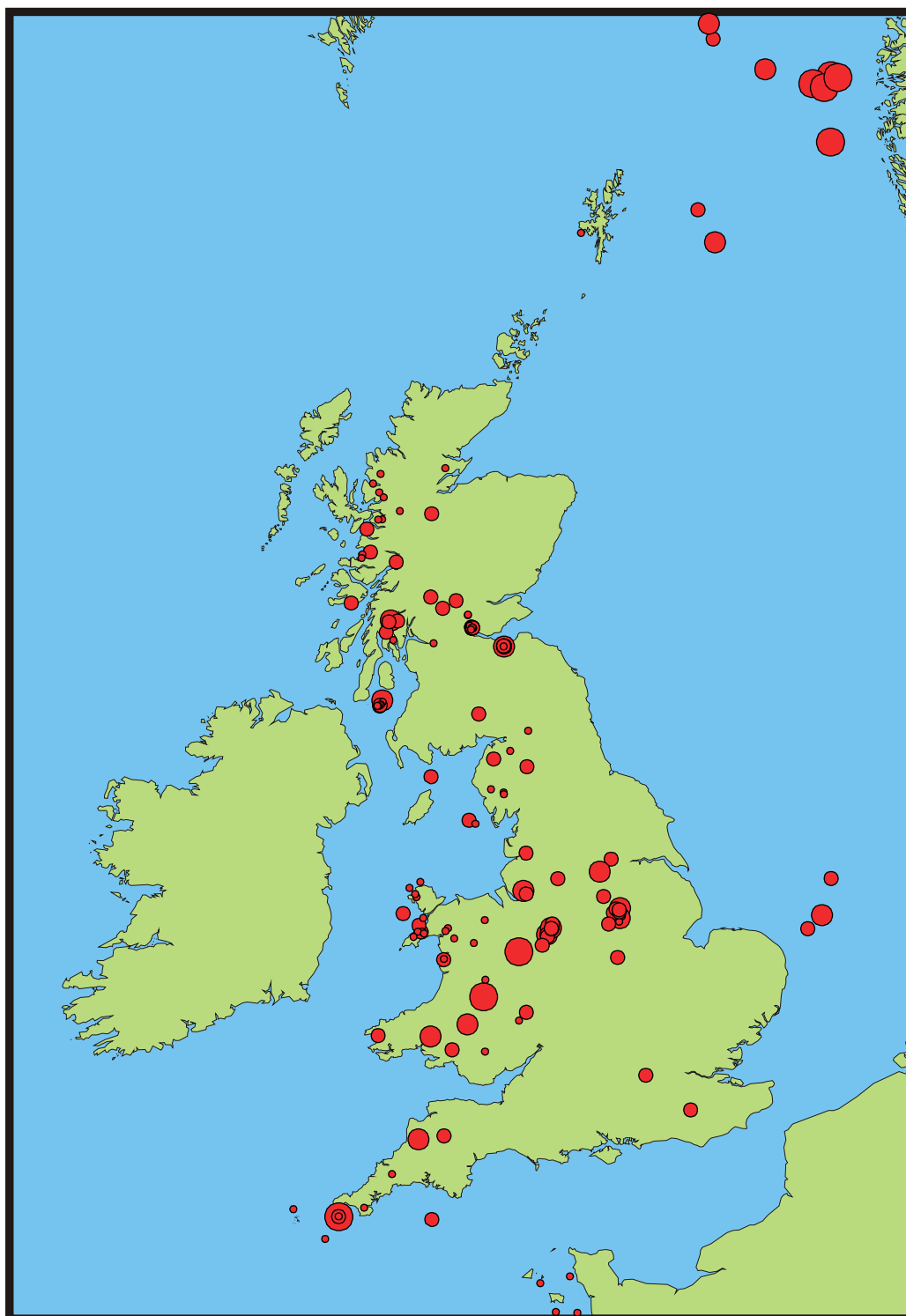




British Geological Survey

**BULLETIN OF BRITISH
EARTHQUAKES 1996**



British Geological Survey
Murchison House
West Mains Road
Edinburgh EH9 3LA
Scotland

Tel: 0131-667-1000
Fax: 0131-667-1877
Internet: <http://www.gsrq.nmh.ac.uk/>

£12.50

BRITISH GEOLOGICAL SURVEY

TECHNICAL REPORT WL/97/03

Global Seismology Series

Bulletin of British earthquakes 1996

A B Walker (editor)

***Contributors* G D Ford, D D Galloway,
B A Simpson and F Wright**

March 1997

Bibliographic reference

Walker, A B (editor), 1997.
Bulletin of British earthquakes 1996.
British Geological Survey Technical Report WL/97/03.

© NERC copyright 1997

Edinburgh British Geological Survey 1997

BRITISH GEOLOGICAL SURVEY

The full range of Survey publications is available through the Sales Desks at Keyworth and at Murchison House, Edinburgh, and in the BGS London Information Office in the Natural History Museum Earth Galleries. The adjacent bookshop stocks the more popular books for sale over the counter. Most BGS books and reports are listed in HMSO's Sectional List 45, and can be bought from HMSO and through HMSO agents and retailers. Maps are listed in the BGS Map Catalogue, and can be bought from BGS approved stockists and agents as well as direct from BGS.

The British Geological Survey carries out the geological survey of Great Britain and Northern Ireland (the latter as an agency service for the government of Northern Ireland), and of the surrounding continental shelf, as well as its basic research projects. It also undertakes programmes of British Technical aid in geology in developing countries as arranged by the Overseas Development Administration.

The British Geological Survey is a component body of the Natural Environment Research Council

Keyworth, Nottingham NG12 5GG
☎ 0115 936 3100
TELEX 378173 BGSKEY G
FAX 0115 936 3200

Murchison House, West Mains Road
Edinburgh EH9 3LA
☎ 0131 667 1000
TELEX 727343 SEISED G
FAX 0131 668 2683

London Information Office at the Natural History Museum, Earth Galleries, Exhibition Road, South Kensington, London SW7 2DE
☎ 0171 589 4090
☎ 0171 938 9056/57
FAX 0171 584 8270

St Just, 30 Pennsylvania Road
Exeter EX4 6BX
☎ 01392 78312
FAX 01392 437505

Geological Survey of Northern Ireland,
20 College Gardens,
Belfast BT9 6BS
☎ 01232 666595
FAX 01232 662835

Macleans Building, Crowmarsh Gifford,
Wallingford,
Oxfordshire OX10 8BB
☎ 01491 838800
TELEX 849365 HYDROL G
FAX 01491 825338

Parent Body
Natural Environment Research Council
Polaris House, North Star Avenue, Swindon
Wiltshire SN2 1EU
☎ 01793 411500
TELEX 444293 ENVRE G
FAX 01793 411501

CONTENTS

	Page
1. INTRODUCTION	1
1.1 The Bulletin	1
1.2 Summary of 1996 seismicity	1
2. BULLETIN FORMAT	4
2.1 Tables	4
2.2 Figures	4
3. THE BGS UK SEISMOGRAPH NETWORK	5
3.1 Instrumentation	5
3.2 Detection Threshold	5
3.3 Environmental Monitoring	6
4. HYPOCENTRE PARAMETERS AND THEIR ERRORS	6
4.1 Epicentre Location	6
4.2 Depth Determination	6
4.3 Seismicity Distribution	7
4.4 Magnitude	7
4.5 Intensity	7
5. BULLETIN CONTENT AND COMPLETENESS	8
5.1 The geographical area	8
5.2 Events included	8
5.3 Events excluded	8
5.4 Completeness	8
ACKNOWLEDGEMENTS	9
REFERENCES	10

Tables

Figures

Appendices:

Appendix A: Significant earthquakes in 1996

Appendix B: Earthquake information charges

Appendix C: The European Macroseismic Scale (EMS 92)

1. INTRODUCTION

1.1 The Bulletin

The British Geological Survey's Seismic Monitoring and Information Service operates a nationwide network of seismograph stations in the United Kingdom of Great Britain and Northern Ireland. This area, including coastal waters, is covered within the limits of the detection capabilities of the seismograph network and accuracy is extended through data exchange with neighbouring countries. Seismic phase data, location details and magnitudes are presented in the Bulletin for all earthquakes detected and located by BGS during 1996 together with maps showing the larger magnitude events since 1979 ($ML \geq 2.5$) and since 1970 ($ML \geq 3.5$). All felt areas are quoted in km^2 , and are for the area enclosed within isoseismal 3 EMS (European Macroseismic Scale, Appendix C).

1.2 Summary of 1996 Seismicity

There have been 204 earthquakes located by the monitoring network during the year, with 27 of them having magnitudes 2.0 ML or greater. Of these, nine are known to have been felt, together with a further 25 smaller ones, bringing the total to 34 felt earthquakes in 1996.

The largest earthquake occurred offshore, 12 km south of Penzance, Cornwall, on 10 November (Appendix A1). It had a magnitude of 3.8 ML and was felt over an area of 14,000 km^2 throughout Cornwall, the Scilly Isles and in parts of Devon. Felt reports included "bottles on a shelf shook and fell off" and that people "ran outside to see if an explosion had demolished a house". A macroseismic survey, with 900 replies showed a maximum intensity of 5 EMS close to the epicentre where minor damage (cracked plaster) occurred. Three aftershocks were detected, on the same day, but none were felt. This is the largest event to have affected mainland UK since the 15 February 1994 Norwich earthquake (magnitude 4.0 ML), which was felt with an epicentral intensity of 5 EMS. It occurs in the same area as the magnitude 4.4 ML Penzance earthquake on 15 July 1757, which was felt with intensities of between 5 and 6 EMS. A poorly constrained fault plane solution shows normal faulting, with varying components of strike-slip motion, on planes striking either NS and dipping to the east or striking NW-SE and dipping to the SW.

Two of the largest offshore earthquakes during 1996, with magnitudes of 3.9 ML, were located in the northern North Sea region on 25 June and 31 October; neither was reported to be felt. A further eight events occurred in the area during the year, with magnitudes ranging between 1.8 and 3.8 ML, and were located using both the BGS and Norwegian networks. Earthquake activity in the offshore areas during 1996 was higher than the long-term average, with five events exceeding magnitude 3.0 ML, against an average annual occurrence of four per annum. Only one earthquake in the northern North Sea was reported felt during the year. It occurred on 16 December, with a magnitude of 3.3 ML, and was felt at the Fedje Fyr lighthouse and in the village of Vaksdal, Norway.

On 7 March, an earthquake, with a magnitude of 3.4 ML, was located approximately 9 km north of Shrewsbury in Shropshire. It was felt throughout Shrewsbury, Telford, Oswestry and in many surrounding villages. The reports described "vibrations like a heavy vehicle had crashed into the house" and "a violent shuddering"; a few reports of minor damage (cracked plaster) were also received. The earthquake was felt over an area of 3000 km^2 . A

macroseismic survey throughout the region indicated a maximum intensity of 5 EMS in the epicentral area. The fault plane solution of the event shows dominant normal faulting on planes striking NW-SE and dipping NE or SW (Appendix A2).

On 6 May, an earthquake, with a magnitude of 2.8 ML, was felt in the Stoke-on-Trent area (Appendix A3). The reports described a "rumble and bang". A macroseismic survey in the region revealed that it was felt over 900 km², with a maximum intensity of 4 EMS in the epicentral area. A further six events occurred, with magnitudes ranging between 1.2 and 1.9 ML. Swarms of activity were detected in this same area in the mid 1970s, early 1980s, early 1990s and more recently in 1995, where 6 events were felt in four days.

On 18 May, an earthquake, with a magnitude of 2.9 ML, occurred some 2 km north of the village of Furnace, on the banks of Loch Fyne, Strathclyde. It was felt in Furnace, Strachur and Inveraray with intensities of at least 3 EMS. Felt reports describe "a large bang, followed by the whole house shaking" and "a light rattling of crockery on a display cabinet". An event, with a magnitude of 1.5 ML, occurred two days later in the same area, but was not reported felt.

An earthquake, with a magnitude of 3.0 ML, occurred on 20 September at Llanddewi Ystradenni, approximately 9 km NNE of Llandrindod Wells. The event was felt by local residents in Llandrindod Wells, Knighton, Rhayader, Builth Wells and in the village of Llanbister. Felt reports described "a shudder" and "the whole house shook and windows rattled" indicating an intensity of at least 4 EMS. No macroseismic survey was carried out owing to the few reports received from each of the villages. A poorly constrained fault plane solution was obtained (Appendix A4).

In Comrie, Tayside, a small earthquake with a magnitude of 1.4 ML, was felt by local residents on 20 October. Felt reports described a "big bang and a rumble" indicating a maximum intensity of at least 3 EMS. There have been occasional events over the past few years in the region which was famous for the frequency of its earthquakes in the 1790s, 1830s and 1840s. In 1875, following a number of small events, Victorian scientists built an observatory with crude earthquake detection instruments in an attempt to learn more about the earthquakes. The observatory, which is called 'Earthquake House', has been restored and opened to the public by Perth and Kinross District Council with some help from BGS.

A swarm of fourteen earthquakes was detected approximately 10 km south of the Isle of Arran, Strathclyde, during 1996. The largest, with a magnitude of 2.2 ML, occurred on 26 June and was not reported felt. Similar swarms in the area were detected in the early 1990s.

Throughout the southern North Sea region, three events have been located, with magnitudes of 1.7, 1.8 and 2.1 ML; none were reported felt. These events are in the same area as the event on 2 May 1995, with a magnitude of 3.4 ML.

In North Wales, three events with magnitudes of -0.2, 0.6 and 1.2 ML were located on the Llyn Peninsula, in the same area and at similar depths, as the magnitude 5.4 ML Llyn Peninsula earthquake of 19 July 1984, which was felt over an area of 250,000 km².

Near Maidenhead in Berkshire, an earthquake, with a magnitude of 1.9 ML, occurred on 8 December. This event, together with 2 others, both some 30 km distant, represents the only seismicity in the area over the past 27 years.

The coalfield areas of central Scotland, Yorkshire, Staffordshire and Nottinghamshire continued to experience earthquake activity of a shallow nature which is believed to be mining induced. The area east of Edinburgh became active as a result of mining this year. Some 71 coalfield events, with magnitudes ranging between -0.4 and 2.3 ML, have been detected in the year. Twenty six of these were felt by local residents; 22 from the series around Edinburgh.

During October and early November, a series of events (37 were located a further 73 were recorded on one station near the epicentre) occurred in the Musselburgh/Newcraighall area, to the east of Edinburgh. The largest event, with a magnitude of 2.0 ML, occurred on 25 October and was felt with intensities of at least 5 EMS (Appendix A5). Information directly from local residents and through the completion of macroseismic questionnaires, distributed by BGS and published in local newspapers, have shown that the events were felt, generally, up to 2 km from the epicentre and in some cases up to 3 km. Twenty-two events in the series were felt by local residents who described the effects as being like "a heavy lorry passing outside" or "similar to an explosion". Additional instruments were installed in the area and the results showed that the pattern (most events occurring in the working week) and location of the activity was a consequence of mining at Monktonhall colliery. The two most likely causes of these events are: the undermining and subsidence of old workings with void and pillar collapses and shearing in strained rock layers; or the bridging, and subsequent breaking during subsidence, of a strong rock layer between the mine and the surface (in this case, 900 metres above).

Near Newcastle-under-Lyme, Staffordshire, three shallow events, with magnitudes of 1.9, 1.9 and 2.3 ML occurred on 20 February, 7 March and 16 March, respectively. All three events were felt by local residents in the Newcastle-under-Lyme and Keele areas with intensities of at least 3 EMS. The signals recorded by the BGS seismic network in the area indicated a shallow source (presence of surface waves) and they are thought to be related to nearby mines.

Near Mansfield, Nottinghamshire, five events with magnitudes ranging from 0.7 to 2.1 ML have been located, one of which was felt by local residents in the Wellow region of Mansfield. At shallow depths, they are believed to be of coal mining origin.

Twenty events, with magnitudes ranging between 0.7 and 1.6 ML, were located near Clackmannan in the Central region of Scotland. None were reported felt. This is an area which has experienced many such mining induced events in the past.

3.3 Environmental Monitoring

The infrastructure provided by the UK nationwide seismic monitoring network, comprising remote sensing stations linked to computers, is ideal for expansion into a full-spectrum environmental monitoring network (including pollution, radioactivity and climate). An experimental station has been established some 35 km from Edinburgh where air and ground temperature, humidity, UVB and radioactivity measurements are being transmitted, alongside seismic information, to the BGS laboratories.

The remote sites required for seismic stations (in order to escape 'cultural' vibration noise from industry, towns, roads etc) should be ideal for establishing environmental baselines, long-term trends, the effects of sudden release incidents and the long-range impacts of power stations, traffic and city emissions. The data-rate for seismics, at 100 samples per second per channel, is very high compared to the normal requirements of an environmental monitoring station. It has, therefore, proved to be relatively simple to provide for the transmission of 16 channels of environmental data, at 1 minute intervals, alongside the seismics. That software development has already been made for the acquisition, retrieval and display of environmental data. It has been demonstrated with a number of sensors operating alongside the seismics; including SO₂, UVB, ozone, humidity, temperature and radioactivity. More recently, a high sensitivity NO_x sensor has been purchased and this is being integrated into the remote sampling system.

4. HYPOCENTRE PARAMETERS AND THEIR ERRORS

4.1 Epicentre Location

By accurately timing the signal onsets at a minimum of three stations, a location can be found for an earthquake which satisfies the observed pattern of arrivals. Instrumental locations in the bulletin were obtained using the computer program HYPO71 (Lee and Lahr, 1975) which iteratively adjusts a trial hypocentre (latitude, longitude, depth, and origin time) until the observed and computed arrival times coincide closely.

The accuracy of locations is dependent on distances from the closest stations, the distribution of the stations around the epicentre, the resolution to which signal onsets can be timed from the records, and the accuracy with which the seismic wave velocity through the earth can be modelled.

The velocity models used for the location of events in 1996 are given in Table 6 and were derived from a series of refraction profiles traversing Britain, LISPB (Bamford et al, 1976; Bamford et al, 1978; Assumpção and Bamford, 1978 and Bott et al., 1985).

4.2 Depth Determination

The accurate determination of earthquake depth presents a more difficult problem, mainly because phase arrival patterns at the seismographs can still be satisfied for a large range of depths merely by adjusting the origin time to suit. Constraints on the depth can usually only be imposed when a station is very near the epicentre and even then the accuracy depends on the velocity model.

The best depth determinations have been obtained when an earthquake or earthquake series occurred almost beneath a network. For events at larger distances, and where the error columns (ERH and ERZ), in the tables, are blank, the depth errors can be up to tens of kilometres. The quality factor of the event, as listed in the tables (SQD), is an indication of the depth error. As a general guide only, A*A, A*B, B*A and possibly B*B class events, have reliable depths.

4.3 Seismicity Distribution

Owing to variability in the earthquake detection threshold, which is governed by ambient noise conditions and the geometry of the observing network (see 3.2), the bulletin is biased towards certain localities. In order to present a consistent picture of UK seismic activity, earthquakes with magnitude 2.5 ML or greater, in the period 1979 to 1996, have been plotted in Figure 4. The data set is considered complete for these magnitudes in all localities of the onshore area. Seismicity for the period 1970 to 1996 is shown in Figure 5 with a threshold magnitude of 3.5 ML. This is the period covered by BGS instrumentation which in the early years, only consisted of the network around Edinburgh (LOWNET) and Eskdalemuir (ESK) and a station near Kyle of Lochalsh (KYL). The dataset is likely to be complete for such magnitudes.

4.4 Magnitude

All earthquakes in the bulletin have been assigned a local magnitude (ML) as defined by Richter (1935):

$$ML = \log_{10} (A/A_0)$$

where A is the maximum deflection (centre to peak in mm) registered by the earthquake on a Wood-Anderson seismograph and A_0 is that for a 'standard' magnitude zero earthquake at the same distance. The A_0 term is thus a distance correction factor tabulated by Richter to 200, and later 600 km. Although Richter intended his method to be an approximate quantification of earthquake size and his attenuation term, A_0 , strictly only applies to California, the formula is still used world-wide today. The ML magnitudes in this bulletin have been calculated according to Richter by converting the output of the BGS instruments to an equivalent Wood-Anderson deflection. Ideally, the measurements are made on two horizontal instruments and averaged but, if this was not possible, the mean of the magnitudes from a number of verticals has been used. Ground motion registered at a seismograph varies with site conditions, direction from the earthquake, and the nature of the ray path. Consequently, it is important to take the mean from a good distribution of stations. The resulting errors on magnitudes quoted in the bulletin will normally be less than 0.4 ML.

4.5 Intensity

Intensity is a measure of the effect of the shaking on people, structures and objects. It decreases with distance from a maximum value (I_{max}) usually found close to the epicentre. The maximum felt intensity is quoted, where known, on the European Macroseismic Scale (EMS), (Grünthal, 1993).

5. BULLETIN CONTENT AND COMPLETENESS

5.1 The Geographical Area

The bulletin covers all of the UK land mass and its coastal waters including the North Sea to 800 kmE and 1400 kmN.

5.2 Events Included

All events believed to be due to true tectonic origins have been included, that is, events caused by natural stresses within the earth.

Coalfield events are also included. These are small events occurring near coal workings which are believed to be caused by the redistribution of stress as the coal is extracted and, in some cases by collapse in old workings. They are indicated by C/F in the comments column of Tables 1, 2 and 5.

Acoustic disturbances, such as sonic booms from supersonic aircraft, are included when they are felt. The air-borne waves are readily identified by their slow travel time across an array or by their signature on a microphone but they are frequently reported by local people as small earthquakes. They are indicated by 'SONIC' in both the locality and comments column of Tables 1 and 3. In 1996, 5 sonic events were reported felt and all were detected by the UK network.

Significant non-natural events which received media attention or were greater than magnitude 2.5 ML and felt explosions are also included in Tables 1 and 3. The felt explosions are indicated by 'EXPL' in both the locality and comments column. In 1996, one felt explosion was detected.

5.3 Events Excluded

Events that are known, or suspected to be of explosive origin, are excluded from the bulletin. Explosions due to quarrying, mining, weapon testing or disposal, naval exercises, geophysical prospecting and civil engineering are all excluded where possible, unless they are greater than 2.5 ML or reported to be felt. Unfortunately, identification by record character, location and time of occurrence is not always conclusive and some man-made events may have been included in the bulletin or, more rarely, a small natural event may have been excluded.

5.4 Completeness

The contours of detection threshold in Figure 2 show that the whole of the UK is covered by the seismograph network for approximately magnitude 1.5 ML, and above, at times of average ambient noise levels. High noise levels may cause this threshold to rise to about 2.3 ML. Normally, however, an earthquake of this size would be felt, if not detected, in the areas of poorer instrumental coverage. The bulletin can, therefore, be assumed to be complete for all earthquakes of magnitude 2.3 ML and above.

ACKNOWLEDGEMENTS

We are indebted to States of Jersey Meteorological Office, the Universities of East Anglia, and Leeds, and many individuals who assisted with station operation; to P H O Henni, G J Webster and R M W Musson, who supplied information on macroseismic data; to J Exton for the data presentation software and to the BGS Operations section: D L Petrie, D A Stewart, R M Young and P S Day.

The work was supported in part by:

British Nuclear Fuels plc
Department of the Environment
HM Nuclear Installations Inspectorate
The Jersey New Waterworks Company
Magnox Electric plc
Natural Environment Research Council
Nirex
Nuclear Electric plc
Renfrewshire Council
Scottish Hydro-Electric plc
Scottish Nuclear Ltd
University of Exeter
Welsh Office
Western Frontiers Association (consortium of oil companies and Health and Safety Executive)

Interchange of data with UK and European agencies, has contributed to the accuracy of location of some of these events and to the determination of their magnitudes. They include:

Atomic Weapons Establishment (Blacknest, UK)
Centre Seismologique Euro-Mediterranean (Bruyeres-de-Chatelet, France)
Dublin Institute for Advanced Studies (Dublin, Ireland)
Kort-og Matrikelstyrelsen (Copenhagen, Denmark)
Institute de Physique du Globe (Paris, France)
Instituto Geografico Nacional (Madrid, Spain)
Instituto Nacional de Meteorologia e Geofisica (Lisbon, Portugal)
International Seismological Centre (Newbury, UK)
Karlsruhe Geophysicalisches Institut (Karlsruhe, Germany)
Koninklijk Nederlands Meteorologisch Instituut (Ae de Bilt, Netherlands)
Laboratoire de Detection et de Geophysique (Bruyeres-de-Chatelet, France)
Laboratoire Souterrain de Geodynamique (Walferdange, Luxembourg)
NORSAR (Oslo, Norway)
Observatoire Royal de Belgique (Brussels, Belgium)
Powys Observatory (Knighton, UK)
University of Bergen (Bergen, Norway)
University of Keele (Keele, UK)
University of Liverpool (Liverpool, UK)

This work is published with the approval of the Director of the British Geological Survey (NERC).

REFERENCES

- Assumpção, M. and Bamford, D. 1978, LISP.V. Studies of crustal shear waves, *Geophys.J.R.astr.Soc.*, **54**, 61-73.
- Bamford, D., Faber, S., Jacob, A.W.B., Kaminski, W., Nunn, K., Prodehl, C., Fuchs, K., King, R. and Willmore, P.L., 1976. A lithospheric seismic profile in Britain - I preliminary results, *Geophys.J.R.astr.Soc.*, **44**, 145-160.
- Bamford, D., Nunn, K., Prodehl, C. and Jacob, A.W.B., 1978. LISP.B - IV. Crustal structure of northern Britain; *Geophys.J.R.astr.Soc.*, **54**, 43-60.
- Bott, M.H.P., Long, R.E., Green, A.S.P., Lewis, A.H.J., Sinha, M.C. and Stevenson, D.L., 1985. Crustal structure south of the Iapetus suture beneath northern England. *Nature*. Vol. **314**, 724-727.
- Browitt, C.W.A. and Turbitt, T., 1990. UK Earthquake Monitoring 1989/90, BGS Seismic Monitoring and Information Service First Annual Report, *Brit.Geol.Surv.* Tech. Rep. No WL/90/13.
- Burton, P.W. and Neilson, G., 1980. Annual catalogues of British earthquakes recorded on LOWNET (1967-1978), *Seismo.Bull.Inst.Geol.Sci.*, No. **7**. HMSO.
- Grunthal, G.,(Ed) 1993. European Macroseismic scale 1992 (up-dated MSK-scale). Cahiers du Centre Europeen de Geodynamique et de Seismologie. Vol **7**.
- Lee, W. and Lahr, J., 1975. HYPO'71 (revised). A computer program for determining hypocentre, magnitude and first motion pattern of local earthquakes, *Open File Rep. U.S. Geol.Surv.* **75**.
- Marrow, P.C., Turbitt, T., Atkins, M.J. and Newmark, R.H., 1987. Bulletin of North Sea earthquakes, 1986. *Brit.Geol.Surv.Glob.Seism.* Rep. No. 333.
- Marrow, P.C., Turbitt, T., and Simpson, B.A., 1988. Bulletin of North Sea earthquakes, 1987. *Brit.Geol.Surv.Glob.Seism.* Rep. No. WL/88/13.
- Newmark, R.H. and Turbitt, T., 1985. Catalogue of North Sea earthquakes 1980 to 1984 and brief project summary, *Brit.Geol.Surv.Glob.Seism.* Rep. No. 246.
- Newmark, R.H., Turbitt, T., Kjaergaard, A. and Optun, P., 1986. Bulletin of North Sea Earthquakes, 1985 recorded by the BGS and Bergen University seismograph networks, *Brit.Geol.Surv.Glob.Seism.* Rep. No. 299.
- Richter, C., 1935. An instrumental earthquake magnitude scale, *Bull.Seism. Soc.Am.*, **25**, 1-32.
- Simpson, B., 1989. Bulletin of North Sea earthquakes 1988 - June 1989, *Brit.Geol.Surv.Glob.Seism.* Tech. Rep. No. WL/89/26.

Turbitt, T., (editor), 1984. Catalogue of British earthquakes recorded by the BGS seismograph network 1979, 1980, 1981, *Brit.Geol.Surv.Glob.Seism.* Rep. No. 210.

Turbitt, T., (editor), 1985. Catalogue of British earthquakes recorded by the BGS seismograph network 1982, 1983, 1984, *Brit.Geol.Surv.Glob.Seism.* Rep. No. 260.

Turbitt, T., (editor), 1987. Bulletin of British earthquakes, 1985. *Brit. Geol.Surv.Glob.Seism.* Rep. No. 303.

Turbitt, T., (editor), 1988. Bulletin of British earthquakes 1986, *Brit.Geol.Surv.* Tech. Rep. No. WL/88/11.

Turbitt, T., (editor), 1989. Bulletin of British earthquakes 1987, *Brit.Geol.Surv.* Tech. Rep. No. WL/89/9.

Turbitt, T., (editor), 1990. Bulletin of British earthquakes 1988, *Brit.Geol.Surv.* Tech. Rep. No. WL/90/3.

Turbitt, T., (editor), 1990. Bulletin of British earthquakes 1989, *Brit.Geol.Surv.* Tech. Rep. No. WL/90/49.

Turbitt, T., (editor), 1991. Bulletin of British earthquakes 1990, *Brit.Geol.Surv.* Tech. Rep. No. WL/91/34.

Turbitt, T., (editor), 1992. Bulletin of British earthquakes 1991, *Brit.Geol.Surv.* Tech. Rep. No. WL/92/29.

Utheim, T., Havskov, J., 1993. The SEISLOG Data-Acquisition System. Guide to installation, maintenance and daily operation of the system, Version 5.0, last updated September 1993. University of Bergen, Institute of Solid Earth Physics, Seismological Observatory. Allegaten 41, 5007 Bergen, Norway.

Walker, A.B., (editor), 1993. Bulletin of British earthquakes 1992, *Brit.Geol.Surv.* Tech. Rep. No. WL/93/11.

Walker, A.B., (editor), 1994. Bulletin of British earthquakes 1993, *Brit.Geol.Surv.* Tech. Rep. No. WL/94/09.

Walker, A.B., (editor), 1995. Bulletin of British earthquakes 1994, *Brit.Geol.Surv.* Tech. Rep. No. WL/95/04.

Walker, A.B., (editor), 1996. Bulletin of British earthquakes 1995, *Brit.Geol.Surv.* Tech. Rep. No. WL/96/04.

Walker, A.B and Browitt C.W.A., 1994. UK Earthquake Monitoring 1993/94, BGS Seismic Monitoring and Information Service Fifth Annual Report, *Brit.Geol.Surv.* Tech. Rep. No WL/94/10.

KEY TO BULLETIN ENCODING

- YearMoDy** : Year, month and day of event.
HrMn Secs : Time of occurrence of event in hours, mins and secs, (UTC).
Lat : Latitude of the event, positive latitude indicates north.
Lon : Longitude of the event, negative longitude indicates west.
kmE : UK National Grid Reference in kilometres east of grid origin.
kmN : UK National Grid Reference in kilometres north of grid origin.
Dep : Depth of the hypocentre in kilometres.
Mag : Richter local magnitude of the event.
Locality : A geographical indication of the epicentral area, usually the nearest town followed by the region. A key to the abbreviations used in the locality column are given below.
Int : Maximum EMS intensity. 2+ indicates felt, no macroseismic details. 3+, 4+ etc indicates felt at 3 or 4, but no survey carried out. 3, 4, 5 etc describes the maximum EMS intensity produced by the event.
Comments : Additional comments about the event eg: C/F, see below under comments abbreviations.

The following abbreviations are extracted from the output of the location program HYPO71 (Lee and Lahr,1975)

- No** : Total number of P and S readings used in the event location.
DM : Epicentral distance in kilometres to the closest station.
Gap : Largest azimuthal separation in degrees between stations.
RMS : Root Mean Square of the travel-time residuals in seconds.
ERH : Standard error of the epicentre in kilometres. When this column is blank, the error is large and indeterminate.
ERZ : Standard error of the focal depth in kilometres. When this column is blank, the error is large and indeterminate.
SQD : S is quality factor ascribed to RMS, D is quality ascribed to number and distribution of stations.

Locality abbreviations

- | | | | |
|----------------|--------------------------|-------------|-------------------|
| Sonic | : Sonic boom | Mid Glam | : Mid Glamorgan |
| Expl | : Explosion | Notts | : Nottinghamshire |
| D & G | : Dumfries and Galloway | S'Clyde | : Strathclyde |
| Her & Wor | : Hereford and Worcester | S Yorkshire | : South Yorkshire |
| Gtr Manchester | : Greater Manchester | N Yorkshire | : North Yorkshire |
| Leics | : Leicestershire | Staffs | : Staffordshire |
| New-U-Lyme | : Newcastle-Under-Lyme | W Sussex | : West Sussex |
| Penin | : Peninsula | | |

Comments abbreviations

- Sonic : Sonic boom
Expl : Explosion
C/F : Coalfield type event
... : and felt elsewhere

TABLE 1: CATALOGUE OF EVENTS LISTED CHRONOLOGICALLY: 1996

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments
19960103	062125.6	56.86	-5.61	179.7	779.7	1.3	1.3	LOCHAILORT, HIGHLAND		5	15	281	0.07	1.5	1.3	B*D	
19960103	122738.7	56.25	-3.75	291.3	707.4	4.3	0.9	OCHIL HILLS, CENTRAL		6	15	106	0.02	0.1	0.5	A*C	
19960111	014046.8	55.23	-3.51	304.3	594.3	7.3	2.0	JOHNSTONEBRIDGE, D & G		26	11	121	0.20	0.6	1.9	B*B	6KM W OF JOHNSTONEBRIDGE
19960118	091542.0							SONIC-ORKNEY ISLANDS									SONIC-FELT ORKNEY
19960118	180822.9	53.36	-1.30	446.8	384.9	1.0	1.8	SHEFFIELD, S YORKSHIRE		5	42	278	0.29	4.3	4.0	C*D	C/F, 9KM SE OF SHEFFIELD
19960119	190348.9	53.54	-2.09	394.4	405.3	6.0	1.8	OLDHAM, GTR MANCHESTER		4	15	282	0.17				B*D
19960119	200914.6	54.08	-3.51	301.3	466.1	20.0	0.9	IRISH SEA		7	20	250	0.05	1.4	0.9	B*D	20KM W BARROW-IN-FURNESS
19960120	065243.0	55.96	-5.11	205.8	678.9	12.8	0.5	DUNOON, STRATHCLYDE		5	26	303	0.01	0.5	1.3	A*D	12KM WNW DUNOON
19960120	215538.0	50.01	-4.09	250.0	14.5	5.0	1.4	SOUTH OF PLYMOUTH		6	38	260	0.04	1.0	8.2	C*D	40KM SOUTH OF PLYMOUTH
19960121	220602.4	56.14	-3.71	293.6	695.4	0.3	0.8	CLACKMANNAN, CENTRAL		6	18	128	0.10	0.7	1.1	A*C	C/F
19960203	194154.0	56.04	-5.24	198.0	687.8	7.2	1.9	LOCHGILPHEAD, S'CLYDE	2+	19	38	144	0.13	0.5	1.9	A*C	FELT LOCHGILPHEAD
19960204	002528.0	57.09	-5.70	175.6	806.1	4.8	1.5	KNOYDART, HIGHLAND		13	21	103	0.12	0.2	0.4	A*C	
19960215	231434.9	49.08	-2.11	391.7	-90.5	7.6	0.6	JERSEY, CHANNEL ISLANDS		6	12	312	0.04	1.3	1.7	B*D	10KM S OF JERSEY
19960216	094338.0							SONIC-NORFOLK									SONIC-FELT BLAKENEY AREA
19960220	204253.9	57.67	-5.50	191.3	869.3	5.8	0.7	TORRIDON, HIGHLAND		10	22	133	0.12	0.8	1.1	A*C	
19960220	212345.8	52.97	-2.27	381.7	340.9	1.1	1.9	NEW-U-LYME, STAFFS	3+	9	4	108	0.06	0.5	0.9	A*B	C/F, FELT NEW-U-LYME...
19960226	054116.5	54.46	-3.27	317.8	507.5	15.7	0.5	BUTTERMERE, CUMBRIA		8	2	105	0.04	0.4	0.6	A*B	9KM SOUTH OF BUTTERMERE
19960226	195309.9	52.08	-2.74	349.5	242.5	16.5	0.9	HEREFORD, HER & WOR		9	14	121	0.06	0.4	0.6	A*B	
19960307	053457.5	57.29	-5.10	213.1	826.8	7.1	0.4	GLENAFFRIC, HIGHLAND		5	21	254	0.09	2.4	3.0	B*D	
19960307	131902.2	52.95	-2.26	382.7	338.9	0.3	1.9	NEW-U-LYME, STAFFS	3+	15	29	117	0.34	1.5	2.3	C*C	C/F, FELT NEW-U-LYME...
19960307	234124.2	52.80	-2.74	349.9	322.3	10.6	3.4	SHREWSBURY, SHROPSHIRE	5	11	32	138	0.09	0.6	1.1	A*C	FELT SHREWSBURY...
19960308	035849.1	53.20	-1.09	460.7	366.9	1.0	1.7	MANSFIELD, NOTTS		9	30	115	0.35	2.0	3.8	C*C	C/F
19960316	062330.6	52.97	-2.27	381.9	341.2	1.8	2.3	NEW-U-LYME, STAFFS	3+	24	4	79	0.24	0.7	1.0	B*A	C/F, FELT NEW-U-LYME...
19960317	012951.3	52.73	-1.07	463.0	315.0	13.7	1.7	LEICESTER, LEICS		13	16	128	0.09	0.4	0.6	A*B	10KM NW OF LEICESTER
19960324	192806.6	52.97	-4.40	238.9	344.6	21.4	-0.2	LLEYN PENIN, GWYNEDD		7	2	185	0.08	1.2	1.0	B*D	
19960329	192855.0	56.12	-3.66	296.9	692.8	0.1	1.6	CLACKMANNAN, CENTRAL		10	17	94	0.08	0.3	0.6	A*C	C/F
19960331	182122.0	57.20	-5.43	193.1	817.2	4.0	-0.5	SHIEL BRIDGE, HIGHLAND		5	1	306	0.00	0.1	0.0	A*D	
19960402	010003.2	52.97	-4.42	237.8	344.2	20.4	1.2	LLEYN PENIN, GWYNEDD		11	1	108	0.09	0.6	1.2	A*B	
19960403	082808.9	57.28	-4.49	249.8	823.7	10.0	1.0	LOCH NESS, HIGHLAND		9	20	175	0.26	1.8	7.3	C*C	
19960411	002400.8	53.19	-1.13	457.9	366.3	0.1	1.3	WORKSOP, NOTTS		9	27	111	0.36	1.8	3.1	C*C	C/F
19960411	004219.2	54.57	-4.34	248.8	521.8	6.7	1.0	BURROW HEAD, D & G		11	32	129	0.14	0.5	8.7	C*C	13KM SSE OF BURROW HEAD
19960412	235251.0	53.23	-1.08	461.1	370.5	2.3	1.1	WORKSOP, NOTTS		5	30	216	0.04	1.0	1.3	B*D	C/F, 8KM SOUTH OF WORKSOP
19960413	030259.1	56.12	-3.65	297.1	692.6	0.2	0.7	CLACKMANNAN, CENTRAL		7	17	124	0.07	0.4	1.0	A*C	C/F
19960415	005013.5	56.31	-4.22	262.5	715.3	4.5	1.1	CALLANDER, CENTRAL		11	15	208	0.08	0.7	0.9	A*D	
19960417	221745.0	48.90	-1.99	400.6	-111.3	8.5	0.6	JERSEY, CHANNEL ISLANDS		6	33	342	0.07	1.3		C*D	25KM SE OF JERSEY
19960420	094213.0	62.60	1.06	556.9	1417.1	15.0	2.2	NORTHERN NORTH SEA		6297	354	0.03	2.5	1.6	B*D		
19960421	022719.8	53.61	-1.36	442.4	413.0	4.2	2.3	BARNSELY, S YORKSHIRE		7	25	129	0.04	0.4	0.9	A*C	8KM NE OF BARNSELY
19960421	182850.4	51.90	-4.20	248.5	224.4	8.6	2.2	CARMARTHEN, DYFED		14	17	85	0.14	0.5	0.9	A*B	7KM NE OF CARMARTHEN
19960423	122353.7	62.15	1.31	572.3	1368.0	11.7	1.8	NORTHERN NORTH SEA		6262	353	0.05				D*D	
19960423	161956.8	53.08	-1.22	452.6	353.4	1.8	1.9	MANSFIELD, NOTTS		9	24	122	0.12	0.6	1.0	A*C	8KM SW OF MANSFIELD
19960425	085117.7	56.42	-4.45	248.8	728.2	2.5	1.5	BALQUIDDER, CENTRAL		15	27	107	0.06	0.3	0.5	A*C	7KM NW OF BALQUIDDER
19960426	054155.1	56.25	-3.75	291.4	707.9	4.4	0.4	BLACKFORD, CENTRAL		10	15	107	0.08	0.3	0.9	A*C	
19960426	112248.9	56.12	-3.66	296.7	692.8	1.3	1.1	CLACKMANNAN, CENTRAL		15	18	93	0.05	0.1	0.3	A*C	C/F

