consider extensions to existing quarries as this may reduce environmental disturbance.

4.8.14 Evidence received during the Issues and Options stage of the Core Strategy suggests that certain aggregate producing quarries did have potential resources adjacent which could be worked. There is a degree of uncertainty as to the level of detail, and policies to be included in the various documents which comprise the Local Development Framework. Clarification has been sought from the Government Office for the West Midlands in the context of the Core Strategy which provides guidance to the Authorities regarding the supply of aggregates. The advice indicates that the Core Strategy should include policies which ensure supply and safeguard minerals.

4.8.15 It may be advisable given the availability of evidence and the understanding of environmental considerations to identify areas of search to provide a degree of certainty that the potential resource is likely to be available to continue the sub region's contribution to the Regional Apportionment. Figure 5 provides an overview of potential constraints which may assist in identifying the extent of such areas of search. Note that the figure does not include Aerodrome Safeguarding Zones which should be considered when considering mineral development and related restoration schemes.

4.9 Brick Clay

4.9.1 There has been a long tradition within the Black Country of brick making for use within the area and to export to other regions. It has shaped and, in places, defines the architecture and character of the sub region, as building stone may define the vernacular of areas in which it occurs.

4.9.2 It is also important to the economic well-being of the area and is an industry requiring support through careful planning to ensure continual supply, safeguarding of permitted reserves and potential resources and, where appropriate, the provision of safeguarded areas for storing extracted minerals.

4.9.3 Brick clay is considered an important scarce national resource. As such it is a national planning objective to safeguard and if necessary stockpile supplies of clay, particularly those defined as premium such as those from

the Etruria Formation and fireclay with is associated with the coal seams of Black Country.

- 4.9.4 Etruria Marl is high quality clay which is considered to be ideal brick clay, it is often used as a blend with other lower quality clays. Outcrops are restricted, much of which has been sterilised by development.
- 4.9.5 Brick clay extraction reflects the location of the brick manufacturing industry which has been consolidated to two large volume brick making companies (Ibstock and Wienerberger and two other companies making smaller quantities of specialised products; Cradley Special Brick making bespoke bricks and Hinton, Perry & Davenhill making bricks and tiles. The West Midlands is one of the largest brick making regions.
- 4.9.6 Recently revised national guidance requires authorities where such mineral resources occur to ensure a stock of permitted reserves for a period of 25 years to make provision to supply each local brick works. In the absence of a sub-regional apportionment for Brick Clay provision, the 25 year stock of supplies should be based on local production levels at individual plants.
- 4.9.7 Production of bricks appears to fluctuate from year to year nationally. There is no published production information available for the Black Country. In 2005, the most recent regional figures for production of bricks suggest that 613 million bricks were produced in the West Midlands (United Kingdom Year Book 2006).
- 4.9.8 There has been considerable consolidation within the brick industry in recent years and the production of bricks and other clay-derived materials is dominated by a handful of major national and international companies. The situation in the Black Country reflects this (see paragraph 4.9.5 above).
- 4.9.9 The Scott Wilson survey (March 2007) found that cumulatively, there is an estimated 8 million tonnes of permitted reserves of Brick Clay within the administrative boundaries of Walsall and Dudley. However reserves related to individual operational sites range from 5 to 30 years.
- 4.9.10 The survey estimated that at March 2007, within Walsall, and grossed across all operators, there was a stock of permitted reserves to allow at least 25 years of production. Across Dudley, the assessment of the extent of

permitted reserves was more problematic, as clay is used within the site where it is extracted and exported to other processing facilities.

4.9.11 However, concern has been expressed by the British Ceramics Confederation, reflecting national guidance as set out in MPS1, that provision should be made to support existing and proposed manufacturing plants, normally sufficient for 25 years of supply. National Guidance indicates that separate provision may be needed for particularly scarce clays such as Etruria Marl.

4.9.12 At the Issues and Options stage, the British Ceramics Confederation commented that the 25-year supply requirement should be met on a site specific basis, rather than grossed across all operators in each authority area. They advised that the most practical approach towards establishing the requirements was through direct liaison with the companies involved. The authorities followed this up by contacting local brick manufacturers and quarry operators, seeking their advice on the supply situation at each works. These discussions established that:

- There are currently 6 brick/ tile works supplied with Etruria Marl from sources within the Black Country
- Only 1 out of the 6 works has a 25 year supply of Etruria Marl
- 3 out of the 6 works have less than 15 years' supply of Etruria Marl and 2 clay pits are nearing the end of their operational life
- Some Black Country brickworks also use fireclay to make bricks but this is almost all imported and the only local sources of supply are stockpiles.

4.9.13 There are no policies in the current adopted development plans within the Black Country which seek to ensure a 25 year stock of brick clay, reflecting revised guidance in MPS1. The extent of the stock of permitted reserves will be closely related to the level of production required by respective brick manufacturing plants. National guidance acknowledges that given the rarity of Etruria Marl resources, stockpiles could be provided that could serve more than one plant within the sub region. In this context it may be necessary when developing spatial options to identify areas which such stockpiles of materials may be most sustainably located, serving the plants whilst minimising vehicle movements on roads.

4.9.14 There is adequate evidence to suggest that an appropriate strategy with the following objectives should be a preferred option within the Core Strategy:

- Where possible (taking account of availability of resources, feasibility of extraction and environmental/other constraints) plan to maintain a stockpile of permitted reserves which allow for 25 years production of each brick making plants within the Black Country;
- Safeguarding brick clay (particularly focusing on clays from the Etruria Formation) from non-mineral development;
- Where appropriate, seek to remove the resource prior to permanent development and consider the location of suitable areas to stockpile material which is well related to where the material will be processed;
- Consider the allocation of areas of search or preferred areas for future clay extraction; and
- Establish the linkages between the spatial strategy for brick clay and plan growth and regeneration in the Black Country.

