

# Mineral Resources

*Draft Supplementary Guidance - January 2018*



# Dumfries and Galloway Council

## Mineral Resources Supplementary Guidance

### Introduction

The purpose of this Supplementary Guidance (SG) is to provide further detail to Local Development Plan 2 (LDP2) Policy ED13: Minerals. It also includes maps showing consented extraction sites that are underlain by the mineral reserves that make up the landbank of mineral reserves. It also identifies areas where surface coal extraction is most likely to be acceptable.

A mineral resource is a concentration or occurrence of material of intrinsic economic interest in or on the earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. Dumfries and Galloway possesses a variety of important mineral resources which can mainly be categorised as either aggregate<sup>1</sup> or non-aggregate construction minerals. Sand and Gravel, Sandstone and Crushed Rock are collectively known as aggregate minerals used in the construction and repair of roads and buildings. They are worked by surface extraction. Non-aggregate minerals such as Dimension Sandstone, Granite and Greywacke (a form of sandstone) are worked in a similar fashion, but are of specific use, such as in the construction of natural stone buildings and in the repair and maintenance of historic buildings and structures. Additionally, energy minerals play an important role in the national economy. Upper Nithsdale and the lower Canonbie area contain the region's coal deposits, with upper Nithsdale being the main coal bearing area. At present, neither coal areas are being worked from lack of market demand.

Minerals are valuable finite resources that can only be worked where they are found. It is therefore important that their sterilisation by other development is avoided where possible, and that continuity of supply is ensured. Non mineral development in or adjacent to areas of known resources, which risks extraction potential will not be considered favourably. However, an opportunity may be permitted to extract that resource prior to non mineral development taking place.

This SG provides an assessment of mineral reserves and concludes that the current estimated landbank is sufficient to maintain a 10+ year extraction for the lifetime of the Plan, and therefore no areas of search are proposed. Ongoing monitoring of minerals will ensure that the above approach is appropriate, however should the need arise to identify mineral search areas, it will be accomplished by means of SG.

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<sup>1</sup> Aggregates are normally defined as being hard granular, materials which are suitable for use either on their own or with the addition of lime, cement or bituminous binder [British Geological Society].

## Policy ED13: Minerals

Permanent development that would result in the sterilisation of mineral resources that are viable at present or that may become viable in future and which either could be extracted in accordance with LDP policy or which are the subject of extraction interest will not be permitted.

Proposals for new mineral workings or the extension of existing workings will be supported where the following have been addressed to the satisfaction of the Council:

- disturbance and disruption from noise, blasting and vibration and potential pollution of land, air and water;
- the impact on local communities and residential property, landscape, visual amenity, the historic environment and areas of nature conservation interest during and after development;
- the impact on surface and ground water resources, drainage and fishery interests and soil (see Policy NE12 and NE13);
- effective and sustainable waste solutions in the reuse of mineral waste or any secondary material;
- the cumulative effect of all of the above, especially if there are already two or more consented sites that could raise similar impacts within 5km of a nearby settlement;
- transport assessment demonstrating that the development will not have a significant negative impact on local communities;
- a site restoration scheme where appropriate including an aftercare programme and a financial guarantee to ensure the programme can be fully implemented; and
- an appropriate method statement.

Proposals for surface coal mining will **also** need to demonstrate that:

- there are local, community or economic interests which would outweigh the likely environmental impacts; or
- the proposal is environmentally acceptable or can be made so.

This policy is supported by supplementary guidance. The guidance includes maps showing consented extraction sites that are underlain by the mineral reserves that make up the landbank of mineral reserves. It also identifies areas where surface coal extraction is most likely to be acceptable.

### Mineral Assessment and Analysis Tables

The assessment looks at the data collected from operators throughout the region in October 2017. Before this analysis can be outlined it is first necessary to discuss the terminology used in the assessment.