TABLE 1: CATALOGUE OF EVENTS LISTED CHRONOLOGICALLY: 1996 continued

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments	
19960430	204900.0							SONIC-MID WALES									SONIC-FELT MID WALES	
19960430	223839.2	53.02	-3.96	268.4	348.5	15.0	0.6	BLAENAU FFESTINIOG	10	20	180	0.21	1.6	5.2		C*C		
19960505	090808.4	53.04	-2.18	387.8	349.4	5.7	1.7	STOKE-ON-TRENT, STAFFS	14	23	98	0.18	0.7	1.3		B*C		
19960506	034929.1	53.04	-2.20	386.6	348.8	2.6	2.8	STOKE-ON-TRENT, STAFFS	4	23	24	95	0.11	0.3	1.0	A*C	FELT STOKE-ON-TRENT...	
19960506	111029.6	53.03	-2.19	387.2	347.6	3.6	1.8	STOKE-ON-TRENT, STAFFS	13	23	97	0.10	0.4	0.9		A*C		
19960511	202849.9	53.03	-2.19	387.4	348.7	2.7	1.9	STOKE-ON-TRENT, STAFFS	19	23	139	0.14	0.6	1.4		A*C		
19960512	061358.3	57.47	-5.50	189.9	847.8	7.3	0.4	TORRIDON, HIGHLAND	5	13	225	0.02	1.3	0.5		B*D		
19960513	174109.2	54.85	-2.94	339.5	551.4	14.1	0.4	CARLISLE, CUMBRIA	10	6	107	0.04	0.3	0.6		A*B		
19960518	210154.5	56.16	-5.17	202.9	701.3	7.9	2.9	LOCH FYNE, STRATHCLYDE	3+	17	44	128	0.11	0.5	1.7		A*C	FELT FURNACE, INVERARAY..
19960520	104712.3	56.15	-5.21	200.9	699.8	8.2	1.5	LOCH FYNE, STRATHCLYDE	11	44	209	0.09	0.7	1.6		A*D		
19960521	041234.7	53.15	-0.99	467.4	362.0	0.3	0.9	MANSFIELD, NOTTS	4	34	200	0.09				A*D	C/F, 12KM E OF MANSFIELD	
19960521	111437.0							SONIC-ISLE OF MAN									SONIC-FELT ISLE OF MAN	
19960522	001214.9	56.32	-5.92	157.7	721.3	6.1	1.8	MULL, STRATHCLYDE	16	67	239	0.05	0.9	0.9		A*D		
19960522	044131.4	52.91	-3.88	273.5	336.6	12.7	0.7	TRAWSFYNYDD, GWYNEDD	13	28	93	0.17	0.8	1.0		B*C		
19960522	102516.8	56.77	-5.12	209.2	768.4	8.0	1.0	PORT WILLIAM, HIGHLAND	7	52	190	0.12	2.5			C*D		
19960523	170636.4	56.12	-4.47	234.0	344.5	7.6	0.8	PWLLHELI, GWYNEDD	10	3	133	0.07	0.4	0.9		A*B	10KM NW OF PWLLHELI	
19960524	054043.2	53.49	-4.46	236.9	401.6	11.3	-0.2	OFF ANGLESEY, IRISH SEA	8	13	278	0.18	3.8	2.4		C*D	7KM NORTH OF ANGLESEY	
19960527	222119.3	50.83	-4.35	234.7	106.4	6.7	2.2	HOLSWORTHY, DEVON	18	20	102	0.11	0.6	1.4		A*C		
19960529	051957.6	55.30	-5.30	190.6	605.7	6.8	0.9	ARRAN, STRATHCLYDE	4	19	217	0.02				A*D	SOUTH OF ARRAN	
19960602	004227.5	56.12	-3.65	297.2	692.7	2.0	0.8	CLACKMANNAN, CENTRAL	8	17	95	0.06	0.4	1.1		A*C	C/F	
19960602	093033.1	53.39	-2.63	358.2	387.9	9.8	1.3	WARRINGTON, CHESHIRE	10	54	160	0.15	1.8	3.2		B*D		
19960602	211759.2	51.89	-5.07	188.5	225.4	6.9	1.6	HAVERFORDWEST, DYFED	12	21	218	0.06	0.6	0.5		A*D	10KM NW OF HAVERFORDWEST	
19960605	141826.1	49.44	-1.89	408.2	-50.6	11.0	0.8	JERSEY, CHANNEL ISLANDS	6	27	339	0.23	11.3			D*D	25KM N OF JERSEY	
19960607	005803.4	56.12	-3.67	296.3	692.7	0.0	1.1	CLACKMANNAN, CENTRAL	10	18	91	0.04	0.2	0.4		A*C	C/F	
19960610	090918.3	56.12	-3.67	296.4	692.7	0.8	0.9	CLACKMANNAN, CENTRAL	6	18	116	0.02	0.2	0.4		A*C	C/F	
19960614	073531.1	56.12	-3.66	296.6	693.2	0.0	1.4	CLACKMANNAN, CENTRAL	8	17	92	0.06	0.4	1.2		A*C	C/F	
19960614	172719.9	55.33	-5.23	195.1	608.8	14.2	1.3	ARRAN, STRATHCLYDE	5	23	128	0.03	0.4	1.6		A*D	SOUTH OF ARRAN	
19960614	220626.0	56.16	-5.05	210.8	700.7	8.1	1.0	LOCH FYNE, STRATHCLYDE	10	40	193	0.09	1.2	3.4		B*D		
19960615	215337.2	55.29	-5.30	190.7	604.3	5.8	0.8	ARRAN, STRATHCLYDE	4	20	213	0.05				A*D	SOUTH OF ARRAN	
19960616	002514.1	56.83	-5.77	170.2	777.1	6.5	0.7	MOIDART, HIGHLAND	5	11	313	0.08	10.7	7.3		D*D		
19960616	071316.1	55.31	-5.28	191.6	606.4	7.6	1.0	ARRAN, STRATHCLYDE	4	20	221	0.04				A*D	SOUTH OF ARRAN	
19960616	211542.6	56.11	-3.67	295.9	692.4	0.0	1.1	CLACKMANNAN, CENTRAL	13	18	90	0.06	0.2	0.4		A*C	C/F	
19960619	111552.5	56.12	-3.67	296.0	692.8	1.0	1.1	CLACKMANNAN, CENTRAL	10	18	90	0.03	0.2	0.3		A*C	C/F	
19960620	074714.1	52.16	-2.61	358.3	252.1	12.9	1.6	HEREFORD, HER & WOR	12	15	138	0.09	0.5	1.0		A*C	11KM NE OF HEREFORD	
19960621	090408.7	56.11	-3.67	295.9	692.1	0.9	0.9	CLACKMANNAN, CENTRAL	8	19	128	0.04	0.3	0.5		A*C	C/F	
19960622	132041.4	56.12	-3.67	296.2	692.6	0.9	1.4	CLACKMANNAN, CENTRAL	13	18	85	0.06	0.2	0.4		A*C	C/F	
19960623	184741.6	55.28	-5.29	191.2	603.2	3.8	0.9	ARRAN, STRATHCLYDE	4	21	210	0.04				A*D	SOUTH OF ARRAN	
19960625	004510.6	57.19	-5.50	188.6	817.0	8.2	-0.3	GLEN MORE, HIGHLAND	5	5	143	0.06	1.2	1.8		B*D		
19960625	033732.2	61.63	3.41	686.5	1316.8	15.0	3.9	NORTHERN NORTH SEA	33	87	188	0.36	1.2	1.4		C*D		
19960625	050643.8	54.77	-3.23	320.6	542.6	10.9	1.0	WIGTON, CUMBRIA	14	4	78	0.04	0.2	0.2		A*A	9KM SW OF WIGTON	
19960626	015242.1	55.34	-5.26	193.0	609.7	13.9	2.2	ARRAN, STRATHCLYDE	10	21	117	0.04	0.2	0.4		A*B	SOUTH OF ARRAN	
19960626	025612.5	55.30	-5.29	191.2	605.8	7.7	1.1	ARRAN, STRATHCLYDE	4	20	219	0.03				A*D	SOUTH OF ARRAN	
19960627	111536.4	55.31	-5.29	191.5	606.2	7.0	0.8	ARRAN, STRATHCLYDE	4	20	220	0.02				A*D	SOUTH OF ARRAN	
19960627	213855.5	56.12	-3.67	296.0	692.8	0.4	1.3	CLACKMANNAN, CENTRAL	12	18	90	0.05	0.2	0.6		A*C	C/F	
19960628	010356.8	52.92	-4.54	229.0	338.6	21.4	0.8	PWLLHELI, GWYNEDD	10	11	145	0.06	0.7	1.1		A*C	8KM NW OF PWLLHELI	

TABLE 1: CATALOGUE OF EVENTS LISTED CHRONOLOGICALLY: 1996 continued

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments
19960629	002529.7	55.93	-3.08	332.7	671.2	0.2	0.9	MUSSELBURGH, LOTHIAN		7	7	126	0.02	0.2	0.2	A*B	C/F
19960629	014055.0	55.30	-5.29	191.1	605.4	5.2	1.0	ARRAN, STRATHCLYDE		4	20	217	0.06			A*D	SOUTH OF ARRAN
19960706	061036.6	56.12	-3.68	295.8	692.9	0.6	0.9	CLACKMANNAN, CENTRAL		7	18	116	0.02	0.1	0.3	A*C	C/F
19960707	123741.3	49.07	-1.77	416.8	-92.4	8.0	0.7	JERSEY, CHANNEL ISLANDS		6	24	346	0.02	0.6	4.3	B*D	15KM SE OF JERSEY
19960710	013124.5	56.11	-3.67	296.1	692.5	0.6	1.0	CLACKMANNAN, CENTRAL		9	18	91	0.03	0.2	0.5	A*C	C/F
19960710	152247.6	53.33	-4.52	232.4	384.3	11.8	-0.7	ANGLESEY, GWYNEDD		5	6	137	0.01	0.3	0.5	A*D	
19960713	154651.0	56.12	-3.67	296.3	693.2	0.0	0.8	CLACKMANNAN, CENTRAL		8	17	106	0.04	0.2	0.4	A*C	C/F
19960718	094647.1	60.06	1.13	574.4	1134.9	11.3	2.3	NORTHERN NORTH SEA		13129	282	0.10		3.5	4.5	C*D	
19960718	104247.4	57.75	-4.26	265.5	875.9	3.0	0.9	ALNESS, HIGHLAND		10	20	89	0.05	0.3	0.5	A*C	6KM NE OF ALNESS
19960722	013126.0	50.06	-6.31	91.4	26.4	8.1	0.9	SCILLY ISLES, CORNWALL		7	53	352	0.09	7.4		D*D	
19960723	150947.2	51.86	1.68	653.6	223.9	0.4	2.6	EXPL-OFF FELIXSTOWE		10	51	213	0.48	5.0		D*D	EXPL-ORDNANCE DETONATION
19960724	010958.2	53.20	-1.03	464.7	367.3	0.8	1.9	MANSFIELD, NOTTS		9	34	121	0.27	1.5	2.3	B*C	C/F, 10KM NE OF MANSFIELD
19960726	005241.9	56.10	-3.69	294.9	690.9	1.0	0.8	CLACKMANNAN, CENTRAL		6	20	206	0.05	1.1	1.1	B*D	C/F
19960726	074211.6	61.81	2.40	632.0	1333.2	12.7	2.6	NORTHERN NORTH SEA		5234	352	0.12				D*D	
19960727	052514.5	56.12	-3.66	296.6	692.7	0.2	1.0	CLACKMANNAN, CENTRAL		9	18	110	0.03	0.2	0.7	A*C	C/F
19960728	144213.3	55.34	-5.24	194.6	610.2	14.1	1.4	ARRAN, STRATHCLYDE		6	22	132	0.03	0.3	1.1	A*B	SOUTH OF ARRAN
19960730	094134.5	56.12	-3.68	295.8	692.9	0.3	1.5	CLACKMANNAN, CENTRAL		11	18	90	0.07	0.3	0.5	A*C	C/F
19960801	110132.9	53.36	-4.54	230.9	387.7	12.8	0.3	ANGLESEY, GWYNEDD		7	2	160	0.02	0.3	0.2	A*C	
19960801	205506.8	55.09	4.74	829.7	598.3	26.1	3.4	CENTRAL NORTH SEA		40340	203	0.26		1.3	2.7	B*D	
19960802	174245.8	52.87	-3.51	298.1	331.6	7.7	0.9	BALA, GWYNEDD		9	18	162	0.10	1.3	7.3	C*C	7KM SE OF BALA
19960804	052504.9	55.34	-5.25	193.6	609.9	13.0	1.3	ARRAN, STRATHCLYDE		8	22	118	0.09	0.6	2.4	B*B	SOUTH OF ARRAN
19960809	044337.2	53.46	2.63	707.5	405.5	7.5	1.7	SOUTHERN NORTH SEA		7106	334	0.19		7.5	3.7	D*D	
19960810	012854.6	52.95	2.18	680.7	347.9	8.5	1.8	SOUTHERN NORTH SEA		6	51	309	0.15	5.4		D*D	
19960811	043054.6	55.30	-5.32	189.6	605.6	7.6	0.9	ARRAN, STRATHCLYDE		4	18	215	0.05			A*D	SOUTH OF ARRAN
19960812	083533.8	55.30	-5.29	191.1	605.5	7.6	1.0	ARRAN, STRATHCLYDE		4	20	217	0.07			A*D	SOUTH OF ARRAN
19960815	010501.1	51.14	0.09	546.5	140.2	5.1	1.4	E GRINSTEAD, W SUSSEX		8	56	287	0.36	6.2	13.1	D*D	6KM EAST OF E GRINSTEAD
19960816	013225.2	48.99	-1.85	410.7	-101.6	9.1	0.2	JERSEY, CHANNEL ISLANDS		5	27	344	0.07	10.4		D*D	20KM SE OF JERSEY
19960818	043436.1	53.15	-4.74	217.1	365.3	16.1	1.9	CAERNARVON BAY		10	15	218	0.10	1.3	2.0	B*D	17KM SW OF HOLYHEAD
19960819	011859.3	52.69	-4.02	263.6	312.4	10.4	1.2	FAIRBOURNE, GWYNEDD		15	2	85	0.10	0.6	0.4	A*A	
19960819	175655.9	52.70	-4.02	263.8	313.3	9.7	0.5	FAIRBOURNE, GWYNEDD		13	2	72	0.12	0.9	0.7	A*A	
19960823	022901.9	50.11	-5.18	172.5	28.1	7.3	0.6	CONSTANTINE, CORNWALL		8	3	119	0.02	0.2	0.3	A*B	
19960825	004227.3	53.03	-2.19	387.2	348.4	3.9	1.9	STOKE-ON-TRENT, STAFFS		9	23	123	0.09	0.6	1.2	A*C	
19960825	065810.2	52.99	-3.99	266.1	345.6	23.5	0.5	BLAENAU FFESTINIOG		11	20	89	0.21	1.2	3.5	B*A	
19960826	111652.9	52.03	-3.59	290.9	238.2	18.0	2.1	SENNYBRIDGE, POWYS		12	23	102	0.07	0.4	1.5	A*B	8KM NORTH OF SENNYBRIDGE
19960827	112955.9	55.74	-3.20	324.7	650.6	0.0	0.6	EXPL-LOTHIAN	2+	8	10	126	0.06	0.3	0.4	A*C	EXPL-FELT COWIESLINN
19960828	043626.0	53.08	-2.18	388.0	353.4	11.8	1.3	STOKE-ON-TRENT, STAFFS		8	24	127	0.07	0.5	3.8	B*B	
19960828	044229.4	53.03	-2.20	386.9	348.2	2.4	1.2	STOKE-ON-TRENT, STAFFS		9	24	123	0.07	0.4	0.9	A*C	
19960828	182335.5	53.11	-4.39	240.2	360.2	17.6	-0.1	CAERNARVON BAY		7	15	113	0.10	1.2	3.2	B*B	
19960901	000006.3	52.49	-3.30	311.4	289.4	18.5	0.7	NEWTOWN, POWYS		10	16	81	0.07	0.5	0.7	A*A	
19960902	233550.2	53.10	-1.04	464.6	356.1	2.3	0.7	MANSFIELD, NOTTS		4	34	178	0.09			A*D	C/F, 5KM SE OF MANSFIELD
19960903	004005.5	56.73	-5.12	209.1	764.7	6.0	0.9	FORT WILLIAM, HIGHLAND		7	48	245	0.13	0.6	1.2	A*D	9KM S OF FORT WILLIAM
19960906	002024.2	51.76	-3.29	311.0	207.1	6.7	0.5	MERTHYR TYDFIL, MID GLAM		9	34	158	0.06	0.4	2.0	B*C	
19960906	002851.8	62.31	1.23	567.4	1385.5	15.8	2.6	NORTHERN NORTH SEA		14215	231	0.19		3.5	4.6	C*D	
19960906	123811.4	53.04	-4.46	235.3	351.8	13.0	1.2	CAERNARVON BAY		12	7	135	0.11	0.6	1.2	A*B	
19960910	214750.5	53.22	-1.03	464.6	369.6	2.5	1.0	OLLERTON, NOTTS		7	33	159	0.17	1.4	2.5	B*C	C/F

TABLE 1: CATALOGUE OF EVENTS LISTED CHRONOLOGICALLY: 1996 continued

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments
19960911	012700.2	53.79	-2.67	355.6	433.3	14.7	1.6	PRESTON, LANCASHIRE		7	61	117	0.08	0.8	2.1	B*D	
19960915	155725.6	57.43	-5.42	194.8	842.5	4.5	-0.2	STRATHCARRON, HIGHLAND		4	11	166	0.03			A*D	
19960920	040423.4	52.32	-3.33	309.4	269.7	14.4	3.0	LLANDRINDOD WELLS	4+	13	18	74	0.06	0.3	0.3	A*B	FELT LLANDRO'D WELLS...
19960922	043829.9	54.14	-3.65	292.4	472.7	7.8	1.0	IRISH SEA		9	24	140	0.12	1.1	5.4	C*C	27KM W BARROW-IN-FURNESS
19960922	065309.5	49.77	-5.78	127.8	-7.7	8.7	0.9	SW LANDS END, CORNWALL		10	45	324	0.06	2.5	13.9	C*D	
19960926	065059.2	55.07	-2.61	361.0	575.3	12.5	0.4	BEWCASTLE, CUMBRIA		9	19	107	0.09	0.7	2.5	B*B	5KM EAST OF BEWCASTLE
19961001	042446.9	50.47	-4.76	204.4	66.6	12.7	0.6	BODMIN, CORNWALL		9	42	226	0.06	2.1	0.3	B*D	
19961002	181327.8	55.93	-3.07	333.1	671.6	0.4	1.7	MUSSELBURGH, LOTHIAN	4-5	6	7	131	0.02	0.2	0.3	A*B	C/F, FELT MUSSELBURGH...
19961004	031744.4	53.24	-1.02	465.7	371.5	1.0	2.0	OLLERTON, NOTTS		9	34	89	0.16	0.8	1.5	B*C	C/F, 3KM N OF OLLERTON
19961009	133931.8	55.94	-3.07	333.2	672.0	0.8	0.7	MUSSELBURGH, LOTHIAN		6	7	132	0.02	0.3	0.3	A*B	C/F
19961009	190418.1	53.11	-3.34	310.4	357.8	10.8	0.8	RUTHIN, CLWYD		10	23	230	0.10	1.4	0.8	B*D	
19961010	081237.3	55.95	-4.37	252.0	675.2	4.8	0.9	MILNGAVIE, STRATHCLYDE		8	17	120	0.04	0.2	0.8	A*C	
19961011	023539.9	55.93	-3.07	332.9	671.5	0.6	1.1	MUSSELBURGH, LOTHIAN	2+	5	7	211	0.02	0.4	0.3	A*D	C/F, FELT MUSSELBURGH...
19961014	215237.8	55.93	-3.07	333.1	671.6	0.5	1.6	MUSSELBURGH, LOTHIAN	5	6	7	131	0.02	0.2	0.3	A*B	C/F, FELT MUSSELBURGH...
19961014	222813.9	54.42	-3.05	332.1	503.4	6.1	-0.1	ELTERWATER, CUMBRIA		8	13	229	0.18	2.0	7.9	C*D	
19961015	054241.0	54.70	-2.63	359.1	533.7	8.5	1.8	PENRITH, CUMBRIA		17	23	100	0.09	0.4	2.9	B*C	9KM EAST OF PENRITH
19961018	033224.3	55.93	-3.07	333.1	671.6	0.4	1.1	MUSSELBURGH, LOTHIAN	2+	5	7	212	0.01	0.2	0.2	A*D	C/F, FELT MUSSELBURGH...
19961018	033648.2	55.93	-3.07	332.9	671.2	0.5	0.3	MUSSELBURGH, LOTHIAN	2+	5	7	188	0.00	0.1	0.0	A*D	C/F, FELT MUSSELBURGH...
19961018	210911.1	53.13	-1.02	465.4	360.1	2.0	2.1	MANSFIELD, NOTTS	3+	10	29	146	0.35	1.8	2.8	C*C	C/F, FELT WELLOW...
19961020	124812.9	56.40	-3.98	277.6	724.9	5.8	1.4	COMRIE, TAYSIDE	3+	12	19	202	0.13	1.4	2.2	B*D	FELT COMRIE
19961021	112605.2	55.93	-3.07	332.9	671.4	0.7	1.9	MUSSELBURGH, LOTHIAN	4-5	6	7	130	0.02	0.2	0.2	A*B	C/F, FELT MUSSELBURGH...
19961024	104104.6	49.37	-2.35	374.3	-58.5	5.9	0.8	JERSEY, CHANNEL ISLANDS		6	20	340	0.03	0.8	3.8	B*D	17KM NW OF JERSEY
19961024	183755.1	60.20	-1.62	420.9	1145.6	6.8	0.2	SHETLAND ISLANDS		6	7	232	0.02	0.3	0.2	A*D	
19961025	005317.5	55.93	-3.08	332.3	670.8	1.3	0.4	MUSSELBURGH, LOTHIAN		5	1	207	0.02	1.3	0.7	B*D	C/F
19961025	005807.5	55.94	-3.08	332.4	672.2	1.7	0.2	MUSSELBURGH, LOTHIAN		5	1	277	0.01	0.3	0.1	A*D	C/F
19961025	005830.0	55.94	-3.09	332.2	672.3	1.7	0.9	MUSSELBURGH, LOTHIAN	2+	5	1	277	0.01	0.2	0.0	A*D	C/F, FELT MUSSELBURGH...
19961025	043221.6	53.74	-1.16	455.4	427.7	7.2	1.4	HARROGATE, N YORKSHIRE		10	39	94	0.20	1.1	4.8	B*C	
19961025	123718.1	55.93	-3.08	332.3	671.7	1.5	2.0	MUSSELBURGH, LOTHIAN	5	7	1	194	0.02	0.3	0.1	A*D	C/F, FELT MUSSELBURGH...
19961026	004907.3	55.94	-3.09	332.2	672.2	1.8	0.6	MUSSELBURGH, LOTHIAN	2+	5	1	276	0.00	0.1	0.0	A*D	C/F, FELT MUSSELBURGH...
19961028	112444.0	55.93	-3.09	332.1	671.2	1.7	0.4	MUSSELBURGH, LOTHIAN		5	0	239	0.03	1.4	0.6	B*D	C/F
19961028	203654.1	55.93	-3.08	332.4	671.4	1.5	1.9	MUSSELBURGH, LOTHIAN	4	8	0	130	0.03	0.2	0.1	A*B	C/F, FELT MUSSELBURGH...
19961029	143440.1	55.94	-3.08	332.3	672.1	1.7	1.6	MUSSELBURGH, LOTHIAN	2+	7	1	198	0.01	0.2	0.0	A*D	C/F, FELT MUSSELBURGH...
19961030	041346.0	55.94	-3.09	332.2	672.6	1.1	0.4	MUSSELBURGH, LOTHIAN		4	1	296	0.00			A*D	C/F
19961030	123321.2	55.94	-3.09	332.2	672.0	1.7	0.0	MUSSELBURGH, LOTHIAN		6	1	147	0.01	0.1	0.0	A*C	C/F
19961030	151914.9	52.96	-4.37	241.0	342.5	20.3	0.6	LLEYN PENIN, GWYNEDD		9	5	101	0.07	0.5	1.2	A*B	
19961030	164636.4	55.94	-3.09	332.2	671.9	1.7	0.5	MUSSELBURGH, LOTHIAN	2+	7	1	140	0.01	0.1	0.0	A*C	C/F, FELT MUSSELBURGH...
19961030	165249.4	55.94	-3.08	332.3	672.2	1.7	1.7	MUSSELBURGH, LOTHIAN	3+	8	0	151	0.03	0.3	0.1	A*C	C/F, FELT MUSSELBURGH...
19961031	012631.9	55.93	-3.08	332.3	671.8	1.8	-0.3	MUSSELBURGH, LOTHIAN		5	1	190	0.01	0.1	0.1	A*D	C/F
19961031	075330.8	55.93	-3.08	332.5	671.7	1.6	1.2	MUSSELBURGH, LOTHIAN	3+	8	1	108	0.03	0.3	0.1	A*B	C/F, FELT MUSSELBURGH...
19961031	075701.6	55.94	-3.09	332.2	672.2	1.7	0.1	MUSSELBURGH, LOTHIAN		6	0	157	0.01	0.1	0.0	A*C	C/F
19961031	102633.9	55.94	-3.09	332.2	672.0	1.7	0.7	MUSSELBURGH, LOTHIAN	2+	6	1	142	0.01	0.1	0.0	A*C	C/F, FELT MUSSELBURGH...
19961031	125212.1	61.58	3.65	699.6	1312.3	20.8	3.8	NORTHERN NORTH SEA		19280	331	0.10				D*D	
19961031	125743.4	61.59	3.73	704.1	1313.9	15.0	3.9	NORTHERN NORTH SEA		17284	332	0.11				D*D	
19961031	225617.5	55.94	-3.08	332.5	672.4	1.7	0.5	MUSSELBURGH, LOTHIAN		5	1	278	0.01	0.3	0.1	A*D	C/F
19961031	234739.1	61.65	3.65	699.2	1320.3	15.0	3.7	NORTHERN NORTH SEA		9283	342	0.09				D*D	

TABLE 1: CATALOGUE OF EVENTS LISTED CHRONOLOGICALLY: 1996 continued

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments
19961101	035331.4	55.94	-3.08	332.8	672.2	1.1	0.4	MUSSELBURGH, LOTHIAN	4	7	277	0.00				A*D	C/F
19961101	042318.6	56.13	-3.68	295.5	693.8	0.8	1.3	CLACKMANNAN, CENTRAL	14	17	85	0.04	0.1	0.3	A*C		C/F
19961101	175022.6	55.94	-3.09	332.0	672.2	1.7	0.9	MUSSELBURGH, LOTHIAN	3+	6	1	168	0.01	0.1	0.1	A*C	C/F, FELT MUSSELBURGH...
19961104	142538.0	55.93	-3.08	332.3	671.6	1.5	1.4	MUSSELBURGH, LOTHIAN	4	8	0	121	0.02	0.1	0.1	A*B	C/F, FELT MUSSELBURGH...
19961104	142629.9	55.94	-3.09	332.2	672.1	1.7	0.5	MUSSELBURGH, LOTHIAN	2+	6	1	149	0.00	0.0	0.0	A*C	C/F, FELT MUSSELBURGH...
19961105	151459.7	55.93	-3.08	332.3	671.7	1.5	1.3	MUSSELBURGH, LOTHIAN	4	7	1	123	0.03	0.3	0.2	A*B	C/F, FELT MUSSELBURGH...
19961107	134644.4	55.94	-3.09	332.2	672.1	1.8	1.2	MUSSELBURGH, LOTHIAN	3+	7	0	151	0.02	0.2	0.1	A*C	C/F, FELT MUSSELBURGH...
19961108	025705.8	60.40	0.81	554.9	1172.2	19.5	1.9	EAST OF SHETLAND		7105	310	0.18				15.4	D*D
19961110	092833.8	50.00	-5.58	143.8	17.8	9.6	3.8	PENZANCE, CORNWALL	5	11	17	278	0.04	0.9	2.0	B*D	FELT CORNWALL & DEVON
19961110	100405.5	50.01	-5.58	143.2	17.9	11.8	1.1	PENZANCE, CORNWALL		9	17	280	0.03	1.0	1.9	A*D	OFFSHORE LOCATION
19961110	102830.3	50.01	-5.58	143.3	18.2	9.9	0.5	PENZANCE, CORNWALL		9	16	279	0.02	0.6	1.6	A*D	OFFSHORE LOCATION
19961110	205454.4	50.02	-5.58	143.8	19.3	8.8	0.1	PENZANCE, CORNWALL		9	15	275	0.02	0.5	1.5	A*D	OFFSHORE LOCATION
19961111	213625.4	55.93	-3.09	332.1	671.8	1.6	0.5	MUSSELBURGH, LOTHIAN	2+	7	1	138	0.01	0.1	0.1	A*C	C/F, FELT MUSSELBURGH...
19961112	120052.5	55.94	-3.09	332.1	672.3	1.9	1.0	MUSSELBURGH, LOTHIAN	3+	6	0	178	0.03	0.5	0.2	A*C	C/F, FELT MUSSELBURGH...
19961113	184208.6	55.93	-3.09	331.7	671.3	1.6	0.4	MUSSELBURGH, LOTHIAN		4	0	200	0.04			A*D	C/F
19961114	213202.2	55.93	-3.08	332.4	671.0	1.5	0.5	MUSSELBURGH, LOTHIAN		6	0	209	0.02	0.3	0.2	A*D	C/F
19961115	202124.0	55.94	-3.09	332.2	671.9	1.7	0.5	MUSSELBURGH, LOTHIAN		9	1	132	0.02	0.2	0.1	A*B	C/F
19961116	013203.5	54.41	-3.06	331.3	502.2	8.9	0.4	ELTERWATER, CUMBRIA		8	12	226	0.14	2.1	3.2	B*D	3KM SOUTH OF ELTERWATER
19961117	030627.5	53.42	-2.68	354.9	391.4	9.7	2.0	ST HELENS, MERSEYSIDE		20	56	74	0.13	0.4	1.4	A*D	
19961118	000356.4	51.77	-3.84	273.2	209.1	5.5	1.0	GLANAMAN, DYFED		8	22	164	0.06	2.2	6.2	C*C	
19961119	115837.0							SONIC-LOTHIAN									SONIC-FELT LOTHIAN
19961123	020022.1	48.99	-4.26	234.5	-98.8	15.9	1.6	ENGLISH CHANNEL		5146	252	0.19	2.9	4.3	C*D		
19961123	205550.2	55.94	-3.08	332.5	672.1	1.8	0.4	MUSSELBURGH, LOTHIAN		8	0	155	0.02	0.2	0.1	A*C	C/F
19961125	013242.7	53.09	2.44	697.0	363.5	10.2	2.1	SOUTHERN NORTH SEA		6	72	330	0.06	1.3	1.3	B*D	
19961126	040430.5	50.88	-3.93	263.9	110.4	5.8	1.5	OKEHAMPTON, DEVON		16	23	152	0.21	2.0	4.5	B*C	17KM NE OF OKEHAMPTON
19961201	070437.3	55.93	-3.08	332.3	671.7	1.8	0.5	MUSSELBURGH, LOTHIAN		6	1	149	0.01	0.1	0.0	A*C	C/F
19961208	010604.8	51.51	-0.63	495.2	179.9	1.2	1.9	MAIDENHEAD, BERKSHIRE		14	27	99	0.17	0.6	3.2	B*C	
19961216	040903.5	61.01	3.68	706.8	1250.0	13.7	3.3	NORTHERN NORTH SEA	2+	21	59	150	0.25	1.3	1.8	B*D	FELT FEDJE FYR & VAKSDAL
19961224	214320.9	57.56	-5.64	182.6	858.3	6.8	0.3	TORRIDON, HIGHLAND		4	21	287	0.11			A*D	7KM NW OF TORRIDON
19961226	000045.2	56.79	-5.77	169.6	772.9	7.6	0.8	MOIDART, HIGHLAND		4	51	342	0.15			A*D	
19961229	043550.6	55.28	-5.34	187.9	603.9	3.5	0.9	ARRAN, STRATHCLYDE		4	18	206	0.05			A*D	SOUTH OF ARRAN
19961231	090626.8	53.42	-4.64	224.5	394.7	16.9	0.2	OFF ANGLESEY, GWYNEDD		5	8	290	0.01	0.4	0.1	A*D	
19961231	121033.4	52.86	-2.22	385.0	329.7	7.6	1.6	STAFFORD, STAFFORDSHIRE		16	59	119	0.21	0.9	6.0	C*D	7KM NW OF STAFFORD

TABLE 2

**CATALOGUE OF EARTHQUAKES LISTED IN
ORDER OF DECREASING LATITUDE: 1996**

KEY TO BULLETIN ENCODING

- YearMoDy** : Year, month and day of event.
HrMn Secs : Time of occurrence of event in hours, mins and secs, (UTC).
Lat : Latitude of the event, positive latitude indicates north.
Lon : Longitude of the event, negative longitude indicates west.
kmE : UK National Grid Reference in kilometres east of grid origin.
kmN : UK National Grid Reference in kilometres north of grid origin.
Dep : Depth of the hypocentre in kilometres.
Mag : Richter local magnitude of the event.
Locality : A geographical indication of the epicentral area, usually the nearest town followed by the region. A key to the abbreviations used in the locality column are given below.
Int : Maximum EMS intensity. 2+ indicates felt, no macroseismic details. 3+, 4+ etc indicates felt at 3 or 4, but no survey carried out. 3, 4, 5 etc describes the maximum EMS intensity produced by the event.
Comments : Additional comments about the event eg: C/F, see below under comments abbreviations.

The following abbreviations are extracted from the output of the location program HYPO71 (Lee and Lahr,1975)

- No** : Total number of P and S readings used in the event location.
DM : Epicentral distance in kilometres to the closest station.
Gap : Largest azimuthal separation in degrees between stations.
RMS : Root Mean Square of the travel-time residuals in seconds.
ERH : Standard error of the epicentre in kilometres. When this column is blank, the error is large and indeterminate.
ERZ : Standard error of the focal depth in kilometres. When this column is blank, the error is large and indeterminate.
SQD : S is quality factor ascribed to RMS, D is quality ascribed to number and distribution of stations.

Locality abbreviations

- | | | | |
|----------------|--------------------------|-------------|-------------------|
| Sonic | : Sonic boom | Mid Glam | : Mid Glamorgan |
| Expl | : Explosion | Notts | : Nottinghamshire |
| D & G | : Dumfries and Galloway | S'Clyde | : Strathclyde |
| Her & Wor | : Hereford and Worcester | S Yorkshire | : South Yorkshire |
| Gtr Manchester | : Greater Manchester | N Yorkshire | : North Yorkshire |
| Leics | : Leicestershire | Staffs | : Staffordshire |
| New-U-Lyme | : Newcastle-Under-Lyme | W Sussex | : West Sussex |
| Penin | : Peninsula | | |

Comments abbreviations

- Sonic : Sonic boom
Expl : Explosion
C/F : Coalfield type event
... : and felt elsewhere

TABLE 2: CATALOGUE OF EARTHQUAKES LISTED IN ORDER OF DECREASING LATITUDE: 1996

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments
19960420	094213.0	62.60	1.06	556.91417.1	15.0	2.2		NORTHERN NORTH SEA		6297	354	0.03		2.5	1.6	B*D	
19960906	002851.8	62.31	1.23	567.41385.5	15.8	2.6		NORTHERN NORTH SEA		14215	231	0.19		3.5	4.6	C*D	
19960423	122353.7	62.15	1.31	572.31368.0	11.7	1.8		NORTHERN NORTH SEA		6262	353	0.05					D*D
19960726	074211.6	61.81	2.40	632.01333.2	12.7	2.6		NORTHERN NORTH SEA		5234	352	0.12					D*D
19961031	234739.1	61.65	3.65	699.21320.3	15.0	3.7		NORTHERN NORTH SEA		9283	342	0.09					D*D
19960625	033732.2	61.63	3.41	686.51316.8	15.0	3.9		NORTHERN NORTH SEA		33	87	188	0.36	1.2	1.4	C*D	
19961031	125743.4	61.59	3.73	704.11313.9	15.0	3.9		NORTHERN NORTH SEA		17284	332	0.11					D*D
19961031	125212.1	61.58	3.65	699.61312.3	20.8	3.8		NORTHERN NORTH SEA		19280	331	0.10					D*D
19961216	040903.5	61.01	3.68	706.81250.0	13.7	3.3		NORTHERN NORTH SEA	2+	21	59	150	0.25	1.3	1.8	B*D	FELT FEDJE FYR & VAKSDAL
19961108	025705.8	60.40	0.81	554.91172.2	19.5	1.9		EAST OF SHETLAND		7105	310	0.18			15.4	D*D	
19961024	183755.1	60.20	-1.62	420.91145.6	6.8	0.2		SHETLAND ISLANDS		6	7	232	0.02	0.3	0.2	A*D	
19960718	094647.1	60.06	1.13	574.41134.9	11.3	2.3		NORTHERN NORTH SEA		13129	282	0.10		3.5	4.5	C*D	
19960718	104247.4	57.75	-4.26	265.5	875.9	3.0	0.9	ALNESS, HIGHLAND		10	20	89	0.05	0.3	0.5	A*C	6KM NE OF ALNESS
19960220	204253.9	57.67	-5.50	191.3	869.3	5.8	0.7	TORRIDON, HIGHLAND		10	22	133	0.12	0.8	1.1	A*C	
19961224	214320.9	57.56	-5.64	182.6	858.3	6.8	0.3	TORRIDON, HIGHLAND		4	21	287	0.11			A*D	7KM NW OF TORRIDON
19960512	061358.3	57.47	-5.50	189.9	847.8	7.3	0.4	TORRIDON, HIGHLAND		5	13	225	0.02	1.3	0.5	B*D	
19960915	155725.6	57.43	-5.42	194.8	842.5	4.5	-0.2	STRATHCARRON, HIGHLAND		4	11	166	0.03			A*D	
19960307	053457.5	57.29	-5.10	213.1	826.8	7.1	0.4	GLENAFFRIC, HIGHLAND		5	21	254	0.09	2.4	3.0	B*D	
19960403	082808.9	57.28	-4.49	249.8	823.7	10.0	1.0	LOCH NESS, HIGHLAND		9	20	175	0.26	1.8	7.3	C*C	
19960331	182122.0	57.20	-5.43	193.1	817.2	4.0	-0.5	SHIEL BRIDGE, HIGHLAND		5	1	306	0.00	0.1	0.0	A*D	
19960625	004510.6	57.19	-5.50	188.6	817.0	8.2	-0.3	GLEN MORE, HIGHLAND		5	5	143	0.06	1.2	1.8	B*D	
19960204	002528.0	57.09	-5.70	175.6	806.1	4.8	1.5	KNOYDART, HIGHLAND		13	21	103	0.12	0.2	0.4	A*C	
19960103	062125.6	56.86	-5.61	179.7	779.7	1.3	1.3	LOCHAILLORT, HIGHLAND		5	15	281	0.07	1.5	1.3	B*D	
19960616	002514.1	56.83	-5.77	170.2	777.1	6.5	0.7	MOIDART, HIGHLAND		5	11	313	0.08	10.7	7.3	D*D	
19961226	000045.2	56.79	-5.77	169.6	772.9	7.6	0.8	MOIDART, HIGHLAND		4	51	342	0.15			A*D	
19960522	102516.8	56.77	-5.12	209.2	768.4	8.0	1.0	FORT WILLIAM, HIGHLAND		7	52	190	0.12	2.5		C*D	
19960903	004005.5	56.73	-5.12	209.1	764.7	6.0	0.9	FORT WILLIAM, HIGHLAND		7	48	245	0.13	0.6	1.2	A*D	9KM S OF FORT WILLIAM
19960425	085117.7	56.42	-4.45	248.8	728.2	2.5	1.5	BALQUIDDER, CENTRAL		15	27	107	0.06	0.3	0.5	A*C	7KM NW OF BALQUIDDER
19961020	124812.9	56.40	-3.98	277.6	724.9	5.8	1.4	COMRIE, TAYSIDE	3+	12	19	202	0.13	1.4	2.2	B*D	FELT COMRIE
19960522	001214.9	56.32	-5.92	157.7	721.3	6.1	1.8	MULL, STRATHCLYDE		16	67	239	0.05	0.9	0.9	A*D	
19960415	005013.5	56.31	-4.22	262.5	715.3	4.5	1.1	CALLANDER, CENTRAL		11	15	208	0.08	0.7	0.9	A*D	
19960103	122738.7	56.25	-3.75	291.3	707.4	4.3	0.9	OCHIL HILLS, CENTRAL		6	15	106	0.02	0.1	0.5	A*C	
19960426	054155.1	56.25	-3.75	291.4	707.9	4.4	0.4	BLACKFORD, CENTRAL		10	15	107	0.08	0.3	0.9	A*C	
19960518	210154.5	56.16	-5.17	202.9	701.3	7.9	2.9	LOCH FYNE, STRATHCLYDE	3+	17	44	128	0.11	0.5	1.7	A*C	FELT FURNACE, INVERARAY..
19960614	220626.0	56.16	-5.05	210.8	700.7	8.1	1.0	LOCH FYNE, STRATHCLYDE		10	40	193	0.09	1.2	3.4	B*D	
19960520	104712.3	56.15	-5.21	200.9	699.8	8.2	1.5	LOCH FYNE, STRATHCLYDE		11	44	209	0.09	0.7	1.6	A*D	
19960121	220602.4	56.14	-3.71	293.6	695.4	0.3	0.8	CLACKMANNAN, CENTRAL		6	18	128	0.10	0.7	1.1	A*C	C/F
19961101	042318.6	56.13	-3.68	295.5	693.8	0.8	1.3	CLACKMANNAN, CENTRAL		14	17	85	0.04	0.1	0.3	A*C	C/F
19960329	192855.0	56.12	-3.66	296.9	692.8	0.1	1.6	CLACKMANNAN, CENTRAL		10	17	94	0.08	0.3	0.6	A*C	C/F
19960413	030259.1	56.12	-3.65	297.1	692.6	0.2	0.7	CLACKMANNAN, CENTRAL		7	17	124	0.07	0.4	1.0	A*C	C/F
19960426	112248.9	56.12	-3.66	296.7	692.8	1.3	1.1	CLACKMANNAN, CENTRAL		15	18	93	0.05	0.1	0.3	A*C	C/F
19960602	004227.5	56.12	-3.65	297.2	692.7	2.0	0.8	CLACKMANNAN, CENTRAL		8	17	95	0.06	0.4	1.1	A*C	C/F
19960607	005803.4	56.12	-3.67	296.3	692.7	0.0	1.1	CLACKMANNAN, CENTRAL		10	18	91	0.04	0.2	0.4	A*C	C/F