4.10 Coal

4.10.1 The majority of coal utilised in the UK is from imported sources. There are however considerable coal resources which are yet to be exploited. Coal has been traditionally worked through deep mining, shallow drift mining or through opencast methods. There are a relatively small number of deep and opencast mining operations in the Country today.

4.10.2 There are no operational sites within the Black Country. However, there are permitted reserves at Brownhills Common within Walsall Borough which are covered by a “dormant” permission dating back to the 1950s. In addition, at the Issues and Options stage of the Core Strategy, a proposal was put forward to identify land at Big House Farm/ Wyrley Common (part of a larger site known as “Yorks Bridge”) as a potential site for opencast coal and fireclay working. The “Yorks Bridge” proposal lies mostly within the administrative boundary of Cannock Chase District in Staffordshire but also extends into Walsall Borough.

4.10.3 There is evidence of considerable coal resources within the Black Country, principally within Walsall and Dudley. Given the dormant permission at Brownhills Common within the administrative boundary of Walsall and the

interest in Yorks Bridge proposal which is partly within Walsall, there is some evidence that viable resources exist in this area and of the economic potential of this resource. However the resource within Dudley encroaching within Worcestershire administrative boundary is more poorly understood.

- 4.10.4 It can be assumed that extensive exploitation of the coal seams is limited within the study area because the area is densely populated and urban in character. Opencast coal extraction can give rise to significant environmental and amenity impacts which is acknowledged in national guidance (Mineral Planning Guidance Note 3), which states there is a presumption against opencast coal extraction unless it can be proven that there will not be unreasonable impacts on the environment and that social and economic benefits can be derived.
- 4.10.5 New technologies are emerging which may eventually allow the exploitation of very large deep coal resources including coal methane from virgin coal seams and underground coal gasification.
- 4.10.6 Industry evidence suggests that there may be scope for exploitation of the coal resource in the Black Country and that it would be appropriate to safeguard such resources. The inter-relationship of coal extraction and supply of fireclay is also a specific issue within the Black Country (See section below)
- 4.10.7 The Coal Authority has commissioned the BGS to assess the potential of coal resources within the Country. This report is due to be published at the end of January 2008. The findings of this survey may provide further guidance to inform strategic options for Coal in the Black Country.
- 4.10.8 Finally a key wider spatial issue which may influence emerging Black Country policy is the Government's National Energy Policy. The Coal Authority states that indigenous coal should be part of a secure and diverse sustainable energy supply.

4.11 The Supply of Fireclay

- 4.11.1 There are constrained permitted reserves of fireclay within Walsall at Brownhills Common. However they cannot be worked in the absence of an approved scheme of revised conditions under Section 96 of the Environment Act 1995. The Scott Wilson Report did not identify any operational reserve

or stockpiled resources. However discussion with operators did reveal the existence of local stockpiles of fireclay at one brick works, and also at the Swan Works (Potclays Ltd) which produce specialist blends of clay for pottery making.

- 4.11.2 Fireclay is a scarce national resource, demanded by specific markets, with end products appealing to architects and developers due to colour and durability. The close association of coal and fireclay means that the resource is confined to coal-bearing strata. The uncertainty of the coal resource with which it is associated and the fact that where fireclays occur it may be a thin and widespread resource, the economic exploitation of the resource is usually only considered viable within surface coal operations.
- 4.11.3 This is reflected in the Black Country, where the evidence suggests that extent of resources that have potential for extraction is unknown, although discussions with operators suggest there are significant resources of good quality material underlying the coal seams in the Brownhills area. Furthermore there is additional uncertainty regarding the potential to exploit the coal resource with which the fireclay is associated, within a densely urbanised study area. However in line with national guidance and based on comments from the local industry and conservation officers, it is appropriate to provide a policy framework which will support further safeguarding and allow consideration of this resource.
- 4.11.4 Demand in the Black Country for this mineral is unclear although Conservation Officers of the Authorities suggest supply of material for specific conservation projects which may support and maintain the local distinctiveness of the Black Country built environment should be supported. More readily sources are available in the adjacent region, for example South Derbyshire and Leicestershire. However the quality of this resource does not compare favourably with local resources.
- 4.11.5 In summary available evidence suggests that a resource occurs, much of which is sterilised by urban development. Resource exploitation is likely only to be viable in conjunction with the working of the coal seams. As indicated the potential to exploit this resource is doubtful, however the BGS study commissioned by the Coal Authority may provide clarification on this matter (Report is likely to be published end of January 2008)

4.12 Natural Stone

- 4.12.1 Hard rock mineral resources can be crushed for aggregate purposes or utilised for building stone and architectural products. The last remaining limestone aggregate quarry in the Black Country ceased operation in 2007. There is no contribution to the Regional Apportionment for aggregate provision apportioned to the West Midlands County (which includes the Black Country) for crushed rock.
- 4.12.2 Although much of the limestone resources have been sterilised by urban development in the study area the review of geological data suggests that there are resources which could be exploited. (See Figure 2 and 3) However evidence would suggest that it is unlikely that large scale limestone extraction which will contribute to the regional supply of crushed rock aggregate would be acceptable due to the urban nature of the area. The minerals industry and other stakeholders did not make representation during the Issues and Options stage which disproves this assumption.
- 4.12.3 English Heritage's Policy Position Statement Mineral Extraction and the Historic Environment (Consultation Draft 2006) outlines the importance of mineral development in shaping and conserving the historic environment. National guidance supports this view, MPS1 Annex 3 provides guidance on the importance of safeguarding such resources and ensuring future supplies. Mineral development of this nature is likely to be of a small scale and specific to local areas within the sub-region. Therefore it is not considered appropriate to identify preferred areas within the Core Strategy. However it is appropriate to acknowledge the strategic importance of supply natural stone and other products which support the local distinctive of the Black Country, conserving existing buildings of historic interest but also supporting the enhancement of the built environment when planning for future growth

4.13 Planning Consideration for Future Supply of Minerals

- 4.13.1 The following section provides a summary of other planning considerations related to minerals in the Black Country, based on national guidance and local circumstances highlighted in the evidence gathered during the Issues and Options stage of the Core Strategy. Significant gaps in evidence for the purposes of informing the Preferred Options were not identified during this

study in relation to these issues. However the Preferred Options for the following issues are likely to be guided by clarification of policy options for the issues indicated above. Furthermore detailed matters will need to be addressed in other sites specific, area action plans or development control DPDs.