The terms 'reserves, 'mineral reserves' or 'permitted reserves' refer to the remaining resource which has a valid planning permission for working that mineral. Without a valid planning permission no mineral working can legally take place and the inherent

value of a resource cannot be released<sup>2</sup>. These reserve areas have undergone appropriate assessments by the operators to demonstrate that the quality and quantity of the mineral can be estimated to a level of confidence which could reasonably justify planning permission being granted<sup>3</sup>.

A Mineral landbank should ensure that a stock of reserves, with planning permission, is maintained to provide an adequate supply of minerals over a 10 year period based on current production levels. The 10 year period recognises the likely time scale between the operator deciding that there is a need for a new site and bringing that site into full production.

If a quarry has a remaining period of planning permission of more than ten years then it is considered to be sufficient and is not of concern for analysis purposes. Conversely, if a mineral extraction site/quarry has less than ten years remaining of planning permission then the quarry itself would fall into a category for consideration. The decision to safeguard that quarry would be then dependent on the supply and demand for that mineral in the market area.

In order to assess the supply of minerals, market areas were defined. Due to the linear nature of Dumfries and Galloway two locations at opposite ends of the region were selected, thus dividing the market into two areas (see map in appendix A). Market area A was centred on Dumfries, the regional capital and market area B was centred on Stranraer, as it is the largest centre for that part of the region. A 50km boundary was drawn around each centre as this is the British Geological Society (BGS) acknowledged distance from within which an operator can economically supply / transport minerals to its respective market. The existing quarry locations were then plotted which identified which market area that operation (in theory) supplied.

In order to make an assessment of market supply the following tables examine extraction rates, permitted reserves and remaining physical reserves for each mineral worked. They reveal that nearly all the mineral workings analysed, have been found to be sufficiently supplying their markets and have a landbank of 10+ years or more.

There are a number of dormant quarries which would suggest that current market demand is less than that of the permitted reserves. Therefore, for these sites, there is no requirement for the mineral reserves to be safeguarded.

For the purpose of analysis, market areas inside the Dumfries and Galloway region were firstly considered. This was on the basis that should a particular mineral resource require safeguarding, then markets outside the region's boundary would be considered.

The information contained in the following tables can be used to determine further applications when considering sustainable supply. Care is needed to ensure a particular mineral is not over supplied.

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<sup>2</sup> [BGS/SE Geology and Mineral Planning Factsheets for Scotland 2007]

<sup>3</sup> [Fiona McEvoy, BGS 2009]



### Greywacke (form of sandstone)

Site Name	(A) Operators anticipated yearly extraction rate, in tonnes.	(B) Expiry date of current planning permission	Estimated resource at Oct 2017 in tonnes	Market Area (see attached map)
Coatsgate Quarry, Beattock	Dormant	Dec-2035 (>10yrs) 18yrs	5 million	A
Morrinton Quarry, Dumfries	100,000	Feb-2042 (>10 yrs) 25yrs	Under review (2.2 million as of 2012)	A
Beattockhill Quarry, Moffat	70,000	Jan-2022 (<10yrs) 5yrs	750,000	A
Tongland Quarry, Kirkcudbright	75,000	Aug – 2031 (>10yrs) 14yrs	1 million	A
Croach Quarry, Cairnryan	Dormant/supply on a contract basis	Jul -2044 (>10yrs) 27yrs	2.4 million	B
Barlochart Quarry, Glenluce	100,000	Feb-2042 (>10yrs) 25yrs	3.4 million	B
Dindinnie Quarry, Stranraer	26,000	Feb – 2020 (<10yrs) 3yrs	850,000	B
Old Hall, Drumflowers, Dunragit	21,000	Nov – 2019 (<10yrs) 2yrs	400,000	B

Market area A; has three quarries with an estimated landbank supply of 10yrs or more and one quarry which have an estimated landbank supply of less that 10yrs. One quarry is now dormant which may suggest a downturn in market demand.

Market area B; has two quarries with an estimated landbank supply of 10yrs or more and two which have an estimated landbank supply of less that 10yrs. However there is a lesser quantity of minerals being produced, and one quarry is dormant.