TABLE 2: CATALOGUE OF EARTHQUAKES LISTED IN ORDER OF DECREASING LATITUDE: 1996 continued

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments	
19960610	090918.3	56.12	-3.67	296.4	692.7	0.8	0.9	CLACKMANNAN, CENTRAL		6	18	116	0.02	0.2	0.4	A*C	C/F	
19960614	073531.1	56.12	-3.66	296.6	693.2	0.0	1.4	CLACKMANNAN, CENTRAL		8	17	92	0.06	0.4	1.2	A*C	C/F	
19960619	111552.5	56.12	-3.67	296.0	692.8	1.0	1.1	CLACKMANNAN, CENTRAL		10	18	90	0.03	0.2	0.3	A*C	C/F	
19960622	132041.4	56.12	-3.67	296.2	692.6	0.9	1.4	CLACKMANNAN, CENTRAL		13	18	85	0.06	0.2	0.4	A*C	C/F	
19960627	213855.5	56.12	-3.67	296.0	692.8	0.4	1.3	CLACKMANNAN, CENTRAL		12	18	90	0.05	0.2	0.6	A*C	C/F	
19960706	061036.6	56.12	-3.68	295.8	692.9	0.6	0.9	CLACKMANNAN, CENTRAL		7	18	116	0.02	0.1	0.3	A*C	C/F	
19960713	154651.0	56.12	-3.67	296.3	693.2	0.0	0.8	CLACKMANNAN, CENTRAL		8	17	106	0.04	0.2	0.4	A*C	C/F	
19960727	052514.5	56.12	-3.66	296.6	692.7	0.2	1.0	CLACKMANNAN, CENTRAL		9	18	110	0.03	0.2	0.7	A*C	C/F	
19960730	094134.5	56.12	-3.68	295.8	692.9	0.3	1.5	CLACKMANNAN, CENTRAL		11	18	90	0.07	0.3	0.5	A*C	C/F	
19960616	211542.6	56.11	-3.67	295.9	692.4	0.0	1.1	CLACKMANNAN, CENTRAL		13	18	90	0.06	0.2	0.4	A*C	C/F	
19960621	090408.7	56.11	-3.67	295.9	692.1	0.9	0.9	CLACKMANNAN, CENTRAL		8	19	128	0.04	0.3	0.5	A*C	C/F	
19960710	013124.5	56.11	-3.67	296.1	692.5	0.6	1.0	CLACKMANNAN, CENTRAL		9	18	91	0.03	0.2	0.5	A*C	C/F	
19960726	005241.9	56.10	-3.69	294.9	690.9	1.0	0.8	CLACKMANNAN, CENTRAL		6	20	206	0.05	1.1	1.1	B*D	C/F	
19960203	194154.0	56.04	-5.24	198.0	687.8	7.2	1.9	LOCHGILPHEAD, S' CLYDE	2+	19	38	144	0.13	0.5	1.9	A*C	FELT LOCHGILPHEAD	
19960120	065243.0	55.96	-5.11	205.8	678.9	12.8	0.5	DUNOON, STRATHCLYDE		5	26	303	0.01	0.5	1.3	A*D	12KM WNW DUNOON	
19961010	081237.3	55.95	-4.37	252.0	675.2	4.8	0.9	MILNGAVIE, STRATHCLYDE		8	17	120	0.04	0.2	0.8	A*C		
19961009	133931.8	55.94	-3.07	333.2	672.0	0.8	0.7	MUSSELBURGH, LOTHIAN		6	7	132	0.02	0.3	0.3	A*B	C/F	
19961025	005807.5	55.94	-3.08	332.4	672.2	1.7	0.2	MUSSELBURGH, LOTHIAN		5	1	277	0.01	0.3	0.1	A*D	C/F	
19961025	005830.0	55.94	-3.09	332.2	672.3	1.7	0.9	MUSSELBURGH, LOTHIAN	2+	5	1	277	0.01	0.2	0.0	A*D	C/F, FELT MUSSELBURGH...	
19961026	004907.3	55.94	-3.09	332.2	672.2	1.8	0.6	MUSSELBURGH, LOTHIAN	2+	5	1	276	0.00	0.1	0.0	A*D	C/F, FELT MUSSELBURGH...	
19961029	143440.1	55.94	-3.08	332.3	672.1	1.7	1.6	MUSSELBURGH, LOTHIAN	2+	7	1	198	0.01	0.2	0.0	A*D	C/F, FELT MUSSELBURGH...	
19961030	041346.0	55.94	-3.09	332.2	672.6	1.1	0.4	MUSSELBURGH, LOTHIAN		4	1	296	0.00			A*D	C/F	
19961030	123321.2	55.94	-3.09	332.2	672.0	1.7	0.0	MUSSELBURGH, LOTHIAN		6	1	147	0.01	0.1	0.0	A*C	C/F	
19961030	164636.4	55.94	-3.09	332.2	671.9	1.7	0.5	MUSSELBURGH, LOTHIAN	2+	7	1	140	0.01	0.1	0.0	A*C	C/F, FELT MUSSELBURGH...	
19961030	165249.4	55.94	-3.08	332.3	672.2	1.7	1.7	MUSSELBURGH, LOTHIAN	3+	8	0	151	0.03	0.3	0.1	A*C	C/F, FELT MUSSELBURGH...	
19961031	075701.6	55.94	-3.09	332.2	672.2	1.7	0.1	MUSSELBURGH, LOTHIAN		6	0	157	0.01	0.1	0.0	A*C	C/F	
19961031	102633.9	55.94	-3.09	332.2	672.0	1.7	0.7	MUSSELBURGH, LOTHIAN	2+	6	1	142	0.01	0.1	0.0	A*C	C/F, FELT MUSSELBURGH...	
19961031	225617.5	55.94	-3.08	332.5	672.4	1.7	0.5	MUSSELBURGH, LOTHIAN		5	1	278	0.01	0.3	0.1	A*D	C/F	
19961101	035331.4	55.94	-3.08	332.8	672.2	1.1	0.4	MUSSELBURGH, LOTHIAN		4	7	277	0.00			A*D	C/F	
19961101	175022.6	55.94	-3.09	332.0	672.2	1.7	0.9	MUSSELBURGH, LOTHIAN	3+	6	1	168	0.01	0.1	0.1	A*C	C/F, FELT MUSSELBURGH...	
19961104	142629.9	55.94	-3.09	332.2	672.1	1.7	0.5	MUSSELBURGH, LOTHIAN	2+	6	1	149	0.00	0.0	0.0	A*C	C/F, FELT MUSSELBURGH...	
19961107	134644.4	55.94	-3.09	332.2	672.1	1.8	1.2	MUSSELBURGH, LOTHIAN	3+	7	0	151	0.02	0.2	0.1	A*C	C/F, FELT MUSSELBURGH...	
19961112	120052.5	55.94	-3.09	332.1	672.3	1.9	1.0	MUSSELBURGH, LOTHIAN	3+	6	0	178	0.03	0.5	0.2	A*C	C/F, FELT MUSSELBURGH...	
19961115	202124.0	55.94	-3.09	332.2	671.9	1.7	0.5	MUSSELBURGH, LOTHIAN		9	1	132	0.02	0.2	0.1	A*B	C/F	
19961123	205550.2	55.94	-3.08	332.5	672.1	1.8	0.4	MUSSELBURGH, LOTHIAN		8	0	155	0.02	0.2	0.1	A*C	C/F	
19960629	002529.7	55.93	-3.08	332.7	671.2	0.2	0.9	MUSSELBURGH, LOTHIAN		7	7	126	0.02	0.2	0.2	A*B	C/F	
19961002	181327.8	55.93	-3.07	333.1	671.6	0.4	1.7	MUSSELBURGH, LOTHIAN	4-5	6	7	131	0.02	0.2	0.3	A*B	C/F, FELT MUSSELBURGH...	
19961011	023539.9	55.93	-3.07	332.9	671.5	0.6	1.1	MUSSELBURGH, LOTHIAN	2+	5	7	211	0.02	0.4	0.3	A*D	C/F, FELT MUSSELBURGH...	
19961014	215237.8	55.93	-3.07	333.1	671.6	0.5	1.6	MUSSELBURGH, LOTHIAN		5	6	7	131	0.02	0.2	0.3	A*B	C/F, FELT MUSSELBURGH...
19961018	033224.3	55.93	-3.07	333.1	671.6	0.4	1.1	MUSSELBURGH, LOTHIAN	2+	5	7	212	0.01	0.2	0.2	A*D	C/F, FELT MUSSELBURGH...	
19961018	033648.2	55.93	-3.07	332.9	671.2	0.5	0.3	MUSSELBURGH, LOTHIAN	2+	5	7	188	0.00	0.1	0.0	A*D	C/F, FELT MUSSELBURGH...	
19961021	112605.2	55.93	-3.07	332.9	671.4	0.7	1.9	MUSSELBURGH, LOTHIAN	4-5	6	7	130	0.02	0.2	0.2	A*B	C/F, FELT MUSSELBURGH...	
19961025	005317.5	55.93	-3.08	332.3	670.8	1.3	0.4	MUSSELBURGH, LOTHIAN		5	1	207	0.02	1.3	0.7	B*D	C/F	
19961025	123718.1	55.93	-3.08	332.3	671.7	1.5	2.0	MUSSELBURGH, LOTHIAN	5	7	1	194	0.02	0.3	0.1	A*D	C/F, FELT MUSSELBURGH...	
19961028	112444.0	55.93	-3.09	332.1	671.2	1.7	0.4	MUSSELBURGH, LOTHIAN		5	0	239	0.03	1.4	0.6	B*D	C/F	

TABLE 2: CATALOGUE OF EARTHQUAKES LISTED IN ORDER OF DECREASING LATITUDE: 1996 continued

Year/Mo	Hr/Mn/Secs	Lat	Lon	kmE	kmN	Dep Mag	Locality	Int No	DM	Gap	RMS	ERH	ERZ	SQD	Comments
19961028	203654.1	55.93	-3.08	332.4	671.4	1.5	1.9 MUSSELBURGH, LOTHIAN	4	8	0	130	0.03	0.2	0.1	A*B C/F, FELT MUSSELBURGH...
19961031	012631.9	55.93	-3.08	332.3	671.8	1.8	-0.3 MUSSELBURGH, LOTHIAN	5	1	190	0.01	0.1	0.1	0.1	A*D C/F
19961031	075330.8	55.93	-3.08	332.5	671.7	1.6	1.2 MUSSELBURGH, LOTHIAN	3+	8	1	108	0.03	0.3	0.1	A*B C/F, FELT MUSSELBURGH...
19961104	142538.0	55.93	-3.08	332.3	671.6	1.5	1.4 MUSSELBURGH, LOTHIAN	4	8	0	121	0.02	0.1	0.1	A*B C/F, FELT MUSSELBURGH...
19961105	151459.7	55.93	-3.08	332.3	671.7	1.5	1.3 MUSSELBURGH, LOTHIAN	4	7	1	123	0.03	0.3	0.2	A*B C/F, FELT MUSSELBURGH...
19961111	213625.4	55.93	-3.09	332.1	671.8	1.6	0.5 MUSSELBURGH, LOTHIAN	2+	7	1	138	0.01	0.1	0.1	A*C C/F, FELT MUSSELBURGH...
19961113	184208.6	55.93	-3.09	331.7	671.3	1.6	-0.4 MUSSELBURGH, LOTHIAN	4	0	200	0.04	0.3	0.2	A*D C/F	
19961114	213202.2	55.93	-3.08	332.4	671.0	1.5	0.5 MUSSELBURGH, LOTHIAN	6	0	209	0.02	0.3	0.2	A*D C/F	
19961201	070437.3	55.93	-3.08	332.3	671.7	1.8	0.5 MUSSELBURGH, LOTHIAN	6	1	149	0.01	0.1	0.0	A*C C/F	
19960626	015242.1	55.34	-5.26	193.0	609.7	13.9	2.2 ARRAN, STRATHCLYDE	10	21	117	0.04	0.2	0.4	A*B SOUTH OF ARRAN	
19960728	144213.3	55.34	-5.24	194.6	610.2	14.1	1.4 ARRAN, STRATHCLYDE	6	22	132	0.03	0.3	1.1	A*B SOUTH OF ARRAN	
19960804	052504.9	55.34	-5.25	193.6	609.9	13.0	1.3 ARRAN, STRATHCLYDE	8	22	118	0.09	0.6	2.4	B*B SOUTH OF ARRAN	
19960614	172719.9	55.33	-5.23	195.1	608.8	14.2	1.3 ARRAN, STRATHCLYDE	5	23	128	0.03	0.4	1.6	A*D SOUTH OF ARRAN	
19960616	071316.1	55.31	-5.28	191.6	606.4	7.6	1.0 ARRAN, STRATHCLYDE	4	20	221	0.04	0.4	A*D SOUTH OF ARRAN		
19960627	111536.4	55.31	-5.29	191.5	606.2	7.0	0.8 ARRAN, STRATHCLYDE	4	20	220	0.02	0.2	A*D SOUTH OF ARRAN		
19960529	021957.6	55.30	-5.30	190.6	605.7	6.8	0.9 ARRAN, STRATHCLYDE	4	19	217	0.02	0.1	A*D SOUTH OF ARRAN		
19960626	025612.5	55.30	-5.29	191.2	605.8	7.7	1.1 ARRAN, STRATHCLYDE	4	20	219	0.03	0.3	A*D SOUTH OF ARRAN		
19960629	014055.0	55.30	-5.29	191.1	605.4	5.2	1.0 ARRAN, STRATHCLYDE	4	20	217	0.06	0.6	A*D SOUTH OF ARRAN		
19960811	043054.6	55.30	-5.32	189.6	605.6	7.6	0.9 ARRAN, STRATHCLYDE	4	18	215	0.05	0.5	A*D SOUTH OF ARRAN		
19960812	083533.8	55.30	-5.29	191.1	605.5	7.6	1.0 ARRAN, STRATHCLYDE	4	20	217	0.07	0.7	A*D SOUTH OF ARRAN		
19960615	215337.2	55.29	-5.30	190.7	604.3	5.8	0.8 ARRAN, STRATHCLYDE	4	20	213	0.05	0.5	A*D SOUTH OF ARRAN		
19960623	184741.6	55.28	-5.29	191.2	603.2	3.8	0.9 ARRAN, STRATHCLYDE	4	21	210	0.04	0.4	A*D SOUTH OF ARRAN		
19961229	043550.6	55.28	-5.34	187.9	603.9	3.5	0.9 ARRAN, STRATHCLYDE	4	18	206	0.05	0.5	A*D SOUTH OF ARRAN		
19960111	014046.8	55.23	-3.51	304.3	594.3	7.3	2.0 JOHNSTONEBRIDGE, D & G	26	11	121	0.20	0.6	1.9	B*B 6KM W OF JOHNSTONEBRIDGE	
19960801	205506.8	55.09	-4.74	829.7	598.3	26.1	3.4 CENTRAL NORTH SEA	40340	203	0.26	0.26	1.3	2.7	B*D	
19960926	065059.2	55.07	-2.61	361.0	575.3	12.5	0.4 BEWCASTLE, CUMBRIA	9	19	107	0.09	0.7	2.5	B*B	
19960513	174109.2	54.85	-2.94	339.5	551.4	14.1	0.4 CARLISLE, CUMBRIA	10	6	107	0.04	0.3	0.6	A*B	
19960625	050643.8	54.77	-3.23	320.6	542.6	10.9	1.0 WIGTON, CUMBRIA	14	4	78	0.04	0.2	0.2	A*A	
19961015	054241.0	54.70	-2.63	359.1	533.7	8.5	1.8 PENRITH, CUMBRIA	17	23	100	0.09	0.4	2.9	B*C	
19960411	004219.2	54.57	-4.34	248.8	521.8	6.7	1.0 BURROW HEAD, D & G	11	32	129	0.14	0.5	8.7	C*C	
19960226	054116.5	54.46	-3.27	317.8	507.5	15.7	0.5 BUTTERMERE, CUMBRIA	8	2	105	0.04	0.4	0.6	A*B	
19961014	222813.9	54.42	-3.05	332.1	503.4	6.1	-0.1 ELTERWATER, CUMBRIA	8	13	229	0.18	2.0	7.9	C*D	
19961116	013203.5	54.41	-3.06	331.3	502.2	8.9	0.4 ELTERWATER, CUMBRIA	8	12	226	0.14	2.1	3.2	B*D	
19960922	043829.9	54.14	-3.65	292.4	472.7	7.8	1.0 IRISH SEA	9	24	140	0.12	1.1	5.4	C*C	
19960119	200914.6	54.08	-3.51	301.3	466.1	20.0	0.9 IRISH SEA	7	20	250	0.05	1.4	0.9	B*D	
19960911	012700.2	53.79	-2.67	355.6	433.3	14.7	1.6 PRESTON, LANCASHIRE	7	61	117	0.08	0.8	2.1	B*D	
19961025	043221.6	53.74	-1.16	455.4	427.7	7.2	1.4 HARROGATE, N YORKSHIRE	10	39	94	0.20	1.1	4.8	B*C	
19960421	022719.8	53.61	-1.36	442.4	413.0	4.2	2.3 BARNSELEY, S YORKSHIRE	7	25	129	0.04	0.4	0.9	A*C	
19960119	190348.9	53.54	-2.09	394.4	405.3	6.0	1.8 OLDHAM, GTR MANCHESTER	4	15	282	0.17	1.8	3.8	2.4	C*D
19960524	054043.2	53.49	-4.46	236.9	401.6	11.3	-0.2 OFF ANGLESEY, IRISH SEA	8	13	278	0.18	3.8	2.4	C*D	
19960809	044337.2	53.46	-2.63	707.5	405.5	7.5	1.7 SOUTHERN NORTH SEA	7106	334	0.19	7.5	3.7	D*D		
19961117	030627.5	53.42	-2.68	354.9	391.4	9.7	2.0 ST HELENS, MERSEYSIDE	20	56	74	0.13	0.4	1.4	A*D	
19961231	090626.8	53.42	-4.64	224.5	394.7	16.9	-0.2 OFF ANGLESEY, GWYNEDD	5	8	290	0.01	0.4	0.1	A*D	
19960602	093033.1	53.39	-2.63	358.2	387.9	9.8	1.3 WARRINGTON, CHESHIRE	10	54	160	0.15	1.8	3.2	B*D	
19960118	180822.9	53.36	-1.30	446.8	384.9	1.0	1.8 SHEFFIELD, S YORKSHIRE	5	42	278	0.29	4.3	4.0	C*D	

TABLE 2: CATALOGUE OF EARTHQUAKES LISTED IN ORDER OF DECREASING LATITUDE: 1996 continued

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments
19960801	110132.9	53.36	-4.54	230.9	387.7	12.8	0.3	ANGLESEY, GWYNEDD		7	2	160	0.02	0.3	0.2	A*C	
19960710	152247.6	53.33	-4.52	232.4	384.3	11.8	-0.7	ANGLESEY, GWYNEDD		5	6	137	0.01	0.3	0.5	A*D	
19961004	031744.4	53.24	-1.02	465.7	371.5	1.0	2.0	OLLERTON, NOTTS		9	34	89	0.16	0.8	1.5	B*C	C/F, 3KM N OF OLLERTON
19960412	235251.0	53.23	-1.08	461.1	370.5	2.3	1.1	WORKSOP, NOTTS		5	30	216	0.04	1.0	1.3	B*D	C/F, 8KM SOUTH OF WORKSOP
19960910	214750.5	53.22	-1.03	464.6	369.6	2.5	1.0	OLLERTON, NOTTS		7	33	159	0.17	1.4	2.5	B*C	C/F
19960308	035849.1	53.20	-1.09	460.7	366.9	1.0	1.7	MANSFIELD, NOTTS		9	30	115	0.35	2.0	3.8	C*C	C/F
19960724	010958.2	53.20	-1.03	464.7	367.3	0.8	1.9	MANSFIELD, NOTTS		9	34	121	0.27	1.5	2.3	B*C	C/F, 10KM NE OF MANSFIELD
19960411	002400.8	53.19	-1.13	457.9	366.3	0.1	1.3	WORKSOP, NOTTS		9	27	111	0.36	1.8	3.1	C*C	C/F
19960521	041234.7	53.15	-0.99	467.4	362.0	0.3	0.9	MANSFIELD, NOTTS		4	34	200	0.09			A*D	C/F, 12KM E OF MANSFIELD
19960818	043436.1	53.15	-4.74	217.1	365.3	16.1	1.9	CAERNARVON BAY		10	15	218	0.10	1.3	2.0	B*D	17KM SW OF HOLYHEAD
19961018	210911.1	53.13	-1.02	465.4	360.1	2.0	2.1	MANSFIELD, NOTTS	3+	10	29	146	0.35	1.8	2.8	C*C	C/F, FELT WELLOW...
19960828	182335.5	53.11	-4.39	240.2	360.2	17.6	-0.1	CAERNARVON BAY		7	15	113	0.10	1.2	3.2	B*B	
19961009	190418.1	53.11	-3.34	310.4	357.8	10.8	0.8	RUTHIN, CLWYD		10	23	230	0.10	1.4	0.8	B*D	
19960902	233550.2	53.10	-1.04	464.6	356.1	2.3	0.7	MANSFIELD, NOTTS		4	34	178	0.09			A*D	C/F, 5KM SE OF MANSFIELD
19961125	013242.7	53.09	2.44	697.0	363.5	10.2	2.1	SOUTHERN NORTH SEA		6	72	330	0.06	1.3	1.3	B*D	
19960423	161956.8	53.08	-1.22	452.6	353.4	1.8	1.9	MANSFIELD, NOTTS		9	24	122	0.12	0.6	1.0	A*C	8KM SW OF MANSFIELD
19960828	043626.0	53.08	-2.18	388.0	353.4	11.8	1.3	STOKE-ON-TRENT, STAFFS		8	24	127	0.07	0.5	3.8	B*B	
19960505	090808.4	53.04	-2.18	387.8	349.4	5.7	1.7	STOKE-ON-TRENT, STAFFS		14	23	98	0.18	0.7	1.3	B*C	
19960506	034929.1	53.04	-2.20	386.6	348.8	2.6	2.8	STOKE-ON-TRENT, STAFFS	4	23	24	95	0.11	0.3	1.0	A*C	FELT STOKE-ON-TRENT...
19960906	123811.4	53.04	-4.46	235.3	351.8	13.0	1.2	CAERNARVON BAY		12	7	135	0.11	0.6	1.2	A*B	
19960506	111029.6	53.03	-2.19	387.2	347.6	3.6	1.8	STOKE-ON-TRENT, STAFFS		13	23	97	0.10	0.4	0.9	A*C	
19960511	202849.9	53.03	-2.19	387.4	348.7	2.7	1.9	STOKE-ON-TRENT, STAFFS		19	23	139	0.14	0.6	1.4	A*C	
19960825	004227.3	53.03	-2.19	387.2	348.4	3.9	1.9	STOKE-ON-TRENT, STAFFS		9	23	123	0.09	0.6	1.2	A*C	
19960828	044229.4	53.03	-2.20	386.9	348.2	2.4	1.2	STOKE-ON-TRENT, STAFFS		9	24	123	0.07	0.4	0.9	A*C	
19960430	223839.2	53.02	-3.96	268.4	348.5	15.0	0.6	BLAENAU FFESTINIOG		10	20	180	0.21	1.6	5.2	C*C	
19960825	065810.2	52.99	-3.99	266.1	345.6	23.5	0.5	BLAENAU FFESTINIOG		11	20	89	0.21	1.2	3.5	B*A	
19960220	212345.8	52.97	-2.27	381.7	340.9	1.1	1.9	NEW-U-LYME, STAFFS	3+	9	4	108	0.06	0.5	0.9	A*B	C/F, FELT NEW-U-LYME...
19960316	062330.6	52.97	-2.27	381.9	341.2	1.8	2.3	NEW-U-LYME, STAFFS	3+	24	4	79	0.24	0.7	1.0	B*A	C/F, FELT NEW-U-LYME...
19960324	192806.6	52.97	-4.40	238.9	344.6	21.4	-0.2	LLEYN PENIN, GWYNEDD		7	2	185	0.08	1.2	1.0	B*D	
19960402	010003.2	52.97	-4.42	237.8	344.2	20.4	1.2	LLEYN PENIN, GWYNEDD		11	1	108	0.09	0.6	1.2	A*B	
19960522	170636.4	52.97	-4.47	234.0	344.5	7.6	0.8	PWLLHELI, GWYNEDD		10	3	133	0.07	0.4	0.9	A*B	10KM NW OF PWLLHELI
19961030	151914.9	52.96	-4.37	241.0	342.5	20.3	0.6	LLEYN PENIN, GWYNEDD		9	5	101	0.07	0.5	1.2	A*B	
19960307	131902.2	52.95	-2.26	382.7	338.9	0.3	1.9	NEW-U-LYME, STAFFS	3+	15	29	117	0.34	1.5	2.3	C*C	C/F, FELT NEW-U-LYME...
19960810	012854.6	52.95	2.18	680.7	347.9	8.5	1.8	SOUTHERN NORTH SEA		6	51	309	0.15	5.4		D*D	
19960628	010356.8	52.92	-4.54	229.0	338.6	21.4	0.8	PWLLHELI, GWYNEDD		10	11	145	0.06	0.7	1.1	A*C	8KM NW OF PWLLHELI
19960522	044131.4	52.91	-3.88	273.5	336.6	12.7	0.7	TRAWSFYNYDD, GWYNEDD		13	28	93	0.17	0.8	1.0	B*C	
19960802	174245.8	52.87	-3.51	298.1	331.6	7.7	0.9	BALA, GWYNEDD		9	18	162	0.10	1.3	7.3	C*C	7KM SE OF BALA
19961231	121033.4	52.86	-2.22	385.0	329.7	7.6	1.6	STAFFORD, STAFFORDSHIRE		16	59	119	0.21	0.9	6.0	C*D	7KM NW OF STAFFORD
19960307	234124.2	52.80	-2.74	349.9	322.3	10.6	3.4	SHREWSBURY, SHROPSHIRE	5	11	32	138	0.09	0.6	1.1	A*C	FELT SHREWSBURY...
19960317	012951.3	52.73	-1.07	463.0	315.0	13.7	1.7	LEICESTER, LEICS		13	16	128	0.09	0.4	0.6	A*B	10KM NW OF LEICESTER
19960819	175655.9	52.70	-4.02	263.8	313.3	9.7	0.5	FAIRBOURNE, GWYNEDD		13	2	72	0.12	0.9	0.7	A*A	
19960819	011859.3	52.69	-4.02	263.6	312.4	10.4	1.2	FAIRBOURNE, GWYNEDD		15	2	85	0.10	0.6	0.4	A*A	
19960901	000006.3	52.49	-3.30	311.4	289.4	18.5	0.7	NEWTOWN, POWYS		10	16	81	0.07	0.5	0.7	A*A	
19960920	040423.4	52.32	-3.33	309.4	269.7	14.4	3.0	LLANDRINDOD WELLS	4+	13	18	74	0.06	0.3	0.3	A*B	FELT LLANDRO'D WELLS...
19960620	074714.1	52.16	-2.61	358.3	252.1	12.9	1.6	HEREFORD, HER & WOR		12	15	138	0.09	0.5	1.0	A*C	11KM NE OF HEREFORD

TABLE 2: CATALOGUE OF EARTHQUAKES LISTED IN ORDER OF DECREASING LATITUDE: 1996 continued

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments	
19960226	195309.9	52.08	-2.74	349.5	242.5	16.5	0.9	HEREFORD, HER & WOR	9	14	121	0.06	0.4	0.6	A*B			
19960826	111652.9	52.03	-3.59	290.9	238.2	18.0	2.1	SENNYBRIDGE, POWYS	12	23	102	0.07	0.4	1.5	A*B	8KM NORTH OF SENNYBRIDGE		
19960421	182850.4	51.90	-4.20	248.5	224.4	8.6	2.2	CARMARTHEN, DYFED	14	17	85	0.14	0.5	0.9	A*B	7KM NE OF CARMARTHEN		
19960602	211759.2	51.89	-5.07	188.5	225.4	6.9	1.6	HAVERFORDWEST, DYFED	12	21	218	0.06	0.6	0.5	A*D	10KM NW OF HAVERFORDWEST		
19961118	000356.4	51.77	-3.84	273.2	209.1	5.5	1.0	GLANAMAN, DYFED	8	22	164	0.06	2.2	6.2	C*C			
19960906	002024.2	51.76	-3.29	311.0	207.1	6.7	0.5	MERTHYR TYDFIL, MID GLAM	9	34	158	0.06	0.4	2.0	B*C			
19961208	010604.8	51.51	-0.63	495.2	179.9	1.2	1.9	MAIDENHEAD, BERKSHIRE	14	27	99	0.17	0.6	3.2	B*C			
19960815	010501.1	51.14	0.09	546.5	140.2	5.1	1.4	E GRINSTEAD, W SUSSEX	8	56	287	0.36	6.2	13.1	D*D	6KM EAST OF E GRINSTEAD		
19961126	040430.5	50.88	-3.93	263.9	110.4	5.8	1.5	OKEHAMPTON, DEVON	16	23	152	0.21	2.0	4.5	B*C	17KM NE OF OKEHAMPTON		
19960527	222119.3	50.83	-4.35	234.7	106.4	6.7	2.2	HOLSWORTHY, DEVON	18	20	102	0.11	0.6	1.4	A*C			
19961001	042446.9	50.47	-4.76	204.4	66.6	12.7	0.6	BODMIN, CORNWALL	9	42	226	0.06	2.1	0.3	B*D			
19960823	022901.9	50.11	-5.18	172.5	28.1	7.3	0.6	CONSTANTINE, CORNWALL	8	3	119	0.02	0.2	0.3	A*B			
19960722	013126.0	50.06	-6.31	91.4	26.4	8.1	0.9	SCILLY ISLES, CORNWALL	7	53	352	0.09	7.4		D*D			
19961110	205454.4	50.02	-5.58	143.8	19.3	8.8	0.1	PENZANCE, CORNWALL	9	15	275	0.02	0.5	1.5	A*D	OFFSHORE LOCATION		
19960120	215538.0	50.01	-4.09	250.0	14.5	5.0	1.4	SOUTH OF PLYMOUTH	6	38	260	0.04	1.0	8.2	C*D	40KM SOUTH OF PLYMOUTH		
19961110	100405.5	50.01	-5.58	143.2	17.9	11.8	1.1	PENZANCE, CORNWALL	9	17	280	0.03	1.0	1.9	A*D	OFFSHORE LOCATION		
19961110	102830.3	50.01	-5.58	143.3	18.2	9.9	0.5	PENZANCE, CORNWALL	9	16	279	0.02	0.6	1.6	A*D	OFFSHORE LOCATION		
19961110	092833.8	50.00	-5.58	143.8	17.8	9.6	3.8	PENZANCE, CORNWALL	5	11	17	278	0.04	0.9	2.0	B*D	FELT CORNWALL & DEVON	
19960922	065309.5	49.77	-5.78	127.8	-7.7	8.7	0.9	SW LANDS END, CORNWALL	10	45	324	0.06	2.5	13.9	C*D			
19960605	141826.1	49.44	-1.89	408.2	-50.6	11.0	0.8	JERSEY, CHANNEL ISLANDS	6	27	339	0.23	11.3		D*D	25KM N OF JERSEY		
19961024	104104.6	49.37	-2.35	374.3	-58.5	5.9	0.8	JERSEY, CHANNEL ISLANDS	6	20	340	0.03	0.8	3.8	B*D	17KM NW OF JERSEY		
19960215	231434.9	49.08	-2.11	391.7	-90.5	7.6	0.6	JERSEY, CHANNEL ISLANDS	6	12	312	0.04	1.3	1.7	B*D	10KM S OF JERSEY		
19960707	123741.3	49.07	-1.77	416.8	-92.4	8.0	0.7	JERSEY, CHANNEL ISLANDS	6	24	346	0.02	0.6	4.3	B*D	15KM SE OF JERSEY		
19960816	013225.2	48.99	-1.85	410.7	-101.6	9.1	0.2	JERSEY, CHANNEL ISLANDS	5	27	344	0.07	10.4		D*D	20KM SE OF JERSEY		
19961123	020022.1	48.99	-4.26	234.5	-98.8	15.9	1.6	ENGLISH CHANNEL	5146	252	0.19	2.9	4.3	C*D				
19960417	221745.0	48.90	-1.99	400.6	-111.3	8.5	0.6	JERSEY, CHANNEL ISLANDS	6	33	342	0.07	1.3		C*D	25KM SE OF JERSEY		

TABLE 3

CATALOGUE OF NON-NATURAL EVENTS LISTED CHRONOLOGICALLY: 1996

KEY TO BULLETIN ENCODING

- YearMoDy** : Year, month and day of event.
HrMn Secs : Time of occurrence of event in hours, mins and secs, (UTC).
Lat : Latitude of the event, positive latitude indicates north.
Lon : Longitude of the event, negative longitude indicates west.
kmE : UK National Grid Reference in kilometres east of grid origin.
kmN : UK National Grid Reference in kilometres north of grid origin.
Dep : Depth of the hypocentre in kilometres.
Mag : Richter local magnitude of the event.
Locality : A geographical indication of the epicentral area, usually the nearest town followed by the region. A key to the abbreviations used in the locality column are given below.
Int : Maximum EMS intensity. 2+ indicates felt, no macroseismic details. 3+, 4+ etc indicates felt at 3 or 4, but no survey carried out. 3, 4, 5 etc describes the maximum EMS intensity produced by the event.
Comments : Additional comments about the event eg: C/F, see below under comments abbreviations.

The following abbreviations are extracted from the output of the location program HYPO71 (Lee and Lahr,1975)

- No** : Total number of P and S readings used in the event location.
DM : Epicentral distance in kilometres to the closest station.
Gap : Largest azimuthal separation in degrees between stations.
RMS : Root Mean Square of the travel-time residuals in seconds.
ERH : Standard error of the epicentre in kilometres. When this column is blank, the error is large and indeterminate.
ERZ : Standard error of the focal depth in kilometres. When this column is blank, the error is large and indeterminate.
SQD : S is quality factor ascribed to RMS, D is quality ascribed to number and distribution of stations.

Locality abbreviations

- | | | | |
|----------------|--------------------------|-------------|-------------------|
| Sonic | : Sonic boom | Mid Glam | : Mid Glamorgan |
| Expl | : Explosion | Notts | : Nottinghamshire |
| D & G | : Dumfries and Galloway | S'Clyde | : Strathclyde |
| Her & Wor | : Hereford and Worcester | S Yorkshire | : South Yorkshire |
| Gtr Manchester | : Greater Manchester | N Yorkshire | : North Yorkshire |
| Leics | : Leicestershire | Staffs | : Staffordshire |
| New-U-Lyme | : Newcastle-Under-Lyme | W Sussex | : West Sussex |
| Penin | : Peninsula | | |

Comments abbreviations

- Sonic : Sonic boom
Expl : Explosion
C/F : Coalfield type event
... : and felt elsewhere

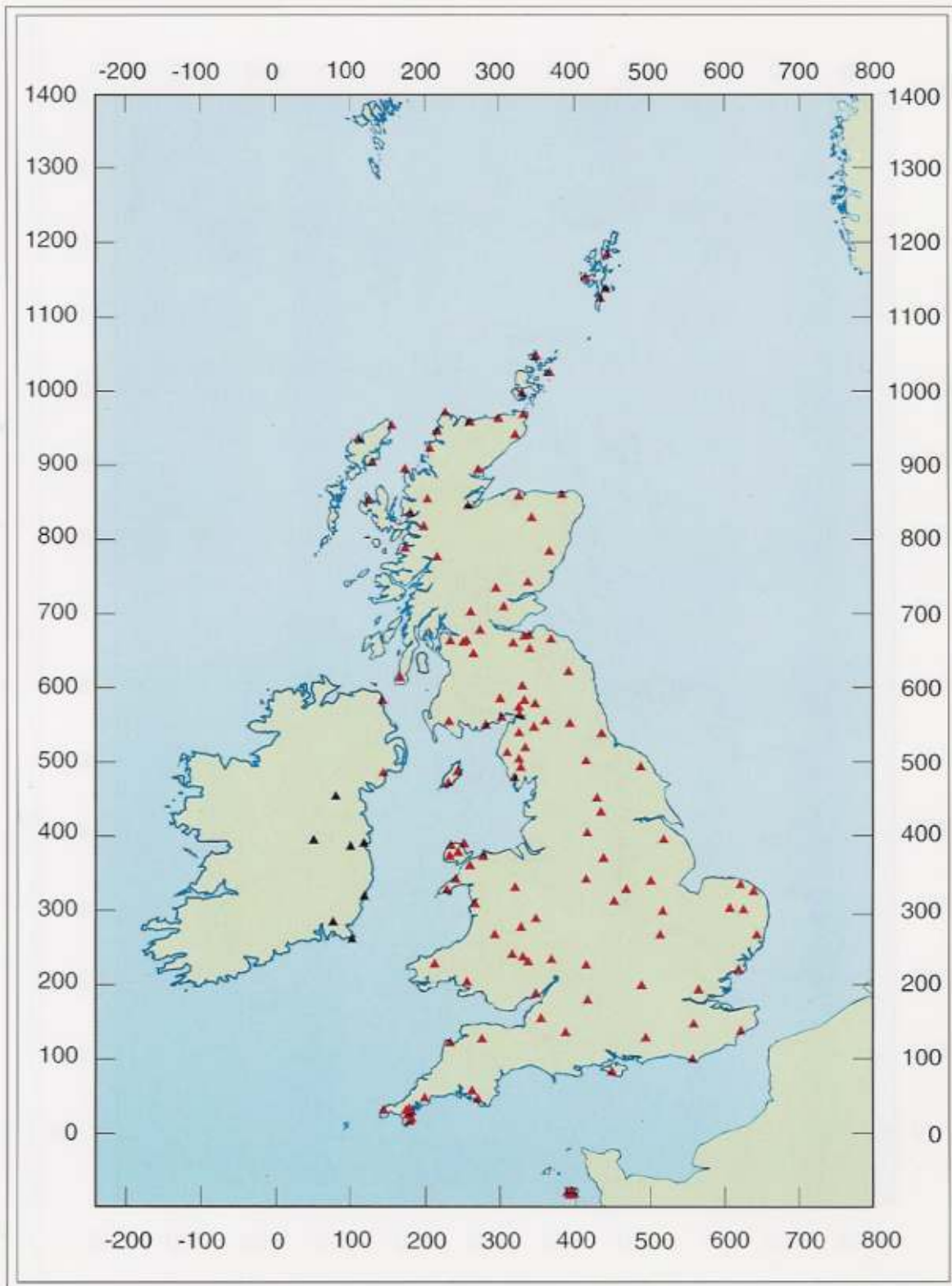


Figure 1. Seismograph network operational in December 1996. Colour coding shows the rapid access stations (red) and DIAS stations (black).

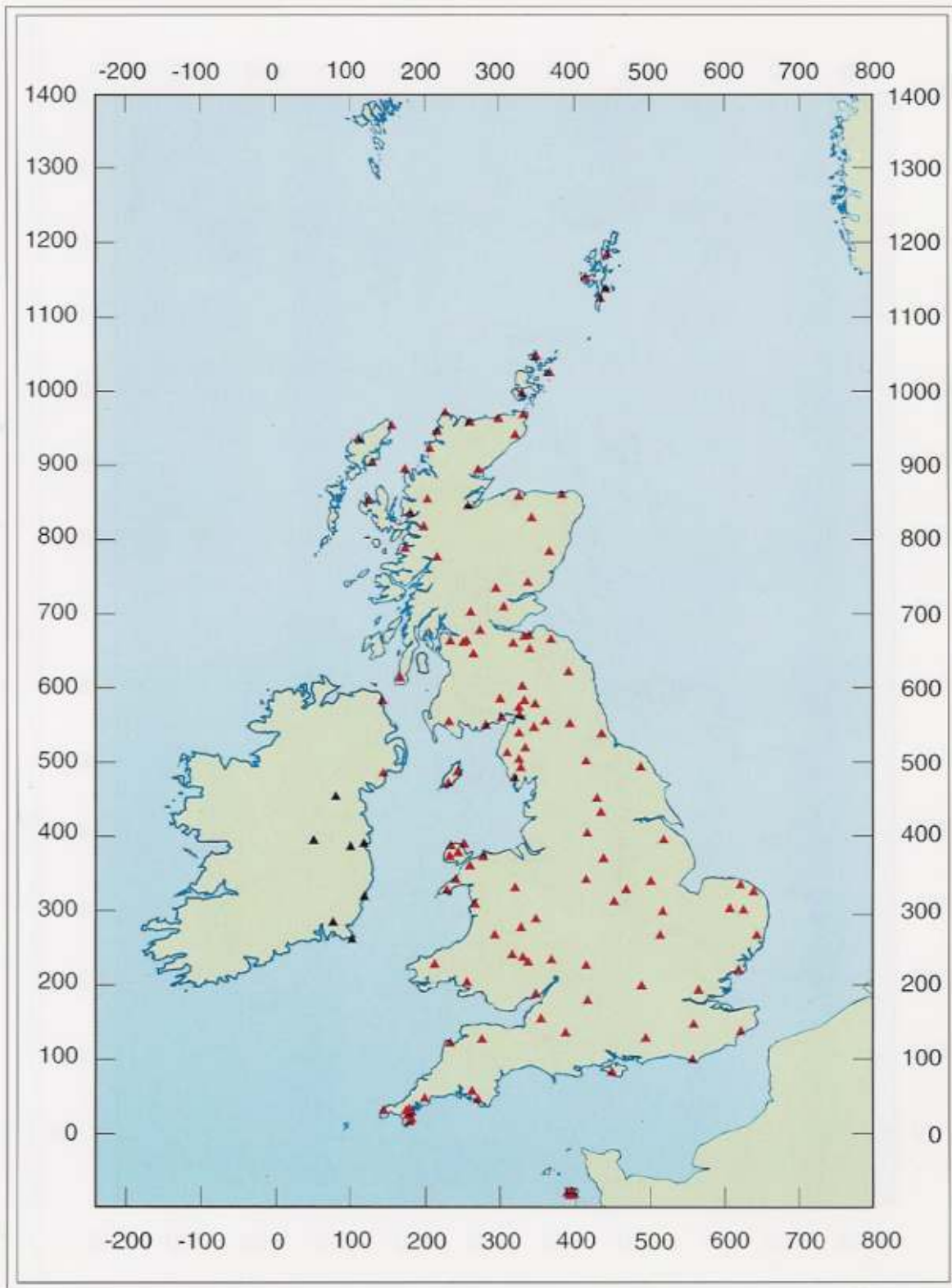


Figure 1. Seismograph network operational in December 1996. Colour coding shows the rapid access stations (red) and DIAS stations (black).