Prudent Use of Minerals

- 4.13.2 The Black Country is underlain by a variety of primary mineral resources, which should be safeguarded and assessed for economic potential, which is supported by the evidence provided in the sections above.
- 4.13.3 However, as a densely urbanised area, resources have often been sterilised. Further limitations are placed on utilising such minerals due to the proximity of sensitive land-uses and impact on environmental assets.
- 4.13.4 Minerals are also a finite resource and need to be carefully used. A key sustainable planning objective is to exploit alternatives to primary won minerals. This can result in a number of beneficial outcomes including:
- Creating a resource from materials previously considered waste; and
 - Assisting the protection of finite resources.
- 4.13.5 The most common supply of alternative material to replace primary minerals is construction and demolition waste, which may be crushed and processed and used as a recycled aggregate. Bottom or fly ash resulting from thermal processes/energy recovery facilities can also be used as an aggregate.
- 4.13.6 Secondary and waste minerals, such as colliery spoil which is generated from historic coal extraction, can be used as a substitute for primary minerals. However old colliery spoil tips often now form a part of the landscape or are unlikely to significantly contribute as an alternative to primary minerals.
- 4.13.7 There are five sites producing secondary/recycled aggregates in the Black Country on a permanent or semi-permanent basis, as follows.

Facility	Authority
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Facility	Authority
Glenside Recycling	Sandwell
Midland Quarry Products, Bescot	Sandwell
Bliss Sand and Gravel, Aldridge	Walsall
Midland Quarry Products, Ettingshall	Wolverhampton
Stichacre Ltd, Bilston	Wolverhampton

4.13.8 A national survey of alternative to primary aggregates carried out by Capita Symonds in 2005¹ concluded that recycled construction and demolition was making a significant contribution to the supply of aggregates in the West Midlands. A related Waste and Resource Action Programme survey supported this conclusion, indicating that recovery and reuse of construction and demolition waste was already occurring at an optimum rate.

4.13.9 The Capita Symonds survey confirmed that there was a limited supply of secondary minerals within the Black Country. The calculation of the West Midlands Aggregate Apportionment takes account of the contribution of alternative materials to primary aggregates. The aggregate apportionment is under review as part of the RSS Phase 3 Revision, and it is possible that the allowance made for alternatives to primary materials will change.

4.13.10 The latest Capita Symonds survey provides an estimate of the number of mobile crushers operating in the West Midlands Region in 2005 (96), and the quantities of recycled aggregates they produced (5.06 million tonnes of recycled graded and ungraded aggregate and soil). However, data for the Black Country in 2005 is unknown, as well as how much recycled aggregate was produced in sub region during that period.

4.13.11 To support the sustainable trend for the recovery of materials to use as aggregates, existing production sites need to be safeguarded and additional

¹ Survey of Arisings and Use of Alternatives to Primary Aggregates in England 2005: Construction, Excavation and Demolition Waste (February 2007), Capita Symonds Ltd and WRc plc for DCLG

sites should be allocated to form part of the integrated network of waste management facilities within the Black Country.

Prudent use of resources and waste minimisation in non-mineral development

- 4.13.12 The Core Strategy identifies the level of new development which will take place within the Black Country over the next 20 years. The RSS Phase 2 Revision Preferred Option was published in December 2007 and the revision has not yet been approved by the Secretary of State. Provision of new housing and employment development and area and town centre regeneration within the Black Country will require mineral resources. Minimising the need for primary mineral requirements for new development can be achieved through prudent use of construction materials and using construction and demolition waste which arise within development/redevelopment sites.
- 4.13.13 The authorities may also wish to consider setting specific requirements for recycled and/ or re-used construction materials in new developments, as has been suggested by stakeholders during the “frontloading” engagement on the Core Strategy. They should also consider how the Core Strategy might address the related proposal in the emerging WMRSS Phase 2 Revision Policy SR3 to require at least 25% of total minerals used to derive from recycled or re-used content. It may be more appropriate to address this in sustainable design/ construction policy rather than in minerals policy.
- 4.13.14 It should be a requirement when planning for proposed development, to minimise waste materials through all stages of development: design, construction and eventual uses. This is best addressed within site waste management plans for all future developments within the Black Country. Recovering, recycling and reuse of material on development sites reduces the need to transport materials.

Minimising Waste in Mineral Development

- 4.13.15 Mineral operators have a role to play in the prudent use of mineral resources. Minimising waste through efficient working practices should be a key requirement for any future mineral development in the Black Country, ensuring that as much materials (quantity and type of mineral) is utilised when extracted and prior to restoration.

Safeguarding and Enhancing the Environment and Protecting Local Communities

4.13.16 The Black Country is predominantly an urban area, however it has a distinct local character and cultural heritage and supports much valued environmental assets.

4.13.17 The overall vision for the Core Strategy is re-positioning the Black Country as an “urban park” assisted by regeneration and future development and ensuring the protection and enhancement of the environment.

4.13.18 Mineral development can have an adverse impact on the environment and local communities. However, when carefully planned, mineral development can contribute to environmental enhancement through successful restoration and after uses and through the provision of minerals which will help assist the urban renaissance objectives of this Core Strategy. Figure 5 identifies some of the Black Country’s key environmental assets which will need to be considered when planning for future mineral development.

Sites of Importance for Nature Conservation

4.13.19 There are two Natura 2000 sites within the Black Country administrative area:

- Cannock Extension Canal SAC (SK019044 to SK020069) – a canal supporting floating water-plantain; and
- Fens Pools SAC (SO920888) – designated for its great crested newt population.

