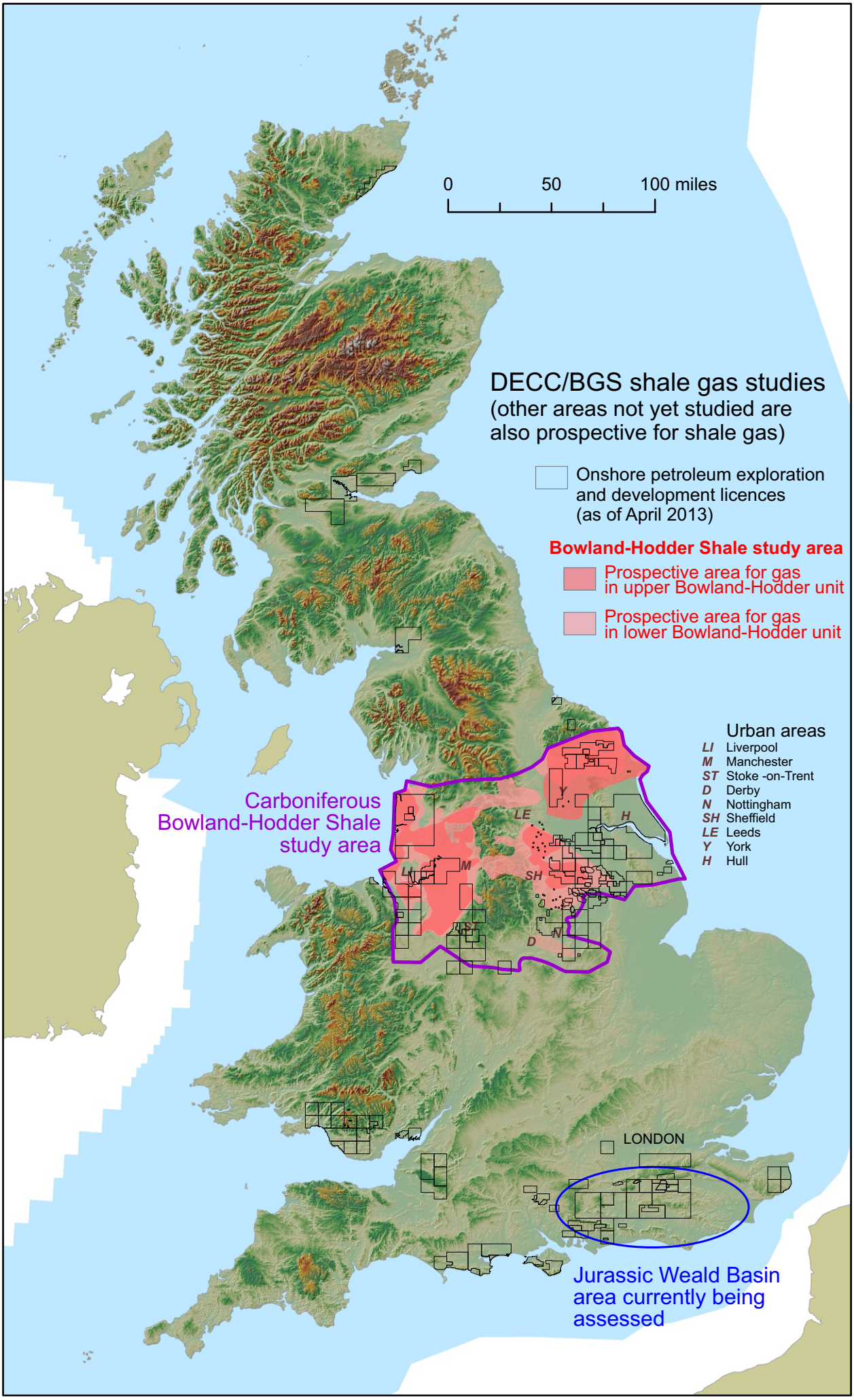
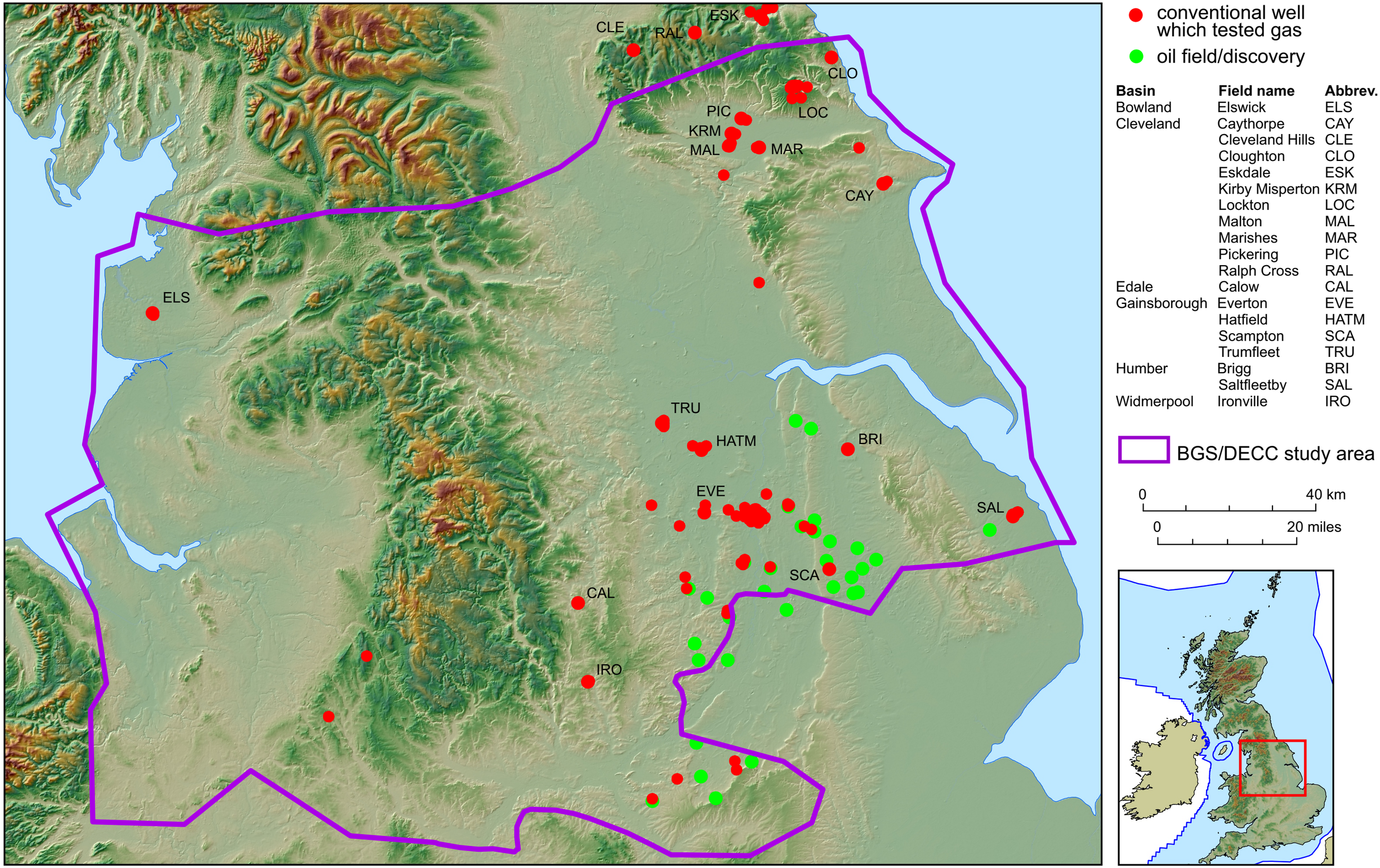


Figure 1. Location of the DECC/BGS study area in central Britain, together with prospective areas for shale gas, currently licensed acreage and selected urban areas. Other shale gas and shale oil plays may exist.