TABLE 3: CATALOGUE OF NON-NATURAL EVENTS LISTED CHRONOLOGICALLY: 1996

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	DM	Gap	RMS	ERH	ERZ	SQD	Comments
19960118	091542.0							SONIC-ORKNEY ISLANDS									SONIC-FELT ORKNEY
19960216	094338.0							SONIC-NORFOLK									SONIC-FELT BLAKENEY AREA
19960430	204900.0							SONIC-MID WALES									SONIC-FELT MID WALES
19960521	111437.0							SONIC-ISLE OF MAN									SONIC-FELT ISLE OF MAN
19960723	150947.2	51.86	1.68	653.6	223.9	0.4	2.6	EXPL-OFF FELIXSTOWE	10	51	213	0.48	5.0			D*D	EXPL-ORDNANCE DETONATION
19960827	112955.9	55.74	-3.20	324.7	650.6	0.0	0.6	EXPL-LOTHIAN	2+	8	10	126	0.06	0.3	0.4	A*C	EXPL-FELT COWIESLINN
19961119	115837.0							SONIC-LOTHIAN									SONIC-FELT LOTHIAN

TABLE 4

GEOGRAPHICAL COORDINATES OF SEISMOGRAPH STATIONS: DECEMBER 1996

TABLE 4 : GEOGRAPHIC COORDINATES OF SEISMOGRAPH STATIONS: DECEMBER 1996

Code	Name	Lat	Lon	KmE (km)	KmN (km)	Ht (m)	Yrs open	Comp	Agency
ABA	BACONSTHORPE	52.8875	1.1471	611.70	336.90	13	82-	1	BGS
AEA	E.ANGLIA UNIV	52.6208	1.2403	619.30	307.50	45	84-	m	BGS
AEU	E.ANGLIA	52.6201	1.2347	618.93	307.44	15	94-	S	BGS
APA	PACKWAY	52.2999	1.4779	637.10	272.60	35	84-	1	BGS
AWH	WHINBURGH	52.6299	0.9512	599.70	307.70	60	80-	1R	BGS
AWI	WITTON	52.8324	1.4460	632.09	331.69	35	83-	1	BGS
BBH	BRUNTSHEIL	55.1332	-2.9299	340.72	582.50	207	92-	1	BGS
BBO	BOTHEL	54.7367	-3.2465	319.75	538.70	205	92-	3	BGS
BCC	CHAPELCROSS	55.0154	-3.2202	321.98	569.67	68	92-	L	BGS
BCM	CHAPELCROSS MIC	55.0151	-3.2212	321.92	569.64	78	92-	m	BGS
BDL	DOBCROSS HALL	54.8030	-2.9390	339.65	545.76	132	92-	1	BGS
BHH	HOWATS HILL	55.0928	-3.2187	322.23	578.28	198	92-	3	BGS
BNA	NEW ABBEY	54.9659	-3.6244	296.02	564.70	78	92-	1	BGS
BTA	TALKIN	54.9057	-2.6841	356.14	557.00	276	92-	3	BGS
BWH	WARDLAW	55.1757	-3.6551	294.61	588.08	275	92-	1	BGS
CBW	BUDOCK WATER	50.1482	-5.1144	177.53	32.29	98	81-	1	BGS
CCA	CARNMENELLIS	50.1864	-5.2277	169.62	36.87	213	81-	1	BGS
CCO	CONSTANTINE	50.1357	-5.1960	171.64	31.15	183	81-	1	BGS
CDU	DUNNERDALE	54.3363	-3.1950	322.31	494.09	362	92-	1	BGS
CGH	GOONHILLY	50.0508	-5.1649	173.47	21.61	91	81-	1	BGS
CGW	GWEEK	50.1003	-5.2224	169.58	27.29	76	93-	1	BGS
CKE	KESWICK	54.5878	-3.1062	328.52	521.98	296	92-	1	BGS
CMA	MANACCAN	50.0819	-5.1273	176.30	24.96	50	93-	1	BGS
CPZ	PENZANCE	50.1560	-5.5835	144.07	34.66	198	81-	1R	BGS
CR2	ROSEMANOWES 2	50.1669	-5.1687	173.74	34.53	152	81-	3	BGS
CRQ	ROSEMANOWES	50.1672	-5.1728	173.45	34.57	165	81-	SR	BGS
CSA	ST AUSTELL	50.3528	-4.8936	194.18	54.39	113	81-	1	BGS
CSF	SCAFELL	54.4478	-3.2431	319.40	506.55	548	92-	1	BGS
CSM	SELLAFIELD MIC	54.4183	-3.4913	303.24	503.58	50	92-	m	BGS
CST	STITHIANS	50.1952	-5.1635	174.24	37.66	139	81-	1	BGS
CWF	CHARNWOOD FST	52.7382	-1.3071	446.78	315.88	185	75-	3R	BGS
DCO	COMBE FARM	50.3200	-3.8724	266.72	48.42	410	82-	1R	BGS
DYA	YADSWORTHY	50.4352	-3.9309	262.89	61.33	280	82-	3R	BGS
EAB	ABERFOYLE	56.1881	-4.3400	254.80	701.95	250	69-	1R	BGS
EAU	AUCHINOON	55.8454	-3.4474	309.38	662.30	359	69-	1R	BGS
EBH	BLACK HILL	56.2481	-3.5081	306.56	707.19	375	69-	1R	BGS
EBL	BROAD LAW	55.7733	-3.0436	334.54	653.82	365	69-	1R	BGS
ECK	CAULDKAINE HILL	55.1812	-3.1271	328.24	588.02	337	81-	1R	BGS
EDI	EDINBURGH	55.9233	-3.1861	325.89	670.66	125	69-	4R	BGS
EDR	DRUMTOCHTY	56.9190	-2.5394	367.16	780.97	401	89-	1R	BGS
EDU	DUNDEE	56.5475	-3.0142	337.65	739.95	275	69-	1R	BGS
ELO	LOGIEALMOND	56.4706	-3.7119	294.55	732.24	495	69-	1R	BGS
*EMN	MONKTONHALL	55.9295	-3.0889	331.97	671.24	52	96-	3	BGS
*ENH	NEWHAILES	55.9401	-3.0795	332.58	672.42	25	96-	1	BGS
*ENC	NEWCRAIGHALL	55.9318	-3.1050	330.97	671.52	45	96-96	3	BGS
ESK	ESKDALEMUIR	55.3167	-3.2050	323.54	603.18	263	65-	4R	BGS
ESY	STONEYPATH	55.9177	-2.6144	361.60	669.57	328	81-	1R	BGS
GAL	GALLOWAY	54.8664	-4.7114	226.02	555.78	105	89-	4m	BGS
GCD	CASTLE DOUGLAS	54.8638	-3.9417	275.40	553.85	189	89-	1R	BGS
GCL	CUSHENDALL	55.0760	-6.1300	136.40	583.70	275	89-	1R	BGS
GIM	N ISLE OF MAN	54.2923	-4.4670	239.46	491.35	366	89-	3R	BGS
GMK	MULL OF KINTYRE	55.3459	-5.5936	172.18	611.65	160	89-	1R	BGS
GMM	MTS OF MOURNE	54.2390	-5.9510	142.60	489.80	140	89-	1R	BGS
HAE	ALDERS END	52.0376	-2.5475	362.45	237.88	224	82-	1R	BGS
HBL2	BONNYLANDS	52.0508	-3.0384	328.80	239.72	440	91-	LR	BGS
HCG	CRAIG GOCH	52.3224	-3.6567	287.10	270.70	511	80-	1R	BGS
HEX	HEXMOOR	51.0668	-3.8025	273.72	131.32	278	91-	1R	BGS
HGH	GRAY HILL	51.6380	-2.8064	344.20	193.64	210	80-	1R	BGS
HLM	LONG MYND	52.5169	-2.8878	339.76	291.41	259	84-	1	BGS

TABLE 4: continued

Code	Name	Lat	Lon	KmE (km)	KmN (km)	Ht (m)	Yrs open	Comp	Agency
HPE	PEMBROKE	51.9371	-4.7745	209.27	230.18	355	90-	1R	BGS
HPK	HAVERAH PARK	53.9554	-1.6240	424.67	451.12	227	78-	3R	BGS
HSA	SWANSEA	51.7478	-4.1543	251.30	207.70	274	87-	1R	BGS
HTL	HARTLAND	50.9944	-4.4850	225.64	124.67	91	81-	4Rm	BGS
HTR	TREWERN HILL	52.0790	-3.2697	313.00	243.10	329	82-	1R	BGS
JLP	LES PLATONS	49.2428	-2.1039			131	81-	1R	BGS
JQE	QUEENS EAST	49.2000	-2.0380			56	91-	1	BGS
JRS	MAISON ST LOUIS	49.1924	-2.0917			53	81-	4R	BGS
JSA	ST AUBINS	49.1879	-2.1709			21	81-	1R	BGS
JVM	VALLE D.L.MARE	49.2169	-2.2068			64	81	1R	BGS
KAC	ACHNASHELLACH	57.4999	-5.2982	202.40	850.29	330	83-	1R	BGS
KAR	ARISAIG	56.9175	-5.8302	166.90	787.20	225	83-	1	BGS
KBI	BIRLEY GRANGE	53.2546	-1.5278	431.50	373.20	270	88-	1	BGS
KEY	KEYWORTH	52.8774	-1.0751	462.24	331.54	75	88-	L	BGS
KNR	NEVIS RANGE	56.8219	-4.9714	218.68	773.97	1118	91-	1R	BGS
KPL	PLOCKTON	57.3391	-5.6527	180.21	833.50	36	86-	4R	BGS
KSB	SHIEL BRIDGE	57.2098	-5.4230	193.30	818.39	70	83-	1R	BGS
KSK	SCOVAL	57.4653	-6.7020	118.09	851.40	250	89-	1R	BGS
KSY	SYSTON	52.9642	-0.5873	494.88	341.73	123	88-	1R	BGS
KTG	TILBROOK GRNGE	52.3261	-0.4007	508.98	271.03	78	88-	1	BGS
KUF	UFFORD	52.6175	-0.3895	509.02	303.45	35	88-	1R	BGS
KWE	WEAVER FARM	53.0163	-1.8435	410.50	346.60	320	88-	1R	BGS
LCP	CASSOP	54.7368	-1.4741	433.86	538.12	185	91-	1R	BGS
LDU	LEEDS UNIV	53.8025	-1.5553	429.35	434.45	230	83-	m	BGS
LHO	HOLMEFIRTH	53.5451	-1.8548	409.62	405.42	460	91-	1R	BGS
LMI	MILLOM	54.2206	-3.3070	314.79	481.35	140	89-	3R	BGS
LMK	MARKET RASEN	53.4569	-0.3266	511.10	396.90	130	91-	1R	BGS
LRN	RICHMOND	54.4167	-1.7858	413.90	502.40	300	91-	1R	BGS
LRW	LERWICK	60.1360	-1.1779	445.66	1139.27	100	78-	4R	BGS
*LRWS	LERWICK SM	60.1397	-1.1831	445.37	1139.69	80	96-	S	BGS
LWH	WHINNY NAB	54.3335	-0.6714	486.38	493.94	265	91-	1R	BGS
MCD	COLEBURN DISTIL	57.5827	-3.2541	325.02	855.41	280	81-	4Rm	BGS
MCH	MICHAELCHURCH	51.9977	-2.9983	331.47	233.77	233	78-	4	BGS
MDO	DOCHFUR	57.4412	-4.3633	258.17	841.43	366	81-	1R	BGS
MFI	FISHRIE	57.6116	-2.2953	382.36	857.97	220	88-	1R	BGS
MLA	LATHERON	58.3050	-3.3640	320.10	935.90	190	81-	1	BGS
MME	MEIKLE CAIRN	57.3150	-2.9650	341.90	825.30	455	81-	1	BGS
MVH	ACHVAICH	57.9232	-4.1816	270.79	894.70	198	84-	1	BGS
OBR	BRABSTER	58.6142	-3.1626	332.47	970.13	89	95-	1R	BGS
OHO	HOY	58.8322	-3.2465	328.05	994.48	172	95-	1R	BGS
ORE	REAY	58.5480	-3.7622	297.45	963.52	100	95-	4Rm	BGS
OST	STRONSAY	59.0860	-2.5516	368.39	1022.20	15	95-	1R	BGS
OTO	TONGUE	58.4953	-4.3939	260.49	958.79	338	95-	1R	BGS
OWE	WESTRAY	59.3180	-3.0289	341.44	1048.36	87	95-	1R	BGS
PCA	CARROT	55.7000	-4.2550	258.30	647.50	305	83-	1	BGS
PCO	CORRIE	55.9880	-4.0970	269.20	679.20	274	83-	1	BGS
PGB	GLENIFFERBRAES	55.8100	-4.4780	244.50	660.50	200	84-	3	BGS
PMS	MUIRSHIEL	55.8460	-4.7440	228.20	664.80	351	83-	1	BGS
POB	OBSERVATORY	55.6370	-4.4170	247.90	664.10	34	92-	L	BGS
RCR	CAPE WRATH	58.6240	-4.9986	225.90	974.53	100	95-	1R	BGS
REB	EISG-BRACHAIDH	58.1188	-5.2822	206.70	919.10	100	95-	1R	BGS
RFO	FORSNAVAL	58.2133	-7.0052	106.10	935.83	197	95-	1R	BGS
RRH	RHENIGIDALE	57.9197	-6.6881	122.43	901.86	103	95-	1R	BGS
RRR	RUBHA REIDH	57.8577	-5.8067	174.19	891.68	61	95-	4Rm	BGS
RSC	SCOURIE	58.3485	-5.1683	214.61	944.33	60	95-	1R	BGS
RTO	TOLSTA	58.3778	-6.2092	153.95	950.93	74	95-	1R	BGS
SAN	SANDWICK	60.0176	-1.2386	442.44	1126.05	155	85-	1	BGS
SBD	BRYN DU	52.9055	-3.2588	315.35	335.01	497	80-	1	BGS
SFH	HASELMERE	51.0604	-0.6911	491.71	129.88	260	93-	1	BGS

TABLE 4: continued

Code	Name	Lat	Lon	KmE (km)	KmN (km)	Ht (m)	Yrs open	Comp	Agency
SIW	ISLE OF WHITE	50.6716	-1.4027	442.20	86.00	155	93-	1	BGS
SKP	KOPHILL	51.7215	-0.8099	482.20	203.25	215	93-	1	BGS
SMD	MENDIPS	51.3082	-2.7174	350.00	156.87	300	93-	1	BGS
SSP	STONEYPOND	52.4177	-3.1119	324.39	280.59	417	90-	3	BGS
SSW	STOW-ON-WOLD	51.9667	-1.8499	410.31	229.85	291	93-	1	BGS
SWK	WARMINSTER	51.1483	-2.2471	382.72	138.87	279	93-	1	BGS
SWN	SWINDON	51.5130	-1.8005	413.85	179.42	192	93-	4	BGS
TBW	BRENTWOOD	51.6549	0.2911	558.47	197.66	82	89-	1R	BGS
TCR	COLCHESTER	51.8349	0.9215	601.26	219.23	40	89-	1R	BGS
TEB	EASTBOURNE	50.8188	0.1459	551.14	104.40	70	89-	1R	BGS
TFO	FOLKESTONE	51.1136	1.1406	619.79	139.67	188	89-	4	BGS
TSA	SEVENOAKS	51.2427	0.1558	550.46	151.55	170	89-	1	BGS
WAL	WALLS	60.2576	-1.6133	421.40	1152.60	170	80-	1	BGS
WCB	CHURCH BAY	53.3782	-4.5465	230.63	389.86	135	85-	4m	BGS
WFB	FAIRBOURNE	52.6830	-4.0378	262.27	311.47	325	85-	1R	BGS
WIM	ISLE OF MAN	54.1472	-4.6735	225.41	475.70	365	85-	1R	BGS
WLF	LLYNFAES	53.2893	-4.3966	240.27	379.64	65	85-	1	BGS
WME	MYNDD EILIAN	53.3966	-4.3034	246.86	391.37	130	85-	1R	BGS
WPM	PENMAENMAWR	53.2583	-3.9049	272.94	375.20	350	85-	1R	BGS
XAL	ALLENDALE	54.8617	-2.2147	386.22	551.91	462	83-	1R	BGS
XDE	DENT	54.5058	-3.4897	303.55	513.32	291	83-	1R	BGS
XSO	SOURHOPE	55.4925	-2.2511	384.13	622.11	495	83-	1R	BGS
YEL	YELL	60.5509	-1.0830	450.29	1185.55	200	79-	1	BGS
YLL	LLANBERIS	53.1402	-4.1704	254.84	362.57	162	84-	1R	BGS
YRC	RHOSCOLYN	53.2506	-4.5741	228.28	375.74	24	84-	1R	BGS
YRE	YR EIFL	52.9810	-4.4254	237.19	345.42	197	84-	1R	BGS
YRH	RHIW	52.8335	-4.6289	222.93	329.50	300	84-	1R	BGS
DCN	CROGHAN	53.3439	-7.2767			150	77-	1R	DIAS
DLF	LYONS FARM	53.2958	-6.5314			96	91-	3	DIAS
DMS	MERRION SQUARE	53.3406	-6.2486			5	90-	1	DIAS
DMU	KINGSCOURT	53.8989	-6.9106			280	77-	1R	DIAS
DMUB	KINGSCOURT B	53.9000	-6.9086			280	94-	1	DIAS
ECB	CARRICKBYRNE	52.3661	-6.7811			125	81-	1R	DIAS
ECP	CARNSORE PT	52.1800	-6.3689			5	80-	3R	DIAS
ETA	TARA HILL	52.6958	-6.2100			140	82-	1R	DIAS

*EMN installed 22 October 1996

*ENH installed 29 October 1996

*ENC installed 30 October 1996 and removed 15 November 1997

*LRWS installed 28 June 1996

Component Codes:

- 1 Single vertical seismometer
- 3 Orthogonal set of 3 seismometers
- 4 As in 3 above, plus one low-gain vertical seismometer
- S Orthogonal set of 3 strong motion seismometers plus one low-gain vertical seismometer
- L Single low-gain vertical seismometer
- R Station coordinates registered with the International Seismological Centre (ISC), England and the National Earthquake Information Centre (NEIC), USA
- m Low-frequency microphone

Agency Codes:

- BGS British Geological Survey
- DIAS Dublin Institute of Advanced Studies

TABLE 5
PHASE DATA: 1996

KEY TO PHASE DATA ENCODING

Time	:	Time of occurrence of event in hours, mins and secs, (UTC).
Lat	:	Latitude of the event, N indicates North.
Lon	:	Longitude of the event, W indicates West, E indicates East.
Depth	:	Depth of the hypocentre in kilometres.
Grid Ref	:	UK National Grid Reference in kilometres east (kmE) and kilometres north (kmN) of grid origin.
Quality	:	Solution quality of hypocentre averaged from QS and QD. A, excellent; B, good; C, fair; D, poor
RMS	:	Root Mean Square of the travel-time residuals in seconds.
Magnitude	:	Richter local magnitude of the event.
Locality	:	A geographical indication of the epicentral area, usually the nearest town followed by the region.
Intensity	:	Maximum EMS intensity. 2+ indicates felt, no macroseismic details. 3+, 4+ etc indicates felt at 3 or 4, but no survey carried out. 3, 4, 5 etc describes the maximum EMS intensity produced by the event.
Comments	:	Additional comments about the event eg: C/F see list of comments abbreviations below.
STAT	:	Station name
CO	:	Station component S=short period Z=vertical N=north-south E=east-west
DIST	:	Distance from earthquake to station (km)
PHAS	:	Phase identifier; the first letter characterizes onset E=emergent I=impulsive, the second indicates the phase eg P, S, PG and PN.
WT	:	Hypo weighting factor to arrival 0 or blank=full weighting to 4=zero weighting (ignore). 9=use P-S interval only for this line.
P	:	Polarity C=Compression/up D=Dilatation/down
HrMn	:	Hour, Minute of event
SECS	:	Seconds of event
AMPL	:	Amplitude centre to peak in nanometers (nm)
PERI	:	Period in seconds

Locality abbreviations

Sonic	:	Sonic boom	Mid Glam	:	Mid Glamorgan
Expl	:	Explosion	Notts	:	Nottinghamshire
D & G	:	Dumfries and Galloway	S'Clyde	:	Strathclyde
Her & Wor	:	Hereford and Worcester	S Yorkshire	:	South Yorkshire
Gtr Manchester	:	Greater Manchester	N Yorkshire	:	North Yorkshire
Leics	:	Leicestershire	Staffs	:	Staffordshire
New-U-Lyme	:	Newcastle-Under-Lyme	W Sussex	:	West Sussex
Penin	:	Peninsula			

Comments abbreviations

Sonic	:	Sonic boom
Expl	:	Explosion
C/F	:	Coalfield type event
...	:	and felt elsewhere

January 3 1996 Time: 06:21 25.6 UTC Magnitude: 1.3 ML
 Lat: 56.856N Lon: 5.614W Depth: 1.3 km
 Grid Ref: 179.70 kmE 779.66 kmN RMS: 0.07 secs
 Locality: LOCHAILORT, HIGHLAND
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KAR	SZ	15	EP	1	C	06:21	28.87		
KSB	SZ	41	EP	1	C	06:21	33.22		
KPL	SZ	54	EP	2		06:21	35.35		
KPL	SN	54	ES	3		06:21	42.54		
KPL	SN	54				06:21	46.47	17	0.14
KPL	SE	54				06:21	46.56	16	0.13
KAC	SZ	74	EP	1	D	06:21	38.73		

January 3 1996 Time: 12:27 38.7 UTC Magnitude: 0.9 ML
 Lat: 56.247N Lon: 3.754W Depth: 4.3 km
 Grid Ref: 291.32 kmE 707.39 kmN RMS: 0.02 secs
 Locality: OCHIL HILLS, CENTRAL
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EBH	SZ	15	IP	1	C	12:27	41.74		
ELO	SZ	25	IP		C	12:27	43.40		
PCO	SZ	36	EP	1	C	12:27	45.24		
EAB	SZ	37	IP	1	C	12:27	45.39		
EAU	SZ	49	EP	2		12:27	47.31		
EDI	SE	50	ES	3		12:27	53.99		
EDI	SN	50				12:27	54.19	7	0.24
EDI	SE	50				12:27	54.24	9	0.28

January 11 1996 Time: 01:40 46.8 UTC Magnitude: 2.0 ML
 Lat: 55.233N Lon: 3.505W Depth: 7.3 km
 Grid Ref: 304.29 kmE 594.26 kmN RMS: 0.20 secs
 Locality: JOHNSTONEBRIDGE, D & G
 Comments: 6KM W OF JOHNSTONEBRIDGE
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
BWH	SZ	12	IP	1	C	01:40	49.55		
BWH	SZ	12	ES	3		01:40	51.14		
ESK	SZ	21	IP	1	C	01:40	50.77		
BHH	SZ	24	EP	3		01:40	51.51		
BHH	SE	24	ES	3		01:40	54.50		
BHH	SN	24				01:40	54.55	240	0.25
BHH	SE	24				01:40	54.55	303	0.20
ECK	SZ	25	IP	1	C	01:40	51.47		
BNA	SZ	31	EP	3		01:40	52.42		
BBH	SZ	38	EP	3		01:40	53.99		
GCD	SZ	50	EP	2		01:40	55.21		
BBO	SZ	58	EP	2		01:40	57.05		
BBO	SN	58	ES	3		01:41	04.10		
BBO	SN	58				01:41	05.90	28	0.17
BBO	SE	58				01:41	06.59	40	0.27
BDL	SZ	60	EP	3		01:40	57.55		
BTA	SZ	64	EP	3		01:40	58.11		
BTA	SN	64	ES	3		01:41	05.95		
BTA	SN	64				01:41	06.78	110	0.36
BTA	SE	64				01:41	08.31	69	0.37
EBL	SZ	67	EP	2		01:40	58.42		
EAU	SZ	68	EP	2		01:40	58.89		
CKE	SZ	76	EP	2		01:41	00.06		
EDI	SZ	79	EP	3		01:41	00.62		
EDI	SE	79	ES	3		01:41	09.76		
EDI	SN	79				01:41	10.69	52	0.18
EDI	SE	79				01:41	12.44	67	0.26
XDE	SZ	81	EP	2		01:41	00.67		
XSO	SZ	85	EP	2		01:41	00.95		
GAL	SZ	87	EP	2		01:41	01.42		
GAL	SN	87				01:41	15.20	41	0.16
GAL	SE	87				01:41	15.15	26	0.07
CSF	SZ	89	EP	2		01:41	02.11		
XAL	SZ	92	EP	2		01:41	02.47		
XAL	SZ	92	ES	3		01:41	13.59		
ESY	SZ	95	EP	2		01:41	02.81		
LMI	SZ	113	EP	3		01:41	06.10		
LMI	SN	113	ES	3		01:41	19.16		
LMI	SN	113				01:41	20.51	49	0.20
LMI	SE	113				01:41	20.74	38	0.21
GIM	SZ	122	EP	3		01:41	06.94		
GIM	SE	122	ES	3		01:41	21.35		
GIM	SN	122				01:41	23.12	48	0.17
GIM	SE	122				01:41	22.42	51	0.16

January 18 1996 Time: 18:08 22.9 UTC Magnitude: 1.8 ML
 Lat: 53.359N Lon: 1.296W Depth: 1.0 km
 Grid Ref: 446.83 kmE 384.90 kmN RMS: 0.29 secs
 Locality: SHEFFIELD, S YORKSHIRE
 Comments: C/F, 9KM SE OF SHEFFIELD
 Quality: D

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
LHO	SZ	43	EP	2		18:08	30.75		
HPK	SZ	70	EP	3		18:08	35.76		
HPK	SN	70	ES	3		18:08	43.80		
HPK	SN	70				18:08	48.91	60	0.19
HPK	SE	70				18:08	44.81	27	0.27
LWH	SZ	116	EP	3		18:08	42.04		
LRN	SZ	122	EP	3		18:08	44.05		

January 19 1996 Time: 19:03 48.9 UTC Magnitude: 1.8 ML
 Lat: 53.544N Lon: 2.085W Depth: 6.0 km
 Grid Ref: 394.36 kmE 405.26 kmN RMS: 0.17 secs
 Locality: OLDHAM, GTR MANCHESTER
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
LHO	SZ	15	EP	1	C	19:03	52.00		
HPK	SZ	55	EP	3		19:03	56.95		
HPK	SN	55	ES	3		19:04	05.30		
HPK	SN	55				19:04	08.46	63	0.16
HPK	SE	55				19:04	07.88	34	0.17
LRN	SZ	99	EP	2		19:04	05.34		

January 19 1996 Time: 20:09 14.6 UTC Magnitude: 0.9 ML
 Lat: 54.081N Lon: 3.509W Depth: 20.0 km
 Grid Ref: 301.29 kmE 466.08 kmN RMS: 0.05 secs
 Locality: IRISH SEA
 Comments: 20KM W BARROW-IN-FURNESS
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
LMI	SZ	20	EP	1	C	20:09	19.62		
LMI	SN	20	ES	2		20:09	23.01		
LMI	SN	20				20:09	23.46	16	0.15
LMI	SE	20				20:09	23.33	25	0.14
CDU	SZ	35	EP	1	C	20:09	21.46		
CSF	SZ	44	EP	1	D	20:09	22.86		
XDE	SZ	47	EP	2		20:09	23.35		
GIM	SZ	67	EP	1	C	20:09	26.09		
GIM	SN	67	ES	3		20:09	34.53		
GIM	SN	67				20:09	36.52	14	0.16
GIM	SE	67				20:09	36.52	9	0.19
BBO	SZ	75	EP	2		20:09	27.42		
BBO	SE	75	ES	3		20:09	36.08		
BBO	SN	75				20:09	37.06	4	0.20
BBO	SE	75				20:09	36.59	5	0.19

January 20 1996 Time: 06:52 43.0 UTC Magnitude: 0.5 ML
 Lat: 55.964N Lon: 5.111W Depth: 12.8 km
 Grid Ref: 205.84 kmE 678.92 kmN RMS: 0.01 secs
 Locality: DUNOON, STRATHCLYDE
 Comments: 12KM WNW DUNOON
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
PMS	SZ	26	EP	1	C	06:52	48.02		
PGB	SZ	43	EP	2		06:52	50.56		
PGB	SN	43	ES	3		06:52	56.10		
PGB	SN	43				06:52	56.41	4	0.06
PGB	SE	43				06:52	56.36	4	0.07
EAB	SZ	54	EP	1	C	06:52	52.23		
PCO	SZ	63	EP	2		06:52	53.63		

January 20 1996 Time: 21:55 38.0 UTC Magnitude: 1.4 ML
 Lat: 50.011N Lon: 4.093W Depth: 5.0 km
 Grid Ref: 250.03 kmE 14.49 kmN RMS: 0.04 secs
 Locality: SOUTH OF PLYMOUTH
 Comments: 40KM SOUTH OF PLYMOUTH
 Quality: D

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
DCO	SZ	38	IP	1	D	21:55	44.62		
DCO	SZ	38	ES	3		21:55	49.77		
DYA	SZ	49	IP	1	D	21:55	46.55		
DYA	SE	49	ES	2		21:55	53.03		
DYA	SN	49				21:55	53.93	29	0.18
DYA	SE	49				21:55	53.43	19	0.31
CSA	SZ	69	EP	3		21:55	49.92		
CST	SZ	79	EP	3		21:55	51.86		

January 21 1996 Time: 22:06 2.4 UTC Magnitude: 0.8 ML
 Lat: 56.139N Lon: 3.712W Depth: 0.3 km
 Grid Ref: 293.61 kmE 695.38 kmN RMS: 0.10 secs
 Locality: CLACKMANNAN, CENTRAL
 Comments: C/F
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EBH	SZ	18	EP	1	D	22:06	06.18		
EBH	SZ	18	ES	2		22:06	09.18		
EAU	SZ	37	EP	3		22:06	09.71		
EAB	SZ	39	EP	3		22:06	09.89		
EDI	SZ	41	EP	3		22:06	10.05		
EDI	SE	41	ES	3		22:06	15.81		
EDI	SN	41				22:06	16.63	9	0.32
EDI	SE	41				22:06	17.13	9	0.37

February 3 1996 Time: 19:41 54.0 UTC Magnitude: 1.9 ML
 Lat: 56.040N Lon: 5.244W Depth: 7.2 km
 Grid Ref: 197.96 kmE 687.77 kmN RMS: 0.13 secs
 Locality: LOCHGILPHEAD, S'CLYDE
 Comments: FELT LOCHGILPHEAD
 Quality: B
 Intensity: 2+

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
PMS	SZ	38	IP		C	19:42	00.86		
PGB	SZ	54	EP	1	C	19:42	03.41		
PGB	SN	54	ES	2		19:42	09.80		
PGB	SN	54				19:42	11.35	55	0.27
PGB	SE	54				19:42	10.79	38	0.17
EAB	SZ	59	IP	1	C	19:42	03.80		
PCO	SZ	72	EP	2		19:42	06.15		

PHASE DATA : 1996

TABLE 5 (cont'd)

GMK	SZ	80	EP	3	19:42	07.28			
KAR	SZ	104	EP	2	19:42	11.07			
ELO	SZ	106	EP	3	19:42	11.17			
EBH	SZ	111	EP	1	D	19:42	12.07		
EAU	SZ	115	EP	1	D	19:42	12.68		
EDI	SZ	129	EP	2	19:42	15.04			
EDI	SE	129	ES	3	19:42	30.37			
EDI	SN	129			19:42	31.86	28	0.18	
EDI	SE	129			19:42	32.23	27	0.25	
KSB	SZ	131	EP	2	19:42	14.93			
GAL	SZ	135	EP	3	19:42	15.81			
GAL	SE	135	ES	3	19:42	31.07			
GAL	SN	135			19:42	34.49	26	0.11	
GAL	SE	135			19:42	32.61	41	0.16	
EBL	SZ	141	EP	2	19:42	16.67			
KPL	SZ	147	EP	3	19:42	17.19			
KPL	SE	147	ES	3	19:42	34.56			
KPL	SN	147			19:42	38.29	10	0.13	
KPL	SE	147			19:42	36.58	13	0.25	
EDU	SZ	149	EP	3	19:42	17.79			

February 4 1996 Time: 00:25 28.0 UTC Magnitude: 1.5 ML
 Lat: 57.091N Lon: 5.704W Depth: 4.8 km
 Grid Ref: 175.65 kmE 806.07 kmN RMS: 0.12 secs
 Locality: KNOYDART, HIGHLAND Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KAR	SZ	21	IP	1	C	00:25	32.00		
KSB	SZ	22	IP	1	C	00:25	32.12		
KPL	SZ	28	IP	1	C	00:25	33.05		
KPL	SE	28	ES	3		00:25	36.54		
KPL	SN	28				00:25	36.95	40	0.16
KPL	SE	28				00:25	36.86	51	0.21
KAC	SZ	52	IP	1	C	00:25	36.95		
KSK	SZ	73	EP	2		00:25	40.35		
MDO	SZ	90	EP	2		00:25	43.07		
MVH	SZ	130	EP	3		00:25	49.39		
EAB	SZ	131	EP	3		00:25	49.62		
ELO	SZ	140	EP	3		00:25	50.83		
MCD	SZ	158	EP	3		00:25	53.35		
MCD	SN	158	ES	3		00:26	11.58		
MCD	SN	158				00:26	12.26	11	0.17
MCD	SE	158				00:26	13.02	14	0.17
EDU	SZ	175	EP	3		00:25	55.88		

February 15 1996 Time: 23:14 34.9 UTC Magnitude: 0.6 ML
 Lat: 49.085N Lon: 2.114W Depth: 7.6 km
 Grid Ref: 391.67 kmE -90.55 kmN RMS: 0.04 secs
 Locality: JERSEY, CHANNEL ISLANDS Quality: C
 Comments: 10KM S OF JERSEY

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
JRS	SZ	12	EP	2		23:14	37.55		
JRS	SN	12	ES	3		23:14	39.54		
JRS	SN	12				23:14	39.71	21	0.10
JRS	SE	12				23:14	39.61	97	0.08
JSA	SZ	12	EP	1		23:14	37.64		
JQE	SZ	14	EP	2		23:14	37.83		
JVM	SZ	16	EP	1		23:14	38.20		
JLP	SZ	18	EP	2		23:14	38.52		

February 20 1996 Time: 20:42 53.9 UTC Magnitude: 0.7 ML
 Lat: 57.666N Lon: 5.499W Depth: 5.8 km
 Grid Ref: 191.33 kmE 869.32 kmN RMS: 0.12 secs
 Locality: TORRIDON, HIGHLAND Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KAC	SZ	22	IP	1	C	20:42	58.21		
RRR	SZ	28	IP	1	C	20:42	59.32		
RRR	SN	28	ES	2		20:43	02.78		
RRR	SN	28				20:43	02.94	25	0.13
RRR	SE	28				20:43	02.91	13	0.11
KPL	SZ	38	EP	2		20:43	00.51		
KPL	SN	38	ES	3		20:43	04.68		
KPL	SN	38				20:43	05.19	6	0.10
KPL	SE	38				20:43	05.19	8	0.16
KSB	SZ	51	EP	2		20:43	02.68		
REB	SZ	52	EP	2		20:43	02.94		
RRH	SZ	76	EP	2		20:43	06.84		
RSC	SZ	79	EP	2		20:43	07.04		
KAR	SZ	86	EP	3		20:43	08.23		
RFO	SZ	108	EP	2		20:43	11.95		

February 20 1996 Time: 21:23 45.8 UTC Magnitude: 1.9 ML
 Lat: 52.965N Lon: 2.273W Depth: 1.1 km
 Grid Ref: 381.69 kmE 340.92 kmN RMS: 0.06 secs
 Locality: NEW-U-LYME, STAFFS Quality: B
 Comments: C/F,FELT NEW-U-LYME... Intensity: 3+

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KLE	SZ	4	EP	9		21:23	49.54		
KLE	SZ	4	ES	3		21:23	50.29		
KWE	SZ	29	IP	1	D	21:23	51.47		
KBI	SZ	59	EP	1	D	21:23	56.56		
HLM	SZ	65	EP	3		21:23	57.38		

SBD	SZ	67	EP	2	21:23	57.61			
CWF	SZ	70	EP	3	21:23	58.08			
CWF	SN	70	ES	3	21:24	06.98			
CWF	SN	70			21:24	07.25			27 0.22
CWF	SE	70			21:24	07.67			18 0.34
SSP	SZ	83	EP	3	21:24	00.31			
SSP	SN	83	ES	3	21:24	10.65			
SSP	SN	83			21:24	12.17			56 0.20
SSP	SE	83			21:24	12.95			33 0.22
KSY	SZ	113	EP	3	21:24	05.37			
WPM	SZ	114	EP	2	21:24	04.94			
MCH	SE	118	ES	3	21:24	20.37			
MCH	SN	118			21:24	22.18			49 0.18
MCH	SE	118			21:24	24.72			44 0.25
HTR	SZ	120	EP	2	21:24	06.46			
WFB	SZ	123	EP	3	21:24	06.71			
YLL	SZ	129	EP	2	21:24	07.27			
KUF	SZ	133	EP	3	21:24	08.41			
YRE	SZ	145	EP	2	21:24	09.72			
WLF	SZ	147	EP	2	21:24	10.16			
YRC	SZ	157	EP	3	21:24	11.91			
WCB	SZ	159	EP	2	21:24	12.10			
WCB	SN	159	ES	3	21:24	30.59			
WCB	SN	159			21:24	30.09			36 0.88
WCB	SE	159			21:24	32.15			12 0.21
YRH	SZ	159	EP	2	21:24	12.11			

February 26 1996 Time: 05:41 16.5 UTC Magnitude: 0.5 ML
 Lat: 54.457N Lon: 3.268W Depth: 15.7 km
 Grid Ref: 317.80 kmE 507.55 kmN RMS: 0.04 secs
 Locality: BUTTERMERE, CUMBRIA Quality: B
 Comments: 9KM SOUTH OF BUTTERMERE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
CSF	SZ	2	IP	1	D	05:41	19.30		
CDU	SZ	14	IP		D	05:41	20.21		
XDE	SZ	15	EP	1	D	05:41	20.37		
CKE	SZ	18	IP		C	05:41	20.68		
LMI	SZ	26	EP	2		05:41	21.91		
LMI	SN	26	ES	2		05:41	25.20		
LMI	SN	26				05:41	25.51	7	0.24
LMI	SE	26				05:41	25.73	9	0.09
BBO	SZ	31	IP	1	D	05:41	22.56		
BBO	SE	31	ES	2		05:41	26.45		
BBO	SN	31				05:41	26.67	6	0.19
BBO	SE	31				05:41	26.52	10	0.16
GIM	SZ	80	EP	3		05:41	30.32		
GIM	SE	80	ES	2		05:41	39.98		
GIM	SN	80				05:41	40.93	2	0.05
GIM	SE	80				05:41	40.17	4	0.19

February 26 1996 Time: 19:53 9.9 UTC Magnitude: 0.9 ML
 Lat: 52.078N Lon: 2.736W Depth: 16.5 km
 Grid Ref: 349.54 kmE 242.52 kmN RMS: 0.06 secs
 Locality: HEREFORD, HER & WOR Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
HAE	SZ	14	IP		D	19:53	13.50		
MCH	SZ	20	IP	1	C	19:53	14.22		
MCH	SN	20	ES	2		19:53	17.46		
MCH	SN	20				19:53	17.48	37	0.06
MCH	SE	20				19:53	17.52	68	0.09
HTR	SZ	37	EP	3		19:53	16.36		
SSP	SZ	46	IP		D	19:53	17.97		
SSP	SE	46	ES	2		19:53	23.84		
SSP	SN	46				19:53	24.05	11	0.12
SSP	SE	46				19:53	23.97	9	0.17
HGH	SZ	49	EP	1	C	19:53	18.50		
HLM	SZ	50	EP	3		19:53	18.41		
HCG	SZ	69	EP	2		19:53	21.54		

March 7 1996 Time: 05:34 57.5 UTC Magnitude: 0.4 ML
 Lat: 57.293N Lon: 5.103W Depth: 7.1 km
 Grid Ref: 213.06 kmE 826.78 kmN RMS: 0.09 secs
 Locality: GLENAFFRIC, HIGHLAND Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KSB	SZ	21	EP	2		05:35	01.69		
KAC	SZ	26	IP	1	C	05:35	02.37		
KPL	SZ	34	EP	1	C	05:35	03.90		
KPL	SN	34	ES	2		05:35	07.98		
KPL	SN	34				05:35	08.43	6	0.24
KPL	SE	34				05:35	08.33	4	0.15
KAR	SZ	61	EP	2		05:35	07.81		

March 7 1996 Time: 13:19 2.2 UTC Magnitude: 1.9 ML
 Lat: 52.946N Lon: 2.257W Depth: 0.3 km
 Grid Ref: 382.71 kmE 338.86 kmN RMS: 0.34 secs
 Locality: NEW-U-LYME, STAFFS Quality: C
 Comments: C/F,FELT NEW-U-LYME... Intensity: 3+

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KWE	SZ	29	EP	2		13:19	07.82		
KBI	SZ	60	EP	2		13:19	12.87		
HLM	SZ	64	EP	3		13:19	13.54		

PHASE DATA : 1996

TABLE 5 (cont'd)

SBD	SZ	68	EP	2	13:19	13.98			
SSP	SZ	83	EP	2	13:19	16.71			
SSP	SN	83	ES	3	13:19	26.93			
SSP	SN	83			13:19	30.23	27	0.32	
SSP	SE	83			13:19	32.01	27	0.31	
HAE	SZ	103	EP	3	13:19	20.37			
WPM	SZ	116	EP	2	13:19	21.16			
MCH	SN	117	ES	3	13:19	36.64			
MCH	SN	117			13:19	41.25	24	0.27	
MCH	SE	117			13:19	41.56	20	0.17	
HTR	SZ	119	EP	3	13:19	22.66			
HPK	SZ	120	EP	3	13:19	23.11			
HPK	SN	120	ES	3	13:19	38.10			
HPK	SN	120			13:19	40.50	72	0.17	
HPK	SE	120			13:19	45.45	41	0.26	
WFB	SZ	124	EP	2	13:19	23.04			
YLL	SZ	130	EP	2	13:19	23.61			
YRE	SZ	146	EP	2	13:19	26.08			
WCB	SZ	160	EP	2	13:19	28.19			
WCB	SN	160			13:19	48.69	8	0.21	
WCB	SE	160			13:19	48.48	10	0.16	

HPK	SZ	92	EP	3	03:59	04.28			
HPK	SN	92	ES	3	03:59	15.61			
HPK	SN	92			03:59	19.49	90	0.26	
HPK	SE	92			03:59	19.08	62	0.26	
LWH	SZ	130	EP	3	03:59	11.33			
LRN	SZ	143	EP	2	03:59	13.30			

March 16 1996 Time: 06:23 30.6 UTC
 Lat: 52.967N Lon: 2.270W
 Grid Ref: 381.89 kmE 341.16 kmN
 Locality: NEW-U-LYME, STAFFS
 Comments: C/F,FELT NEW-U-LYME...