## Granite

Site Name	Operators anticipated yearly extraction rate, in tonnes.	Expiry date of current planning permission	Estimated resource at Oct 2017 in tonnes	Market Area (see attached map)
Dalbeattie Quarry, Craignair	100,000	Nov-2042 (>10yrs) 25yrs	5.7 million	A
Tongland, Kirkcudbright	75,000	Aug-2031 (>10yrs) 14yrs	500,000	A
Creetown Quarry, Carsluith	Dormant	Feb-2042 (>10yrs) 25yrs	1.5 million	B

Market area A; has two operational quarries, both of which have an estimated mineral landbank in excess of 10 yrs.

Market area B; has one dormant quarry which has an estimated landbank in excess of 10 yrs landbank.

Overall supply of granite appears to be low, despite large quantities of estimated resources and landbank of supply; this may indicate a lack of market demand.

## Sand & Gravel

Site Name	Operators anticipated yearly extraction rate, in tonnes.	Expiry date of current planning permission	Estimated resource at Oct 2017 in tonnes	Market Area (see attached map)
Jericho Bridge, Locharbriggs	150,000	Apr-2029 (>10yrs) 12yrs	3.1 million	A
Nether Murthat Farm, Beattock	0	Expired		A
Barburgh Mill, Auldgirth	100,000	Dec-2027 (>10yrs) 10yrs	1,500,000 (subject to planning)	A

Mid Dargravel Farm, Collin	unknown	Expired (awaiting planning app)	unknown	A
Broom Estate, Powfoot	100-150,000	Oct-2039 (>10yrs) 22yr	2.2 million	A
Kilblane Quarry, Locharbriggs	100-150,000	Dec- 2024 (<10yrs) 7yrs	unknown	A
Clayshant Pit, Stoneykirk, Stranraer	60,000	Jun-2021 ( <10yrs) 4yrs	300,000	B
Whitcrook Pit (Asphalt), Glenluce	20,000	Jul-2026 (<10yrs) 9yrs	250,000	B
Linloskin Quarry, Newton Stewart	25	Dec -2029 (>10 yrs) 12yrs	30,000	B
Aird Quarry, Castle Kennedy	30,000	Apr –2029 (>10yrs) 12yrs	480,000	B
Balgracie Farm, Leswalt	0	Expired	unknown	B
Bells Quarry, Sandhead	29,000	Nov – 2029 (>10yrs) 12yrs	250,000	B
South Boreland, Dunragit	75,000	Feb- 2042 (>10yrs) 25yrs	unknown	B

Market area A has three quarries with an estimated 10yr landbank or more and one quarry with a landbank less than 10yrs. One quarry has been worked out and restored and another quarry's planning permission has expired.

Market area B has four quarries with an estimated landbank of 10yrs or more, and two quarries with less than a 10yr landbank. One quarry's planning permission has expired. South Boreland is a new quarry formed to replace the two quarries with less than 10yrs: Whitcrook and Clayshant Pit, as the resources at those locations are nearing exhaustion.

Sand and Gravel has the greatest number of active workings throughout the region.

Supply is greatest in market area A, where large quantities of resources are available. Whilst a number of quarries have ceased operations, these were smaller quantities being supplied and due to the number of remaining active workings throughout the region supplying larger quantities, it is not considered necessary at this point to safeguard these sites.

### Dimension Sandstone

Site Name	Operators anticipated yearly extraction rate, in tonnes.	Expiry date of current planning permission	Estimated resource at Oct 2017 in tonnes	Market Area (see attached map)
Locharbriggs Sandstone, Dumfries	4,000	Feb – 2042 (>10yrs) 25yrs	430,000	A
Corsehill Quarry, Annan	20,000	Aug- 2029 (>10yrs) 12yrs	350,000	A
Corncockle, Templand	10,400	Oct- 2028 (>10yrs) 11yrs	150,000	A
Cove Quarry	unknown	Nov 2020 (<10yrs) 3yrs	unknown	A

Market area A has three quarries with an estimated landbank of 10yrs or above and one quarry with an estimated landbank of less than 10yrs. Market B does not have an active or permitted quarry for this mineral.