Basin	Field name	Abbrev.
Bowland	Elswick	ELS
Cleveland	Caythorpe	CAY
	Cleveland Hills	CLE
	Cloughton	CLO
	Eskdale	ESK
	Kirby Misperton	KRM
	Lockton	LOC
	Malton	MAL
	Marishes	MAR
	Pickering	PIC
	Ralph Cross	RAL
Edale	Calow	CAL
Gainsborough	Everton	EVE
	Hatfield	HATM
	Scampton	SCA
	Trumfleet	TRU
Humber	Brigg	BRI
	Saltfleetby	SAL
Widmerpool	Ironville	IRO

Figure 3. Distribution of wells (not including coal-related CBM or vent gas) which have tested gas and oil in central Britain (from DECC data).

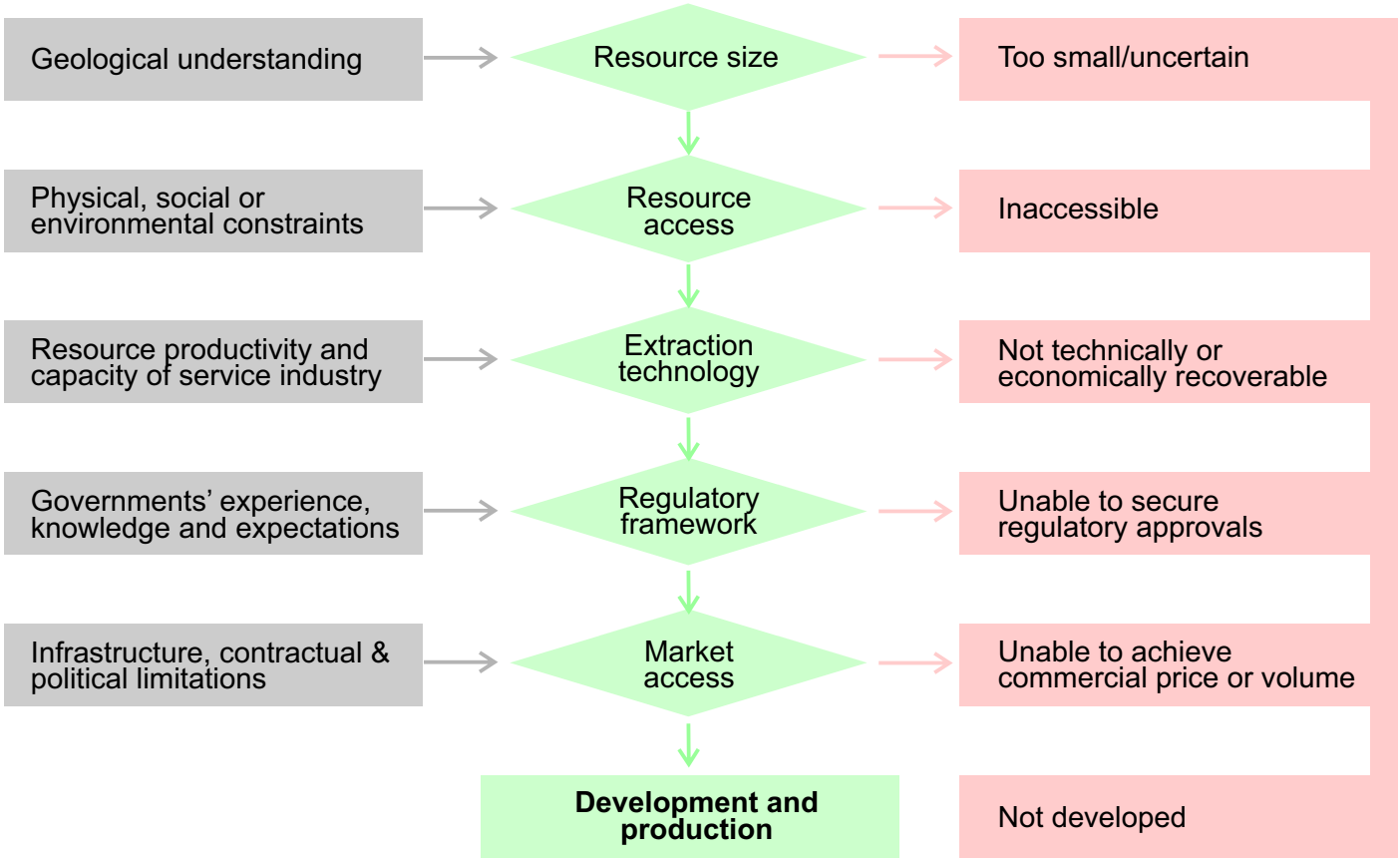


Figure 4a. Factors determining the viability of natural gas developments (IEA 2011).