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KLE	SZ	4	EP	9		06:23	34.32		
KLE	SZ	4	ES	3		06:23	35.09		
KWE	SZ	29	EP	2		06:23	36.02		
KBI	SZ	59	EP	2		06:23	41.05		
HLM	SZ	65	EP	3		06:23	41.68		
SBD	SZ	67	EP	2		06:23	42.09		
CWF	SZ	70	EP	3		06:23	42.79		
CWF	SN	70	ES	3		06:23	50.81		
LHO	SZ	70	EP	2		06:23	42.65		
SSP	SZ	84	EP	2		06:23	44.84		
SSP	SN	84	ES	2		06:23	55.18		
SSP	SN	84				06:23	56.79	47	0.20
SSP	SE	84				06:23	57.50	31	0.20
HAE	SZ	105	EP	3		06:23	48.39		
WPM	SZ	114	EP	3		06:23	49.46		
HPK	SZ	118	EP	3		06:23	50.66		
HPK	SN	118	ES	3		06:24	05.01		
HPK	SN	118				06:24	08.80	158	0.20
HPK	SE	118				06:24	07.75	140	0.24
HCG	SZ	118	EP	3		06:23	50.17		
MCH	SZ	119	EP	2		06:23	50.44		
MCH	SN	119	ES	2		06:24	05.09		
MCH	SN	119				06:24	06.71	42	0.18
MCH	SE	119				06:24	09.25	40	0.20
HTR	SZ	120	EP	3		06:23	50.98		
WFB	SZ	123	EP	2		06:23	51.09		
YLL	SZ	129	EP	3		06:23	51.65		
YRE	SZ	145	EP	2		06:23	54.23		
HGH	SZ	152	EP	3		06:23	56.24		
WCB	SZ	159	EP	3		06:23	56.48		
WCB	SN	159	ES	3		06:24	14.67		

March 17 1996 Time: 01:29 51.3 UTC
 Lat: 52.728N Lon: 1.067W
 Grid Ref: 462.99 kmE 314.97 kmN
 Locality: LEICESTER, LEICS
 Comments: 10KM NW OF LEICESTER

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
CWF	SZ	16	IP		C	01:29	54.96		
CWF	SN	16	ES	2		01:29	57.65		
KEY	SZ	17	EP	3		01:29	55.12		
KSY	SZ	42	IP		C	01:29	58.66		
KUF	SZ	48	EP	2		01:29	59.51		
KWE	SZ	61	EP	3		01:30	01.44		
KBI	SZ	66	EP	2		01:30	02.18		
LHO	SZ	105	IP	1	C	01:30	08.36		
HAE	SZ	127	EP	3		01:30	11.56		
HPK	SZ	142	EP	3		01:30	13.58		
HPK	SN	142	ES	3		01:30	29.97		
HPK	SN	142				01:30	33.04	28	0.22
HPK	SE	142				01:30	31.30	32	0.35
SSP	SZ	143	EP	3		01:30	13.75		
SSP	SN	143	ES	3		01:30	30.01		
SSP	SN	143				01:30	32.11	5	0.17
SSP	SE	143				01:30	32.56	6	0.17
MCH	SN	155	ES	4		01:30	33.14		
MCH	SN	155				01:30	34.91	6	0.10
MCH	SE	155				01:30	34.87	6	0.10

March 24 1996 Time: 19:28 6.6 UTC
 Lat: 52.974N Lon: 4.399W
 Grid Ref: 238.93 kmE 344.61 kmN
 Locality: LLEYN PENIN, GWYNEDD
 Comments: C/F

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
YRE	SZ	2	EP	2		19:28	10.18		
YRE	SZ	2	ES	3		19:28	12.30		
YRE	SZ	2				19:28	13.38	3	0.08
YRH	SZ	22	EP	2		19:28	11.44		
YRH	SZ	22	ES	2		19:28	15.03		
YRH	SZ	22				19:28	15.12	5	0.10
YLL	SZ	24	EP	1		19:28	11.79		
YLL	SZ	24	ES	3		19:28	15.39		
YLL	SZ	24				19:28	15.69	5	0.12
YRC	SZ	33	EP	2		19:28	12.96		

March 7 1996 Time: 23:41 24.2 UTC
 Lat: 52.795N Lon: 2.744W
 Grid Ref: 349.85 kmE 322.27 kmN
 Locality: SHREWSBURY, SHROPSHIRE
 Comments: FELT SHREWSBURY...

Magnitude: 3.4 ML
 Depth: 10.6 km
 RMS: 0.09 secs
 Quality: B

EVENT 9KM NORTH OF SHREWSBURY

Intensity: 5

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
HLM	SZ	32	IP		C	23:41	30.04		
SBD	SZ	37	IP		D	23:41	30.73		
KLE	SZ	40	IP	4	C	23:41	34.38		
SSP	SZ	49	IP		C	23:41	32.63		
SSP	SE	49	ES	1		23:41	38.41		
LLW	SZ	62	IP	3	C	23:41	34.80		
KWE	SZ	65	IP	1	C	23:41	35.32		
HCG	SZ	81	IP	1	C	23:41	37.64		
HBL2	SZ	85	IP	1	C	23:41	38.51		
HAE	SZ	85	IP	1	C	23:41	38.64		
HTR	SZ	87	EP	1	C	23:41	38.46		
MCH	SZ	90	IP		C	23:41	39.17		
MCH	SE	90	ES	2		23:41	49.68		
KBI	SZ	96	EP	1	C	23:41	40.21		
CWF	SZ	97	EP	2		23:41	40.18		
CWF	SN	97	ES	2		23:41	51.31		
LHO	SZ	102	IP	1	C	23:41	41.21		
KEY	SZ	113	EP	2		23:41	43.22		
LPW	SZ	118	IP	3	C	23:41	43.40		
HPK	SZ	149	IP	1	C	23:41	48.10		
HPK	SN	149	ES	1		23:42	05.48		
LMI	SZ	163	EP	3		23:41	49.53		
LMI	SN	163	ES	3		23:42	08.42		
LMI	SN	163				23:42	09.29	563	0.29
LMI	SE	163				23:42	11.33	809	0.23
GIM	SZ	202	EP	2		23:41	54.07		
GIM	SN	202	ES	2		23:42	15.86		
GIM	SN	202				23:42	20.74	214	0.13
GIM	SE	202				23:42	20.01	287	0.25
BHH	SZ	258	EP	3		23:42	00.76		
BHH	SN	258	ES	3		23:42	34.34		
BHH	SN	258				23:42	37.31	548	0.26
BHH	SE	258				23:42	38.22	410	0.47
GAL	SZ	265	EP	2		23:42	01.62		
GAL	SN	265	ES	3		23:42	28.15		
GAL	SN	265				23:42	29.66	51	0.13
GAL	SE	265				23:42	39.85	59	0.21
ESK	SZ	282	EP	3		23:42	04.08		
ESK	SN	282	ES	3		23:42	31.83		
ESK	SN	282				23:42	40.89	53	0.18
ESK	SE	282				23:42	41.43	97	0.22
CR2	SZ	337	EP	3		23:42	11.51		
CR2	SN	337				23:42	46.83	37	0.18
CR2	SE	337				23:42	47.51	34	0.21
JRS	SZ	403	EP	3		23:42	19.35		
JRS	SN	403				23:43	03.93	19	0.33
JRS	SE	403				23:43	02.19	41	0.24

March 8 1996 Time: 03:58 49.1 UTC
 Lat: 53.195N Lon: 1.092W
 Grid Ref: 460.65 kmE 366.89 kmN
 Locality: MANSFIELD, NOTTS
 Comments: C/F

Magnitude: 1.7 ML
 Depth: 1.0 km
 RMS: 0.35 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KBI	SZ	30	EP	2		03:58	54.43		
KSY	SZ	43	EP	1	D	03:58	56.91		
CWF	SZ	53	EP	2		03:58	58.98		
CWF	SE	53	ES	3		03:59	06.06		
CWF	SN	53				03:59	11.35	10	0.13
CWF	SE	53				03:59	10.08	13	0.13
KWE	SZ	54	EP	2		03:58	58.94		

March 29 1996 Time: 19:28 55.0 UTC Magnitude: 1.6 ML
 Lat: 56.117N Lon: 3.658W Depth: 0.1 km
 Grid Ref: 296.90 kmE 692.82 kmN RMS: 0.08 secs
 Locality: CLACKMANNAN, CENTRAL Quality: B
 Comments: C/F

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EBH	SZ	17	EP	2		19:28	58.77		
EBH	SZ	17	ES	3		19:29	01.69		
PCO	SZ	31	EP	2		19:29	01.18		
PCO	SZ	31	ES	3		19:29	05.63		
EAU	SZ	33	EP	2		19:29	01.41		
EDI	SZ	37	EP	2		19:29	02.03		
EDI	SE	37	ES	3		19:29	07.20		
EDI	SN	37				19:29	07.64	63	0.31
EDI	SE	37				19:29	08.16	74	0.34
ELO	SZ	40	EP	3		19:29	02.64		
EAB	SZ	43	EP	2		19:29	03.06		
EBL	SZ	54	EP	3		19:29	04.84		
PGB	SE	62	ES	4		19:29	14.47		
PGB	SN	62				19:29	18.68	22	0.54
PGB	SE	62				19:29	17.69	27	0.41
EDU	SZ	62	EP	2		19:29	06.34		
PMS	SZ	74	EP	3		19:29	08.09		

March 31 1996 Time: 18:21 22.0 UTC Magnitude: -0.5 ML
 Lat: 57.199N Lon: 5.425W Depth: 4.0 km
 Grid Ref: 193.09 kmE 817.17 kmN RMS: 0.00 secs
 Locality: SHIEL BRIDGE, HIGHLAND Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KSB	SZ	1	IP		C	18:21	22.90		
KSB	SZ	1	ES	3		18:21	23.58		
KPL	SZ	21	EP	2		18:21	25.98		
KPL	SN	21	ES	3		18:21	28.89		
KPL	SN	21				18:21	29.33	2	0.16
KPL	SE	21				18:21	29.02	2	0.19
KAC	SZ	34	EP	3		18:21	28.28		

April 2 1996 Time: 01:00 3.2 UTC Magnitude: 1.2 ML
 Lat: 52.970N Lon: 4.415W Depth: 20.4 km
 Grid Ref: 237.82 kmE 344.17 kmN RMS: 0.09 secs
 Locality: LLEYN PENIN, GWYNEDD Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
YRE	SZ	1	IP		D	01:00	06.55		
YRH	SZ	21	IP	1	D	01:00	07.90		
YLL	SZ	25	IP		C	01:00	08.43		
YRC	SZ	33	IP	1	C	01:00	09.52		
WLF	SZ	36	IP	1	C	01:00	09.70		
WFB	SZ	41	EP	2		01:00	10.70		
WCB	SZ	46	EP	1	D	01:00	11.55		
WCB	SN	46	ES	2		01:00	17.21		
WCB	SN	46				01:00	18.28	10	0.07
WCB	SE	46				01:00	17.99	12	0.10
WPM	SZ	47	IP		C	01:00	11.38		
WME	SZ	48	IP	1	D	01:00	11.55		
SBD	SZ	78	EP	3		01:00	15.73		
HCG	SZ	89	EP	2		01:00	17.77		
SSP	SZ	107	EP	3		01:00	20.69		
SSP	SE	107	ES	3		01:00	33.76		
SSP	SN	107				01:00	34.81	10	0.23
SSP	SE	107				01:00	34.80	6	0.22
HLM	SZ	115	EP	2		01:00	21.85		

April 3 1996 Time: 08:28 8.9 UTC Magnitude: 1.0 ML
 Lat: 57.280N Lon: 4.491W Depth: 10.0 km
 Grid Ref: 249.84 kmE 823.75 kmN RMS: 0.26 secs
 Locality: LOCH NESS, HIGHLAND Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
MDO	SZ	20	IP	1	D	08:28	12.44		
KAC	SZ	54	EP	2		08:28	18.39		
KSB	SZ	57	EP	2		08:28	18.41		
KPL	SZ	70	EP	2		08:28	20.93		
KPL	SN	70	ES	3		08:28	29.65		
KPL	SN	70				08:28	30.10	4	0.31
KPL	SE	70				08:28	30.18	2	0.19
MVH	SZ	74	EP	2		08:28	21.51		
MCD	SZ	82	EP	3		08:28	22.37		
MCD	SE	82	ES	3		08:28	34.08		
MCD	SN	82				08:28	35.31	10	0.21
MCD	SE	82				08:28	35.13	14	0.19
MME	SZ	92	EP	3		08:28	24.29		
MFI	SZ	137	EP	3		08:28	31.45		

April 11 1996 Time: 00:24 0.8 UTC Magnitude: 1.3 ML
 Lat: 53.191N Lon: 1.134W Depth: 0.1 km
 Grid Ref: 457.88 kmE 366.33 kmN RMS: 0.36 secs
 Locality: WORKSOP, NOTTS Quality: C
 Comments: C/F

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KBI	SZ	27	EP	3		00:24	06.25		
KSY	SZ	44	EP	3		00:24	08.97		
KWE	SZ	51	EP	3		00:24	09.90		

CWF	SZ	52	EP	3		00:24	10.71		
CWF	SE	52	ES	3		00:24	18.09		
CWF	SN	52				00:24	21.37	6	0.26
CWF	SE	52				00:24	20.65	8	0.10
HPK	SZ	91	EP	3		00:24	16.22		
HPK	SE	91	ES	3		00:24	27.83		
HPK	SN	91				00:24	31.18	25	0.43
HPK	SE	91				00:24	31.44	19	0.20
LWH	SZ	131	EP	3		00:24	23.25		
LRN	SZ	143	EP	3		00:24	25.33		

April 11 1996 Time: 00:42 19.2 UTC Magnitude: 1.0 ML
 Lat: 54.569N Lon: 4.339W Depth: 6.7 km
 Grid Ref: 248.84 kmE 521.80 kmN RMS: 0.14 secs
 Locality: BURROW HEAD, D & G Quality: C
 Comments: 13KM SSE OF BURROW HEAD

OFFSHORE LOCATION

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
GIM	SZ	32	IP	1	D	00:42	25.19		
GIM	SE	32	ES	2		00:42	28.99		
GIM	SN	32				00:42	29.81	25	0.04
GIM	SE	32				00:42	29.97	16	0.03
GAL	SZ	41	IP	1	D	00:42	26.64		
GAL	SN	41	ES	2		00:42	31.56		
GAL	SN	41				00:42	31.61	8	0.12
GAL	SE	41				00:42	31.62	11	0.12
GCD	SZ	42	EP	2		00:42	26.61		
XDE	SZ	55	EP	2		00:42	28.93		
BNA	SZ	64	EP	2		00:42	29.95		
CSF	SZ	72	EP	2		00:42	31.44		
BBO	SZ	73	EP	2		00:42	31.52		
BBO	SE	73	ES	2		00:42	40.56		
BBO	SN	73				00:42	41.28	5	0.20
BBO	SE	73				00:42	41.44	4	0.13
LMI	SZ	77	EP	2		00:42	32.68		
LMI	SE	77	ES	4		00:42	41.45		
LMI	SN	77				00:42	42.12	8	0.19
LMI	SE	77				00:42	42.07	7	0.20
CKE	SZ	80	EP	2		00:42	32.86		

April 12 1996 Time: 23:52 51.0 UTC Magnitude: 1.1 ML
 Lat: 53.228N Lon: 1.084W Depth: 2.3 km
 Grid Ref: 461.12 kmE 370.53 kmN RMS: 0.04 secs
 Locality: WORKSOP, NOTTS Quality: C
 Comments: C/F, 8KM SOUTH OF WORKSOP

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KBI	SZ	30	EP	3		23:52	56.55		
KSY	SZ	44	EP	3		23:52	59.06		
KWE	SZ	56	EP	3		23:53	01.02		
CWF	SZ	57	EP	2		23:53	01.02		
CWF	SE	57	ES	3		23:53	08.30		
CWF	SN	57				23:53	15.27	8	0.25
CWF	SE	57				23:53	13.29	9	0.09

April 13 1996 Time: 03:02 59.1 UTC Magnitude: 0.7 ML
 Lat: 56.116N Lon: 3.655W Depth: 0.2 km
 Grid Ref: 297.14 kmE 692.64 kmN RMS: 0.07 secs
 Locality: CLACKMANNAN, CENTRAL Quality: B
 Comments: C/F

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EBH	SZ	17	EP	1	D	03:03	02.91		
EAU	SZ	33	EP	2		03:03	05.57		
EDI	SZ	36	EP	2		03:03	06.15		
EDI	SE	36	ES	3		03:03	11.47		
EDI	SN	36				03:03	11.59	9	0.34
EDI	SE	36				03:03	12.27	11	0.34
ELO	SZ	40	EP	2		03:03	06.77		
EAB	SZ	43	EP	2		03:03	07.35		
EBL	SZ	54	EP	3		03:03	08.95		

April 15 1996 Time: 00:50 13.5 UTC Magnitude: 1.1 ML
 Lat: 56.310N Lon: 4.222W Depth: 4.5 km
 Grid Ref: 262.55 kmE 715.29 kmN RMS: 0.08 secs
 Locality: CALLANDER, CENTRAL Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EAB	SZ	15	IP		D	00:50	16.67		
ELO	SZ	36	EP	2		00:50	20.14		
PCO	SZ	37	IP		C	00:50	20.15		
EBH	SZ	45	EP	2		00:50	21.43		
PGB	SZ	58	EP	3		00:50	23.63		
PGB	SN	58				00:50	32.33	10	0.20
PGB	SE	58				00:50	31.27	5	0.15
PMS	SZ	61	EP	3		00:50	23.83		
PCA	SZ	68	EP	3		00:50	25.14		
EAU	SZ	71	EP	2		00:50	25.45		
EDI	SZ	78	EP	2		00:50	26.70		
EDI	SE	78	ES	3		00:50	36.18		
EDI	SN	78				00:50	39.88	6	0.16
EDI	SE	78				00:50	39.18	10	0.34
EBL	SZ	95	EP	3		00:50	29.45		

PHASE DATA : 1996

TABLE 5 (cont'd)

April 17 1996 Time: 22:17 45.0 UTC
 Lat: 48.899N Lon: 1.992W
 Grid Ref: 400.59 kmE -111.26 kmN
 Locality: JERSEY, CHANNEL ISLANDS
 Comments: 25KM SE OF JERSEY
 Magnitude: 0.6 ML
 Depth: 8.5 km
 RMS: 0.07 secs
 Quality: D

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
JRS	SZ	34	EP	2		22:17	51.03		
JRS	SN	34	ES	3		22:17	55.27		
JRS	SN	34				22:17	55.53	9	0.05
JRS	SE	34				22:17	55.53	9	0.06
JQE	SZ	34	EP	3		22:17	51.12		
JSA	SZ	35	EP	3		22:17	51.27		
JVM	SZ	39	EP	3		22:17	51.90		
JLP	SZ	39	EP	3		22:17	51.96		

LRW	SN	262				12:25	02.44	3	0.15
LRW	SE	262				12:25	00.32	5	0.10
WAL	SZ	263	EP	3		12:24	30.64		
WAL	SZ	263	ES	3		12:24	57.73		
SAN	SZ	275	EP	3		12:24	32.18		
SAN	SZ	275	ES	3		12:25	00.22		

April 23 1996 Time: 16:19 56.8 UTC
 Lat: 53.075N Lon: 1.215W
 Grid Ref: 452.58 kmE 353.41 kmN
 Locality: MANSFIELD, NOTTS
 Comments: 8KM SW OF MANSFIELD
 Magnitude: 1.9 ML
 Depth: 1.8 km
 RMS: 0.12 secs
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KEY	SZ	24	EP	2		16:20	01.75		
KBI	SZ	29	IP	1	D	16:20	02.24		
CWF	SZ	38	EP	1	C	16:20	03.90		
CWF	SE	38	ES	2		16:20	08.73		
CWF	SN	38				16:20	08.82	26	0.11
CWF	SE	38				16:20	08.95	71	0.10
KWE	SZ	43	EP	2		16:20	04.69		
KSY	SZ	44	EP	2		16:20	04.80		
LHO	SZ	68	EP	3		16:20	08.70		
HPK	SZ	102	EP	3		16:20	14.40		
HPK	SN	102	ES	2		16:20	26.39		
HPK	SN	102				16:20	30.14	115	0.17
HPK	SE	102				16:20	30.19	81	0.17

April 20 1996 Time: 09:42 13.0 UTC
 Lat: 62.599N Lon: 1.056E
 Grid Ref: 556.86 kmE 1417.07 kmN
 Locality: NORTHERN NORTH SEA
 Comments: 8KM NE OF BARNSELY
 Magnitude: 2.2 ML
 Depth: 15.0 km
 RMS: 0.03 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
WAL	SZ	297	EP	3		09:42	53.93		
WAL	SZ	297	ES	3		09:43	23.83		
LRW	SZ	299	EP	3		09:42	54.17		
LRW	SE	299	ES	3		09:43	24.30		
LRW	SN	299				09:43	27.23	4	0.16
LRW	SE	299				09:43	28.25	7	0.18
SAN	SZ	313	EP	3		09:42	55.84		
SAN	SZ	313	ES	3		09:43	27.11		

April 25 1996 Time: 08:51 17.7 UTC
 Lat: 56.422N Lon: 4.452W
 Grid Ref: 248.78 kmE 728.20 kmN
 Locality: BALQUIDDER, CENTRAL
 Comments: 7KM NW OF BALQUIDDER
 Magnitude: 1.5 ML
 Depth: 2.5 km
 RMS: 0.06 secs
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EAB	SZ	27	IP	1	C	08:51	22.68		
ELO	SZ	46	IP	1	C	08:51	25.87		
PCO	SZ	53	EP	2		08:51	27.02		
EBH	SZ	62	EP	2		08:51	28.50		
PMS	SZ	67	EP	3		08:51	29.10		
PGB	SZ	68	EP	3		08:51	29.46		
PGB	SN	68				08:51	37.77	29	0.20
PGB	SE	68				08:51	40.06	11	0.18
PCA	SZ	81	EP	3		08:51	31.53		
EAU	SZ	90	EP	3		08:51	32.84		
EDI	SZ	96	EP	3		08:51	33.75		
EDI	SE	96	ES	3		08:51	45.52		
EDI	SN	96				08:51	49.08	26	0.45
EDI	SE	96				08:51	48.87	20	0.19
KAR	SZ	101	EP	2		08:51	34.53		
KSB	SZ	106	EP	2		08:51	35.25		
KPL	SZ	126	EP	3		08:51	38.32		
KPL	SE	126	ES	3		08:51	53.36		
KPL	SN	126				08:51	54.12	5	0.13
KPL	SE	126				08:51	54.15	7	0.20
KAC	SZ	131	EP	3		08:51	39.22		

April 21 1996 Time: 02:27 19.8 UTC
 Lat: 53.611N Lon: 1.358W
 Grid Ref: 442.45 kmE 412.95 kmN
 Locality: BARNSELY, S YORKSHIRE
 Comments: 8KM NE OF BARNSELY
 Magnitude: 2.3 ML
 Depth: 4.2 km
 RMS: 0.04 secs
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
LDU	SZ	25	EP	2		02:27	24.56		
LHO	SZ	34	IP	1	C	02:27	26.00		
KBI	SZ	41	EP	2		02:27	27.33		
HPK	SZ	42	EP	1	D	02:27	27.49		
HPK	SN	42	ES	3		02:27	32.90		
HPK	SN	42				02:27	33.17	281	0.21
HPK	SE	42				02:27	35.24	262	0.24
LMK	SZ	71	EP	2		02:27	31.80		
KWE	SZ	74	EP	3		02:27	32.43		
KSY	SZ	89	EP	1	D	02:27	34.77		
LWH	SZ	92	EP	3		02:27	35.81		
LRN	SZ	94	EP	3		02:27	35.92		
CWF	SZ	97	EP	2		02:27	36.50		
CWF	SN	97	ES	3		02:27	47.70		
CWF	SN	97				02:27	48.59	91	0.21
CWF	SE	97				02:27	48.03	84	0.29
LCP	SZ	126	EP	3		02:27	41.32		
KUF	SZ	128	EP	3		02:27	41.11		
SBD	SZ	149	EP	3		02:27	44.53		

April 26 1996 Time: 05:41 55.1 UTC
 Lat: 56.251N Lon: 3.753W
 Grid Ref: 291.37 kmE 707.93 kmN
 Locality: BLACKFORD, CENTRAL
 Comments: 7KM NW OF BLACKFORD
 Magnitude: 0.4 ML
 Depth: 4.4 km
 RMS: 0.08 secs
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EBH	SZ	15	IP	1	C	05:41	58.15		
EBH	SZ	15	ES	3		05:42	00.32		
ELO	SZ	25	IP	1	C	05:41	59.81		
ELO	SZ	25	ES	3		05:42	03.04		
PCO	SZ	36	IP	1	C	05:42	01.82		
EAB	SZ	37	IP	1	C	05:42	01.88		
EDI	SZ	51	EP	3		05:42	04.06		
EDI	SN	51	ES	3		05:42	10.44		
EDI	SN	51				05:42	10.47	2	0.15
EDI	SE	51				05:42	10.62	2	0.17
EDU	SZ	56	EP	3		05:42	05.06		
PCA	SZ	69	EP	2		05:42	07.12		

April 21 1996 Time: 18:28 50.4 UTC
 Lat: 51.897N Lon: 4.202W
 Grid Ref: 248.51 kmE 224.43 kmN
 Locality: CARMARTHEN, DYFED
 Comments: 7KM NE OF CARMARTHEN
 Magnitude: 2.2 ML
 Depth: 8.6 km
 RMS: 0.14 secs
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
HSA	SZ	17	IP	1	C	18:28	53.68		
HPE	SZ	40	EP	2		18:28	57.26		
HCG	SZ	60	IP	1	C	18:29	00.74		
HTR	SZ	67	IP	1	D	18:29	01.85		
MCH	SZ	84	EP	3		18:29	04.11		
MCH	SE	84	ES	3		18:29	13.77		
WFB	SZ	88	EP	2		18:29	05.42		
SSP	SZ	94	IP	1	C	18:29	06.27		
SSP	SN	94	ES	2		18:29	17.32		
SSP	SN	94				18:29	21.65	82	0.21
SSP	SE	94				18:29	21.87	86	0.10
HGH	SZ	101	EP	2		18:29	06.93		
HTL	SZ	102	IP	1	C	18:29	07.77		
HTL	SE	102	ES	2		18:29	19.46		
HTL	SN	102				18:29	20.89	29	0.20
HTL	SE	102				18:29	21.43	49	0.17
YRH	SZ	108	EP	2		18:29	08.79		
HLM	SZ	114	EP	2		18:29	09.27		
HAE	SZ	115	EP	2		18:29	09.40		
YRE	SZ	122	EP	2		18:29	10.89		
SBD	SZ	129	EP	3		18:29	11.94		
WPM	SZ	153	EP	2		18:29	15.30		

April 26 1996 Time: 11:22 48.9 UTC
 Lat: 56.117N Lon: 3.662W
 Grid Ref: 296.66 kmE 692.77 kmN
 Locality: CLACKMANNAN, CENTRAL
 Comments: C/F
 Magnitude: 1.1 ML
 Depth: 1.3 km
 RMS: 0.05 secs
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EBH	SZ	18	EP	2		11:22	52.50		
EBH	SZ	18	ES	3		11:22	55.29		
PCO	SZ	31	EP	2		11:22	54.83		
PCO	SZ	31	ES	3		11:22	59.03		
EAU	SZ	33	EP	3		11:22	55.18		
EAU	SZ	33	ES	3		11:22	59.78		
EDI	SZ	37	EP	3		11:22	55.84		
EDI	SE	37	ES	3		11:23	00.77		
EDI	SN	37				11:23	01.38	22	0.32
EDI	SE	37				11:23	02.48	24	0.45
ELO	SZ	40	EP	3		11:22	56.32		
ELO	SZ	40	ES	3		11:23	01.61		

April 23 1996 Time: 12:23 53.7 UTC
 Lat: 62.153N Lon: 1.308E
 Grid Ref: 572.32 kmE 1368.04 kmN
 Locality: NORTHERN NORTH SEA
 Comments: 8KM NE OF BARNSELY
 Magnitude: 1.8 ML
 Depth: 11.7 km
 RMS: 0.05 secs
 Quality: D

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
LRW	SZ	262	EP	3		12:24	30.49		
LRW	SE	262	ES	3		12:24	57.28		

PHASE DATA : 1996

TABLE 5 (cont'd)

May 12 1996 Time: 06:13 58.3 UTC
 Lat: 57.472N Lon: 5.504W
 Grid Ref: 189.90 kmE 847.81 kmN
 Locality: TORRIDON, HIGHLAND
 Magnitude: 0.4 ML
 Depth: 7.3 km
 RMS: 0.02 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KAC	SZ	13	IP	1	D	06:14	01.10		
KPL	SZ	17	IP	1	D	06:14	01.86		
KPL	SN	17	ES	2		06:14	04.37		
KPL	SN	17				06:14	04.65	18	0.08
KPL	SE	17				06:14	04.70	19	0.12
KSB	SZ	30	EP	1	C	06:14	03.77		
KAR	SZ	65	EP	1	C	06:14	09.17		

May 21 1996 Time: 04:12 34.7 UTC
 Lat: 53.151N Lon: 0.992W
 Grid Ref: 467.39 kmE 362.05 kmN
 Locality: MANSFIELD, NOTTS
 Comments: C/F,12KM E OF MANSFIELD
 Magnitude: 0.9 ML
 Depth: 0.3 km
 RMS: 0.09 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KSY	SZ	34	EP	2		04:12	41.44		
KBI	SZ	38	EP	2		04:12	41.98		
CWF	SZ	51	EP	3		04:12	43.95		
CWF	SN	51	ES	3		04:12	51.23		
CWF	SN	51				04:12	52.38	8	0.16
CWF	SE	51				04:12	56.65	7	0.13

May 13 1996 Time: 17:41 9.2 UTC
 Lat: 54.854N Lon: 2.942W
 Grid Ref: 339.54 kmE 551.44 kmN
 Locality: CARLISLE, CUMBRIA
 Magnitude: 0.4 ML
 Depth: 14.1 km
 RMS: 0.04 secs
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
BDL	SZ	6	EP	2		17:41	11.93		
BTA	SZ	18	EP	1	C	17:41	13.19		
BTA	SE	18	ES	2		17:41	16.11		
BTA	SN	18				17:41	15.83	11	0.21
BTA	SE	18				17:41	17.17	12	0.22
BBO	SZ	24	IP	1	C	17:41	14.13		
BBO	SE	24	ES	2		17:41	17.51		
BBO	SN	24				17:41	18.33	18	0.18
BBO	SE	24				17:41	18.32	25	0.18
BBH	SZ	31	IP	1	D	17:41	15.17		
BHH	SZ	32	IP	1	D	17:41	15.33		
BHH	SN	32	ES	3		17:41	19.75		
BHH	SN	32				17:41	20.61	6	0.23
BHH	SE	32				17:41	20.81	5	0.21
ECK	SZ	38	IP	1	D	17:41	16.25		
BNA	SZ	46	EP	2		17:41	17.48		

May 22 1996 Time: 00:12 14.9 UTC
 Lat: 56.322N Lon: 5.919W
 Grid Ref: 157.71 kmE 721.27 kmN
 Locality: MULL, STRATHCLYDE
 Magnitude: 1.8 ML
 Depth: 6.1 km
 RMS: 0.05 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KAR	SZ	67	IP	1	D	00:12	26.17		
PMS	SZ	90	IP	1	C	00:12	29.72		
EAB	SZ	99	EP	2		00:12	31.15		
KSB	SZ	103	EP	2		00:12	31.81		
PGB	SZ	106	IP	1	C	00:12	32.34		
PGB	SN	106	ES	3		00:12	45.10		
PGB	SN	106				00:12	45.23	34	0.21
PGB	SE	106				00:12	46.46	28	0.19
KPL	SZ	114	EP	2		00:12	33.57		
KPL	SN	114	ES	3		00:12	47.24		
KPL	SN	114				00:12	47.67	13	0.12
KPL	SE	114				00:12	49.38	18	0.14
PCO	SZ	119	EP	2		00:12	34.30		
PCA	SZ	125	EP	3		00:12	35.26		
ELO	SZ	137	EP	3		00:12	36.96		
KAC	SZ	137	EP	3		00:12	36.80		
EBH	SZ	150	EP	3		00:12	38.76		
EAU	SZ	163	EP	3		00:12	40.65		
EDI	SZ	176	EP	3		00:12	42.40		
EDI	SN	176	ES	3		00:13	02.28		
EDI	SN	176				00:13	05.71	12	0.15
EDI	SE	176				00:13	10.08	7	0.38

May 18 1996 Time: 21:01 54.5 UTC
 Lat: 56.163N Lon: 5.174W
 Grid Ref: 202.94 kmE 701.27 kmN
 Locality: LOCH FYNE, STRATHCLYDE
 Comments: FELT FURNACE, INVERARAY..
 Magnitude: 2.9 ML
 Depth: 7.9 km
 RMS: 0.11 secs
 Quality: B
 Intensity: 3+

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
PMS	SZ	44	IP	C		21:02	02.13		
EAB	SZ	52	IP	C		21:02	03.32		
PGB	SZ	59	IP	C		21:02	04.53		
PGB	SN	59	ES	3		21:02	11.49		
PGB	SN	59				21:02	12.02	779	0.44
PGB	SE	59				21:02	11.98	961	0.39
PCO	SZ	70	EP	3		21:02	05.95		
PCA	SZ	77	IP	C		21:02	07.49		
KAR	SZ	93	IP	1	D	21:02	09.73		
ELO	SZ	97	IP	1	C	21:02	10.29		
EBH	SZ	104	EP	2		21:02	11.58		
EAU	SZ	113	IP	1	C	21:02	13.15		
KSB	SZ	118	IP	1	D	21:02	13.68		
EDI	SZ	127	EP	2		21:02	15.00		
EDI	SN	127	ES	3		21:02	29.98		
EDI	SN	127				21:02	32.43	209	0.31
EDI	SE	127				21:02	32.64	185	0.34
KPL	SZ	134	EP	3		21:02	16.30		
KPL	SN	134	ES	3		21:02	31.91		
KPL	SN	134				21:02	35.49	66	0.21
KPL	SE	134				21:02	35.99	107	0.24
GCL	SZ	135	EP	3		21:02	15.99		
EDU	SZ	140	EP	3		21:02	16.82		
EBL	SZ	140	EP	3		21:02	17.21		

May 22 1996 Time: 04:41 31.4 UTC
 Lat: 52.911N Lon: 3.882W
 Grid Ref: 273.48 kmE 336.59 kmN
 Locality: TRAWSFYNYDD, GWYNEDD
 Magnitude: 0.7 ML
 Depth: 12.7 km
 RMS: 0.17 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
WFB	SZ	28	EP	1	C	04:41	36.34		
YLL	SZ	32	IP	D		04:41	37.26		
YRE	SZ	37	IP	D		04:41	38.16		
WPM	SZ	39	EP	2		04:41	38.45		
SBD	SZ	42	EP	2		04:41	38.74		
YRH	SZ	51	EP	2		04:41	40.26		
WLF	SZ	54	EP	2		04:41	40.52		
YRC	SZ	60	EP	3		04:41	41.01		
WME	SZ	61	EP	2		04:41	41.30		
WCB	SZ	68	EP	3		04:41	42.57		
WCB	SN	68	ES	3		04:41	48.81		
WCB	SN	68				04:41	49.07	1	0.07
WCB	SE	68				04:41	51.28	2	0.21
SSP	SZ	76	EP	3		04:41	43.74		
SSP	SN	76	ES	3		04:41	52.69		
SSP	SN	76				04:41	53.01	4	0.22
SSP	SE	76				04:41	53.17	6	0.28
HLM	SZ	81	EP	2		04:41	44.75		

May 20 1996 Time: 10:47 12.3 UTC
 Lat: 56.150N Lon: 5.207W
 Grid Ref: 200.85 kmE 699.84 kmN
 Locality: LOCH FYNE, STRATHCLYDE
 Magnitude: 1.5 ML
 Depth: 8.2 km
 RMS: 0.09 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
PMS	SZ	44	IP	1	C	10:47	19.94		
PMS	SZ	44	ES	3		10:47	25.44		
PGB	SN	59	ES	4		10:47	29.38		
PGB	SN	59				10:47	29.98	23	0.21
PGB	SE	59				10:47	30.55	19	0.22
PCO	SZ	71	IP	1	C	10:47	24.30		
PCA	SZ	78	EP	2		10:47	25.25		
ELO	SZ	99	EP	3		10:47	28.41		
ELO	SZ	99	ES	3		10:47	40.30		
EBH	SZ	106	EP	3		10:47	29.35		
EAU	SZ	115	EP	3		10:47	30.89		
KSB	SZ	119	EP	3		10:47	31.45		
KPL	SZ	135	EP	3		10:47	33.96		
KPL	SN	135	ES	3		10:47	49.71		
KPL	SN	135				10:47	53.03	5	0.17
KPL	SE	135				10:47	53.18	8	0.18

May 22 1996 Time: 10:25 16.8 UTC
 Lat: 56.768N Lon: 5.122W
 Grid Ref: 209.22 kmE 768.42 kmN
 Locality: FORT WILLIAM, HIGHLAND
 Magnitude: 1.0 ML
 Depth: 8.0 km
 RMS: 0.12 secs
 Quality: D

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KSB	SZ	53	EP	2		10:25	25.59		
KPL	SZ	71	EP	2		10:25	28.78		
KPL	SN	71	ES	3		10:25	37.27		
KPL	SN	71				10:25	42.01	5	0.16
KPL	SE	71				10:25	41.16	6	0.22
EAB	SZ	81	EP	2		10:25	30.19		
KAC	SZ	82	EP	2		10:25	30.66		
ELO	SZ	93	EP	2		10:25	32.00		
EBH	SZ	115	EP	2		10:25	35.49		

May 22 1996 Time: 17:06 36.4 UTC
 Lat: 52.972N Lon: 4.473W
 Grid Ref: 233.97 kmE 344.50 kmN
 Locality: PWLLHELLI, GWYNEDD
 Comments: 10KM NW OF PWLLHELLI
 Magnitude: 0.8 ML
 Depth: 7.6 km
 RMS: 0.07 secs
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
YRE	SZ	3	IP	C		17:06	37.77		
YRH	SZ	19	IP	C		17:06	39.77		
YLL	SZ	28	IP	C		17:06	41.25		
YRC	SZ	32	IP	D		17:06	42.03		
WLF	SZ	36	EP	2		17:06	42.53		

PHASE DATA : 1996

TABLE 5 (cont'd)

Table with columns: Station ID, Direction, Magnitude, Time, etc. Includes stations like HAE, HBL2, MCH, HLM, SSP, HTR, SSW, HGH, HCG, SBD, WFB, HSA, HEX, WPM, YLL, HPE, HTL, HTL.

June 21 1996 Time: 09:04 8.7 UTC Magnitude: 0.9 ML
Lat: 56.110N Lon: 3.674W Depth: 0.9 km
Grid Ref: 295.88 kmE 692.08 kmN RMS: 0.04 secs
Locality: CLACKMANNAN, CENTRAL Quality: B
Comments: C/F

Table with columns: STAT, CO, DIST, PHAS, WT, P, HrMn, SECS, AMPL, PERI. Includes stations like EBH, EAU, EDI, ELO, EAB, EBL.