Dimension sandstone is an important resource for the region, however on the basis of ratio of supply to the quantity of estimated resources; evidence would suggest this resource is not under pressure from either demand or supply.

### Limestone

Site Name	Operators anticipated yearly extraction rate, in tonnes.	Expiry date of current planning permission	Estimated resource at Oct 2017 in tonnes	Market Area (see attached map)
Kelhead Quarry	100,000	Apr 2033 (>10yrs) 16yr	1.5 million	A

Market area A has the only Limestone quarry for this region. The estimated landbank of supply is more than 15yrs.

## Crushed Rock

Site Name	Operators anticipated yearly extraction rate, in tonnes.	Expiry date of current planning permission	Estimated resource at Oct 2017 in tonnes	Market Area (see attached map)
Grange Quarry, Tundergarth	300,000	Jan-2061 (>10yrs)	9 million	A

Market area A has the only crushed rock quarry for the region; it has an estimated landbank well in excess of 15yrs supply.

## Mineral Resources

The following maps show sites that are underlain by the mineral reserves associated with the various quarries identified in the Analysis Tables above and any land with underlying coal resource. Coal can be found in Upper Nithsdale (around Sanquhar and Kirkconnel / Kelloholm) and around Canonbie in the east of the region.

The quarry maps show both bedrock geology (maps 1-5), which includes minerals such as granite and greywacke and superficial geology (maps 6-7), which includes those minerals obtained by surface extraction such as sand and gravel. Please note that these maps have used BGS data which divides the geological layers and each mineral type into separate smaller polygons / areas of varying sizes – so an entire area of granite, for example, may be divided into many smaller zones. Therefore, please note that the extent of the mineral shown around each quarry does not necessarily indicate how far that particular mineral type extends. These maps only show the particular polygon (mapped by the BGS) that is associated with the identified quarry. The coal maps (maps 8-9) show those areas which have been subject to planning permission as identified on the Council's Geographical Information System (GIS). These maps only show the particular polygon (mapped by the BGS) that is associated with the identified quarry.

## Coal Maps

The coal maps (maps 8-9) show those areas where coal resources are known to be found as identified on the Council's Geographic Information System (GIS). For clarity and to direct surface coal extraction to the most appropriate locations, so communities and the industry know where future development might arise, the coal resource areas' (CRA) of Upper Nithsdale and the lower Canonbie area have been refined further to exclude those sensitive environmental assets and landscapes so they can be protected from development. These include- Ramsar and Natura 2000 sites, World Heritage Sites, SPAs/SACs, SSSIs, NNRs, NSAs, Inventory of Gardens and Designed Landscapes, Inventory of Historic Battlefields, Wild Land, Carbon rich soils, deep peat and priority peatland, ancient woodland; and a 500 metres exclusion zone