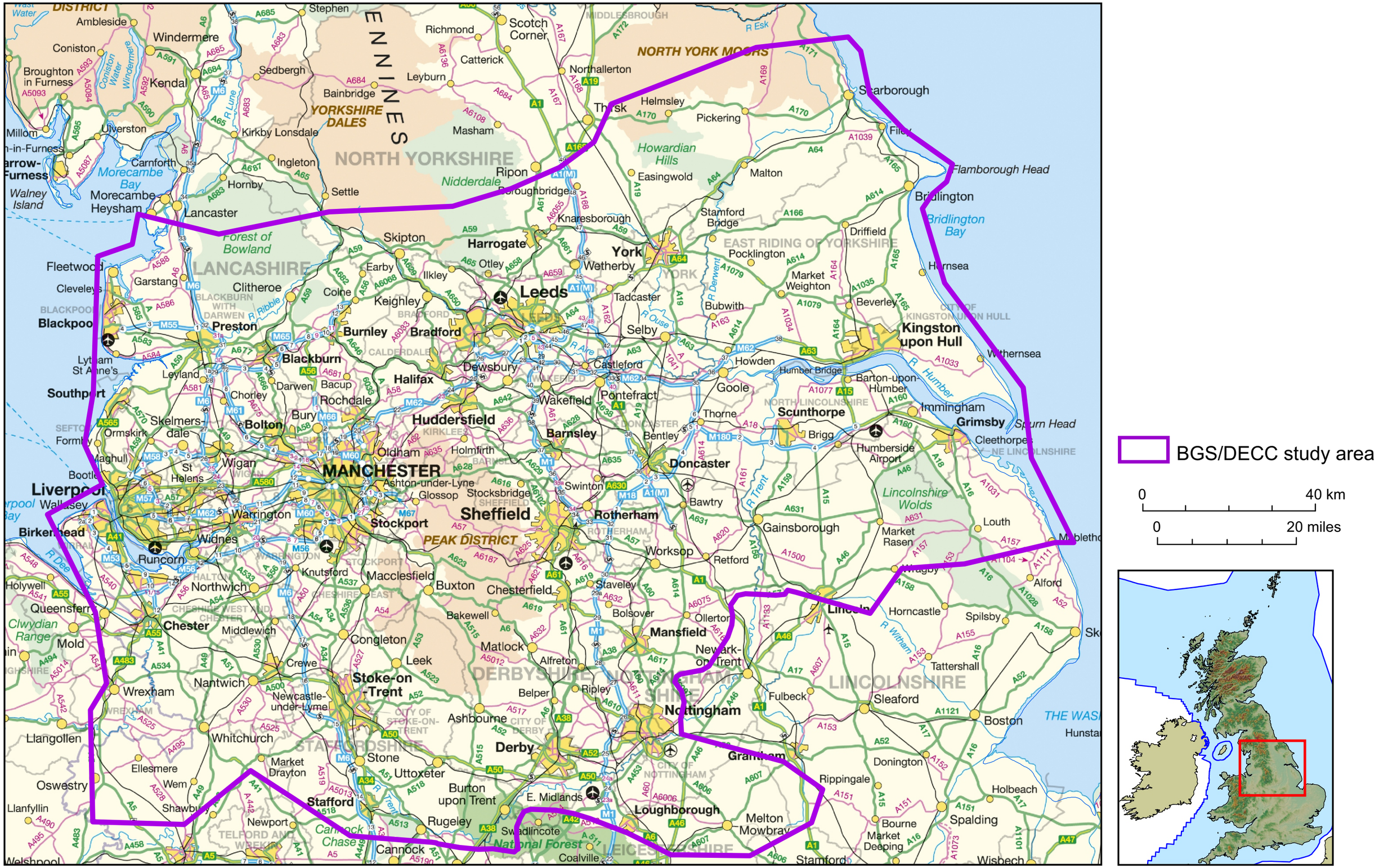


Figure 6. Location of the BGS/DECC shale gas study area, central Britain. Contains Ordnance Survey data © Crown copyright and database right 2013.

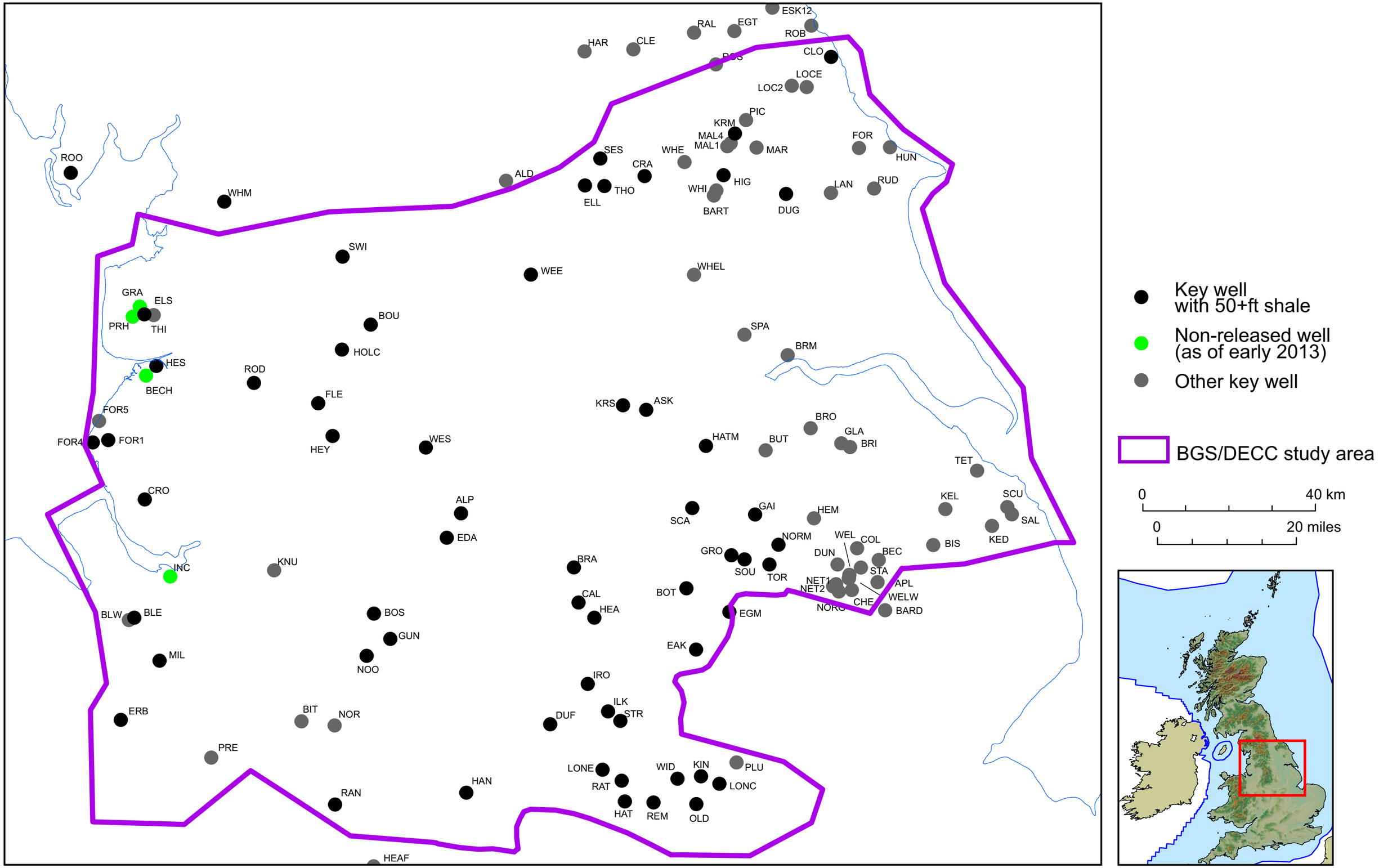


Figure 7. Location of key wells, non-released wells and other wells providing important stratigraphic information used to assess the shale gas potential of central Britain.
See Appendix C for details of well name abbreviations and stratigraphic information.