June 22 1996 Time: 13:20 41.4 UTC Magnitude: 1.4 ML
Lat: 56.115N Lon: 3.669W Depth: 0.9 km
Grid Ref: 296.21 kmE 692.63 kmN RMS: 0.06 secs
Locality: CLACKMANNAN, CENTRAL Quality: B
Comments: C/F

Table with columns: STAT, CO, DIST, PHAS, WT, P, HrMn, SECS, AMPL, PERI. Includes stations like EBH, PCO, EAU, EDI, EDI, EDI, ELO, EAB, EAB, EBL, PCA, EDU, PMS.

June 23 1996 Time: 18:47 41.6 UTC Magnitude: 0.9 ML
Lat: 55.279N Lon: 5.288W Depth: 3.8 km
Grid Ref: 191.20 kmE 603.25 kmN RMS: 0.04 secs
Locality: ARRAN, STRATHCLYDE Quality: C
Comments: SOUTH OF ARRAN

Table with columns: STAT, CO, DIST, PHAS, WT, P, HrMn, SECS, AMPL, PERI. Includes stations like GMK, GCL, GAL, GAL, GAL, GAL.

June 25 1996 Time: 00:45 10.6 UTC Magnitude: -0.3 ML
Lat: 57.195N Lon: 5.499W Depth: 8.2 km
Grid Ref: 188.60 kmE 816.97 kmN RMS: 0.06 secs
Locality: GLEN MORE, HIGHLAND Quality: C

Table with columns: STAT, CO, DIST, PHAS, WT, P, HrMn, SECS, AMPL, PERI. Includes stations like KSB, KPL, KPL, KPL, KAC, KAR.

June 25 1996 Time: 03:37 32.2 UTC Magnitude: 3.9 ML
Lat: 61.625N Lon: 3.409E Depth: 15.0 km
Grid Ref: 686.52 kmE 1316.76 kmN RMS: 0.36 secs
Locality: NORTHERN NORTH SEA Quality: D

Table with columns: STAT, CO, DIST, PHAS, WT, P, HrMn, SECS, AMPL, PERI. Includes stations like FOO, SUE, HYA, ASK, BER, MOL, KMY, BLS5, LRW, SAN, OWE, OBR, ORE, MLA, MFI, OTO, MCD, MVH, MME, MDO, EDU, ELO, EDI, EDI, EDI.

June 25 1996 Time: 05:06 43.8 UTC Magnitude: 1.0 ML
Lat: 54.772N Lon: 3.235W Depth: 10.9 km
Grid Ref: 320.57 kmE 542.57 kmN RMS: 0.04 secs
Locality: WIGTON, CUMBRIA Quality: A
Comments: 9KM SW OF WIGTON

Table with columns: STAT, CO, DIST, PHAS, WT, P, HrMn, SECS, AMPL, PERI. Includes stations like BBO, BDL, CKE, BNA, XDE, CSF, BHH, BHH, BHH, BTA, BTA, BTA, BBH, ECK, GCD, CDU, BWH, ESK, ESK, ESK, LMI, LMI, LMI, GIM, GIM, GIM.

June 26 1996 Time: 01:52 42.1 UTC Magnitude: 2.2 ML
Lat: 55.337N Lon: 5.265W Depth: 13.9 km
Grid Ref: 192.98 kmE 609.67 kmN RMS: 0.04 secs
Locality: ARRAN, STRATHCLYDE Quality: B
Comments: SOUTH OF ARRAN

Table with columns: STAT, CO, DIST, PHAS, WT, P, HrMn, SECS, AMPL, PERI.

PHASE DATA : 1996

TABLE 5 (cont'd)

WME SZ 41 EP 1 C 12:38 18.41
 WPM SZ 44 IP 1 C 12:38 19.04
 WFB SZ 49 EP 2 12:38 19.71
 SBD SZ 82 EP 2 12:38 24.76
 HCG SZ 96 EP 2 12:38 27.09
 SSP SZ 114 EP 2 12:38 30.33
 SSP SE 114 ES 2 12:38 43.95
 SSP SN 114 12:38 45.97 8 0.16
 SSP SE 114 12:38 46.71 7 0.13

YRC SZ 134 EP 1 C 04:04 44.78
 SWN SZ 138 EP 2 04:04 46.63
 SWN SN 138 ES 3 04:05 03.09
 SWN SN 138 04:05 04.26 244 0.27
 SWN SE 138 04:05 05.70 307 0.22
 WCB SZ 144 EP 2 04:04 46.24
 WCB SN 144 04:05 04.84 48 0.12
 WCB SE 144 04:05 05.33 73 0.16
 CWF SZ 145 EP 3 04:04 46.47
 CWF SN 145 ES 3 04:05 02.73
 CWF SN 145 04:05 04.98 236 0.13
 CWF SE 145 04:05 04.85 293 0.12
 HTL SZ 168 EP 3 04:04 50.09
 HTL SE 168 ES 3 04:05 09.15
 HTL SN 168 04:05 11.43 189 0.17
 HTL SE 168 04:05 12.11 153 0.16
 DYA SZ 214 EP 2 04:04 55.77
 DYA SN 214 04:05 25.09 74 0.10
 DYA SE 214 04:05 23.53 88 0.13
 HPK SZ 215 EP 2 04:04 55.65
 HPK SE 215 ES 3 04:05 19.77
 HPK SN 215 04:05 25.43 352 0.19
 HPK SE 215 04:05 24.56 244 0.22

September 10 1996 Time: 21:47 50.5 UTC Magnitude: 1.0 ML
 Lat: 53.220N Lon: 1.032W Depth: 2.5 km
 Grid Ref: 464.64 kmE 369.65 kmN RMS: 0.17 secs
 Locality: OLLERTON, NOTTS Quality: C

Comments: C/F
 STAT CO DIST PHAS WT P HrMn SECS AMPL PERI
 KBI SZ 33 EP 3 21:47 56.65
 KSY SZ 41 EP 3 21:47 57.95
 CWF SZ 57 EP 4 21:48 00.54
 CWF SE 57 ES 3 21:48 07.82
 CWF SN 57 21:48 11.88 7 0.15
 CWF SE 57 21:48 14.80 8 0.23
 KWE SZ 59 EP 3 21:48 00.94
 LHO SZ 66 EP 3 21:48 01.56
 HPK SZ 91 EP 3 21:48 06.29
 HPK SN 91 ES 3 21:48 16.82

September 22 1996 Time: 04:38 29.9 UTC Magnitude: 1.0 ML
 Lat: 54.139N Lon: 3.647W Depth: 7.8 km
 Grid Ref: 292.40 kmE 472.68 kmN RMS: 0.12 secs
 Locality: IRISH SEA Quality: C

Comments: 27KM W BARROW-IN-FURNESS
 STAT CO DIST PHAS WT P HrMn SECS AMPL PERI
 LMI SZ 24 IP 1 C 04:38 34.47
 LMI SE 24 ES 2 04:38 37.85
 LMI SN 24 04:38 38.50 14 0.18
 LMI SE 24 04:38 39.02 14 0.14
 CDU SZ 37 EP 1 C 04:38 36.51
 XDE SZ 42 EP 2 04:38 37.56
 CSF SZ 43 EP 3 04:38 37.62
 GIM SZ 56 EP 3 04:38 40.06
 GIM SE 56 ES 2 04:38 46.48
 GIM SN 56 04:38 47.56 15 0.21
 GIM SE 56 04:38 47.03 12 0.15
 WIM SZ 67 EP 2 04:38 41.72
 WME SZ 93 EP 3 04:38 45.63
 WCB SZ 103 EP 3 04:38 47.55
 WCB SN 103 ES 3 04:38 59.73
 WCB SN 103 04:39 01.46 4 0.13
 WCB SE 103 04:39 02.03 6 0.20
 GAL SZ 106 EP 3 04:38 48.27
 GAL SE 106 ES 3 04:39 01.08
 GAL SN 106 04:39 03.26 3 0.11
 GAL SE 106 04:39 02.57 3 0.08

September 11 1996 Time: 01:27 0.2 UTC Magnitude: 1.6 ML
 Lat: 53.794N Lon: 2.674W Depth: 14.7 km
 Grid Ref: 355.57 kmE 433.33 kmN RMS: 0.08 secs
 Locality: PRESTON, LANCASHIRE Quality: C

STAT CO DIST PHAS WT P HrMn SECS AMPL PERI
 LHO SZ 61 EP 2 01:27 10.53
 LMI SZ 63 EP 3 01:27 11.10
 CDU SZ 69 EP 2 01:27 11.74
 HPK SZ 71 EP 2 01:27 12.17
 HPK SE 71 ES 2 01:27 20.93
 HPK SN 71 01:27 25.41 28 0.33
 HPK SE 71 01:27 25.29 31 0.50
 LRN SZ 91 EP 2 01:27 15.05
 SBD SZ 106 EP 3 01:27 17.20
 BBO SZ 111 EP 3 01:27 18.73
 BBO SN 111 ES 3 01:27 31.38
 BBO SN 111 01:27 34.37 11 0.28
 BBO SE 111 01:27 34.01 14 0.39
 WME SZ 117 EP 3 01:27 19.62
 BTA SZ 124 EP 3 01:27 21.09
 BTA SE 124 ES 3 01:27 35.22
 BTA SN 124 01:27 37.55 17 0.18
 BTA SE 124 01:27 37.23 15 0.28
 WCB SN 132 ES 3 01:27 37.58
 WCB SN 132 01:27 38.95 6 0.39
 WCB SE 132 01:27 39.31 7 0.26

September 22 1996 Time: 06:53 9.5 UTC Magnitude: 0.9 ML
 Lat: 49.769N Lon: 5.781W Depth: 8.7 km
 Grid Ref: 127.75 kmE -7.65 kmN RMS: 0.06 secs
 Locality: SW LANDS END, CORNWALL Quality: D

STAT CO DIST PHAS WT P HrMn SECS AMPL PERI
 CPZ SZ 45 EP 2 06:53 17.49
 CGH SZ 54 EP 3 06:53 18.92
 CGW SZ 55 EP 3 06:53 19.19
 CCO SZ 59 EP 3 06:53 19.79
 CMA SZ 59 EP 3 06:53 19.70
 CCA SZ 61 EP 3 06:53 20.22
 CR2 SZ 62 EP 3 06:53 20.21
 CR2 SE 62 ES 3 06:53 28.85
 CR2 SN 62 06:53 31.42 4 0.11
 CR2 SE 62 06:53 32.76 5 0.06
 CBW SZ 64 EP 2 06:53 20.72
 CST SZ 65 EP 3 06:53 20.84

September 15 1996 Time: 15:57 25.6 UTC Magnitude: -0.2 ML
 Lat: 57.426N Lon: 5.418W Depth: 4.5 km
 Grid Ref: 194.82 kmE 842.47 kmN RMS: 0.03 secs
 Locality: STRATHCARRON, HIGHLAND Quality: C

STAT CO DIST PHAS WT P HrMn SECS AMPL PERI
 KAC SZ 11 IP D 15:57 27.97
 KPL SZ 17 IP 1 D 15:57 29.06
 KPL SE 17 ES 2 15:57 31.45
 KPL SN 17 15:57 31.61 4 0.06
 KPL SE 17 15:57 31.52 6 0.14
 KSB SZ 24 EP 3 15:57 30.16

September 20 1996 Time: 04:04 23.4 UTC Magnitude: 3.0 ML
 Lat: 52.318N Lon: 3.329W Depth: 14.4 km
 Grid Ref: 309.43 kmE 269.73 kmN RMS: 0.06 secs
 Locality: LLANDRINDOD WELLS Quality: B
 Comments: FELT LLANDRO'D WELLS... Intensity: 4+

STAT CO DIST PHAS WT P HrMn SECS AMPL PERI
 SSP SZ 19 IP 1 C 04:04 27.41
 SSP SN 19 ES 2 04:04 30.12
 HCG SZ 22 IP C 04:04 27.93
 HTR SZ 27 IP D 04:04 28.60
 HBL2 SZ 36 IP 1 D 04:04 30.03
 HLM SZ 38 IP C 04:04 30.20
 MCH SZ 42 IP D 04:04 30.88
 MCH SE 42 ES 2 04:04 36.26
 LPW SZ 55 IP 2 C 04:04 32.90
 HAE SZ 62 IP 1 D 04:04 34.05
 LLW SZ 63 IP 2 D 04:04 34.20
 WFB SZ 63 IP 1 D 04:04 34.10
 SBD SZ 66 IP 1 D 04:04 34.59
 HGH SZ 84 IP 1 D 04:04 37.59
 HSA SZ 85 EP 2 C 04:04 37.55
 YRE SZ 105 IP 2 D 04:04 40.61
 SSW SZ 109 EP 2 04:04 41.94
 WPM SZ 112 IP 1 D 04:04 41.66
 WLF SZ 130 EP 3 04:04 44.14

September 26 1996 Time: 06:50 59.2 UTC Magnitude: 0.4 ML
 Lat: 55.070N Lon: 2.611W Depth: 12.5 km
 Grid Ref: 361.00 kmE 575.29 kmN RMS: 0.09 secs
 Locality: BEWCASTLE, CUMBRIA Quality: B
 Comments: 5KM EAST OF BEWCASTLE

STAT CO DIST PHAS WT P HrMn SECS AMPL PERI
 BTA SZ 19 IP 1 C 06:51 03.44
 BTA SN 19 ES 3 06:51 06.11
 BTA SN 19 06:51 06.42 13 0.35
 BTA SE 19 06:51 06.70 6 0.24
 BBH SZ 22 IP D 06:51 03.68
 XAL SZ 34 EP 2 06:51 05.57
 ECK SZ 35 IP 1 D 06:51 05.63
 BDL SZ 37 IP 1 C 06:51 06.06
 ESK SZ 47 EP 3 06:51 07.59
 ESK SE 47 ES 3 06:51 13.33
 ESK SN 47 06:51 13.41 5 0.11
 ESK SE 47 06:51 13.35 3 0.12
 XSO SZ 52 IP 1 C 06:51 08.60
 BBO SZ 55 EP 4 06:51 08.78
 BBO SN 55 06:51 17.77 3 0.18

YRE	SZ	341	EP	3	09:29	20.88			
SBD	SZ	361	EP	3	09:29	22.83			
YLL	SZ	362	EP	3	09:29	23.11			
YRC	SZ	368	EP	3	09:29	24.03			
WLF	SZ	375	EP	3	09:29	24.79			
WPM	SZ	380	EP	3	09:29	25.49			
WCB	SZ	382	EP	3	09:29	25.58			

EBL	SZ	19	IP	1	D	12:00	56.24		
ESY	SZ	30	EP	3		12:00	58.10		

November 13 1996 Time: 18:42 8.6 UTC
 Lat: 55.930N Lon: 3.093W
 Grid Ref: 331.73 kmE 671.30 kmN
 Locality: MUSSELBURGH, LOTHIAN
 Comments: C/F
 Magnitude: -0.4 ML
 Depth: 1.6 km
 RMS: 0.04 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EMN	SZ	0	EP	2		18:42	09.01		
EMN	SN	0	ES	2		18:42	09.38		
EDI	SZ	6	EP	2		18:42	10.22		
EDI	SE	6	ES	3		18:42	11.23		
EDI	SN	6				18:42	11.86	6	0.26
EDI	SE	6				18:42	11.69	5	0.22

November 10 1996 Time: 10:04 5.5 UTC
 Lat: 50.005N Lon: 5.585W
 Grid Ref: 143.18 kmE 17.90 kmN
 Locality: PENZANCE, CORNWALL
 Comments: OFFSHORE LOCATION
 Magnitude: 1.1 ML
 Depth: 11.8 km
 RMS: 0.03 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
CPZ	SZ	17	IP		C	10:04	09.08		
CGW	SZ	28	IP	1	C	10:04	10.86		
CGH	SZ	31	EP	3		10:04	11.13		
CCO	SZ	31	EP	2		10:04	11.34		
CCA	SZ	33	IP	1	C	10:04	11.58		
CMA	SZ	34	EP	2		10:04	11.75		
CR2	SZ	35	EP	1	C	10:04	11.89		
CR2	SE	35	ES	3		10:04	16.79		
CR2	SN	35				10:04	16.90	20	0.06
CR2	SE	35				10:04	16.88	26	0.07
CBW	SZ	37	EP	2		10:04	12.22		

November 14 1996 Time: 21:32 2.2 UTC
 Lat: 55.927N Lon: 3.082W
 Grid Ref: 332.38 kmE 671.00 kmN
 Locality: MUSSELBURGH, LOTHIAN
 Comments: C/F
 Magnitude: 0.5 ML
 Depth: 1.5 km
 RMS: 0.02 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EMN	SZ	1	IP		D	21:32	02.56		
EDI	SZ	7	EP	2		21:32	03.89		
EDI	SE	7	ES	3		21:32	05.07		
EDI	SN	7				21:32	05.80	53	0.24
EDI	SE	7				21:32	05.80	44	0.29
EBL	SZ	17	EP	2		21:32	05.77		
EAU	SZ	25	EP	3		21:32	06.93		
EBH	SZ	45	EP	3		21:32	10.39		

November 10 1996 Time: 10:28 30.3 UTC
 Lat: 50.008N Lon: 5.583W
 Grid Ref: 143.34 kmE 18.23 kmN
 Locality: PENZANCE, CORNWALL
 Comments: OFFSHORE LOCATION
 Magnitude: 0.5 ML
 Depth: 9.9 km
 RMS: 0.02 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
CPZ	SZ	16	IP		C	10:28	33.58		
CGW	SZ	28	IP		C	10:28	35.41		
CGH	SZ	30	EP	2		10:28	35.76		
CCO	SZ	31	IP	1	C	10:28	35.95		
CCA	SZ	32	EP	2		10:28	36.13		
CMA	SZ	34	IP	1	C	10:28	36.33		
CR2	SZ	35	IP	1	C	10:28	36.48		
CR2	SN	35	ES	2		10:28	41.26		
CR2	SN	35				10:28	44.39	6	0.03
CR2	SE	35				10:28	44.38	6	0.04
CBW	SZ	37	EP	2		10:28	36.83		

November 15 1996 Time: 20:21 24.0 UTC
 Lat: 55.935N Lon: 3.085W
 Grid Ref: 332.23 kmE 671.85 kmN
 Locality: MUSSELBURGH, LOTHIAN
 Comments: C/F
 Magnitude: 0.5 ML
 Depth: 1.7 km
 RMS: 0.02 secs
 Quality: B

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
ENH	SZ	1	IP	1	D	20:21	24.50		
EMN	SZ	1	IP	1	D	20:21	24.51		
EMN	SE	1	ES	2		20:21	24.82		
ENC	AZ	1	EP	3		20:21	24.60		
ENC	AE	1	ES	3		20:21	25.06		
EDI	SZ	7	EP	2		20:21	25.72		
EDI	SN	7	ES	3		20:21	26.87		
EDI	SN	7				20:21	27.68	54	0.23
EDI	SE	7				20:21	27.34	35	0.27
EBL	SZ	18	EP	2		20:21	27.74		
ESY	SZ	30	EP	2		20:21	29.60		

November 10 1996 Time: 20:54 54.4 UTC
 Lat: 50.018N Lon: 5.577W
 Grid Ref: 143.77 kmE 19.26 kmN
 Locality: PENZANCE, CORNWALL
 Comments: OFFSHORE LOCATION
 Magnitude: 0.1 ML
 Depth: 8.8 km
 RMS: 0.02 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
CPZ	SZ	15	IP	1	C	20:54	57.45		
CGW	SZ	27	EP	2		20:54	59.36		
CGH	SZ	30	EP	2		20:54	59.76		
CCO	SZ	30	EP	2		20:54	59.84		
CCA	SZ	31	EP	3		20:55	00.06		
CMA	SZ	33	EP	3		20:55	00.26		
CR2	SZ	34	EP	3		20:55	00.40		
CR2	SN	34	ES	3		20:55	05.05		
CR2	SN	34				20:55	05.19	3	0.12
CR2	SE	34				20:55	07.03	2	0.06
CST	SZ	36	EP	3		20:55	00.70		

November 16 1996 Time: 01:32 3.5 UTC
 Lat: 54.410N Lon: 3.059W
 Grid Ref: 331.27 kmE 502.17 kmN
 Locality: ELTERWATER, CUMBRIA
 Comments: 3KM SOUTH OF ELTERWATER
 Magnitude: 0.4 ML
 Depth: 8.9 km
 RMS: 0.14 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
CDU	SZ	12	EP	2		01:32	06.38		
CDU	SZ	12	ES	3		01:32	08.16		
CSF	SZ	13	EP	3		01:32	06.54		
CSF	SZ	13	ES	3		01:32	08.46		
CKE	SZ	20	EP	3		01:32	07.59		
CKE	SZ	20	ES	3		01:32	10.12		
LMI	SZ	27	EP	3		01:32	08.29		
BBO	SE	38	ES	3		01:32	15.37		
BBO	SN	38				01:32	15.59	5	0.08
BBO	SE	38				01:32	15.64	3	0.29

November 11 1996 Time: 21:36 25.4 UTC
 Lat: 55.935N Lon: 3.087W
 Grid Ref: 332.11 kmE 671.82 kmN
 Locality: MUSSELBURGH, LOTHIAN
 Comments: C/F, FELT MUSSELBURGH...
 Magnitude: 0.5 ML
 Depth: 1.6 km
 RMS: 0.01 secs
 Quality: B
 Intensity: 2+

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EMN	SZ	1	IP	1	C	21:36	25.80		
EMN	SE	1	ES	2		21:36	26.08		
ENH	SZ	1	IP		C	21:36	25.80		
EDI	SZ	6	IP	1	D	21:36	27.02		
EDI	SN	6	ES	2		21:36	28.17		
EDI	SN	6				21:36	28.90	44	0.23
EDI	SE	6				21:36	28.54	43	0.19
EBL	SZ	18	EP	2		21:36	29.07		
ESY	SZ	30	EP	2		21:36	30.93		

November 17 1996 Time: 03:06 27.5 UTC
 Lat: 53.417N Lon: 2.678W
 Grid Ref: 354.93 kmE 391.36 kmN
 Locality: ST HELENS, MERSEYSIDE
 Magnitude: 2.0 ML
 Depth: 9.7 km
 RMS: 0.13 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
LHO	SZ	57	EP	2		03:06	37.05		
SBD	SZ	69	EP	2		03:06	39.05		
KWE	SZ	71	EP	2		03:06	39.65		
KBI	SZ	79	EP	2		03:06	40.75		
WPM	SZ	84	EP	2		03:06	41.40		
HPK	SZ	92	IP	1	C	03:06	42.66		
HPK	SN	92	ES	2		03:06	53.56		
HPK	SN	92				03:06	54.57	127	0.18
HPK	SE	92				03:06	56.37	127	0.17
LMI	SZ	99	EP	2		03:06	43.90		
LMI	SN	99	ES	2		03:06	55.44		
LMI	SN	99				03:06	55.77	14	0.16
LMI	SE	99				03:06	57.15	17	0.26
HLM	SZ	101	EP	2		03:06	43.87		
YLL	SZ	104	EP	2		03:06	44.46		
WME	SZ	108	EP	2		03:06	45.08		
SSP	SZ	115	EP	2		03:06	46.09		
SSP	SN	115	ES	2		03:06	59.89		
SSP	SN	115				03:07	02.31	22	0.13
SSP	SE	115				03:07	02.23	24	0.19

November 12 1996 Time: 12:00 52.5 UTC
 Lat: 55.939N Lon: 3.087W
 Grid Ref: 332.13 kmE 672.30 kmN
 Locality: MUSSELBURGH, LOTHIAN
 Comments: C/F, FELT MUSSELBURGH...
 Magnitude: 1.0 ML
 Depth: 1.9 km
 RMS: 0.03 secs
 Quality: B
 Intensity: 3+

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EMN	SZ	1	IP		D	12:00	52.98		
EMN	SN	1	ES	2		12:00	53.48		
ENH	SZ	1	IP		D	12:00	52.98		
EDI	SZ	7	IP		D	12:00	54.21		
EDI	SN	7	ES	2		12:00	55.37		
EDI	SN	7				12:00	56.03	188	0.36
EDI	SE	7				12:00	57.00	122	0.25

PHASE DATA : 1996

TABLE 5 (cont'd)

WLF	SZ	115	EP	2	03:06	46.02			
CWF	SZ	119	EP	2	03:06	47.36			
CWF	SN	119	ES	2	03:07	00.80			
CWF	SN	119			03:07	03.13	48	0.16	
CWF	SE	119			03:07	03.13	33	0.21	
WFB	SZ	123	EP	2	03:06	47.18			
WCB	SZ	124	EP	2	03:06	47.24			
WCB	SN	124	ES	2	03:07	01.09			
WCB	SN	124			03:07	03.12	14	0.21	
WCB	SE	124			03:07	03.02	13	0.19	
YRE	SZ	126	EP	2	03:06	47.61			
KSY	SZ	149	EP	2	03:06	51.97			
MCH	SN	159	ES	2	03:07	11.02			
MCH	SN	159			03:07	11.89	15	0.21	
MCH	SE	159			03:07	14.11	13	0.10	

HTL	SE	41			04:04	44.02	33	0.14	
DYA	SZ	49	EP	1	C	04:04	38.91		
DYA	SE	49	ES	3		04:04	44.71		
DYA	SN	49			04:04	46.30	43	0.04	
DYA	SE	49			04:04	46.01	39	0.06	
DCO	SZ	62	EP	2		04:04	41.30		
CSA	SZ	90	EP	3		04:04	46.07		
HSA	SZ	98	EP	3		04:04	47.55		
CST	SZ	116	EP	2		04:04	49.77		
CBW	SZ	117	EP	2		04:04	49.79		
CR2	SZ	118	EP	1	C	04:04	50.11		
CCA	SZ	120	EP	2		04:04	50.30		
CMA	SZ	122	EP	3		04:04	50.65		
CCO	SZ	122	EP	2		04:04	50.54		
CGW	SZ	126	EP	3		04:04	51.11		
CGH	SZ	127	EP	3		04:04	51.18		

November 18 1996 Time: 00:03 56.4 UTC
 Lat: 51.766N Lon: 3.838W
 Grid Ref: 273.17 kmE 209.09 kmN
 Locality: GLANAMAN, DYFED
 Magnitude: 1.0 ML
 Depth: 5.5 km
 RMS: 0.06 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
HSA	SZ	22	IP	1	C	00:04	00.64		
HTR	SZ	52	EP	2		00:04	05.66		
HCG	SZ	63	EP	2		00:04	07.04		
MCH	SZ	63	EP	2		00:04	07.32		
MCH	SE	63	ES	2		00:04	15.11		
MCH	SN	63				00:04	15.74	4	0.09
MCH	SE	63				00:04	15.52	4	0.11
HGH	SZ	73	EP	2		00:04	08.66		
SSP	SZ	88	EP	2		00:04	10.91		
SSP	SN	88	ES	2		00:04	21.80		
SSP	SN	88				00:04	22.43	5	0.19
SSP	SE	88				00:04	22.81	5	0.20

December 1 1996 Time: 07:04 37.3 UTC
 Lat: 55.934N Lon: 3.084W
 Grid Ref: 332.27 kmE 671.72 kmN
 Locality: MUSSELBURGH, LOTHIAN
 Magnitude: 0.5 ML
 Depth: 1.8 km
 RMS: 0.01 secs
 Quality: B

Comments: C/F

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
EMN	SZ	1	IP		D	07:04	37.75		
EMN	SE	1	ES	2		07:04	38.10		
ENH	SZ	1	IP		C	07:04	37.78		
EDI	SZ	7	EP	2		07:04	38.97		
EDI	SN	7	ES	3		07:04	40.22		
EDI	SN	7				07:04	40.54	56	0.19
EDI	SE	7				07:04	40.46	33	0.29
EBL	SZ	18	IP	1	C	07:04	40.97		

November 23 1996 Time: 02:00 22.1 UTC
 Lat: 48.989N Lon: 4.263W
 Grid Ref: 234.46 kmE -98.79 kmN
 Locality: ENGLISH CHANNEL
 Magnitude: 1.6 ML
 Depth: 15.9 km
 RMS: 0.19 secs
 Quality: D

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
CR2	SZ	147	EP	3		02:00	44.70		
CR2	SN	147				02:01	04.86	5	0.07
CR2	SE	147				02:01	06.34	4	0.17
DCO	SZ	151	EP	3		02:00	45.65		
JRS	SZ	160	EP	3		02:00	46.65		
JRS	SE	160	ES	3		02:01	04.31		
JRS	SN	160				02:01	12.75	25	1.03
JRS	SE	160				02:01	03.57	19	0.87
JQE	SZ	164	EP	3		02:00	47.39		

December 8 1996 Time: 01:06 4.8 UTC
 Lat: 51.509N Lon: 0.628W
 Grid Ref: 495.19 kmE 179.90 kmN
 Locality: MAIDENHEAD, BERKSHIRE
 Magnitude: 1.9 ML
 Depth: 1.2 km
 RMS: 0.17 secs
 Quality: C

Comments: C/F

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
SKP	SZ	27	IP	1	D	01:06	09.86		
SFH	SZ	50	EP	2		01:06	13.90		
TSA	SZ	62	EP	2		01:06	15.72		
TEB	SZ	94	EP	3		01:06	21.07		
SSW	SZ	99	EP	3		01:06	21.74		
SIW	SZ	107	EP	3		01:06	22.85		
TCR	SZ	113	EP	3		01:06	23.96		
SWK	SZ	120	EP	3		01:06	25.10		
HAE	SZ	145	EP	2		01:06	28.65		
SMD	SZ	147	EP	3		01:06	29.12		
HGH	SZ	152	EP	3		01:06	29.68		
MCH	SZ	172	EP	3		01:06	32.24		
MCH	SE	172	ES	3		01:06	53.09		
MCH	SN	172				01:06	53.41	9	0.16
MCH	SE	172				01:06	53.50	13	0.19
HLM	SZ	191	EP	3		01:06	35.08		
SSP	SZ	198	EP	3		01:06	36.33		
SSP	SN	198				01:07	00.46	13	0.19
SSP	SE	198				01:07	01.04	9	0.24

November 23 1996 Time: 20:55 50.2 UTC
 Lat: 55.937N Lon: 3.081W
 Grid Ref: 332.47 kmE 672.11 kmN
 Locality: MUSSELBURGH, LOTHIAN
 Magnitude: 0.4 ML
 Depth: 1.8 km
 RMS: 0.02 secs
 Quality: B

Comments: C/F

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
ENH	SZ	0	IP	1	D	20:55	50.66		
EMN	SZ	1	IP		D	20:55	50.67		
EMN	SN	1	ES	2		20:55	51.10		
ENC	AZ	2	IP	1	D	20:55	50.86		
ENC	AN	2	ES	2		20:55	51.25		
EDI	SZ	7	EP	2		20:55	51.94		
EDI	SN	7	ES	3		20:55	53.21		
EDI	SN	7				20:55	53.83	43	0.23
EDI	SE	7				20:55	53.96	31	0.34
EBL	SZ	18	EP	1	D	20:55	53.95		

December 16 1996 Time: 04:09 3.5 UTC
 Lat: 61.013N Lon: 3.680E
 Grid Ref: 706.77 kmE 1249.98 kmN
 Locality: NORTHERN NORTH SEA
 Magnitude: 3.3 ML
 Depth: 13.7 km
 RMS: 0.25 secs
 Quality: C

Comments: FELT FEDJE FYR & VAKSDAL Intensity: 2+

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
SUE	SZ	59	EP	3		04:09	13.55		
SUE	SZ	59	IS	3		04:09	20.11		
FOO	SZ	98	IP	3	C	04:09	19.15		
FOO	SZ	98	ES	3		04:09	30.20		
HYA	SZ	136	EP	3		04:09	24.12		
HYA	SZ	136	ES	3		04:09	40.61		
ODD1	SZ	203	EP	3		04:09	32.77		
KMY	SZ	219	IP	3	C	04:09	34.52		
BLS5	SZ	235	IP	3	C	04:09	36.66		
YEL	SZ	264	EP	3		04:09	40.90		
MOL	SZ	268	EP	3		04:09	41.05		
LRW	SZ	284	EP	3		04:09	42.93		
LRW	SE	284	ES	3		04:10	11.31		
LRW	SN	284				04:10	15.99	28	0.17
LRW	SE	284				04:10	14.92	25	0.23
SAN	SZ	292	EP	3		04:09	44.00		
WAL	SZ	302	EP	3		04:09	45.20		
OST	SZ	409	EP	3		04:09	58.51		
OHO	SZ	458	EP	3		04:10	04.38		
OBR	SZ	468	EP	3		04:10	05.84		
ORE	SZ	500	EP	3		04:10	09.58		
ORE	SE	500	ES	3		04:10	57.86		
ORE	SN	500				04:10	58.64	18	0.23
ORE	SE	500				04:10	58.56	14	0.18
OTO	SZ	533	EP	3		04:10	13.59		
MCD	SN	550	ES	4		04:11	07.94		
MCD	SN	550				04:11	09.74	17	0.19
MCD	SE	550				04:11	09.52	12	0.15

November 25 1996 Time: 01:32 42.7 UTC
 Lat: 53.086N Lon: 2.436E
 Grid Ref: 696.99 kmE 363.52 kmN
 Locality: SOUTHERN NORTH SEA
 Magnitude: 2.1 ML
 Depth: 10.2 km
 RMS: 0.06 secs
 Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
AWI	SZ	72	EP	3		01:32	54.50		
AWI	SZ	72	ES	3		01:33	03.07		
AWI	SZ	72				01:33	05.17	62	0.21
APA	SZ	109	EP	3		01:33	00.20		
APA	SZ	109	ES	3		01:33	12.82		
APA	SZ	109				01:33	15.61	46	0.29
AWH	SZ	112	EP	3		01:33	00.51		
AWH	SZ	112	ES	3		01:33	13.77		
AWH	SZ	112				01:33	14.73	28	0.22

November 26 1996 Time: 04:04 30.5 UTC
 Lat: 50.877N Lon: 3.935W
 Grid Ref: 263.88 kmE 110.42 kmN
 Locality: OKEHAMPTON, DEVON
 Magnitude: 1.5 ML
 Depth: 5.8 km
 RMS: 0.21 secs
 Quality: C

Comments: 17KM NE OF OKEHAMPTON

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
HEX	SZ	23	IP		C	04:04	34.85		
HTL	SZ	41	EP	1	D	04:04	37.89		
HTL	SE	41	ES	2		04:04	42.80		
HTL	SN	41				04:04	44.57	40	0.18

EDI	SN	694	ES	4	04:11	39.85			
EDI	SN	694			04:11	44.11	10	0.26	
EDI	SE	694			04:11	43.31	15	0.30	
ESK	SE	753	ES	4	04:11	52.10			
ESK	SN	753			04:11	56.81	5	0.22	
ESK	SE	753			04:11	55.39	6	0.21	

December 24 1996 Time: 21:43 20.9 UTC Magnitude: 0.3 ML
 Lat: 57.563N Lon: 5.635W Depth: 6.8 km
 Grid Ref: 182.61 kmE 858.32 kmN RMS: 0.11 secs
 Locality: TORRIDON, HIGHLAND Quality: C
 Comments: 7KM NW OF TORRIDON

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KAC	SZ	21	IP	1	C	21:43	25.06		
KPL	SZ	25	IP	1	C	21:43	25.71		
KPL	SN	25	ES	2		21:43	28.94		
KPL	SN	25				21:43	29.12	7	0.13
KPL	SE	25				21:43	29.43	12	0.14
KSB	SZ	41	EP	1	C	21:43	28.44		

December 26 1996 Time: 00:00 45.2 UTC Magnitude: 0.8 ML
 Lat: 56.791N Lon: 5.773W Depth: 7.6 km
 Grid Ref: 169.62 kmE 772.90 kmN RMS: 0.15 secs
 Locality: MOIDART, HIGHLAND Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
KSB	SZ	51	EP	3		00:00	53.76		
KPL	SZ	62	EP	2		00:00	55.50		
KPL	SE	62	ES	3		00:01	03.08		
KPL	SN	62				00:01	07.29	4	0.07
KAC	SZ	84	EP	2		00:00	59.25		

December 29 1996 Time: 04:35 50.6 UTC Magnitude: 0.9 ML
 Lat: 55.283N Lon: 5.340W Depth: 3.5 km
 Grid Ref: 187.93 kmE 603.85 kmN RMS: 0.05 secs
 Locality: ARRAN, STRATHCLYDE Quality: C
 Comments: SOUTH OF ARRAN

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
GMK	SZ	18	IP		C	04:35	54.01		
GCL	SZ	55	EP	3		04:36	00.26		
GAL	SZ	61	EP	3		04:36	01.29		
GAL	SN	61	ES	3		04:36	08.87		
GAL	SN	61				04:36	11.90	5	0.07
GAL	SE	61				04:36	11.35	5	0.10

December 31 1996 Time: 09:06 26.8 UTC Magnitude: -0.2 ML
 Lat: 53.419N Lon: 4.642W Depth: 16.9 km
 Grid Ref: 224.45 kmE 394.69 kmN RMS: 0.01 secs
 Locality: OFF ANGLESEY, GWYNEDD Quality: C

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
WCB	SZ	8	IP	1	D	09:06	29.87		
WCB	SN	8	ES	2		09:06	31.95		
WCB	SN	8				09:06	32.00	5	0.06
WCB	SE	8				09:06	32.02	10	0.06
YRC	SZ	19	EP	3		09:06	31.01		
WLF	SZ	22	IP	1	D	09:06	31.34		
WME	SZ	23	EP	3		09:06	31.43		

December 31 1996 Time: 12:10 33.4 UTC Magnitude: 1.6 ML
 Lat: 52.864N Lon: 2.223W Depth: 7.6 km
 Grid Ref: 385.02 kmE 329.67 kmN RMS: 0.21 secs
 Locality: STAFFORD, STAFFORDSHIRE Quality: D
 Comments: 7KM NW OF STAFFORD

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI
HLM	SZ	59	EP	2		12:10	43.22		
CWF	SZ	63	EP	2		12:10	44.19		
CWF	SE	63	ES	3		12:10	51.32		
CWF	SN	63				12:10	52.08	24	0.23
CWF	SE	63				12:10	52.43	8	0.16
KBI	SZ	64	EP	2		12:10	44.13		
SBD	SZ	70	EP	2		12:10	44.77		
SSP	SZ	78	EP	2		12:10	46.40		
SSP	SN	78	ES	3		12:10	55.55		
SSP	SN	78				12:10	55.72	16	0.12
SSP	SE	78				12:10	56.52	11	0.16
HAE	SZ	95	EP	2		12:10	49.58		
MCH	SZ	110	EP	3		12:10	51.55		
MCH	SE	110	ES	3		12:11	04.55		
MCH	SN	110				12:11	08.04	25	0.20
MCH	SE	110				12:11	08.08	21	0.12
HTR	SZ	113	EP	2		12:10	51.79		
HCG	SZ	114	EP	3		12:10	51.96		
YLL	SZ	134	EP	3		12:10	54.80		
YRE	SZ	149	EP	2		12:10	56.97		
WLF	SZ	153	EP	3		12:10	57.69		
YRH	SZ	162	EP	3		12:10	58.78		

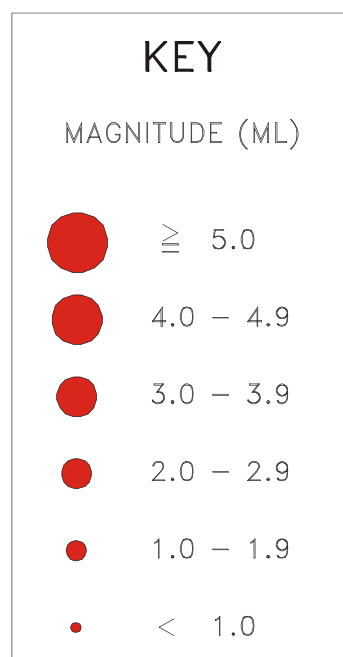
TABLE 6
DEPTH/CRUSTAL VELOCITY MODELS

TABLE 6

Depth / crustal velocity models used in earthquake locations

Structural area	Depth to top of layer (km)	P-wave velocity (km/sec)	Vp/Vs
North Sea	0.00	6.20	1.73
	12.00	6.50	
	23.00	7.10	
	31.00	8.05	
Lownet and general UK	0.00	4.00	1.73
	2.52	5.90	
	7.55	6.45	
	18.87	7.00	
	34.15	8.00	
Borders	0.00	4.10	1.71
	3.00	5.60	
	4.10	6.15	
	17.00	6.60	
	30.00	8.00	
North Wales (Lleyn)	0.00	5.40	1.68
	2.00	6.05	
	3.00	6.50	
	25.00	6.80	
	34.00	8.00	
Mid Wales	0.00	5.40	1.72
	3.80	6.05	
	15.50	6.65	
	34.30	8.00	
Cornwall	0.00	5.50	1.77
	0.30	5.76	
	15.00	6.90	
	30.00	8.00	

FIGURES 1 TO 5



KEY TO EPICENTRE MAPS, FIGURES 3 TO 5

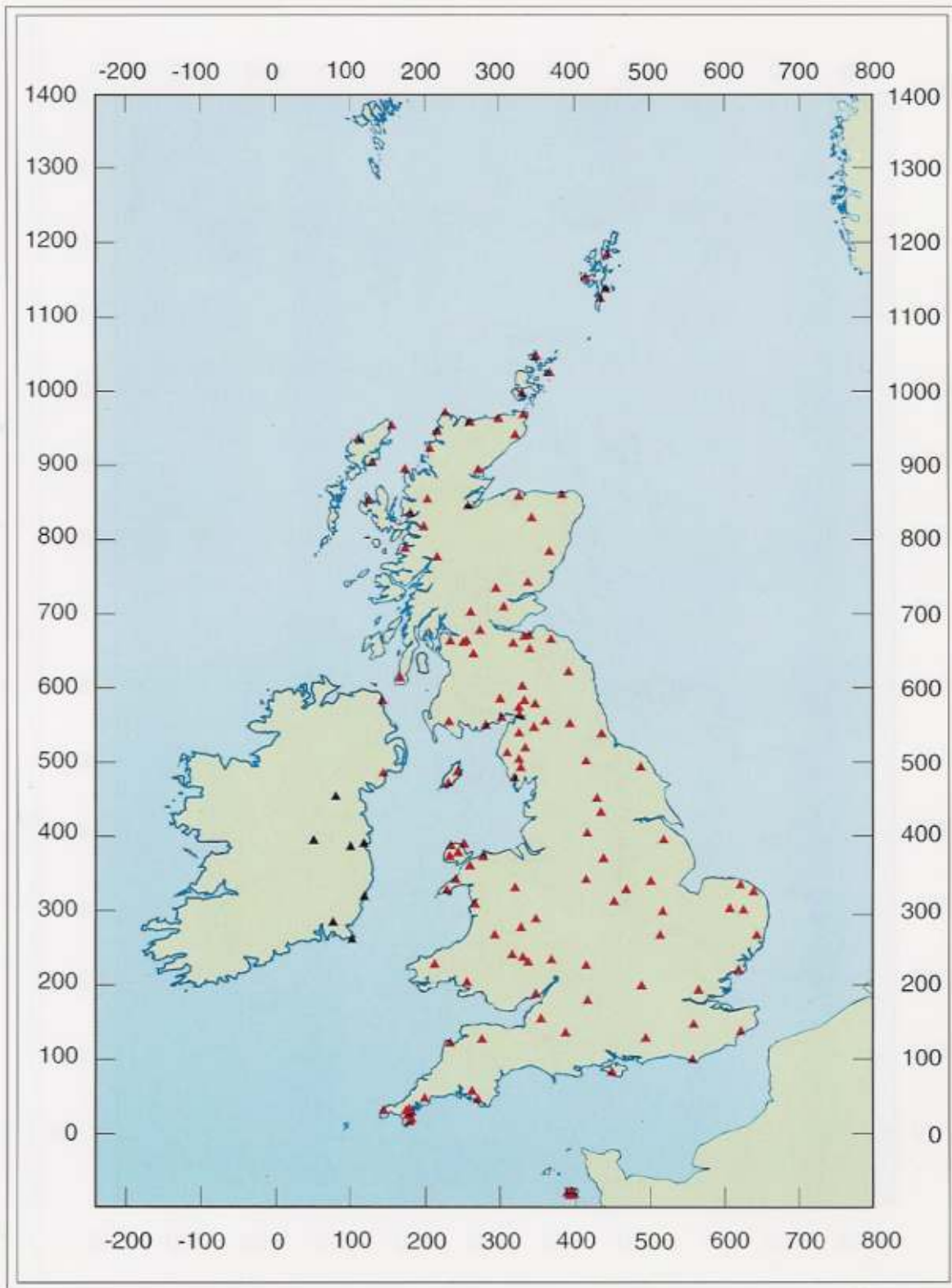


Figure 1. Seismograph network operational in December 1996. Colour coding shows the rapid access stations (red) and DIAS stations (black).

