

NOVEMBER 2011 PROGRESS REPORT FROM PROJECT GROUP ON CARBONIFEROUS MAGNETOSTRATIGRAPHY

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Progress by the magnetostratigraphy group has been hampered by a shortage of members, insufficient funding, and a lack of integration with the activities of the other SCCS task groups. The group is particularly interested in collaborating with task groups working on sections and boundaries where magnetostratigraphy could be employed, to facilitate international correlations. Sections that have low thermal maturity and are dominated by siliciclastics are the most suitable for magnetostratigraphic analyses (based on the review in the SCCS Newsletter, v. 22: 35-41) but carbonates can be used. Unfortunately, most of the best GSSP candidate sections are carbonate-dominant and thermally over mature but some reference sections and stratotypes for stages in the Moscow Basin show potential. In general, the study of Mississippian magnetostratigraphic has languished and much remains to be done before Carboniferous magnetostratigraphy can be widely applied to facilitate global correlations.

During the last fiscal year, little progress was made on the initial palaeomagnetic assessment of the two sections in southern Scotland that were discussed in the SCCS annual report for the Nov. 1st 2008 to Oct. 31st 2009 fiscal year. The first section is at Cove in the Cockburnspath outlier on the southern flank of the Midland Valley Basin and includes the Inverclyde and Strathclyde groups of latest Devonian to (Asbian) late Viséan age (Cossey *et al.*, 2004; Hounslow, 2009). The second section is at Kirkbean on the northern edge of the Northumberland Basin and is of early to late Viséan age, overlapping in age with the upper part of the Cove section. Some progress may occur on the two Scottish sections in 2011, if grant income from United Kingdom sources is forthcoming.

During the May 31st to June 3rd 2010 ICS meeting in Prague, the task group leader discussed with Barry Richards and Svetlana Nikolaeva (Russia) the possibility of designing a magnetostratigraphic project that would evaluate Late Mississippian and Pennsylvanian sections in the Moscow Basin, Liard Basin in northwestern Canada and sections in the mid-continent region of the USA. So far, these initial discussions have not developed into tangible outcomes and the main problems stem from a lack of funding and suitable investigators.

John Utting (member Viséan-Serpukhovian boundary task group) and colleagues Peter Giles (Geological Survey of Canada-Atlantic) and Neil Opdyke (University of Florida) have largely completed a useful magnetostratigraphic study of the Brigantian, Pendleian and much of the Arnsbergian substages (upper Viséan and Serpukhovian) in the Maritimes Basin of eastern Canada (Giles *et al.*, in progress). They have correlated the polarity reversal patterns in the Maritimes Basin with published data from the Brigantian to mid-Arnsbergian interval in the central part of the Appalachian Basin in the eastern United States (Di Venere & Opdyke, 1990, 1991).

References

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