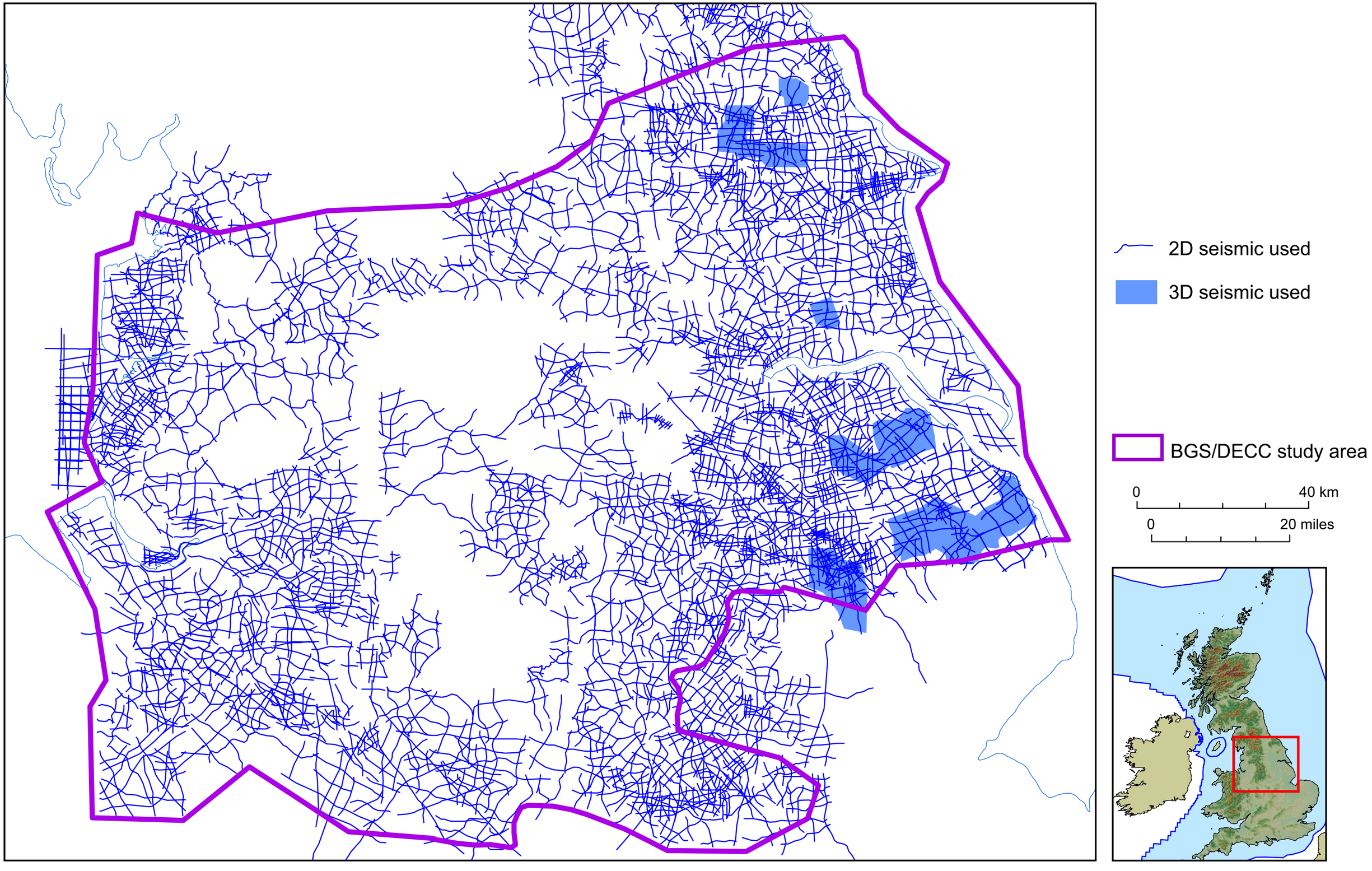


Figure 8. Location of 2D seismic profiles and 3D surveys used to assess the shale gas potential of central Britain.

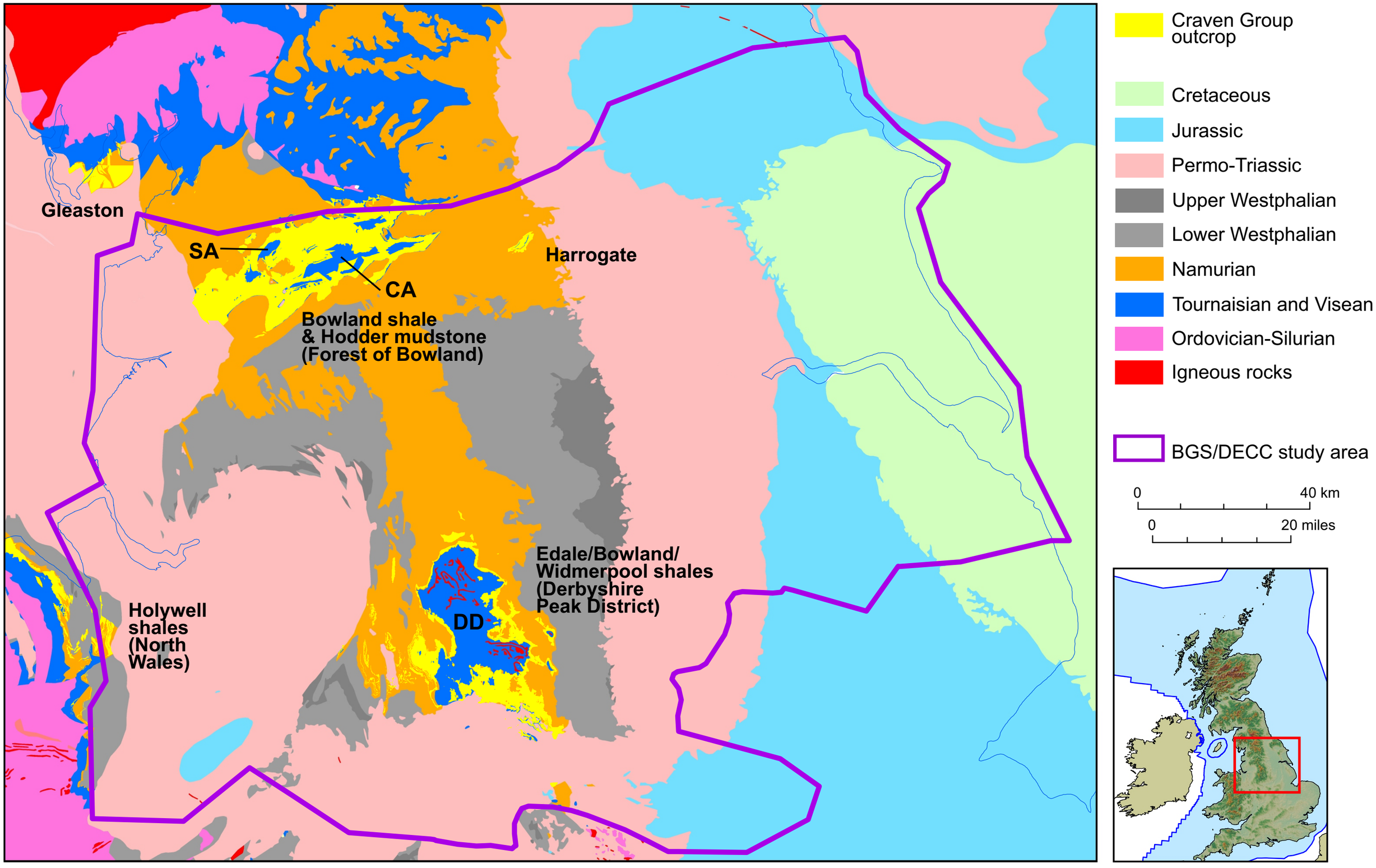


Figure 9. The five main Craven Group outcrops in central Britain (from BGS 1:50,000 mapping). DD = Derbyshire Dome; CA = Clitheroe Anticline; SA = Slaidburn Anticline.