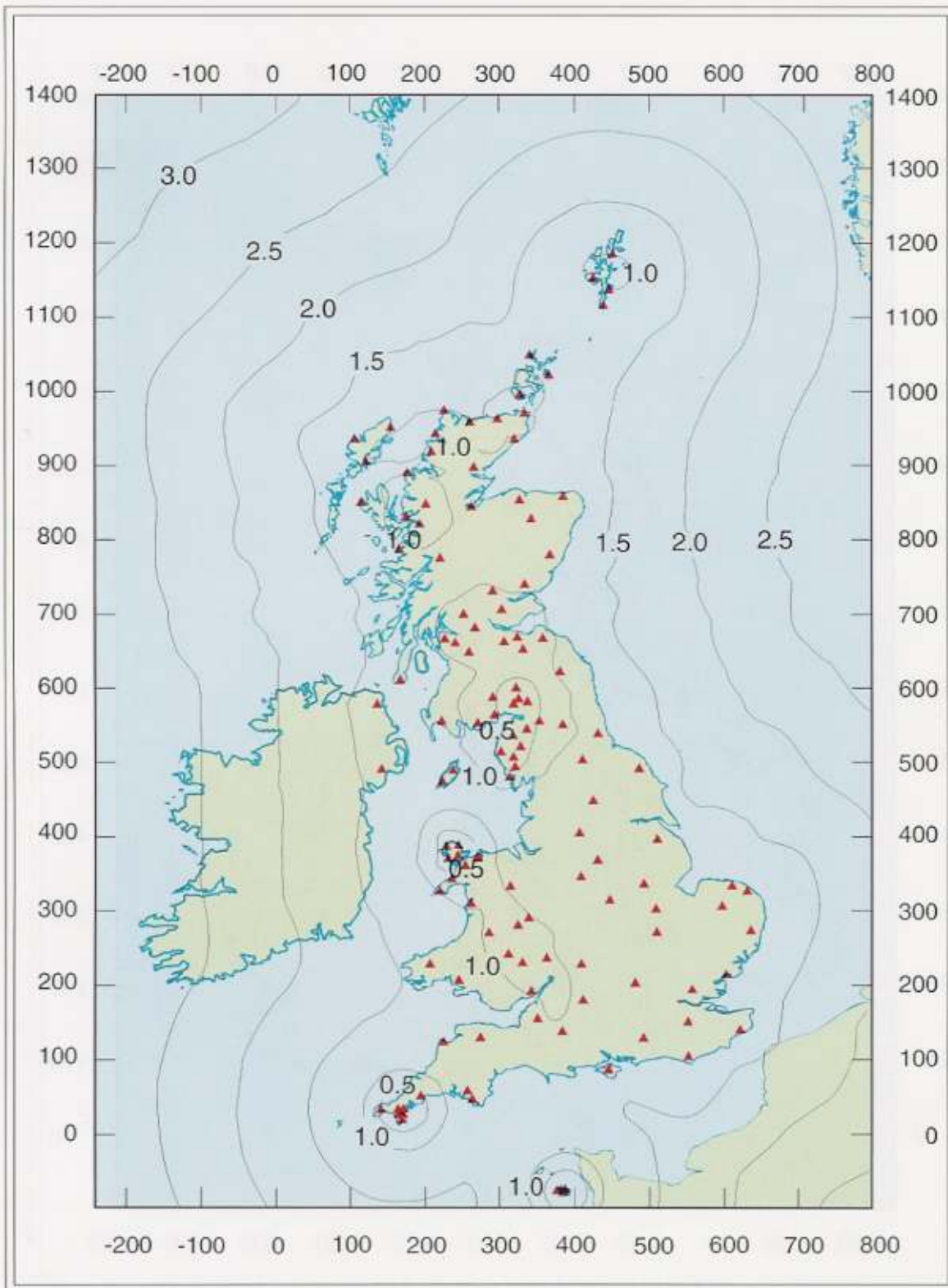


Figure 2. Earthquake detection capability in December 1996. Contour values are Richter local magnitude (ML) for 4 nanometres of noise (average) and S-wave amplitudes twice that at the fourth nearest station.

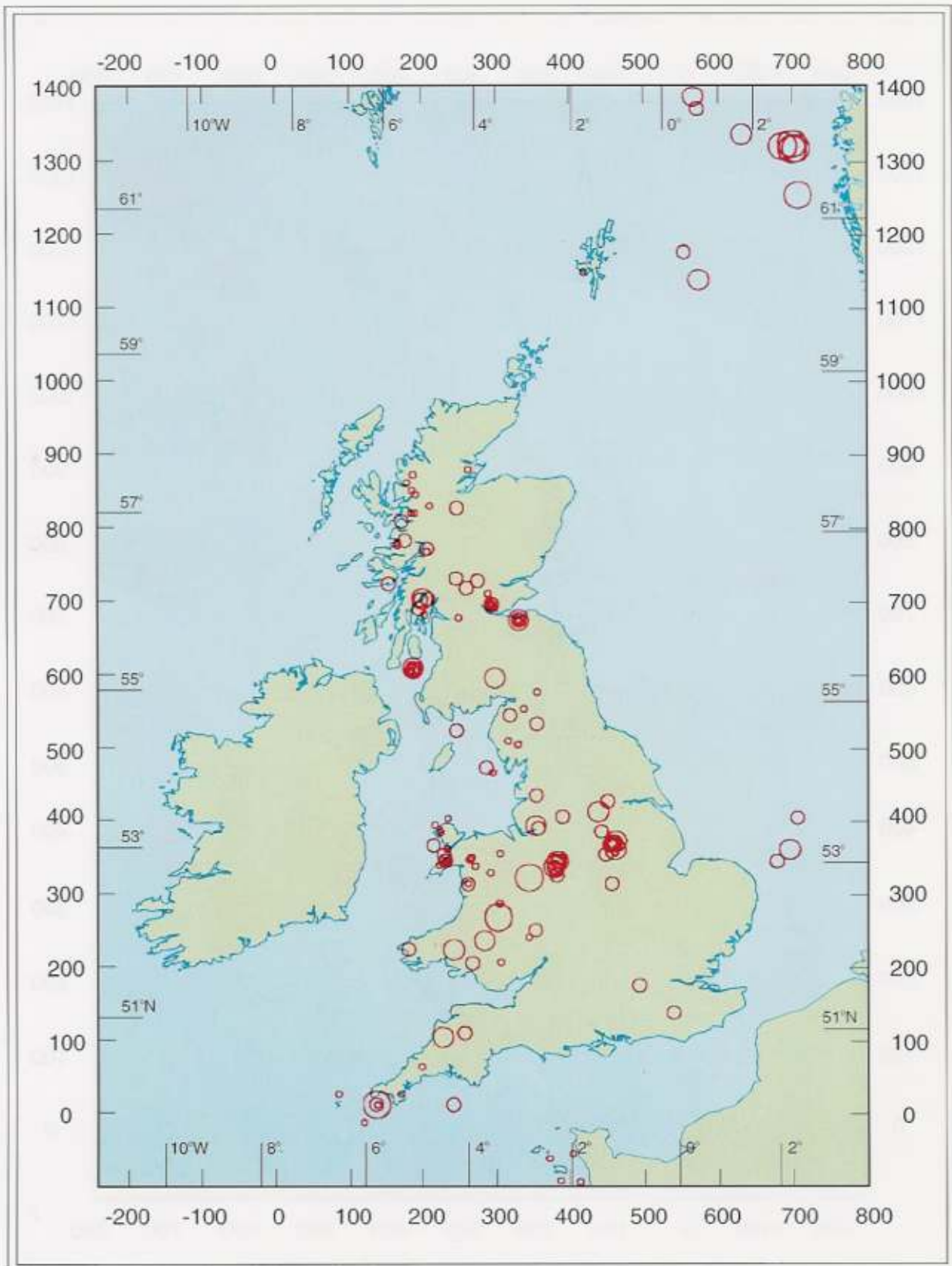


Figure 3. Epicentres of all UK earthquakes located in 1996.

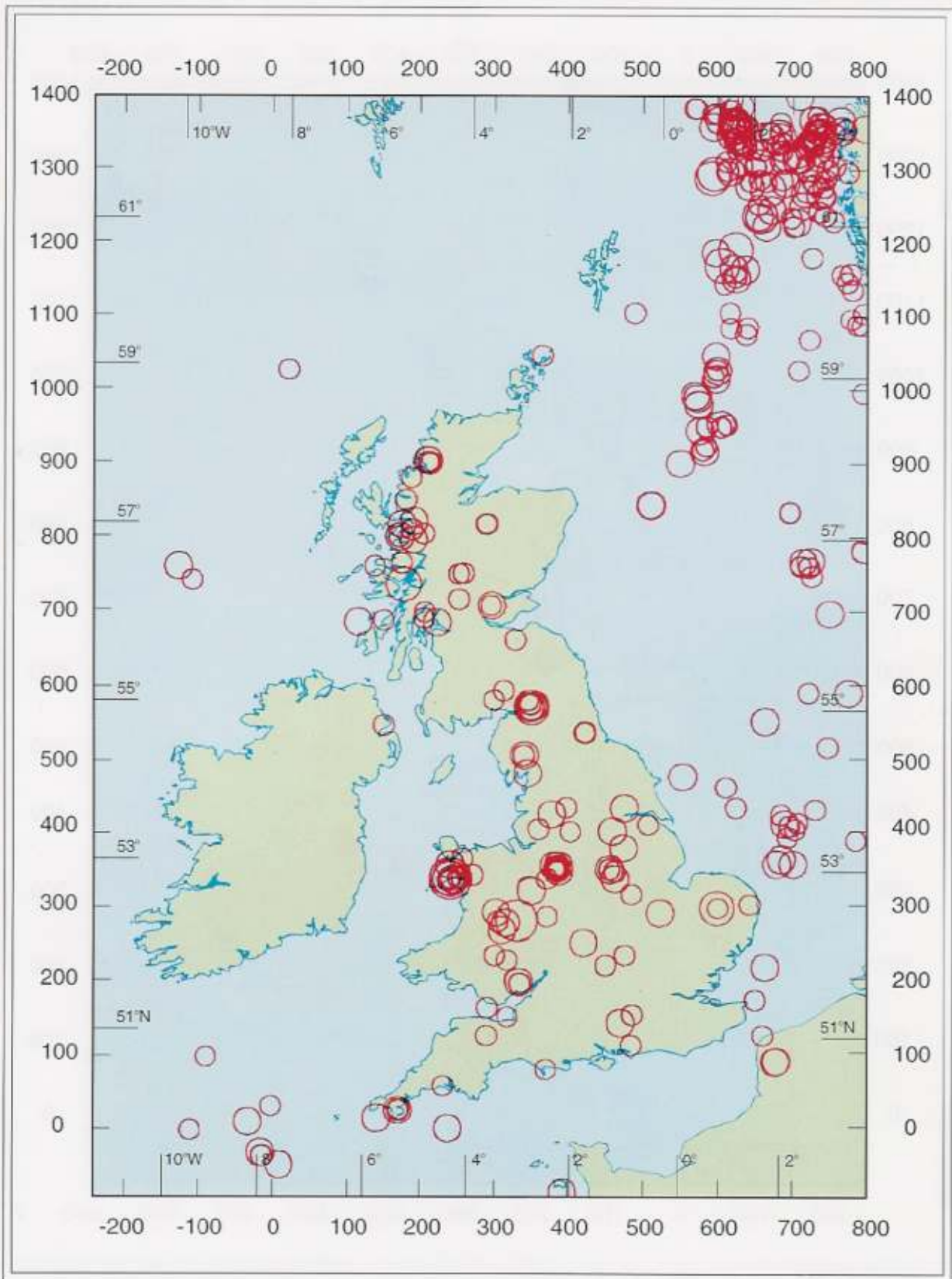


Figure 4. Epicentres of earthquakes with magnitudes 2.5 ML or greater, for the period 1979 to 1996.

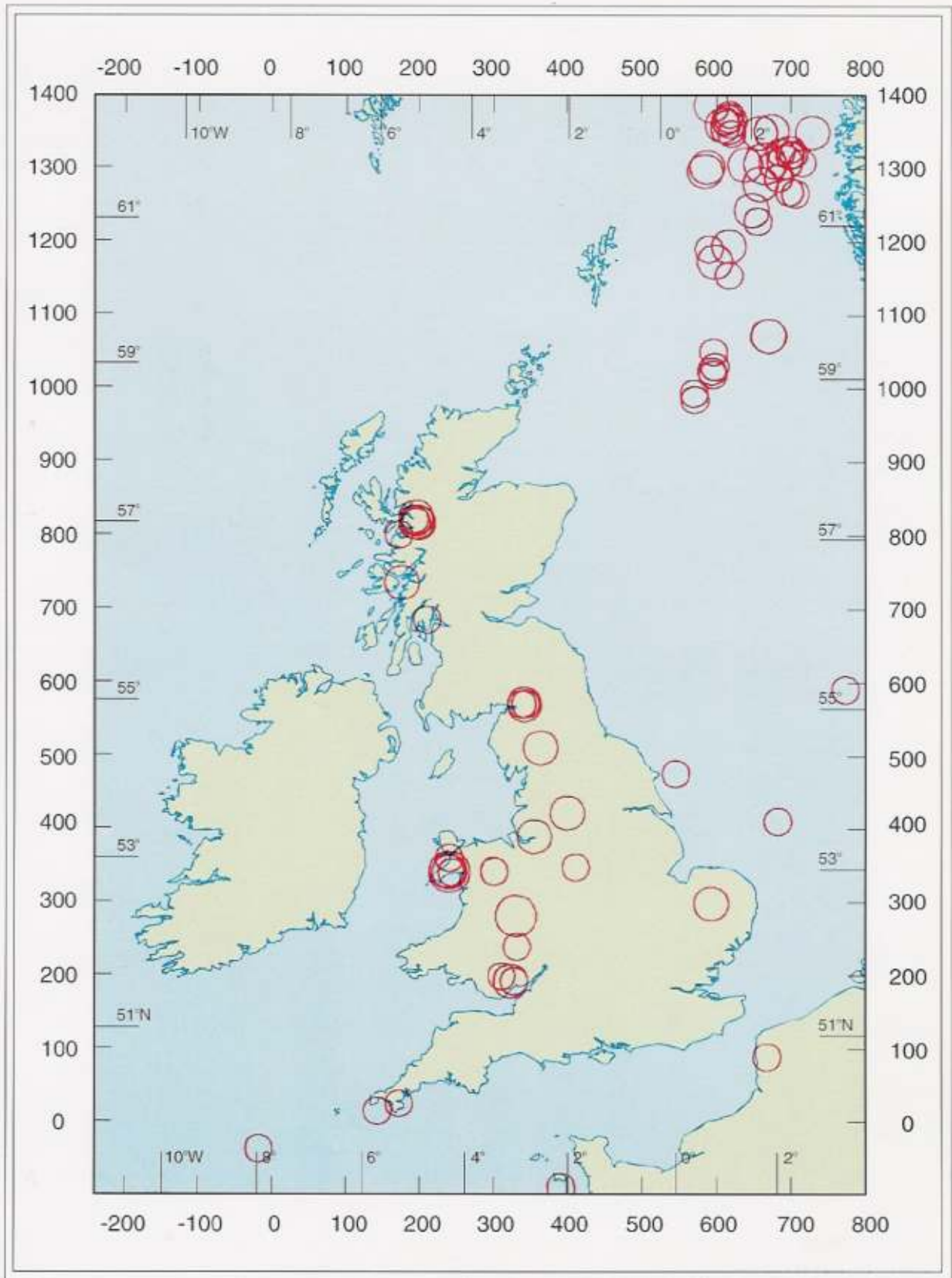


Figure 5. Epicentres of earthquakes with magnitudes 3.5 ML or greater, for the period 1970 to 1996.

APPENDIX A
SIGNIFICANT EARTHQUAKES IN 1996

APPENDIX A1

PENZANCE EARTHQUAKE, 10 NOVEMBER 1996

PARAMETERS

Date:	10 November 1996
Origin Time:	09:28 33.8 UTC
Latitude and longitude:	50.00° N 5.57° W
Grid Reference:	143.8 km E 17.8 km N
Depth:	9.6 km
Magnitude:	3.8 ML
Hypo Solution Quality:	C (B*D)
Epicentral Error (1 std. dev.):	3.4 km
Depth Error (1 std. dev.):	2.6 km

Discussion

The largest earthquake occurred offshore, 12 km south of Penzance, Cornwall, on 10 November. It had a magnitude of 3.8 ML and was felt over an area of 14,000 km² throughout Cornwall, the Scilly Isles and in parts of Devon. A macroseismic survey, with 900 replies, showed a maximum intensity of 5 EMS close to the epicentre where minor damage (cracked plaster) occurred. Three aftershocks were detected, on the same day, but none were felt. It occurs in the same area as the magnitude 4.4 ML Penzance earthquake on 15 July 1757, which was felt with intensities of between 5 and 6 EMS.

Input to the focal mechanism procedure consisted of 12 impulsive P-polarities (all compressional) and one SV/P amplitude ratio from the 3-component strong motion instrument at Rosemanowes, near Falmouth, some 34 km from the epicentre. Owing to the station distribution (a station gap of some 278°) around this offshore epicentre, a poorly constrained fault plane solution was obtained. It shows normal faulting, with varying components of strike-slip motion, on planes striking either NS and dipping to the east or striking NW-SE and dipping to the SW.

Seismograms recorded by the BGS networks in Devon and Hereford are shown in Figure A1.1, an isoseismal map in Figure A1.2 and a fault plane solution in Figure A1.3.

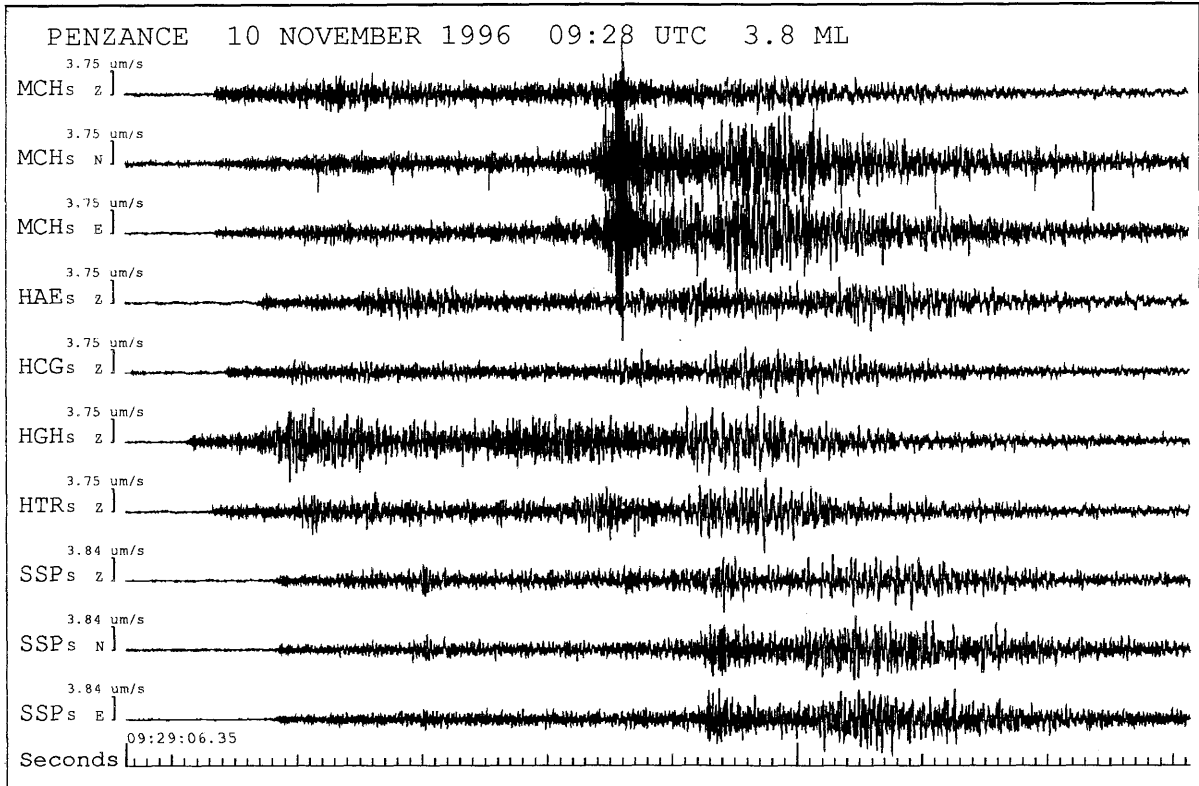
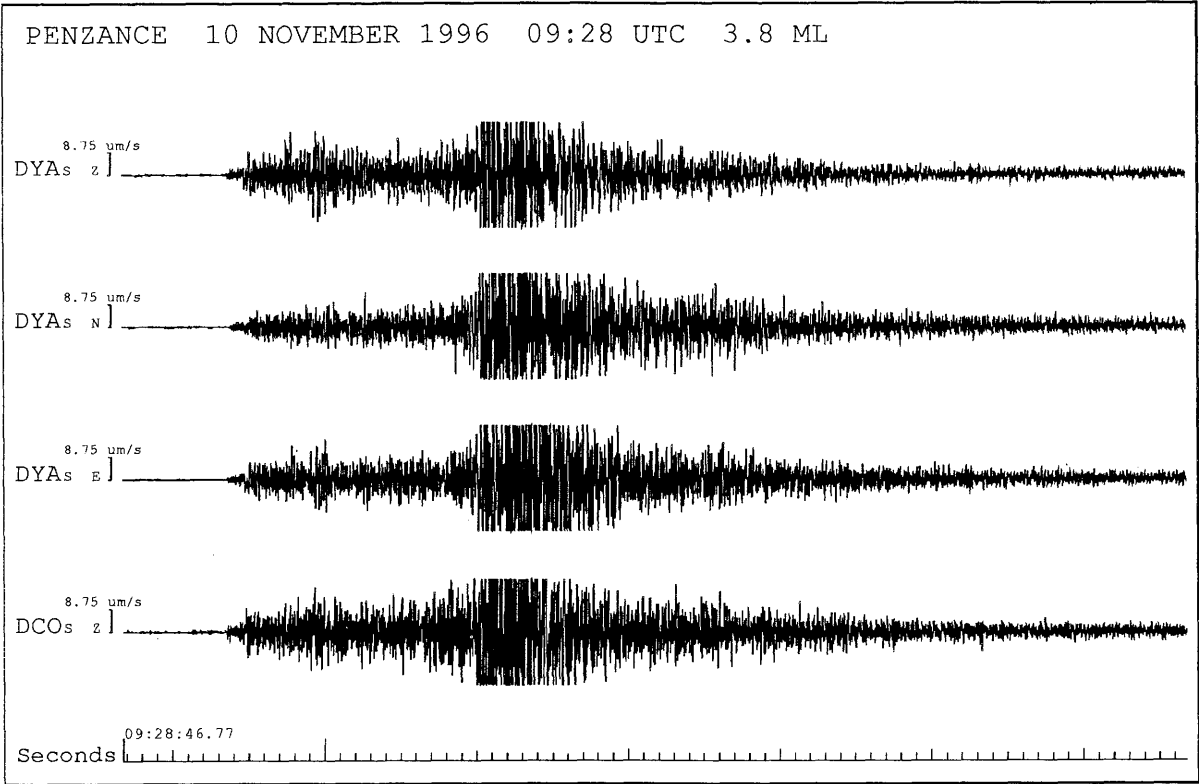


Figure A1.1. Seismograms of the Penzance earthquake 10 November 1996 09:28 UTC 3.8 ML recorded on the Devon and Hereford networks.

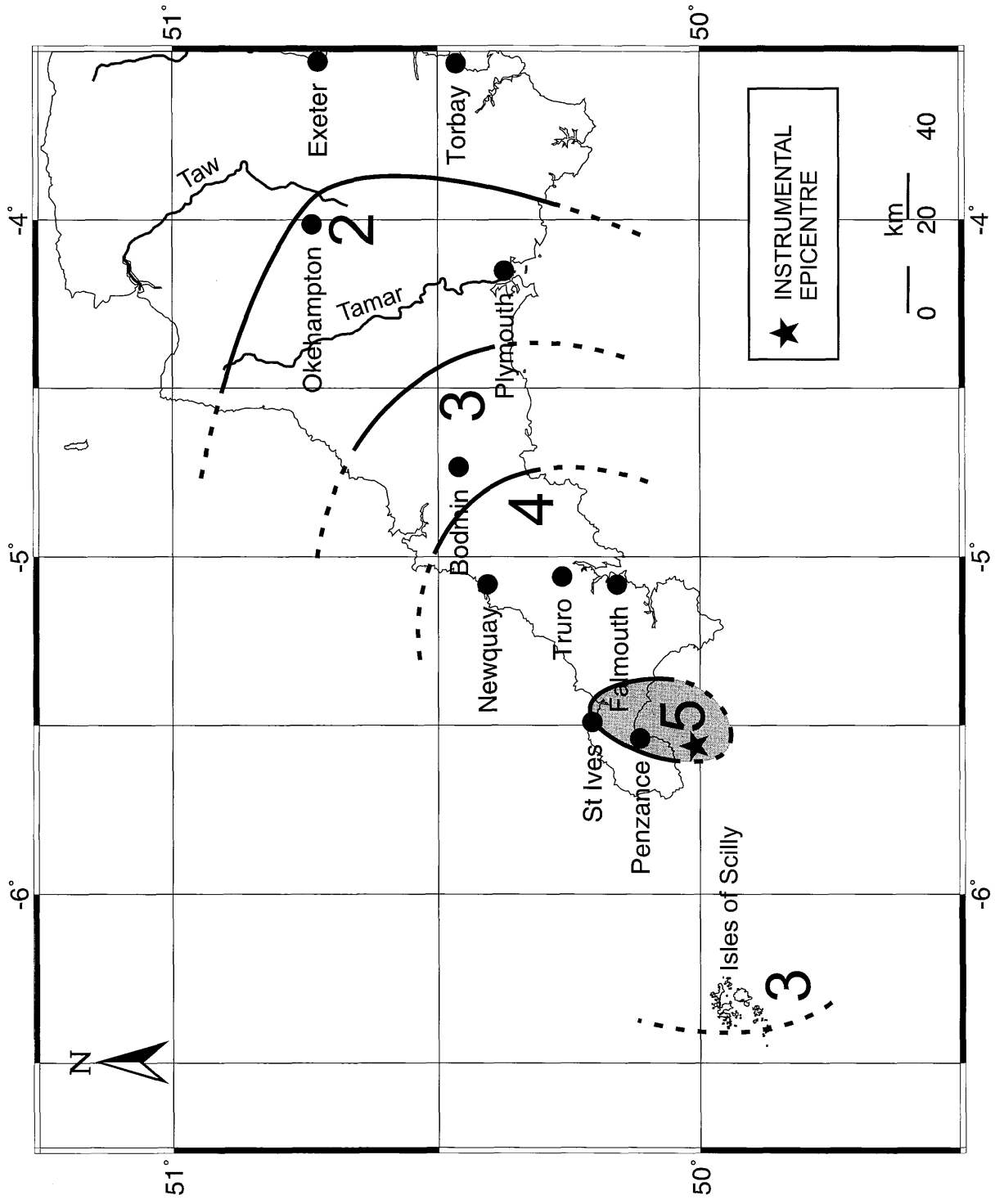


Figure A1.2. Penzance Earthquake 10th November 1996, 09:28 UTC (3.8 ML) - EMS Intensities

FAULT PLANE SOLUTION : PENZANCE EARTHQUAKE

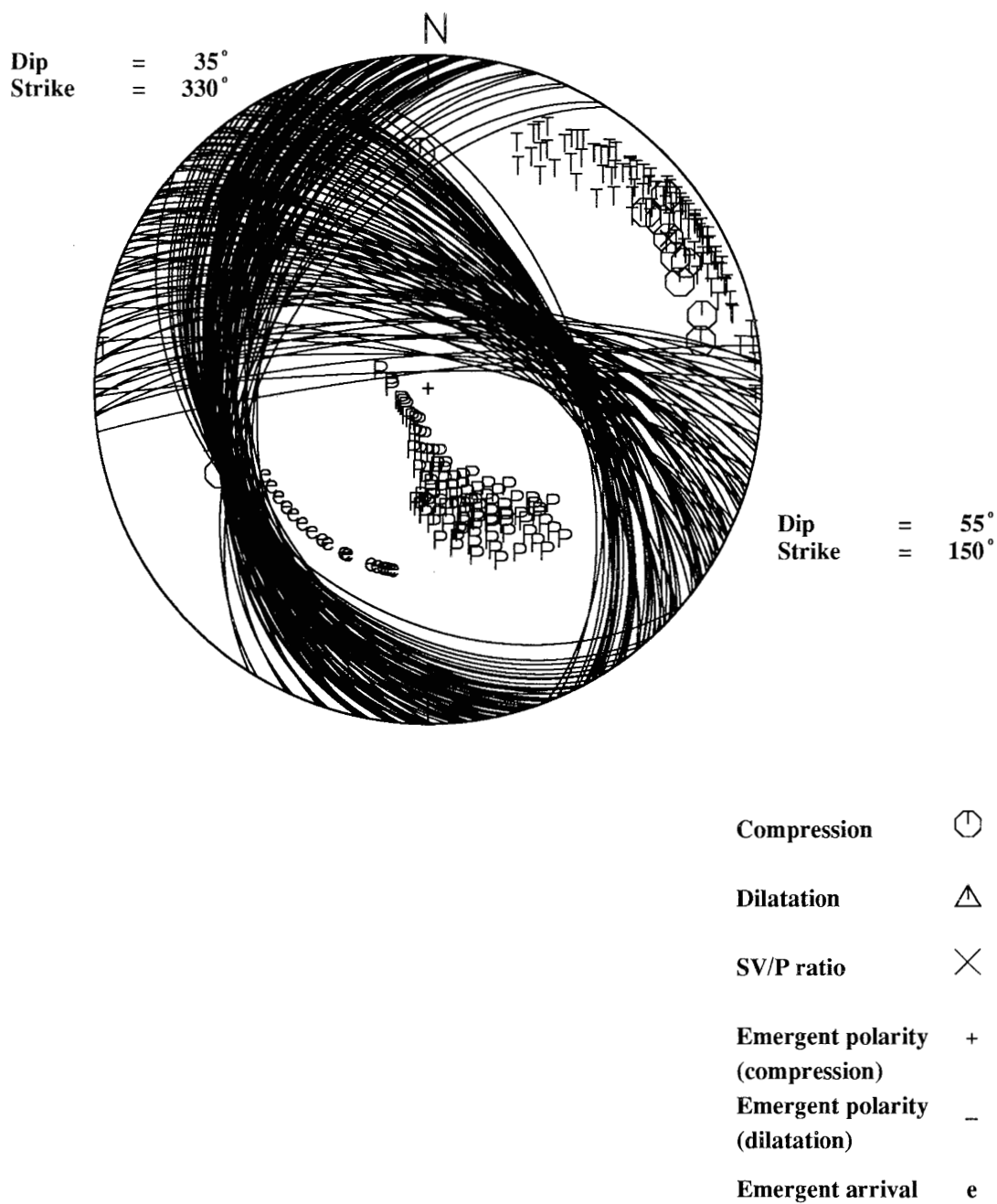


Figure A1.3. Equal area projection of the upper focal hemisphere for the Penzance earthquake of 10 November 1996 09:28 UTC 3.8 ML. The axes of maximum and minimum compressive stress are denoted by P and T respectively.

APPENDIX A2

SHREWSBURY EARTHQUAKE, 7 MARCH 1996

PARAMETERS

Date:	7 March 1996
Origin Time:	23:41 24.2 UTC
Latitude and longitude:	52.79° N 2.74° W
Grid Reference:	349.9 km E 322.3 km N
Depth:	10.6 km
Magnitude:	3.4 ML
Hypo Solution Quality:	B (A*C)
Epicentral Error (1 std. dev.):	1.3 km
Depth Error (1 std. dev.):	5.6 km

Discussion

On 7 March, an earthquake, with a magnitude of 3.4 ML, was located approximately 9 km north of Shrewsbury in Shropshire. It was felt throughout Shrewsbury, Telford, Oswestry and in many surrounding villages. Felt reports described "vibrations like a heavy vehicle had crashed into the house" and "a violent shuddering"; a few reports of minor damage (cracked plaster) were also received. The earthquake was felt over an area of 3000 km². A macroseismic survey throughout the region indicated a maximum intensity of 5 EMS in the epicentral area.

Input to the focal mechanism procedure consisted of 13 impulsive P-polarities, (12 compressional and 1 dilatational). No SV/P amplitude ratios were used owing to signal saturation at the nearest stations. A poorly constrained fault plane solution was obtained and shows dominant normal faulting on planes striking NW-SE and dipping NE or SW.

Seismograms recorded by the BGS networks in north Devon/south Wales and around Keyworth are shown in Figure A2.1, an isoseismal map in Figure A2.2 and a fault plane solution in Figure A2.3.

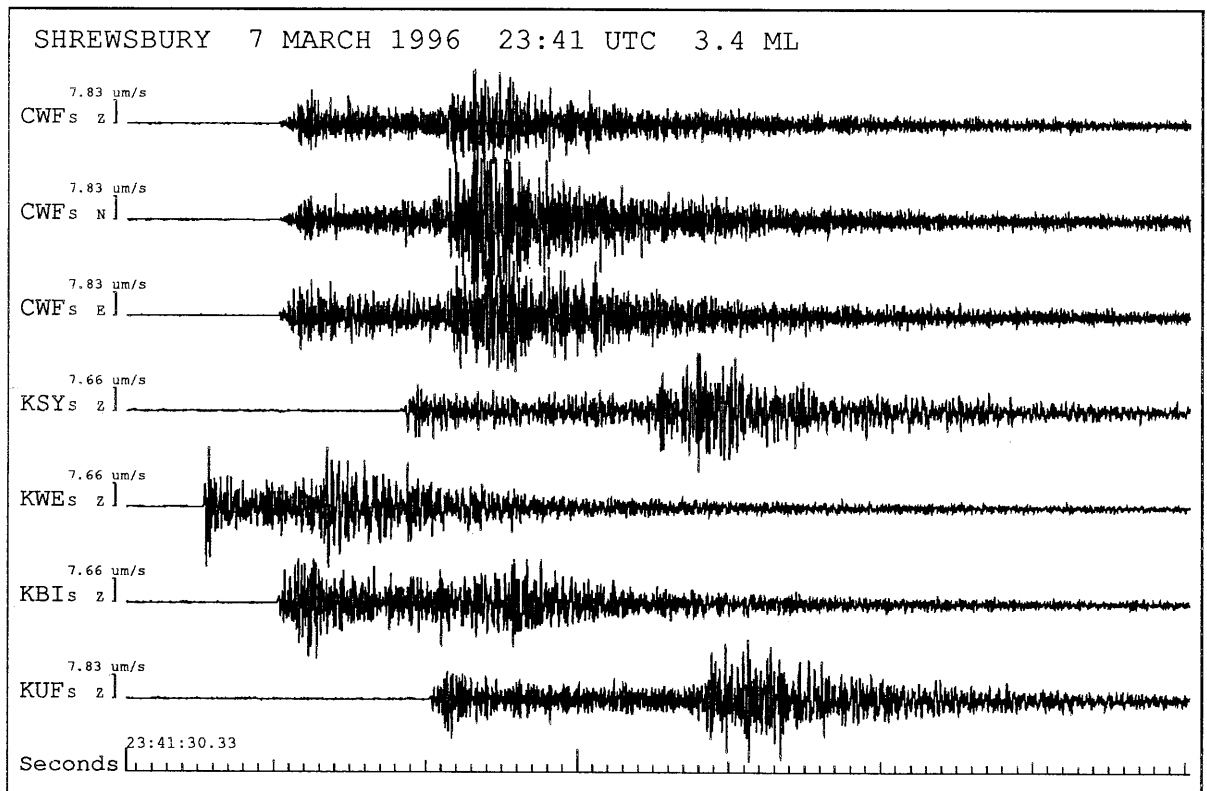
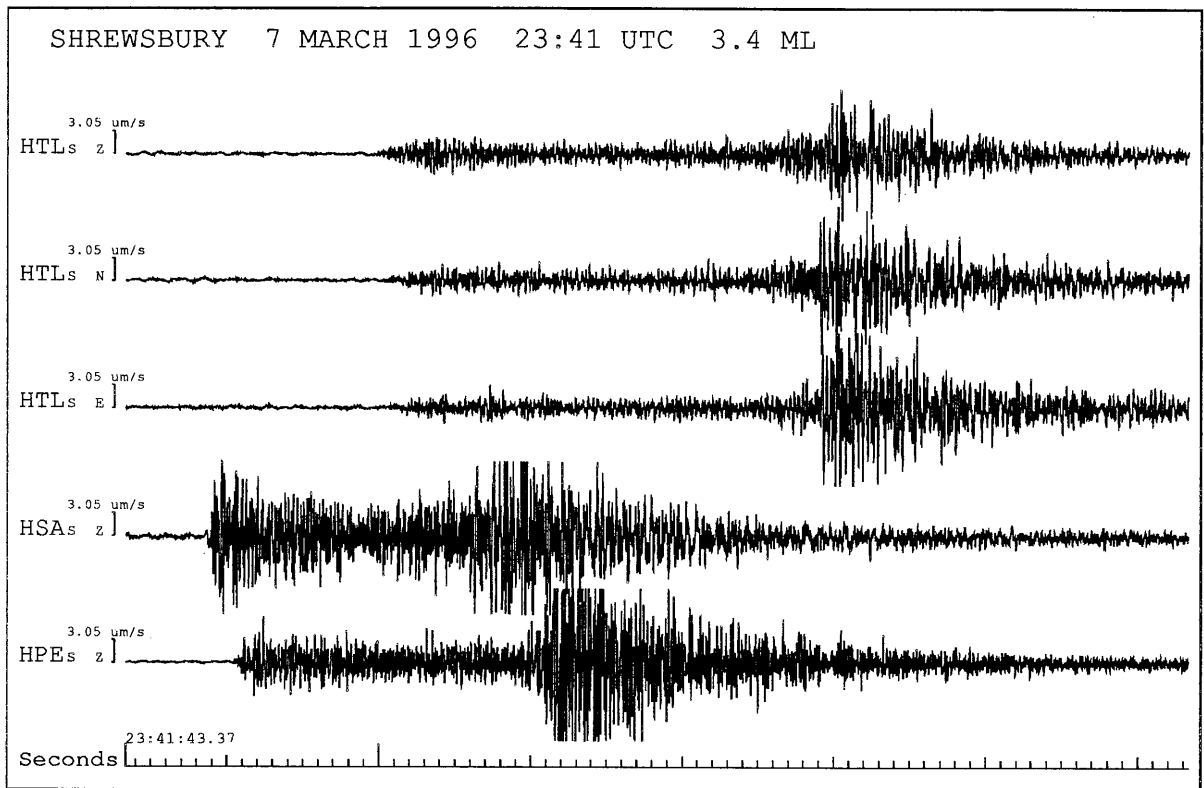


Figure A2.1. Seismograms of the Shrewsbury earthquake 7 March 1996 23:41 UTC 3.4 ML recorded on the north Devon/south Wales and Keyworth networks.