4.13.20 Several other Natura 2000 sites were identified within approximately 20km of the boundaries of the Black Country:

- Cannock Chase SAC (SJ990180) – an area of lowland heath;
- West Midlands Mosses SAC & Ramsar (Chartley Moss; SK027283) – quaking bog and natural pool;
- Motte Meadows SAC (SJ840134) - lowland hay meadow;
- River Mease SAC (SK360144 – SK195148) - river habitat and aquatic fauna; and

- West Midlands Ramsar1 (Aqualate Mere; SJ770205) – habitats, invertebrates, breeding and passage birds.

4.13.21 An Appropriate Assessment carried out by White Young Green Consultants for the purpose of this Core Strategy, assessed the potential impact of Core Strategy policies on international and national sites of significant nature conservation importance.

4.13.22 The Appropriate Assessment concluded that Minerals and waste development may pose problems in considering the potential impact on Fens Pools SAC and Cannock Extension SAC because both sites are within areas of mineral resources. The Core Strategy needs to demonstrate that the required minerals can be obtained whilst ensuring the integrity of the protected habitats within both of these SACs.

Assisting with the Objectives of Black Country Urban Park

4.13.23 The Environmental Transformation Plan will guide environmental enhancement within the Black Country:

- supporting the promotion of World Heritage Status for the Black Country Canal Network and its environs;
- promoting an integrated tourism offer in the Black Country focused;
- on Dudley Town Centre and its surroundings; and
- examine opportunities to integrate the two Biodiversity Enhancement Areas identified in RSS within the Black Country.

4.13.24 Efforts should be made to integrate the development and implementation of Biodiversity and Geodiversity Action Plans with increasing accessibility to natural greenspace, developing opportunities for environmental and ecological tourism and promoting healthy lifestyles and education.

4.13.25 Existing and future mineral development should reflect the objectives of the Landscape Action Plan. The benefits of minerals development must be maximized particularly where it could directly contribute to the delivery of Biodiversity Action Targets (BAP), geodiversity, landscape improvement and improved access to open spaces.

Impact on Local Communities

- 4.13.26 Mineral development can have a negative impact on surrounding land uses if not carefully controlled. Potential impacts on local communities can include, noise, vibration, visual impact, dust and increase traffic on local roads. Many of these impacts may be mitigated. Mineral Policy Statement 2 Controlling and Mitigating the Environmental Effects of Mineral Extraction (MPS2) provides guidance on these matters which should be reflected in development control policies of emerging DPDs.
- 4.13.27 National policy guidance states that it may be appropriate to establish separation distances (buffer zones) to safeguard mineral development and prevent mineral resources being sterilized. The delineation of such areas should not be based on blanket or arbitrary basis. They should be based on the assessment of local factors (including local topography) and reflect the potential impacts of extracting certain mineral types, therefore it may be appropriate to consider this matter when developing detailed DPDs.
- 4.13.28 The highly urban nature of the Black Country suggests that buffer zones may be necessary to protect the community and to support the objectives underpinning the delivery of the Black Country Urban Park over for the period for which the Core Strategy seeks to plan for and beyond.
- 4.13.29 Potential impact arising from mineral development may be mitigated, for example, through progressive restoration schemes, siting processing plant away from sensitive land-uses, imposing conditions that limit vehicle movements, hours of working, limit noise and dust and require landscape schemes to minimising the visual impact of the quarry during its operational life.

Industrial and Cultural Heritage and Local Distinctiveness

- 4.13.30 The industrial and cultural heritage of the Black Country defines its unique character that must be protected from potential adverse impacts of mineral development. Scheduled Ancient Monuments, listed buildings and conservation areas will require an adequate degree of protection reflecting national guidance and supporting the future regeneration of the area.
- 4.13.31 In the interest of sustainable development and reflecting wider spatial planning objectives, detailed planning policies guiding future housing and commercial development could seek to ensure that building products are

utilised and are derived from locally won minerals, where they may contribute to the local distinctiveness of the Black Country and reduce carbon emissions through minimising the distance products are transported. Delivery of sustainable, high quality design and construction can create cultural resources for future generations. Further evidence is however required to support proposed policy. It is noted that this issue is probably addressed in other evidence supported the Core Strategy.

- 4.13.32 It is more appropriate for more detailed development control style policies to be included in other sub regional DPDs or individual authorities' DPDs to guide the potential impact of mineral development on the environmental assets of local areas. Full consideration would need to be given as to whether such impacts could be mitigated to ensure that future development is acceptable.
- 4.13.33 The term "environmental assets" will include sites of national, regional and local ecological, geological, cultural and heritage, recreational and landscape importance.
- 4.13.34 A varying degree of protection is afforded to different assets from mineral development. This will inform the process for allocated site selection, as well as the development of detailed development control policies.
- 4.13.35 Future mineral development should only be permitted in the Black Country where it does not result in unacceptable harm to environmental and cultural heritage assets and local communities.
- 4.13.36 Proposals for mineral development which seek to contribute positively to the wider Core Strategy objectives of the Black Country Urban Park will be considered favourably. Community benefits, environmental enhancement and mitigation of harmful effects will be a requirement of during operation, restoration schemes and after-uses.
- 4.13.37 It may be appropriate for site allocations DPDs to identify community buffer zones to protect the amenity of surrounding communities. These indicative zones will be identified on Proposal Maps and will guide detailed consideration of proposals for mineral development.

- 4.13.38 Periodic review of conditions for permitted mineral development under the Environment Act 1995 will provide an opportunity to ensure that existing mineral development is consistent with the objectives of the Core Strategy and emerging detailed DPDs. Development control policies and authorities' Planning Application Validation Checklists should provide guidance on the weight which should be attached to specific environmental assets of the Black Country in the context of mineral development.
- 4.13.39 Site allocations DPDs may need to include more specific areas of search and preferred areas for future mineral development, to accord with the Core Strategy, which have been subject to a rigorous assessment process used to identify areas which have minimal or an acceptable impact on the environment. Site allocations DPDs should include guidance for subsequent mineral operators as to the likely planning and environmental considerations which will need to be addressed at planning application stage.
- 4.13.40 Community buffer zones should be considered around allocated sites/preferred areas for mineral development based on national guidance stated in MPS2 and should reflect specific local features and spatial planning considerations.