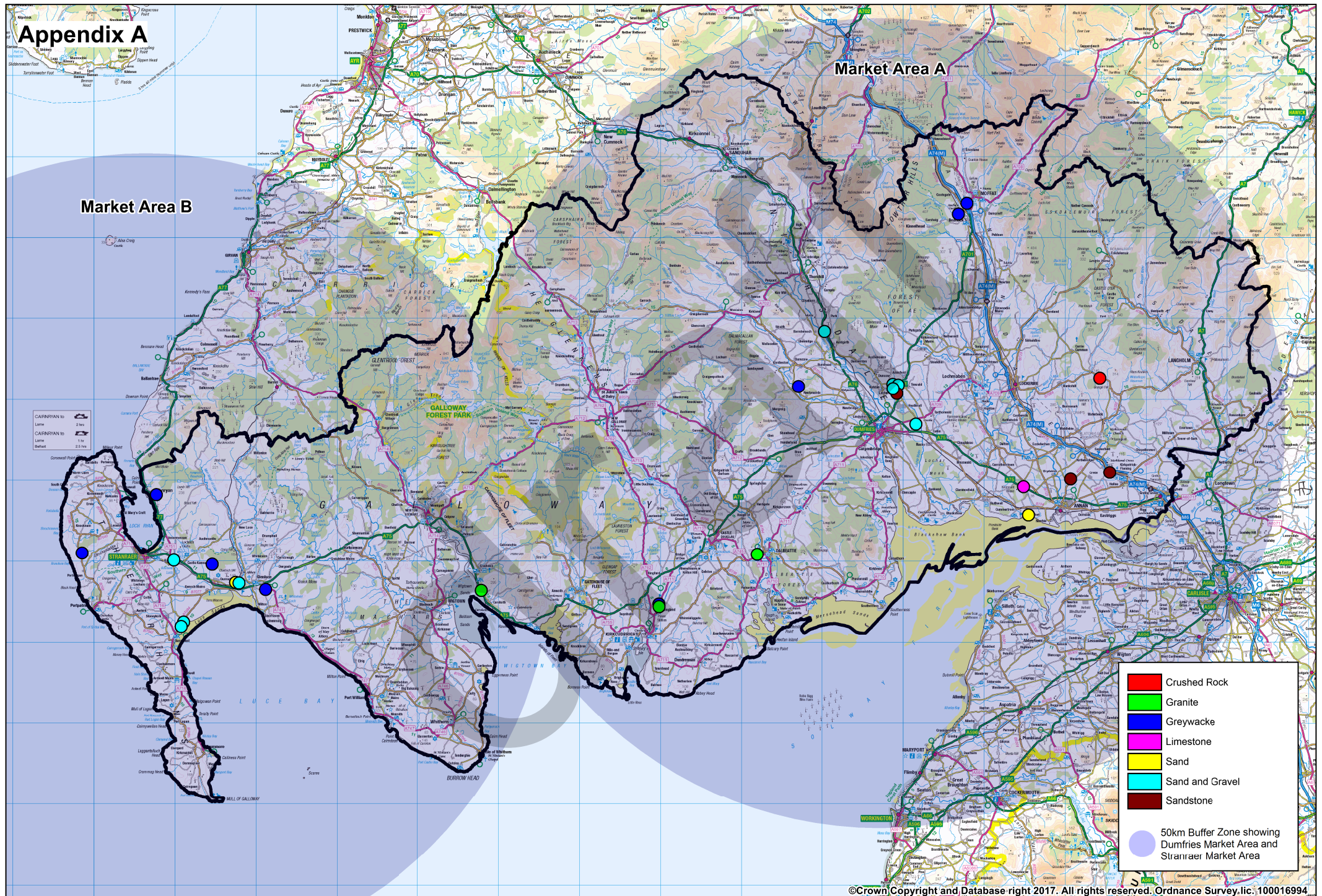
around settlements identified in the settlement hierarchy table.

Only those sensitive environmental assets that are present within the coal resource areas are shown on the coal maps. Coal map 8 shows that in the Upper Nithsdale CRA , there is ancient woodland present. Sanquhar and Kirkconnel, identified in the settlement hierarchy table, are located within this CRA. A 500m exclusion buffer surrounds both settlements. Coal map 9 shows that in the Canonbie CRA there is ancient woodland present. No settlements identified in the hierarchy table are present, therefore no exclusion buffer is present. Any future mineral proposals would need to avoid these areas in both CRA's.