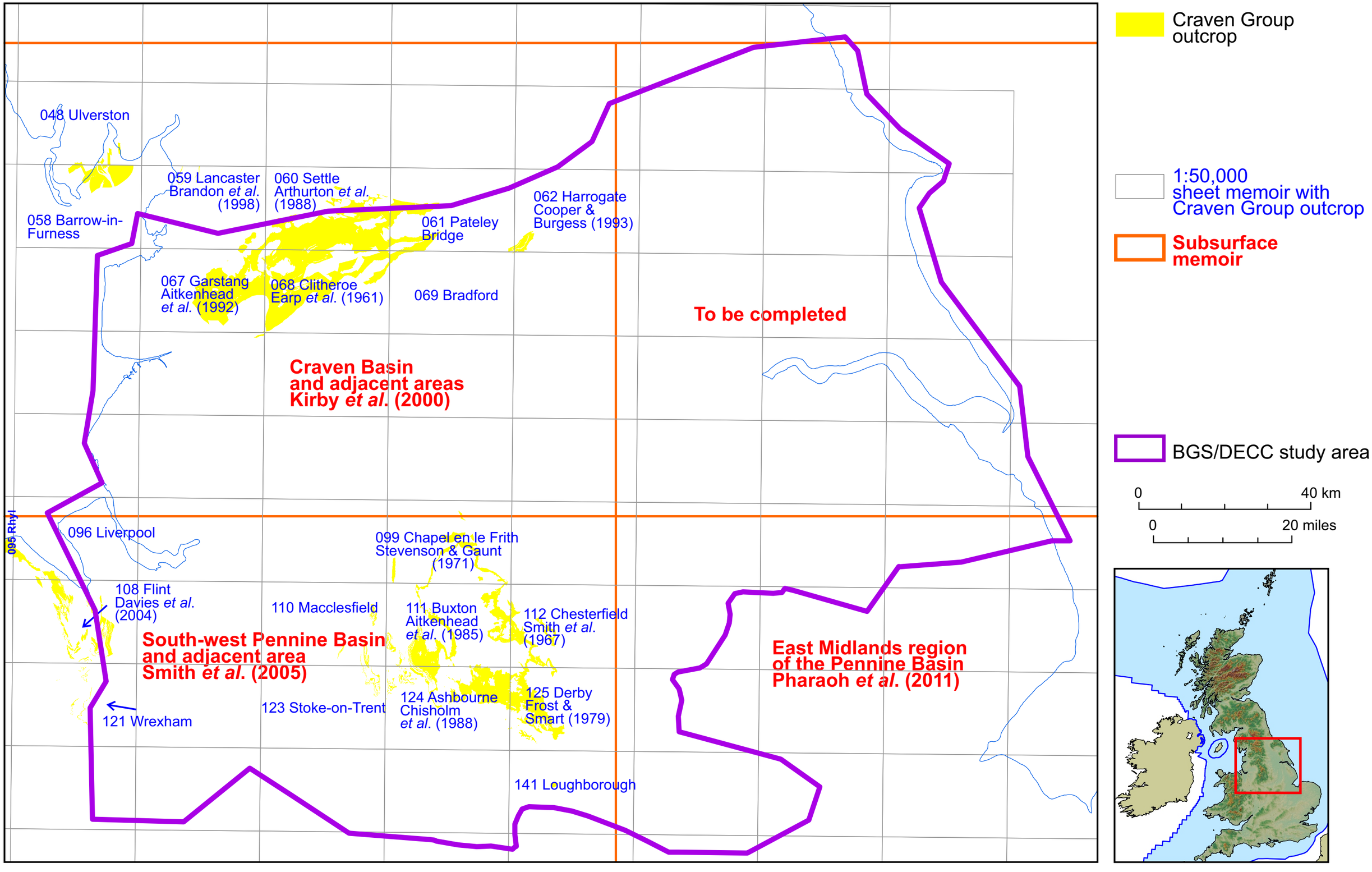


Figure 10. Location of relevant BGS map sheets and memoirs across central Britain. See references for further details.

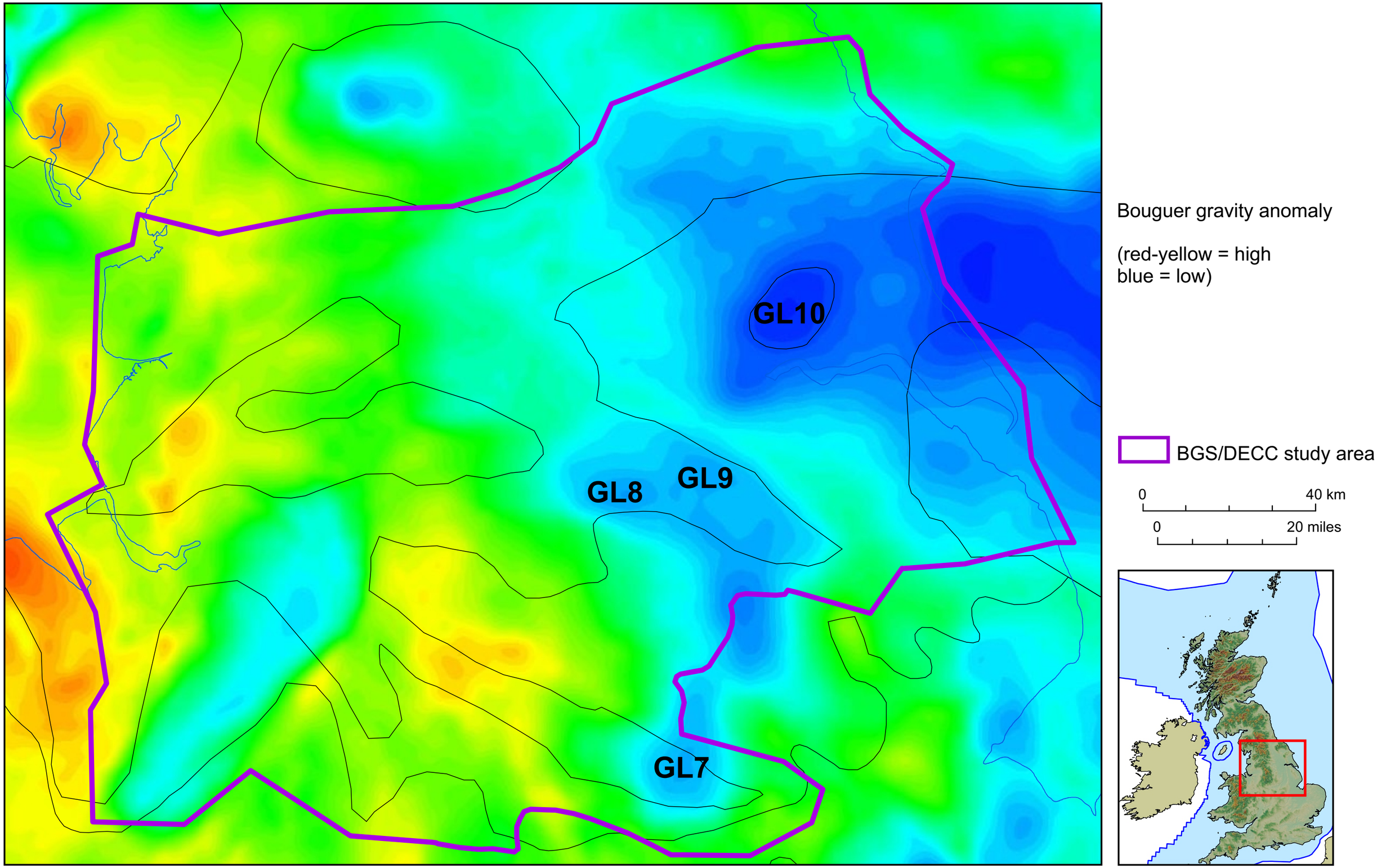


Figure 11. Bouguer gravity anomaly map for central Britain (from BGS mapping). Gravity low (GL) numbering from Lee *et al*. (1991). The Early Carboniferous structural framework lines are from Figure 14.