Climate Change, Air Quality and Transportation of Minerals

- 4.13.41 Climate change is a key sustainability issue which needs to be addressed when planning for all future development. Adapting to the effect of climate change, as well as reducing the potential causes which contribute to climate change is an overriding strategic spatial planning objective.
- 4.13.42 Extraction, processing and transportation of minerals (e.g. primary and secondary/recycled aggregates) can generate potentially harmful emissions, most significantly through the contribution of carbon dioxide emissions from the transportation of minerals which is predominantly via road.
- 4.13.43 A key objective, for this Core Strategy, in respect of climate change is to minimise carbon gas emissions from any form of future development. In the context of mineral development the focus should be on reducing emissions from the traffic that would be generated by this form of development.

Air Quality Management

4.13.44 The Black Country is predominantly a densely developed urban area, dissected by the motorway network and heavily trafficked primary road network. Air Quality Management Areas (AQMAs) have been designated where air pollution standards for nitrogen dioxide are exceeded principally due to road traffic emissions.

Transportation of Minerals

4.13.45 Currently, in the Black Country and reflecting the national picture, minerals are moved from point of extraction to processing plants, eventual markets and end-use using the road network.

4.13.46 The Black Country as a sub-region contributes a relatively small amount of aggregates to the regional apportionment. Although a key producer of minerals such as brick clay and, whilst optimising available recycled aggregates, the area will remain reliant on the importation of aggregates to support future development needs.

4.13.47 In the interest of reducing carbon emissions associated with the movement of minerals; therefore reducing the impact on the Black Country air quality as well as minimising congestion on the road network, it may be appropriate to consider safeguarding existing/ potential canal wharfage and rail heads and identify well related mineral storage sites which may be accessed by rail or water.

4.13.48 Inland Waterways Association and British Waterways have confirmed that although currently there is limited potential to utilise the canals and waterways of the Black Country for the movement of minerals, future use of inland waterways should be explored further, through consultation with mineral operators, (Appendix D).

Borrow Pits

4.13.49 "Borrow pits" can provide for a number of spatial planning benefits. A relatively short term mineral extraction process which is related to specific construction or development projects, it is a means of extracting potentially valuable minerals therefore reducing sterilisation and as the mineral is used close to the site where it is extracted it reduces the number of vehicles generated by construction projects.

Green Belt and Mineral Development

4.13.50 Although the Core of the Black Country is heavily urbanised approximately 20% of the area is designated as Green Belt. Green Belt is not an environmental designation, but a planning control tool which seeks to prevent urban sprawl, amongst other objectives and purposes. New development in the Green Belt is strictly controlled with the key purpose to protect the openness of land within the designated area. Development considered as “inappropriate” should only be permitted in exceptional circumstances. Mineral development by virtue of its “temporary” nature is not considered to be inappropriate. Therefore Green Belt designation does not preclude this form of development where it can be satisfactorily restored ensuring a beneficial after use which reflects the objectives of the Green Belt.

Minerals Development and The Water Environment

4.13.51 Flooding from rivers is a natural phenomenon which has shaped the environment. However it is anticipated with climate change and future development pressure that flood risk will increase threatening property and quality of life.

4.13.52 A strategic flood risk assessment has been undertaken by consultants Jacobs Babbie, for the purposes of guiding future development within the Core Strategy area. Ensuring future development is not located within areas of high risk of flooding, or will contribute to increased flood risk resulting from fluvial flows within a functional flood plain, or by ground water/surface water is a key objective.

4.13.53 Planning Policy Statement 25: Development and Flood Risk (PPS25) states national policy for the future management of flood risk. Mineral development is defined as a less vulnerable form of development which may be accommodated within areas at high risk of flooding, subject to satisfying criteria including the proposal for not increasing flood risk within the area. The Environment Agency will advise on the acceptability of proposals.

4.13.54 Furthermore, the Environment Agency would have to be satisfied that flood risk has been assessed and is not considered unacceptable and that

conditions are attached to reduce flood risk, control surface run-off, and prevent pollution and harm within areas of ground water vulnerability.

4.13.55 The Sherwood Sandstone Formation is classified as a major aquifer, and comprises three main aquifer units locally, namely the Stourbridge, Wombourne and Birmingham Units, which are exploited by boreholes to supply large volumes of drinking water to areas in the west of the study area. The Environment Agency's Groundwater Protection Policy requires that backfill or landfill of worked out mineral sites (for restoration purposes) would have to be carefully controlled and contained to minimise potential breaches of potential pollutants or leachate to vulnerable groundwater resources. This will be particularly so in areas within the catchments of defined Source Protection Zones or Zones of Special Interest, which are put in place to protect these public water supplies, and need consideration where considering exploitation of future resources and restoration of former worked areas.

4.14 Summary of gaps in evidence

4.14.1 In summary the key gap in evidence relating to mineral planning in the Black Country which should inform the Joint Core Strategy Preferred Options Document is options for safeguarding minerals. The following Chapter summarises how these issues can be addressed.

4.14.2 A number of issues were highlighted as requiring further investigation. Some issues may be appropriate for consideration for inclusion in the Core Strategy, or may more appropriately be considered within a detailed DPD of the LDF for individual authorities which comprise the sub-region given the localised and detailed nature of the issue. It is recommended that these issues are used to shape the Preferred Options, focusing future stakeholder engagement on matters where there is scope to gather more robust evidence. For example:

- The Further discussions with operators and other mineral planning authorities will be required to resolve the shortfall in permitted reserves of sand and gravel, to ensure that the Black Country can continue to make an appropriate contribution towards the West Midlands Metropolitan area sub-regional apportionment. The level of contribution should take into account the availability of proven resources within the Black Country and

other parts of the sub-region, and potential constraints to mineral working within these areas.