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# Appendix A



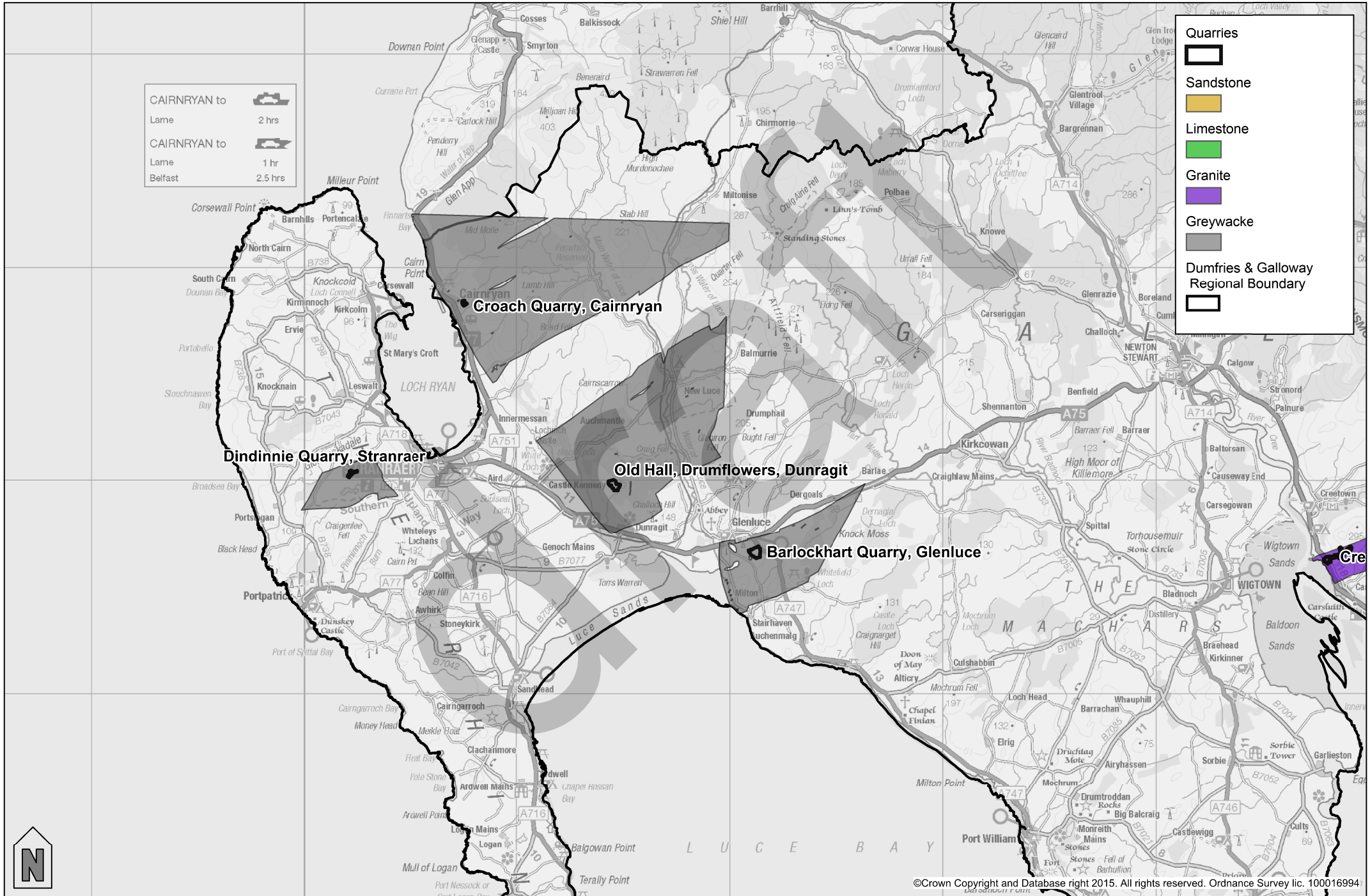
Market Area A

Market Area B

- Crushed Rock
- Granite
- Greywacke
- Limestone
- Sand
- Sand and Gravel
- Sandstone
- 50km Buffer Zone showing Dumfries Market Area and Stranraer Market Area