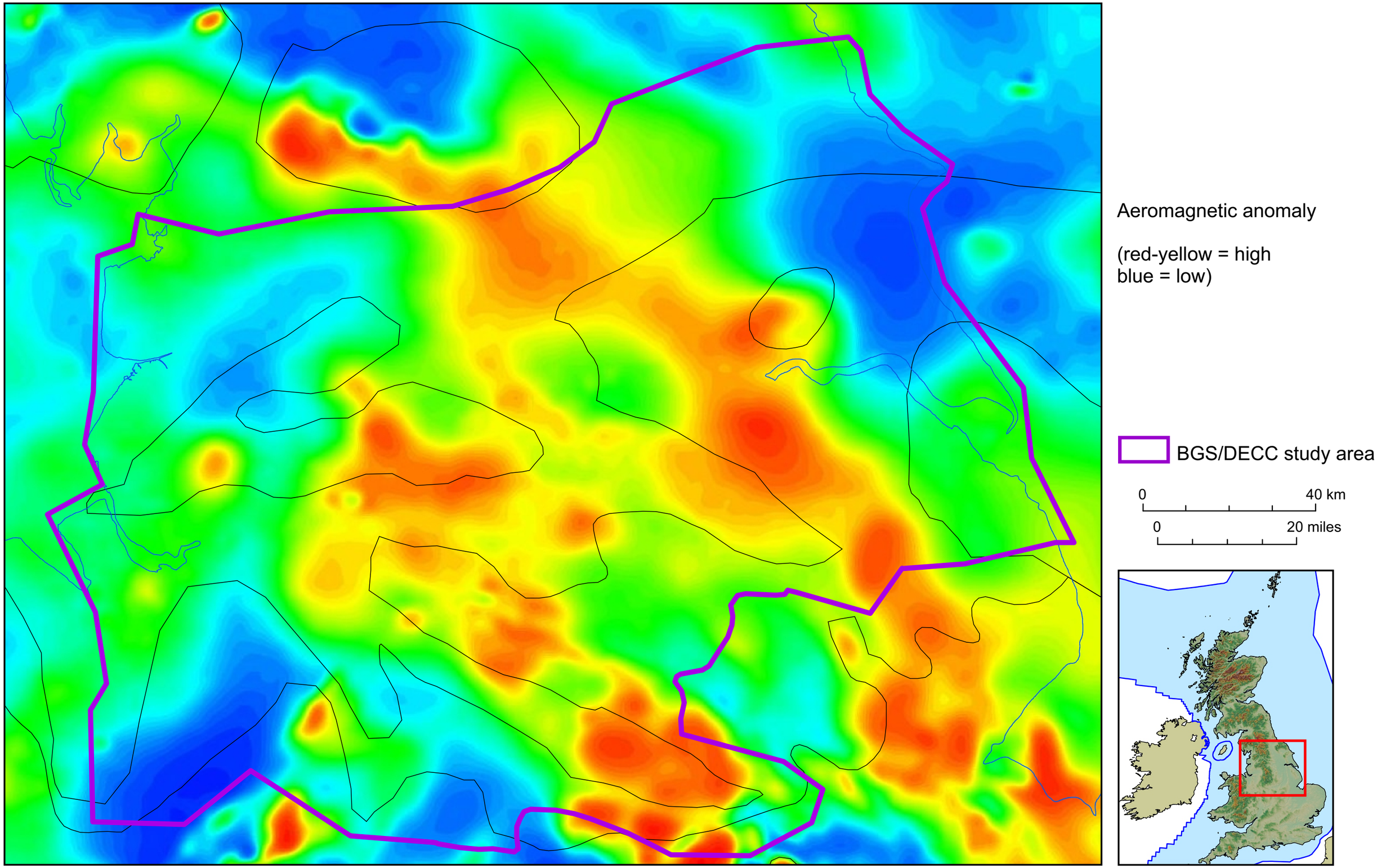


Figure 12. Magnetic anomaly map for central Britain (from BGS mapping). The Early Carboniferous structural framework lines are from Figure 14.

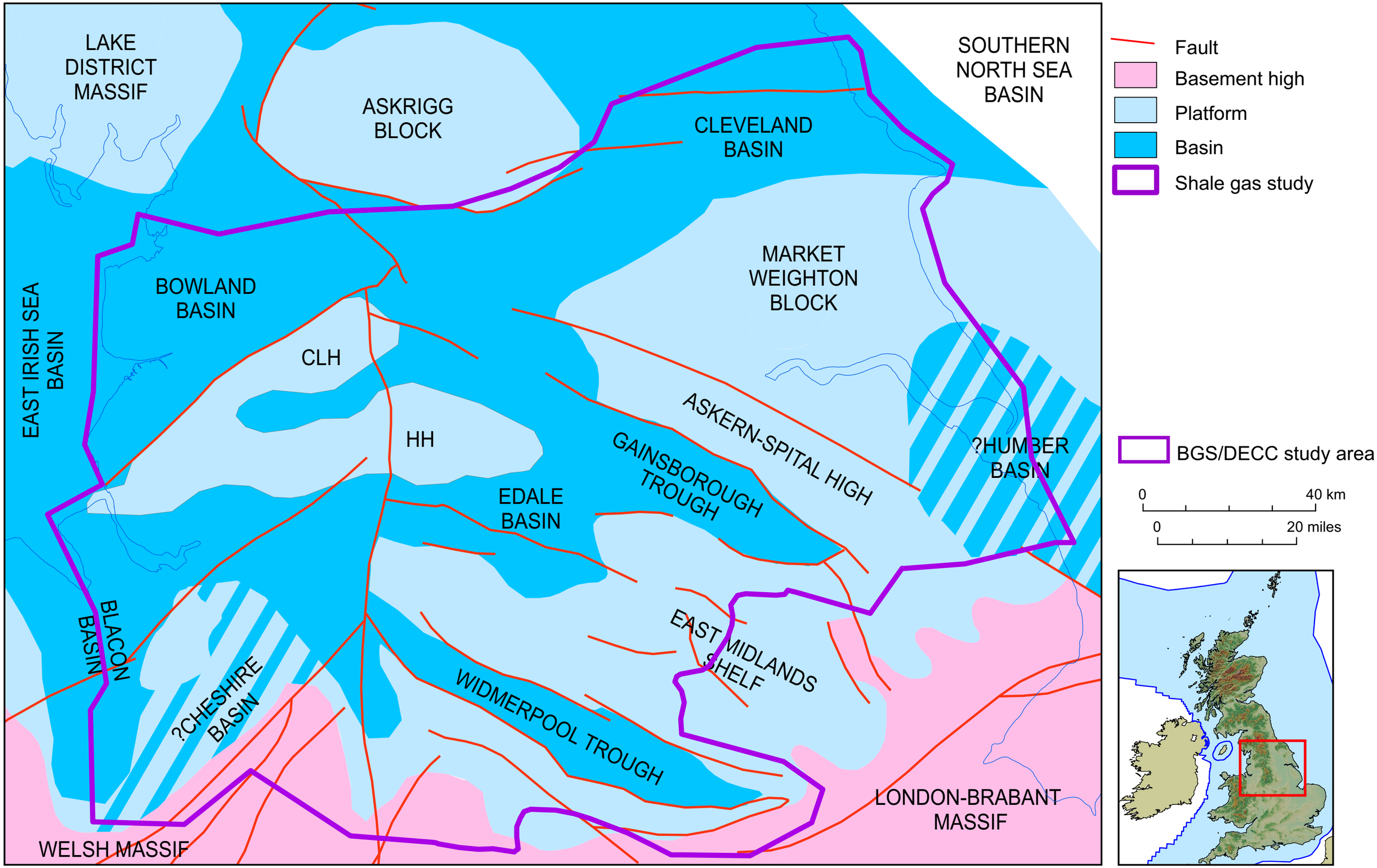


Figure 14. The Early Carboniferous basins and platforms of central Britain (modified after Fraser *et al*. 1990, Kirby *et al*. 2000). CLH = Central Lancashire High; HH = Holme High. Note: the presence of Early Carboniferous basins beneath the Permo-Triassic Cheshire Basin (Smith *et al*. 2005 cf. Waters *et al*. 2009) and a putative Humber Basin (Kent 1966, Hodge 2003) are both debatable (see text).