- Further evidence also needs to be sought from mineral operators to verify the quantities of sand and gravel present in the area which could be exploited within the lifetime of the plan, to guide the identification of broad Areas of Search where mineral extraction may be permitted to maintain future aggregate supplies. Operators should be able to provide details of surveys etc. undertaken to prove the existence of viable resources. This will enable the authorities to “test” assumptions regarding the contribution that the Black Country could make towards the sub-regional apportionment up to and beyond 2026. It would be appropriate to defer consideration of specific locations put forward by operators to a site allocations DPD or other appropriate DPD, which can set out the more detailed environmental and amenity issues that need to be addressed at the planning application stage.
- Clarification that the percentage split of the sand and gravel proportional share of the regional apportionment, between the authorities which comprise the West Midlands County is appropriate and can be sustained, that is 90% of contribution from Solihull and 10% from the Black Country Authorities (Walsall);
- Clarification regarding the viability of safeguarding and exploiting the coal resource and associated fireclays resources;
- Whether it will be appropriate to make provision for stockpiling sites for brick and fireclays to support the minerals processing industry. This may be a matter which is more appropriately considered within a detailed development plan document;
- Linkages with mineral production/processing in the Black Country and sustainable spatial planning objectives relating to conserving and enhancing the historic environment, as well as supporting local distinctiveness when designing future development, regeneration and future patterns of growth and direct and indirect economic factors (including job creation and supporting the minerals extraction and processing industry in the Black Country);

- Consideration of emerging mineral planning objectives in adjacent authorities areas (Staffordshire, Solihull, Birmingham, Worcestershire) appendix C). this should be particularly with regards to the designation of Mineral Safeguarding Areas (MSAs) and related Mineral Consultation Areas where appropriate. Proposed non-mineral development growth which may prejudice mineral working within the Black Country Administrative boundaries together with the allocation of preferred areas/areas of search for future mineral working which may comprise proposed non-mineral development growth/regeneration within the Black Country, should also be considered (Appendix C).

4.14.3 The Joint Core Strategy provides an opportunity to consider minerals planning issues at a sub – regional level and in a wider spatial context. Adopted UDPs which comprise part of the Development Plan for the area include policies for future mineral development. It is acknowledged however, by the Authorities that it does not reflect more recent guidance and has not provided a strategic mineral planning context for the area to date.

4.14.4 It could be argued that mineral development has been considered to be a peripheral or localised planning issue, which may have resulted in important resources already being sterilised.

4.14.5 The following is a summary of recommended options which should be considered for inclusion in the Black Country Joint Core Strategy Preferred Options Document. The options take account of national guidance but more importantly reflect sub-regional mineral planning issues, the emerging Core Strategy wider spatial objectives as well as evidence from stakeholders engaged in the process to date:

- Options for Safeguarding Minerals;
- Options for supply of aggregate;
- Options for supply of other minerals;
- Options for sustainable mineral working; and
- Addressing Spatial Planning Issues – linkages to economy and environment, regenerations, growth, health, transport, climate change, and waste planning issues.

5 Safeguarding Minerals in the Black Country

5.1 Introduction

5.1.1 Minerals Safeguarding Areas (MSAs) are defined in national guidance as ‘areas of known mineral resources which are, or may in the future become, sufficiently economic or of conservation value to warrant protection for future generations’. The designation of an MSA across a land area does not automatically preclude other forms of development; it is created to ensure that potential mineral resources on or beneath the land are effectively considered during planning decisions for that land use. It should be emphasised that there is no presumption that mineral extraction will take place for any designated MSA as this will depend on a host of other land conditions, spatial planning policy and planning considerations/constraints for any particular area. It merely draws an awareness of the potential mineral resources during the planning process for any new development at a particular location.

5.1.2 National guidance seeks to ensure that mineral planning authorities in the preparation of development plans provide policy which safeguard minerals with economic potential. Evidence gathered during the Issues and Options stage of the Black Country Core Strategy demonstrates that although much of the mineral resource of the Black Country has been exploited or sterilised, the area supports a minerals industry which contributes to the supply of nationally, regionally and locally important minerals.

5.2 Approach to Defining MSAs

5.2.1 It is considered appropriate to identify resources which should be safeguarded from sterilisation. The recommended method for defining MSAs is outlined in the publication “A guide to mineral safeguarding in England” published by the British Geological Survey in 2007. The method comprises a staged approach including:

Step 1: Assess the best geological information available within the study area;

Step 2: identify the mineral resource which may be of or become of economic importance;

Step 3: decide how the physical extent of the resource areas to be safeguarded will be determined; and

Step 4: incorporate within the development plan document, clearly indicating the assumptions which have been made in defining the MSAs.

5.2.2 MSAs should not be curtailed by other planning considerations without justification. It is considered inappropriate to exclude areas at this strategic level without the benefit of considering the potential impact of future mineral working through the planning application process. Overlaying potential constraints to future mineral working can provide an indication regarding the potential of the resource however in line with BGS guidance for mineral safeguarding, reflecting guidance on spatial planning policies appropriate for inclusion in a Core Strategy, as well as guidance on the objectives of MSAs as a planning tool the step approach indicated above is the method employed in this study. Other planning consideration can be addressed

5.3 Geological and Mineral Resource information

5.3.1 A first step in identifying potential mineral resources, identifying and using the best available geological and resource information is paramount since although geological interpretation may vary and, economic considerations may change, the known geology does not. For the purposes of this study, the most up to date geological information readily available is that held by the British Geological Survey (BGS). In addition, a number of studies have focused on The Black Country which have also been used as background to this assessment.

5.3.2 For the four Unitary Authorities as the focus for this study, various studies have been published and have formed a useful background reference of key local geology for the initial assessment of MSAs in this study.