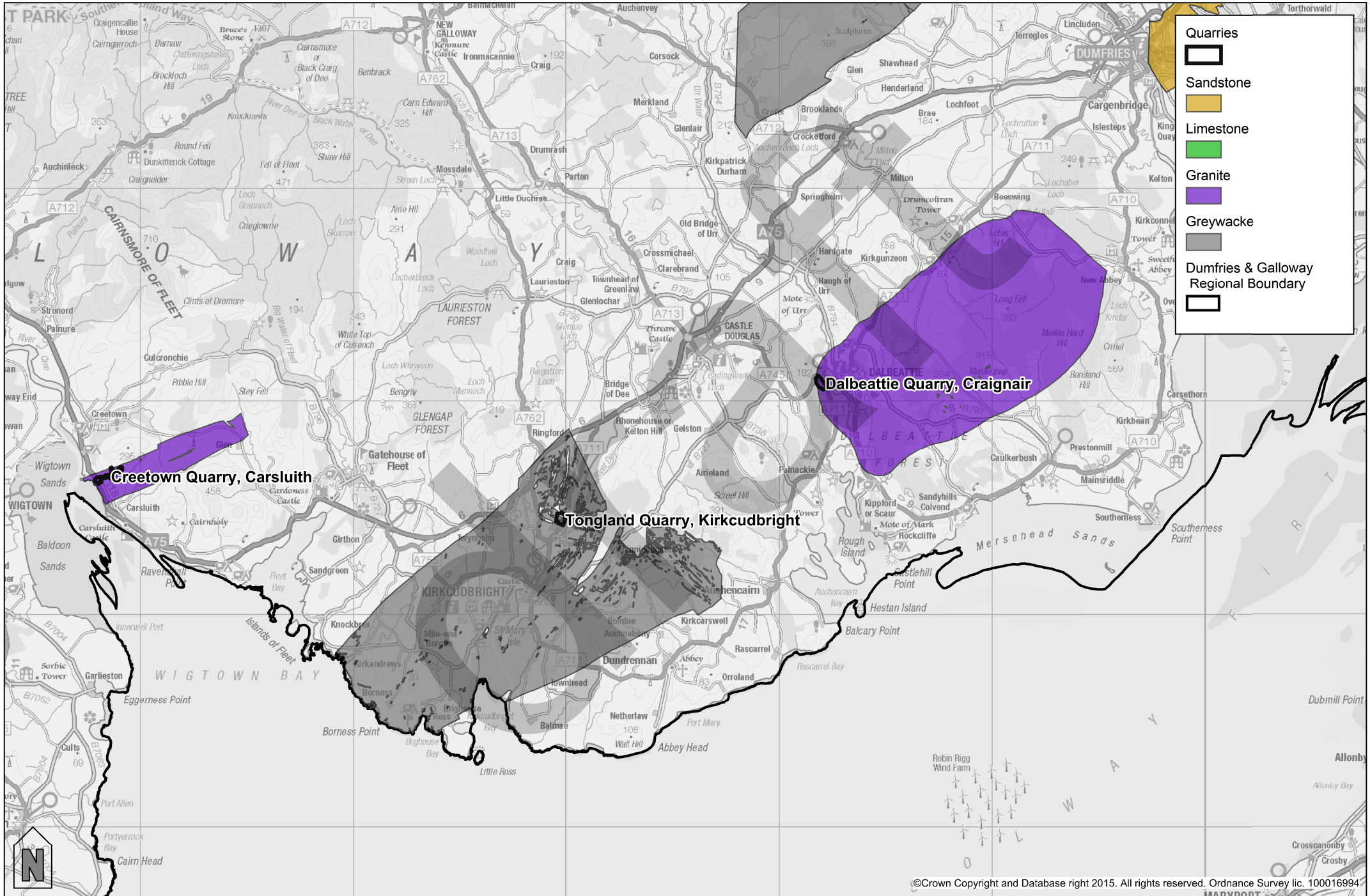


# Quarry Locations and Underlying Minerals: Map 1





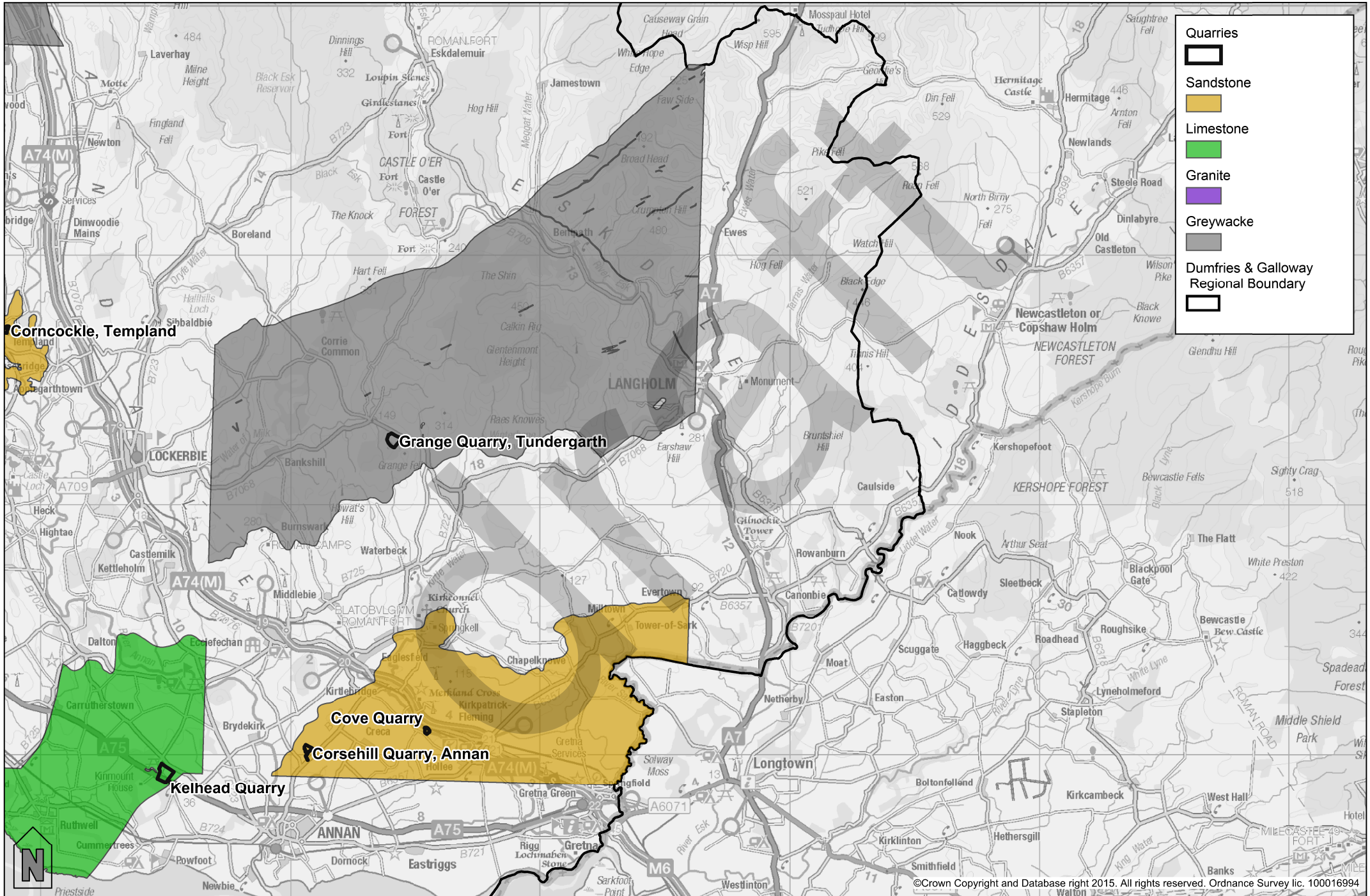
# Quarry Locations and Underlying Minerals: Map 2







# Quarry Locations and Underlying Minerals: Map 4







# Quarry Locations and Underlying Minerals: Map 6

















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**LOCAL DEVELOPMENT PLAN 2**

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