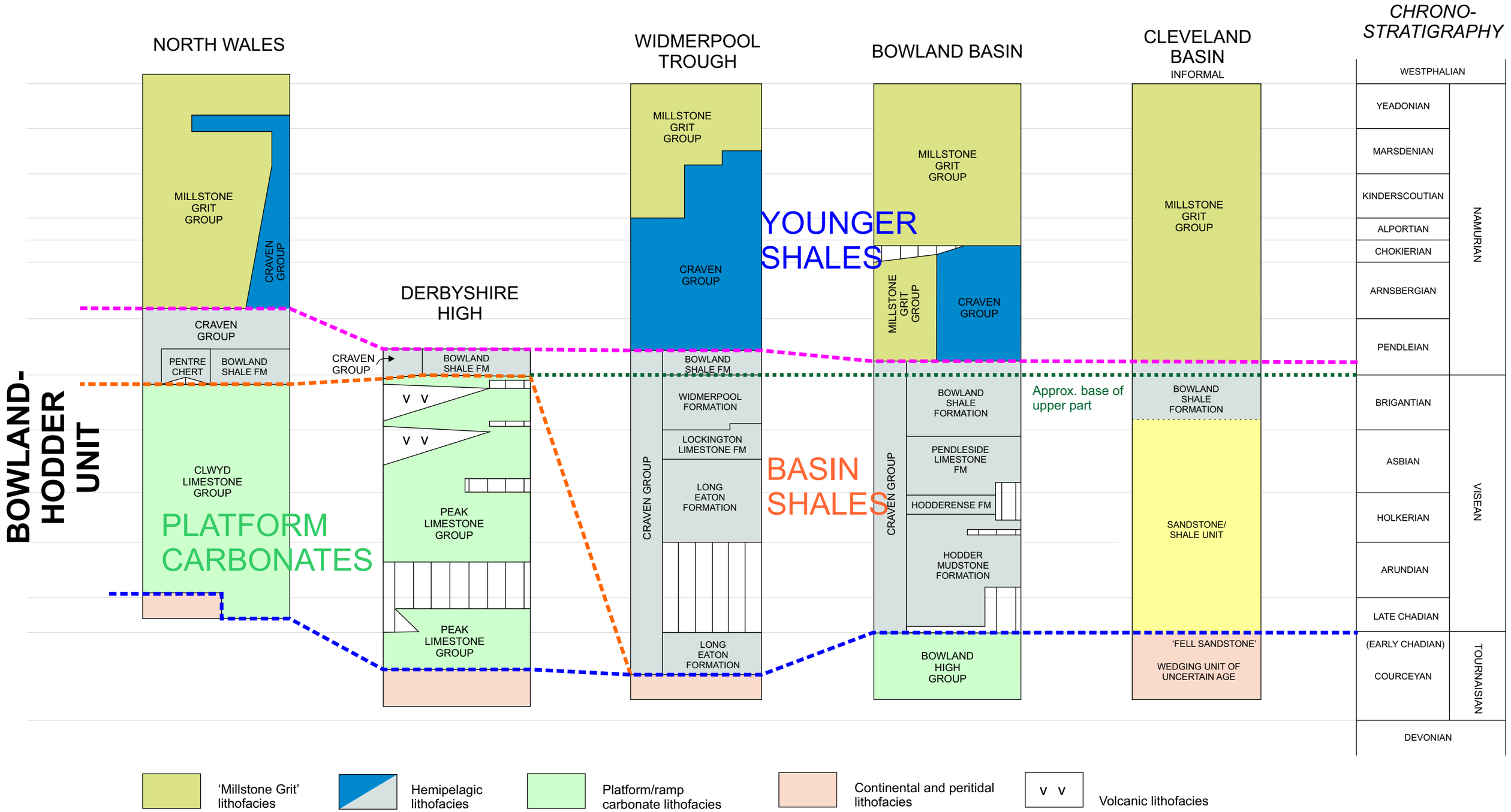


Figure 15. Lithostratigraphical framework of the Bowland-Hodder unit in central Britain (after Waters *et al*. 2009). Note: away from the outcrops, the platform carbonates in the Wessenden 1 and Roddlesworth 1 boreholes are termed Holme High Group and Trawden Group respectively (Waters *et al*. 2011). No formal lithostratigraphic framework has yet been applied to strata in the subsurface Cleveland Basin. In pre-2009 terminology, the Craven Group equates to the combined Worston Shale and Bowland Shale groups, excluding the Clitheroe Limestone Formation. Note: the use of Upper Chadian follows Riley (1990), but the Chadian has been partly redefined by Waters *et al*. (2011). Also, the Cleveland Basin sequence is poorly known and it is likely to have non-sequences that are not yet unrecognized.

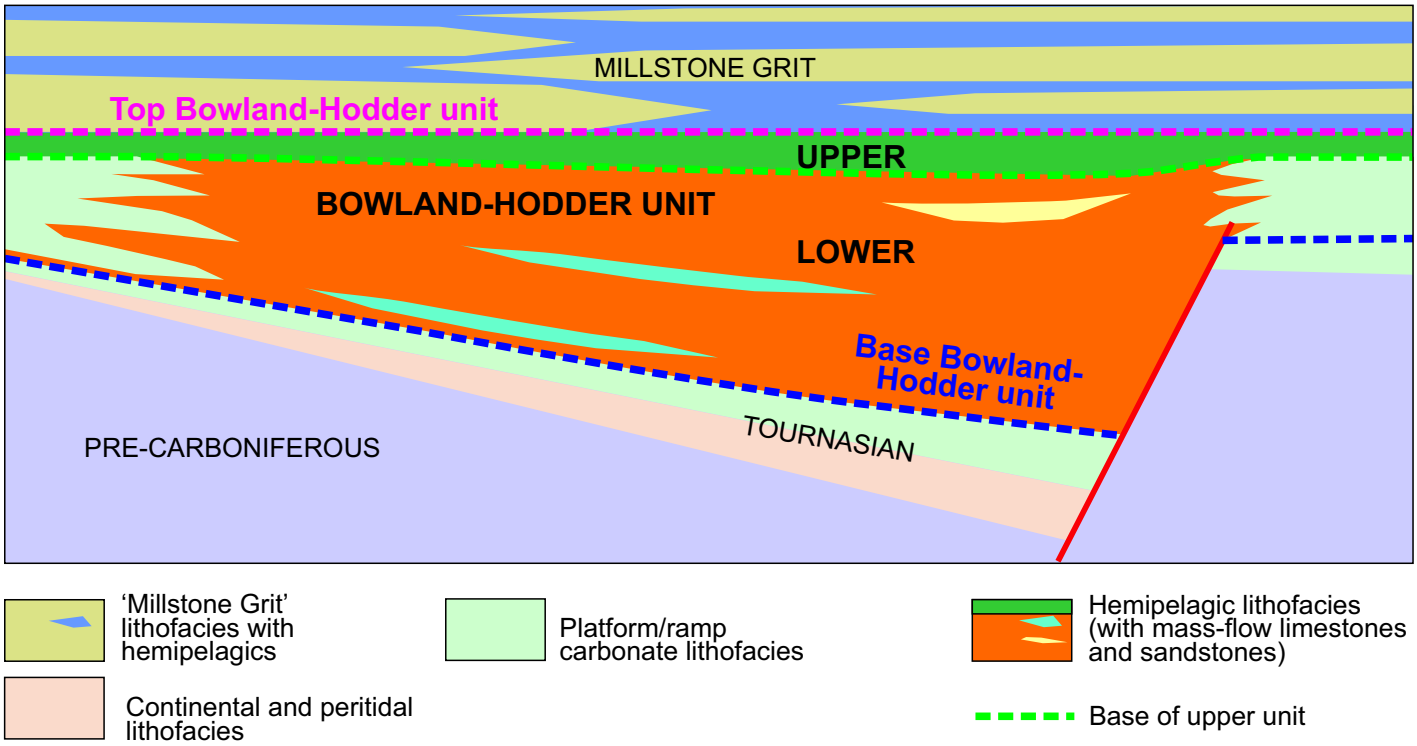


Figure 16. Schematic diagram showing the relationship between hemipelagic basinal shales and platform carbonates within the Bowland-Hodder unit. Note that basin shales also occur interbedded with the sandstones of the overlying Millstone Grit.