5.3.3 The base geological information in the form of 1:50,000 digital vector data for the study area was obtained from the BGS by licence agreement with Sandwell Council, as a start point in preparation of a comprehensive GIS database for this study. The available digital geological maps and data were of sufficient scale to allow an overview of key geology and anticipated areas on which to focus.

- 5.3.4 It should be noted that although having this geological map information in digital format from the BGS is a relatively recent development, the base data and maps on which they are based has been drawn from various historical sources. The available maps are based on primary mapping and geological memoirs undertaken in the late 1850s to early 1920s across the region from surface outcrops and historical mine plans, revisions in the 1950s, more detailed Coalfield mapping in the late 1970s, and minor revisions and updates between 1989-1991.
- 5.3.5 This mapping information at its best is very variable, highly interpretive based on personal interpretation from numerous individuals from isolated drift or solid geological exposures during original field mapping and, is therefore of variable quality and uneven distribution and geological boundaries are highly conjectural and typically approximate only, therefore delineation of mineral resources will be similarly imprecise. Further errors are likely to have occurred during transference of field sketch data during the original cartographic and/or lithographic processes. In addition, only a very small percentage of this 'definitive' mapped geological information will have been verified by ground proofing or cross referenced to available simple lithological logs, detailed borehole log data, site investigation reports or other archival information, hence there is still considerable uncertainty from incomplete information and inaccuracies associated with geological interpolation between proven deposits.
- 5.3.6 Furthermore, as an additional variable, a number of inaccuracies have been identified by RPS from the process of digitising information from printed map to digital form by various individual persons, especially at such a large scale, and a number of errors and inconsistencies have been identified both in graphical representation in lithostratigraphic nomenclature of geological features and strata between the older published BGS geological maps and the new processed digital versions. Indeed, as may be expected, certain smaller local features or ground conditions appear not have been represented or even omitted altogether. RPS have therefore taken much of this into account in the interpretation and preparation of the GIS generated maps and as best as possible cross referenced with the original published BGS Geological Maps and Mineral Resource Maps in the subsequent designation of the MSAs presented.

5.3.7 Added to this, the study area is vast covering an area of the order of 360km²+, the geology is varied, complex and wide ranging across the region. Specific detail on the individual formations is limited by the timescales available. The overall quality and coverage of geological information, however, is the best available and is considered sufficiently comprehensive to be used to assist in identifying potential mineral resources within and immediately surrounding the study areas to inform where MSAs may be defined for the purposes of inclusion in the Core Strategy and other related documents of the emerging LDF for the area.

5.4 Identification of key mineral areas of potential economic importance.

5.4.1 From the available geological information and various previous studies undertaken across the Black Country, a number of key geological formations have been identified as having the potential as exploitable mineral resources. For the purposes of this study, only primary mineral resources have been considered, that is, minerals derived from identified 'virgin' or unworked geological superficial deposits or solid 'bedrock' strata.

5.4.2 It should be noted that following the identification of a mineral resource of intrinsic economic interest (and associated MSAs), as guided by national and regional guidance taking into account local issues related to mineral planning and nature of the minerals industry, the subsequent quantification or estimation of an individual mineral reserve within an identified potential mineral resource was outside the scope of this assessment, given the large number of other variables or modifying factors which would need to be considered for each location (eg. economic viability, land values, governmental, legal, social, or environmental pressures or constraints). In addition, it is likely that site specific ground proofing by intrusive site investigation would be required in any case, to more accurately assess the lithological quality and vertical and lateral extent for quantifying any potential Mineral Reserve.

5.4.3 Furthermore, given the predominantly densely urban areas, in the main only shallow, near surface, or actual surface ('outcropping') geological formations have been considered for economical development. The exception would be where the mineral resource is considered strategically significant or of sufficiently high value or importance as to warrant exploitation. For example,

the Etruria Marl being a nationally important resource may be considered viable where it may be present beneath a shallow superficial deposit, or at a geological boundary where it dips below a geological formation of lesser importance. In these cases the MSA boundaries should be considered to have a 'downdip' extension beneath the overburden formation. Likely extent or directions of downdip extensions have not been quantified in the assessment of MSA areas. Historically this has also been the case for example with Much Wenlock Limestone where shallow adits and deeper mines were used for winning the limestone.

5.4.4 Based on the above and following a rigorous assessment of the various reports, maps, publications and other geological information, in summary the following key mineral resources within The Black Country have been identified, and generally confirm previous overview studies, as follows:

Clay – Extensive deposits of Etruria Formation Clay in Dudley the western side of Sandwell and Walsall of national importance. To a lesser extent due to their relatively poor quality, clays sourced from Fire-Clay, argillaceous deposits within the Keele and Enville Formations formerly used for brickmaking and to a minor extent the Clent Formation.

Sand and Gravel – River deposits and glacial deposits in various locations throughout the Black Country, also significant solid deposits of Sherwood Sandstone outcrops in Dudley, Walsall and Wolverhampton (Kidderminster Formation), sand (silica sand) from Wildmoor Sandstone and to a lesser extent building sand from Brignorth Sandstone to the west of Dudley

Limestone – Isolated outcrops of Much Wenlock Limestone, Upper and Lower Quarried Limestone in Dudley and Walsall, named due to their importance to the quarrying industry. Also to lesser extent limestone from the Aymestry Limestone and Barr Limestone strata.

Dolerite – Isolated outcrops of dolerite (colloquially known as Rowley Rag) in Dudley and Walsall and more extensive outcrops in Sandwell to the west of Oldbury and Wolverhampton at Wednesfield.

Coal Measures – Extensive deposits of shallow coal in Dudley, Sandwell, western side of Walsall and eastern side of Wolverhampton [Note that further information and consultation is required regarding the potential for

including Coal within MSAs, (See Chapter 3) however for the purposes of consultation on the Core Strategy Preferred Options Document the coal measures have been indicated on Figure 2.

Other potential resources and important specialist resources– It is important to try to maintain a local supply of stone used for the conservation of historic buildings and features within Conservation Areas. Examples of such stone includes Gornal Stock (limestone), which is found in Dudley, and good quality Rowley Rag (dolerite) which occurs in areas in Wolverhampton, Sandwell and Walsall. In addition, specialist brickworks, such as Cradley Special Brick, rely upon the supply of local Fireclay associated with local opencast coal workings.

All the above are graphically presented on Figure 2 and 3 inclusive.

5.4.5 Throughout the life-cycle of the project, a GIS database of information was built-up that provided an information framework forming the basis for spatial queries. Data was acquired from a range of sources, Local Authorities and BGS for example. It was necessary to ensure that a coherent database of information was gathered across the four districts to allow consistent cross analysis. BGS data from the four districts were merged to create one Black Country dataset covering the whole of the study area. Data included superficial and bedrock polygons to delineate areas of key mineral resources. These key mineral resources were refined into seven sub-groups, such as sand and gravels, bedrock, brick clay, etc. To generate Mineral Safeguarding Areas the areas of key mineral resources were buffered to suitable distances, such as 50m for brick clay, 250m for building stone and sand and gravels and 500m for limestone and dolomite.

5.5 Refining resources and consultations with industry/stakeholders

5.5.1 The refinement and verification of the identified potential resources outlined in the above sections is based on evidence derived through consultation with industry and relevant consultees during the Issues and Options stage of the Core Strategy. This has been supplemented by follow-up consultation carried out by the Black Country Authorities through meetings and correspondence with industry representatives and individual mineral operators.

- 5.5.2 In the main, all those with a current interest in the mineral resources of the Black Country were contacted, namely the larger mineral operators such as the sand and gravel and hardrock extractive, quarrying and aggregate industries and brickmakers, to gain a response on the current mineral winning activity across the sub region. Obvious commercial sensitivities have been taken into account with confidentiality assured where necessary in relation to this study.
- 5.5.3 The numerous responses from operators have been listed and content summarised at Appendix B to this report. These responses in part represent the best available local knowledge on the current demand for minerals and estimates of potential future resources in and around these operational sites.
- 5.5.4 The key currently operational sites are presented on Figure 1. Former larger documented quarries and extractive areas which have recently or historically closed, have also been included. Together this information has led to a better understanding of the local mineral industry, and provides a useful starting point for key areas on which to focus for projecting future workable resources, and to cross reference to the designated MSAs.

5.6 Recommendations

- 5.6.1 Proposed MSAs for the Black Country have been identified as a key part of this study. The method guiding this process is based on best practice as stated by the BGS, best available geological information and supplemented by evidence gathered in consultation with the minerals industry.
- 5.6.2 It is recommended, however, that further consultation is conducted with industry and other stakeholders involved in the development plan process to achieve the following objectives:
- To confirm that the appropriate resource types are included within MSAs, for example is it appropriate to extend MSAs to cover the coal strata and associated fireclay;
 - To further refine the MSAs which have been proposed; and
 - To consider how the proposed MSAs may be incorporated within the emerging development plan documents to inform further development within the Black Country, that is:

- Illustrated on the key diagram within the Core Strategy;
- Guide development control processes, consideration of prior extraction of minerals for non-mineral development proposals; and
- To inform preferred areas and areas of search for future mineral working in the Black Country.

6 Conclusion and Recommendations

6.1 Conclusion

- 6.1.1 The study and summary of findings contained within this report are a strategic overview of mineral planning issues within the Black Country with the key objective of informing the development of Preferred Options for the Black Country Core Strategy. It forms part of the evidence base for strategy development, summarising the extensive evidence gathered by the Authorities during the Issues and Options stage of the plan making process. It should be read in conjunction with other key evidence, including the Black Country Core Strategy Minerals Background Paper Version 2 (February 2008), The West Midlands Regional Aggregate Working Party Annual Report 2005, A Survey of Current Mineral Resources in the Black Country (Scot Wilson Consultants March 2007).
- 6.1.2 The findings, summary and recommendations of this report have not been subject to testing through the Sustainability Appraisal Framework developed for the Core Strategy, and it is recommended that this will be necessary to demonstrate the “soundness” of the recommended options.
- 6.1.3 Account has been taken of other spatial planning issues, but the recommendations have been developed in isolation of these. Integration of the strategic option suggestions in this report with other spatial planning options will be required.
- 6.1.4 An important message that is clear from appraising evidence is that to date, mineral planning has been considered a peripheral issue and not dealt with at a sub regional level integrated into other aspects of planning in the Black Country. National mineral planning guidance has changed and regional policy is under review. Emerging strategies in this area need to take this into account, and the Core Strategy provides an opportunity to resolve limitations of previous mineral planning policy.
- 6.1.5 The approach to identifying proposed MSAs is based on best practice as guided by the BGS. However it is recommended that additional consultation is necessary with the industry to refine these areas further. Furthermore a policy framework guiding development control of mineral and non-mineral

development needs to be developed within the Core Strategy and related DPDs, to clarify the purpose and objectives of MSAs in the Black Country.

- 6.1.6 A joined-up approach with adjacent authorities on mineral planning matters is recommended to ensure that Black Country spatial planning objectives are fully realised.

Figure 1 – Black Country Study Area Context Map

Figure 2 – Summary Geology of the Black Country

Figure 3 – Black Country Geology (Key Mineral Resources)

Figure 4 – Black Country Proposed Mineral Safeguarding

Figure 5 – Potential Constraints to Future Mineral Development

Appendix A. Mineral Study Scoping and Review Table

See separate document

Appendix B. Black Country Core Strategy Issues and Options: Summary of Consultation Responses (Confidential)

Appendix C. Review of Adjacent Mineral Planning Authority - Mineral Planning Issues

Appendix D. Summary of Mineral Planning Issues for Walsall, Dudley, Wolverhampton and Sandwell (Confidential)