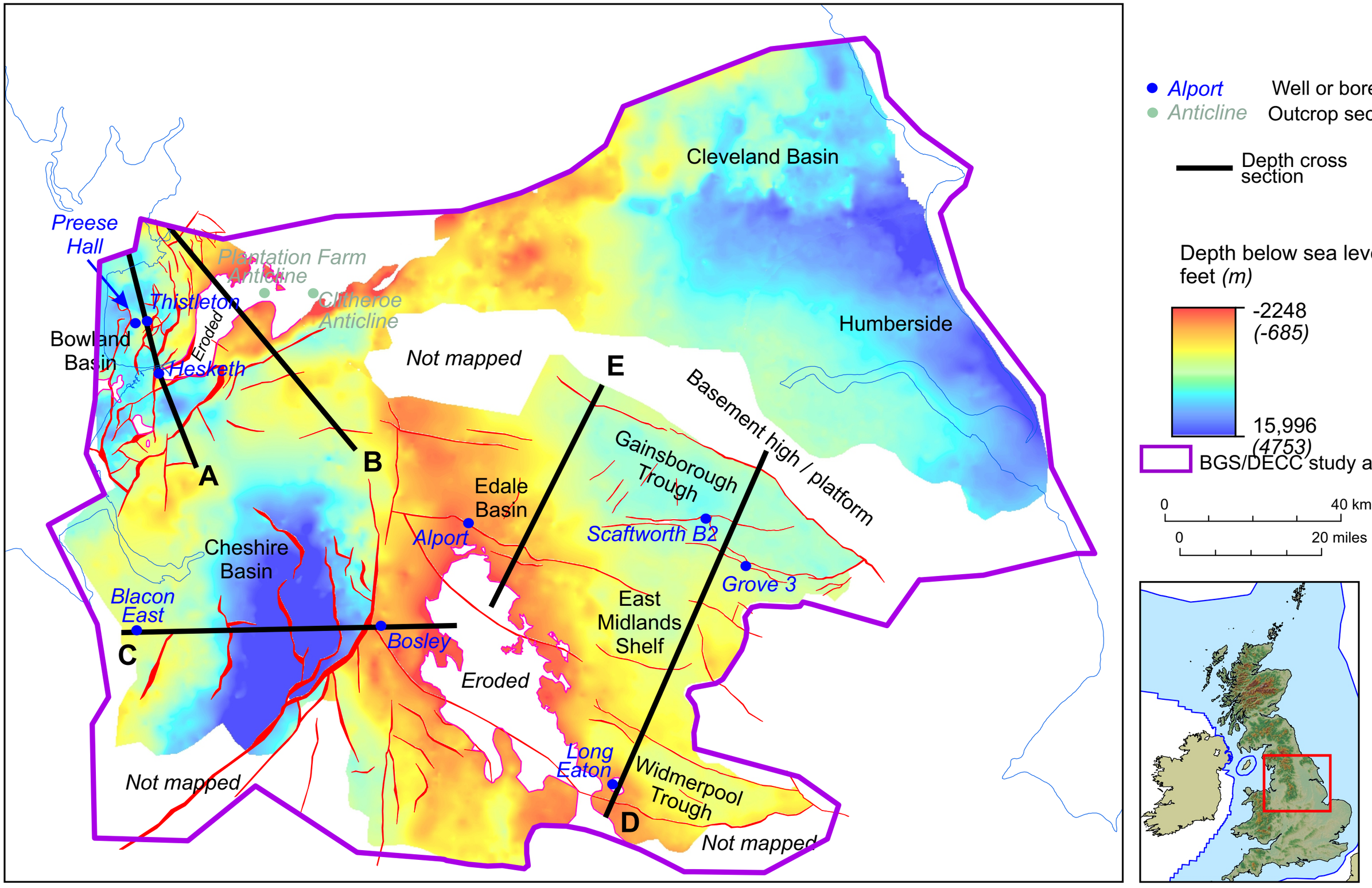


Figure 17. Depth (ft) to the top of the Bowland-Hodder unit, central Britain. The location of regional cross-sections is indicated (see Figure 19).

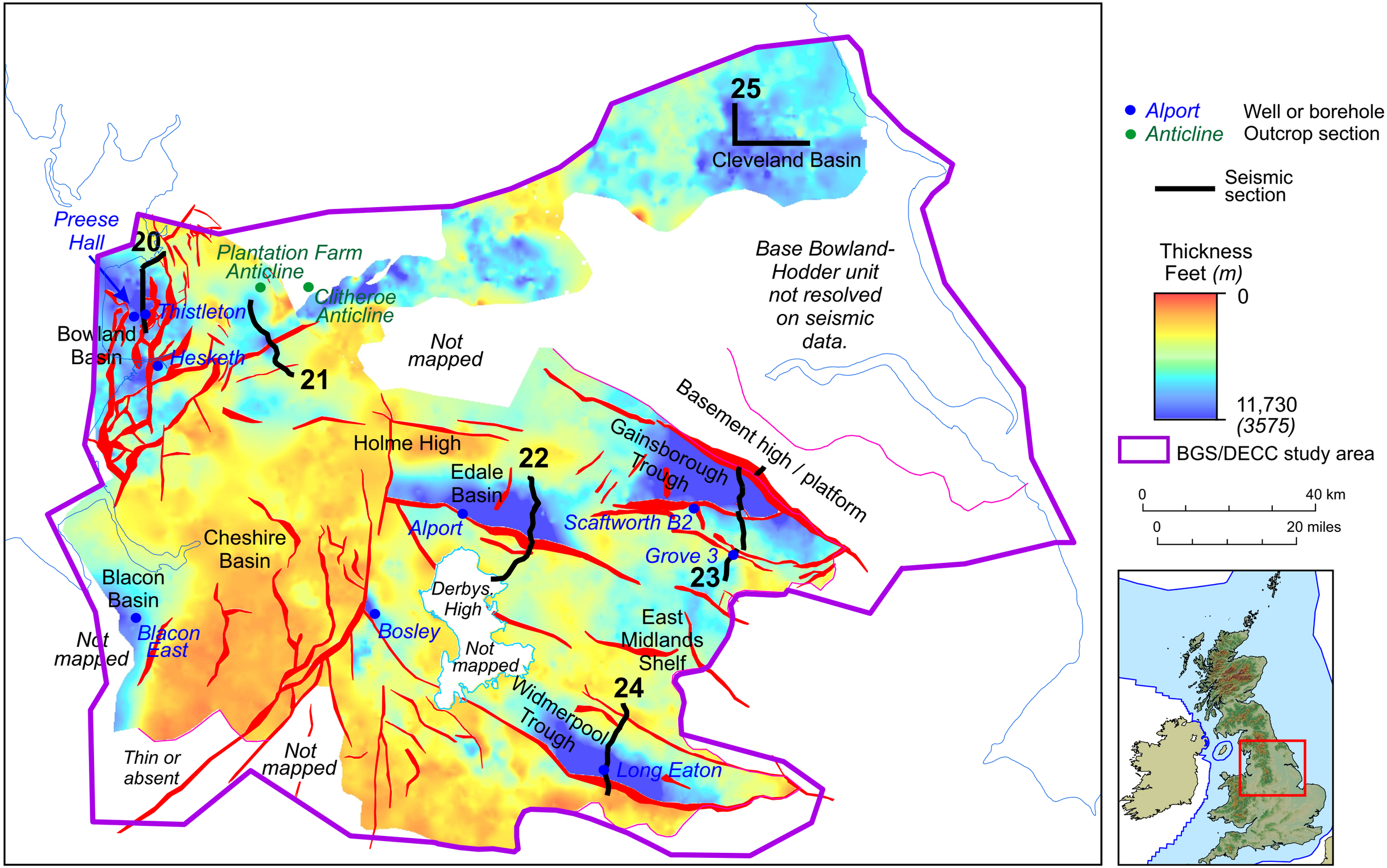


Figure 18. Thickness (ft) of the Bowland-Hodder unit, central Britain. The interval was not mapped across the Derbyshire High where there are no seismic data (and the unit comprises platform carbonate rocks) (see Figure 19C & E). The location of example seismic profiles is indicated (see Figures 20-25).