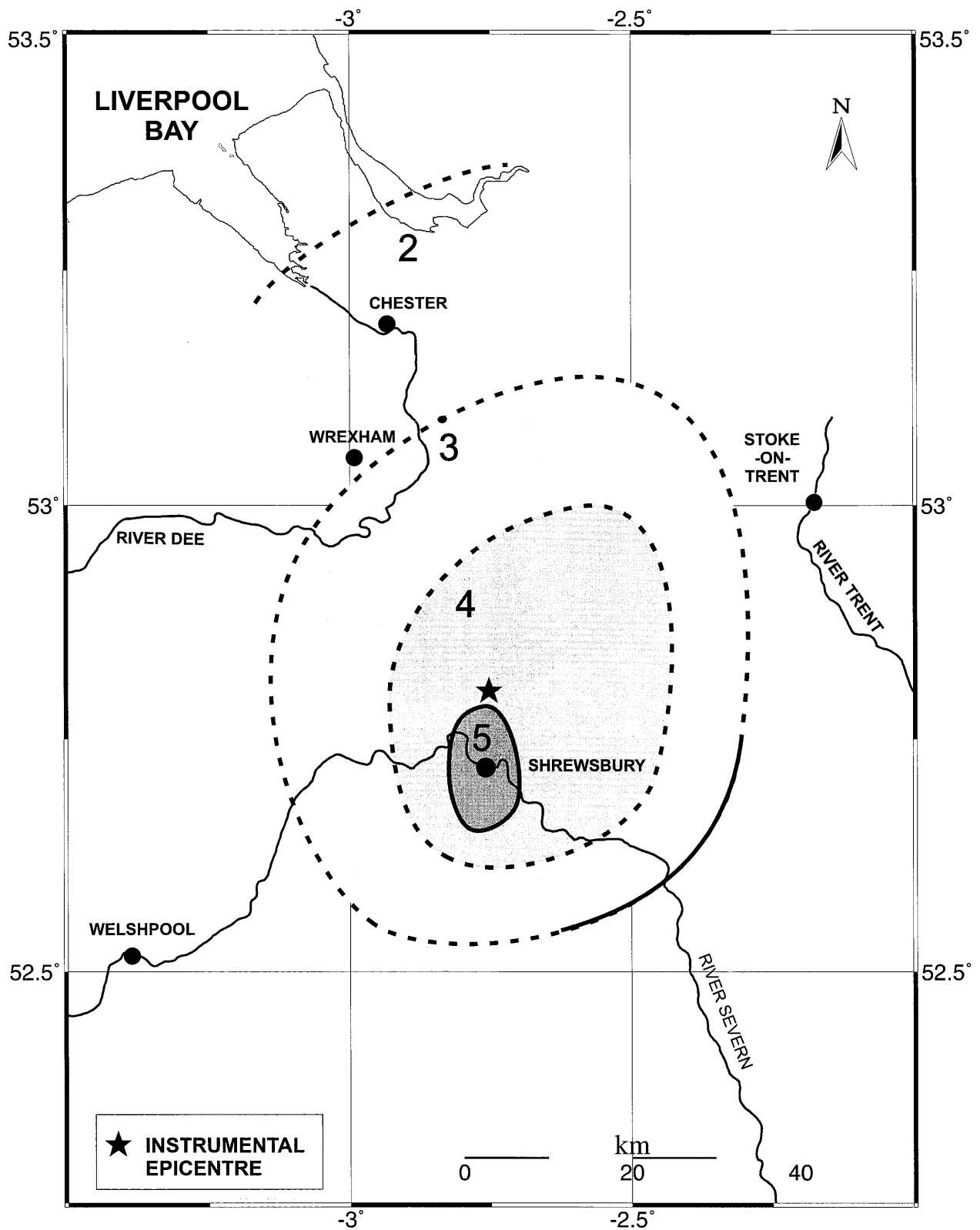


Figure A2.2. Shrewsbury Earthquake 7th March 1996, 23:41 UTC (3.4 ML) - EMS Intensities

FAULT PLANE SOLUTION : SHREWSBURY EARTHQUAKE

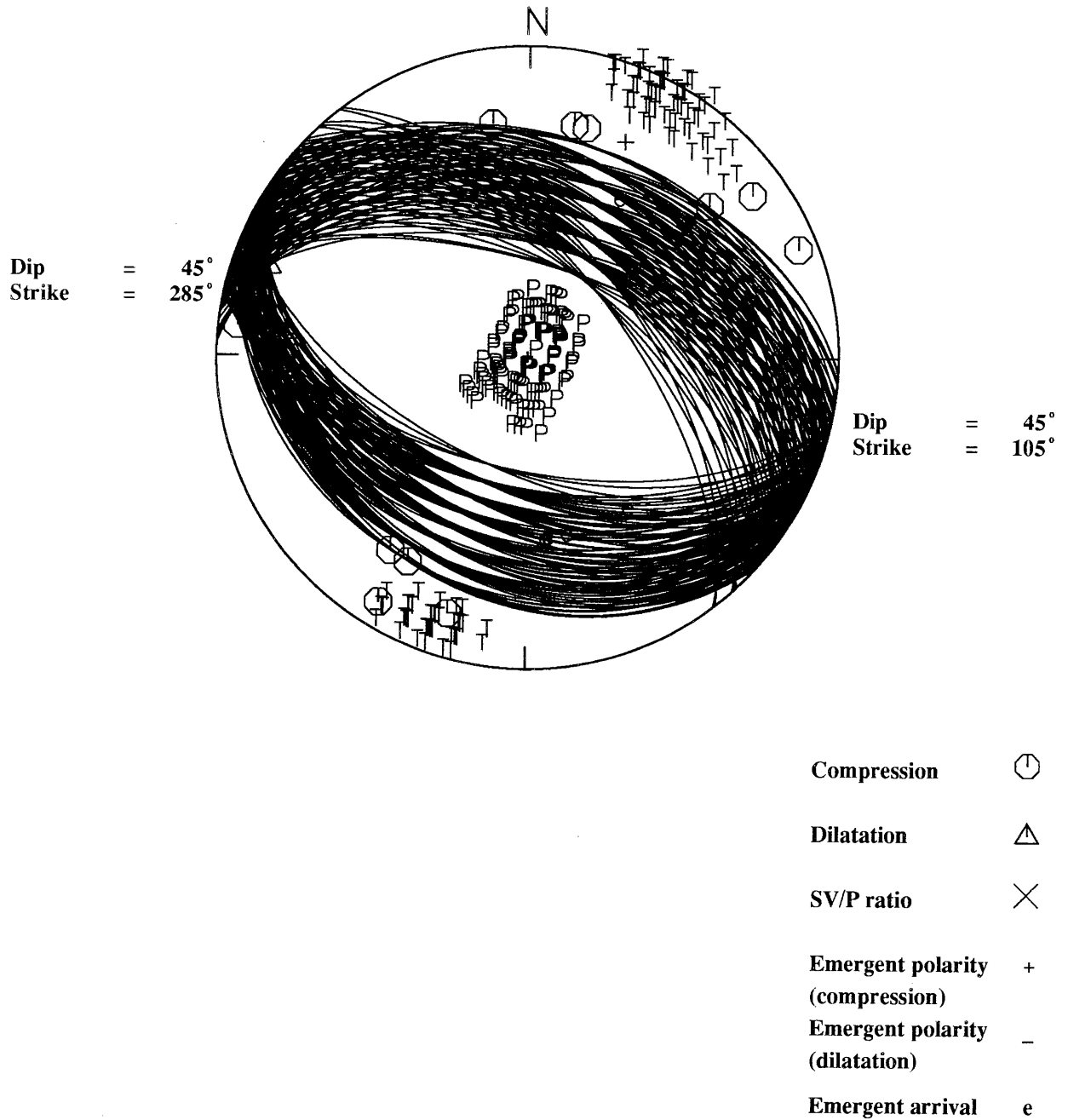


Figure A2.3. Equal area projection of the upper focal hemisphere for the Shrewsbury earthquake of 7 March 1996 23:41 UTC 3.4 ML. The axes of maximum and minimum compressive stress are denoted by P and T respectively.

APPENDIX A3

STOKE-ON-TRENT EARTHQUAKE, 6 MAY 1996

PARAMETERS

Date:	6 May 1996
Origin Time:	03:49 29.1 UTC
Latitude and longitude:	53.04° N 2.20° W
Grid Reference:	386.6 km E 348.8 km N
Depth:	2.6 km
Magnitude:	2.8 ML
Hypo Solution Quality:	B (A*C)
Epicentral Error (1 std. dev.):	1.1 km
Depth Error (1 std. dev.):	3.8 km

Discussion

Seven earthquakes were located in the Stoke-on-Trent area during 1996. They had magnitudes ranging between 1.2 and 2.8 ML. The largest was reported to be felt throughout the Stoke-on-Trent area, where many residents were awakened from sleep and felt reports described a "rumble and a bang". A macroseismic survey throughout the region showed that the maximum intensity was 4 EMS and the felt area was over 900 km². In this area coalmining was abandoned in the late 1980s, but, since that time, sporadic outbursts of seismic activity have occurred; eg the recent series in February 1995, where six events with magnitudes ranging between 1.7 and 2.5 ML, were felt by local residents in four days.

Seismograms recorded by the BGS networks in Keyworth and North Wales are shown in Figure A3.1 and an isoseismal map in Figure A3.2.

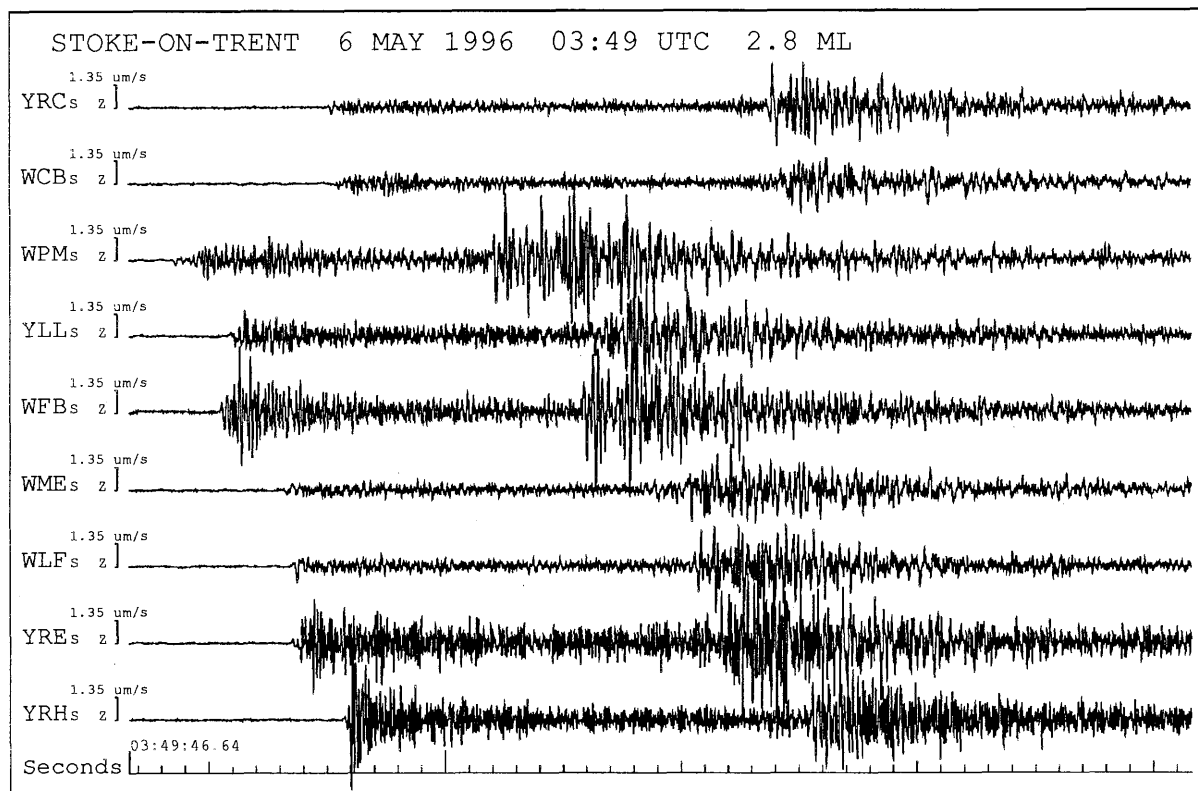
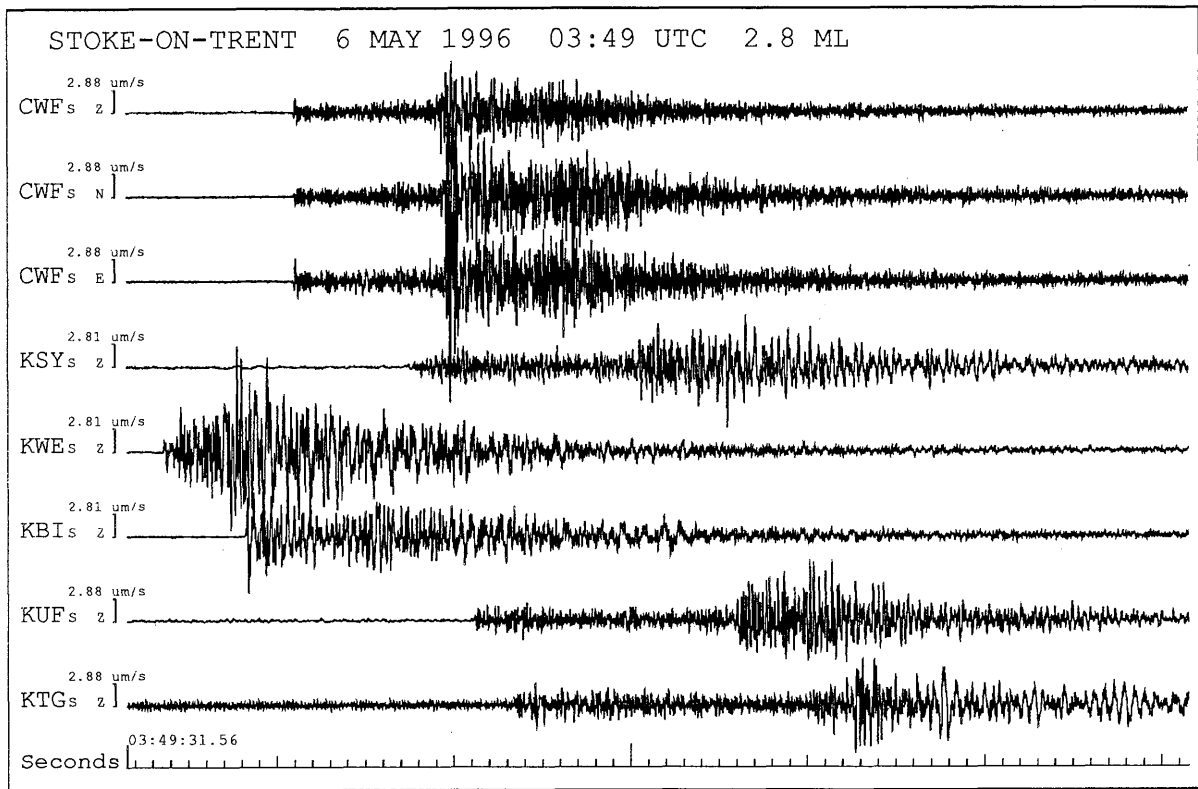


Figure A3.1. Seismograms of the Stoke-on-Trent earthquake 6 May 1996 03:49 UTC 2.8 ML recorded on the Keyworth and North Wales networks.

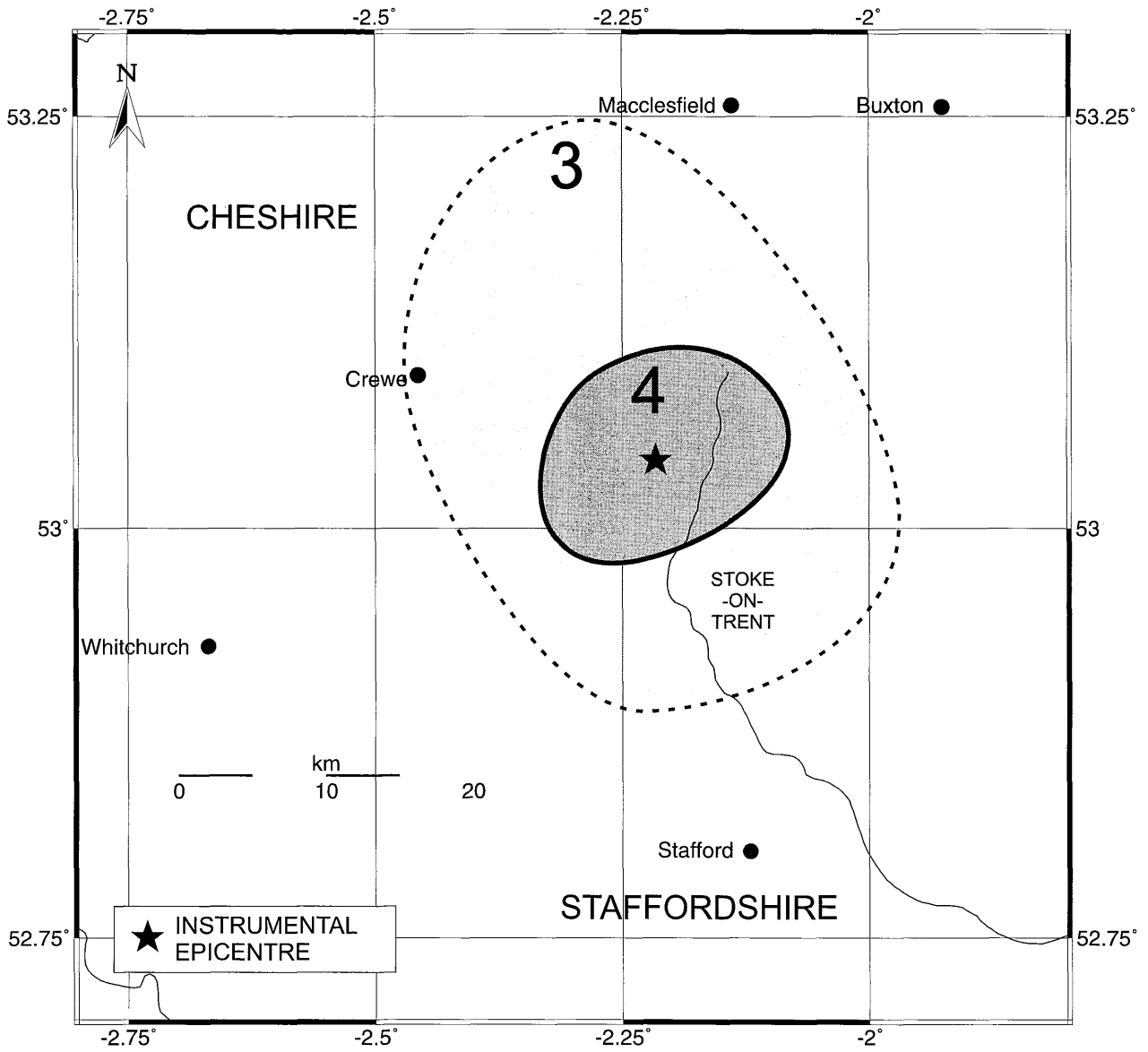


Figure A3.2. Stoke-on-Trent Earthquake 6th May 1996, 03:49 UTC (2.8 ML) - EMS Intensities

APPENDIX A4

LLANDRINDOD WELLS EARTHQUAKE, 20 SEPTEMBER 1996

PARAMETERS

Date:	20 September 1996
Origin Time:	04:04 23.4 UTC
Latitude and longitude:	52.32° N 3.33° W
Grid Reference:	309.4 km E 269.7 km N
Depth:	14.4 km
Magnitude:	3.0 ML
Hypo Solution Quality:	B (A*B)
Epicentral Error (1 std. dev.):	1.6 km
Depth Error (1 std. dev.):	2.4 km

Discussion

An earthquake, with a magnitude of 3.0 ML, occurred on 20 September at Llanddewi Ystradenni, approximately 9 km NNE of Llandrindod Wells. The event was felt by local residents in Llandrindod Wells, Knighton, Rhayader, Builth Wells and in the village of Llanbister. Felt reports described "a shudder" and "the whole house shook and windows rattled" indicating an intensity of at least 4 EMS. No macroseismic survey was carried out owing to the few reports received from each of the villages.

Input to the focal mechanism procedure, from BGS and two AWE stations, consisted of 14 impulsive polarities (4 compressional and 10 dilatational) together with a SV/P amplitude ratio from the low-gain station, some 23 km west of Hereford. The fault plane analysis shows many possible solutions. These indicate a NW-SE maximum compressive stress direction, which is consistent with that generally observed for Britain.

Seismograms recorded by the BGS networks in North Wales and Swindon are shown in Figure A4.1 and the fault plane solution in Figure A4.2.

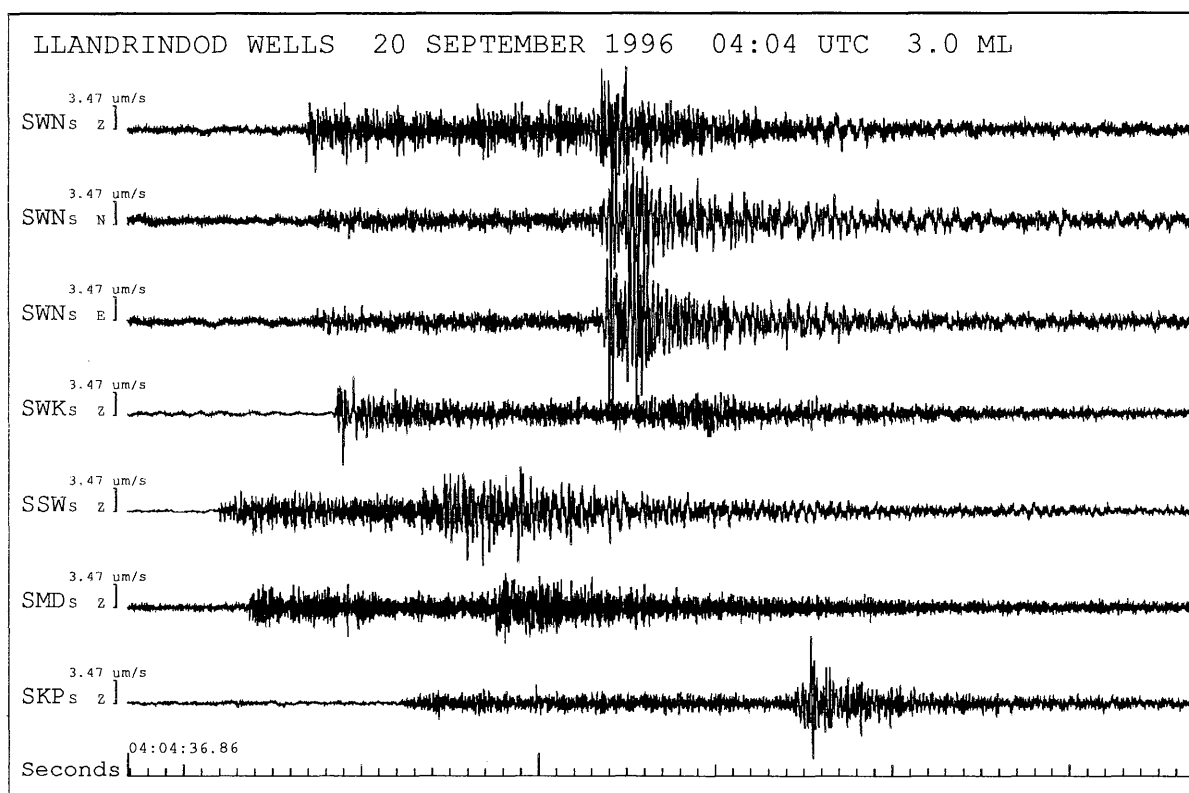
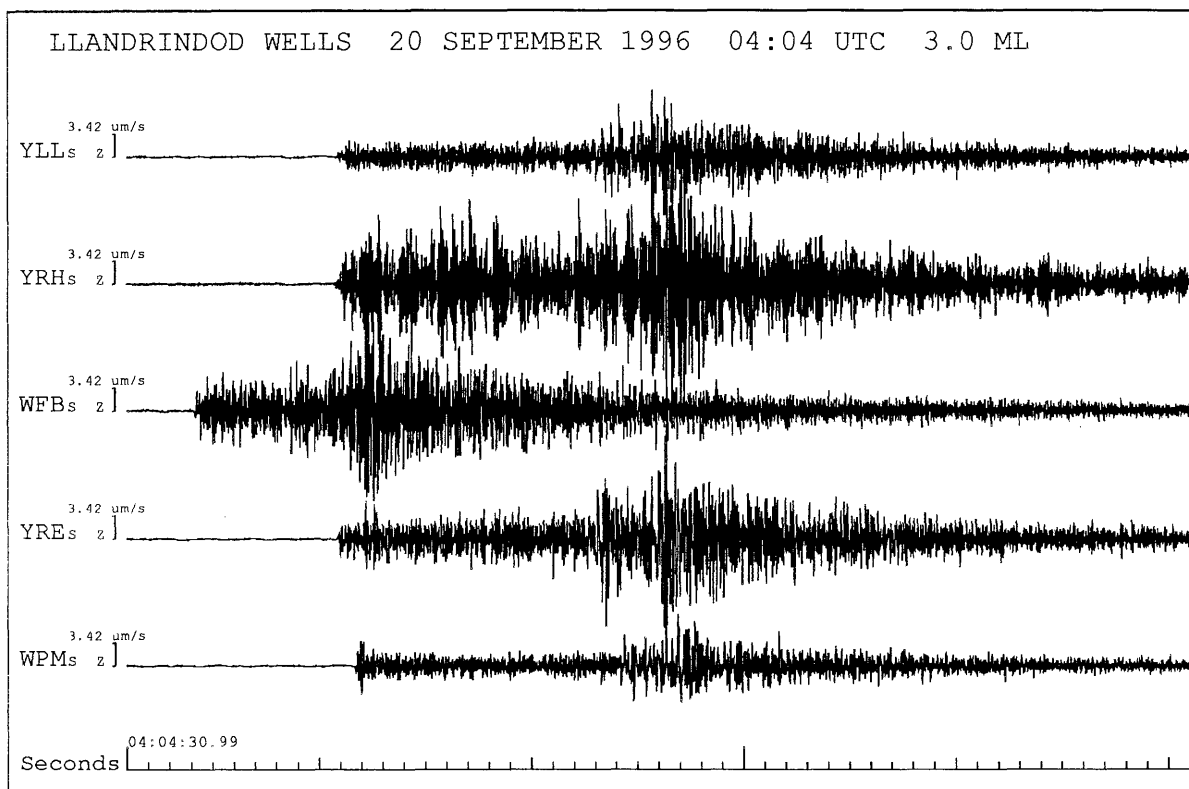
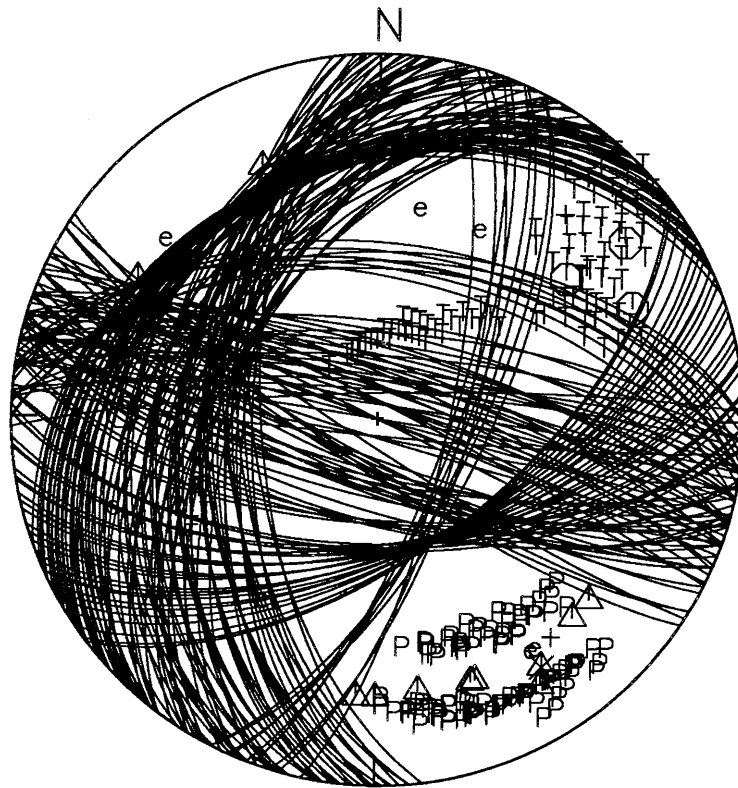


Figure A4.1. Seismograms of the Llandrindod Wells earthquake 20 September 1996 04:04 UTC 3.0 ML recorded on the North Wales and Swindon networks.

FAULT PLANE SOLUTION : LLANDRINDOD WELLS EARTHQUAKE



Compression	⊕
Dilatation	△
SV/P ratio	×
Emergent polarity (compression)	+
Emergent polarity (dilatation)	-
Emergent arrival	e

Figure A4.2. Equal area projection of the upper focal hemisphere for the Llandrindod Wells earthquake of 20 September 1996 04:04 UTC 3.0 ML. The axes of maximum and minimum compressive stress are denoted by P and T respectively.

APPENDIX A5

MUSSELBURGH EARTHQUAKE, 25 OCTOBER 1996

PARAMETERS

Date:	25 October 1996
Origin Time:	12:37 18.1 UTC
Latitude and longitude:	55.93° N 3.08° W
Grid Reference:	332.3 km E 671.7 km N
Depth:	1.5 km
Magnitude:	2.0 ML
Hypo Solution Quality:	C (A*D)
Epicentral Error (1 std. dev.):	0.9 km
Depth Error (1 std. dev.):	0.5 km

Discussion

During October and early November, a series of events (37 were located a further 73 were recorded on one station near the epicentre) occurred in the Musselburgh/Newcraighall area, to the east of Edinburgh. The largest event, with a magnitude of 2.0 ML, occurred on 25 October and was felt with intensities of at least 5 EMS. Information directly from local residents and through the completion of macroseismic questionnaires, distributed by BGS and published in local newspapers, have shown that the events were felt, generally, up to 2 km from the epicentre and in some cases up to 3 km. Twenty-two events in the series were felt by local residents who described the effects as being like "a heavy lorry passing outside". Additional instruments were installed in the area and the results showed that the pattern (most events occurring in the working week) and location of the activity was a consequence of mining at Monktonhall colliery. The two most likely causes of these events are: the undermining and subsidence of old workings with void and pillar collapses and shearing in strained rock layers; or the bridging, and subsequent breaking during subsidence, of a strong rock layer between the mine and the surface (in this case, 900 metres above).

Seismograms recorded by the BGS networks in the Scottish Lowlands (LOWNET) and Borders are shown in Figure A5.1, maps of the felt areas from four of the largest events in the series in Figure A5.2 and a histogram, with number of events against day of the week, in Figure A5.3.

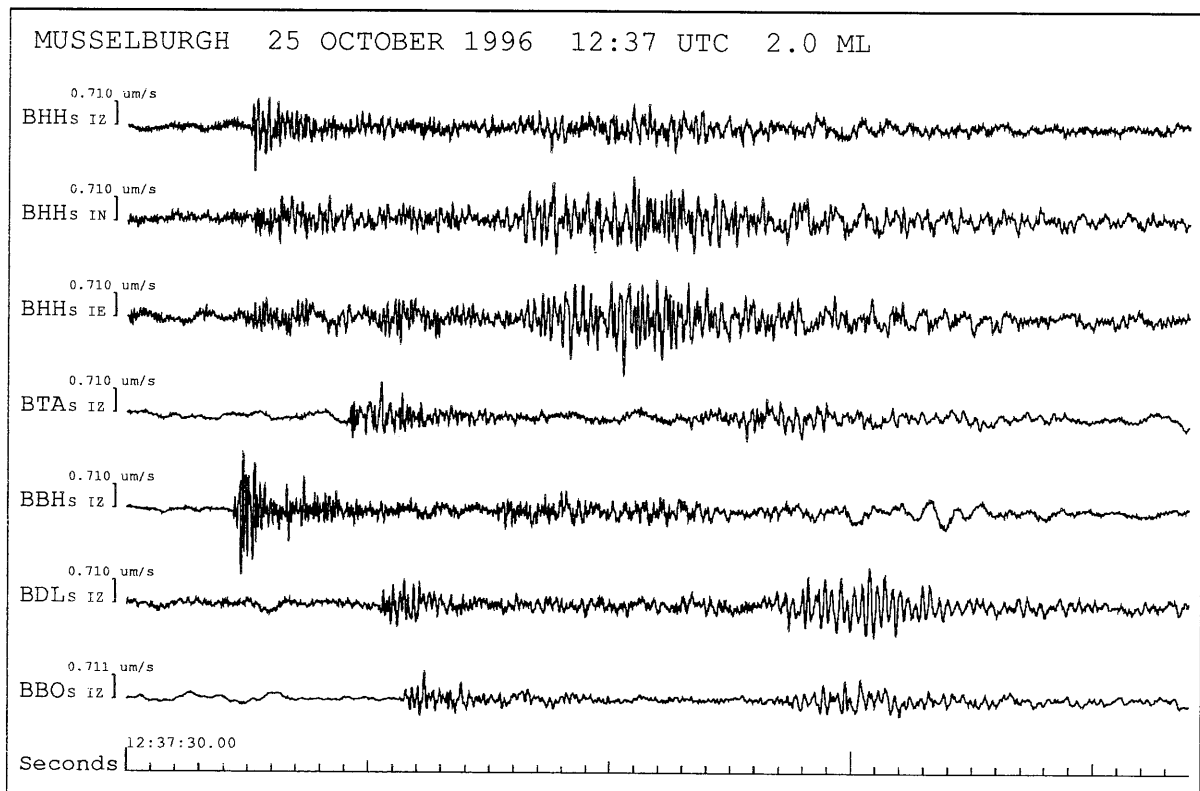
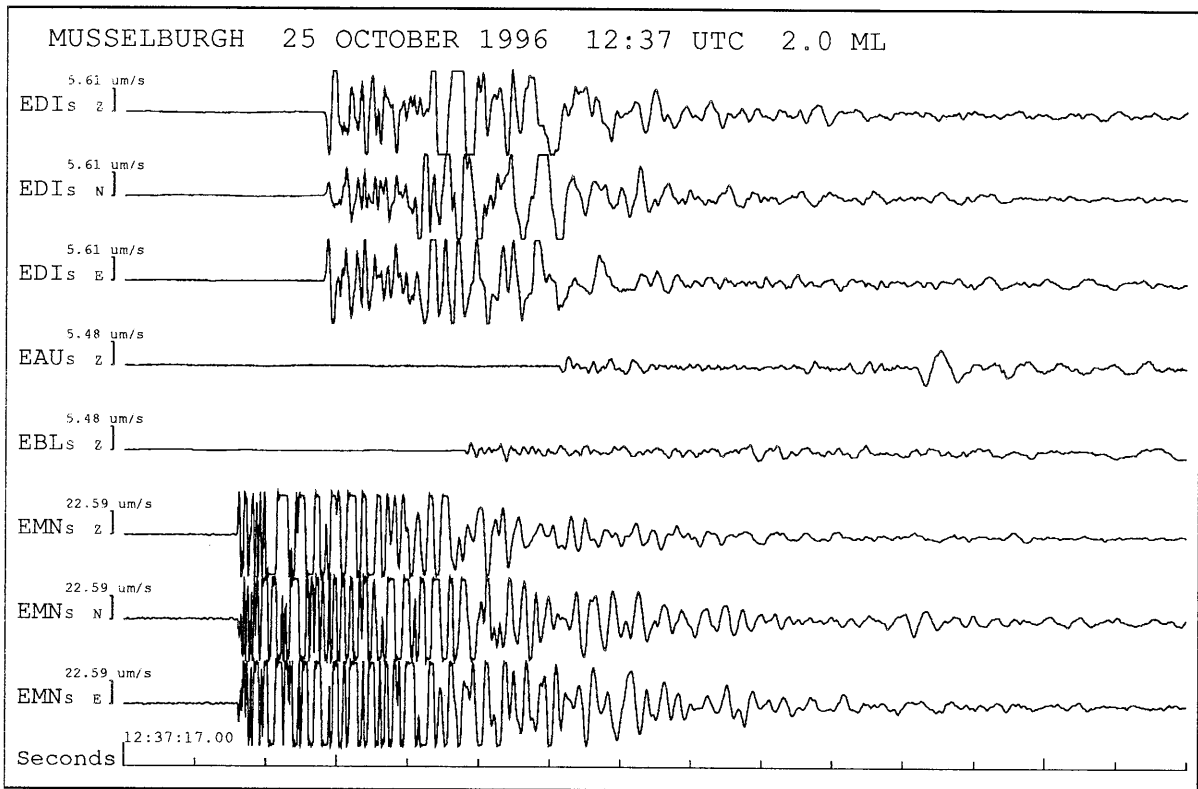
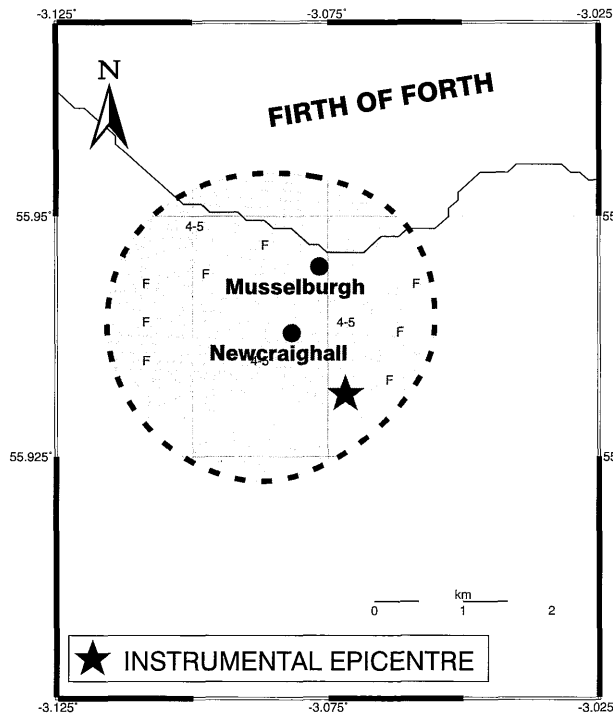
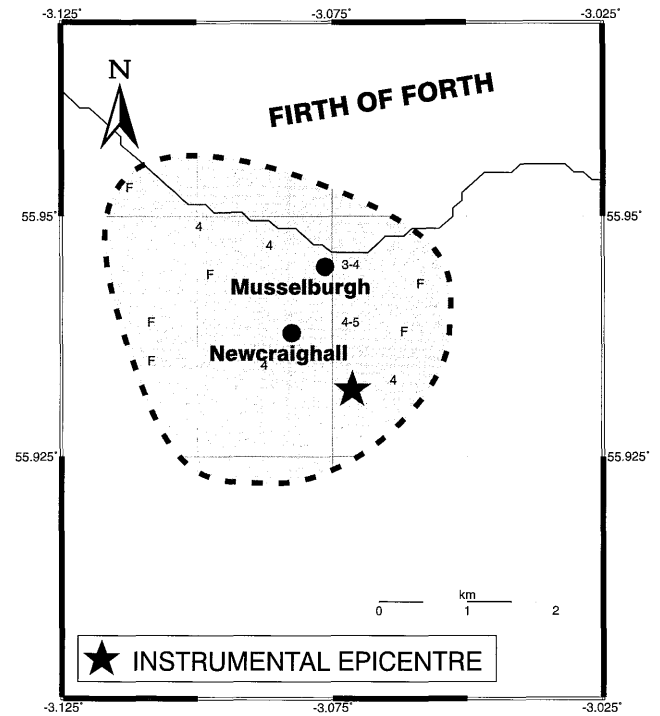


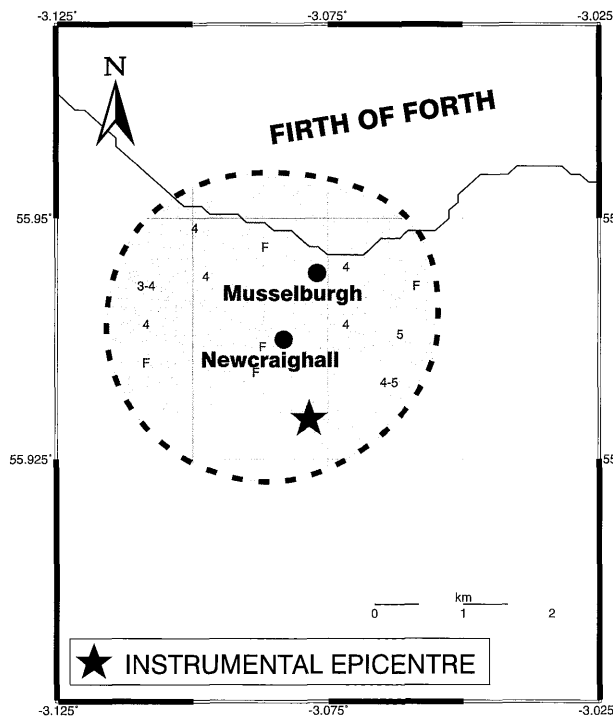
Figure A5.1. Seismograms of the Musselburgh earthquake 25 October 1996 12:37 UTC 2.0 ML recorded on the Lowlands (around Edinburgh) and Borders networks.



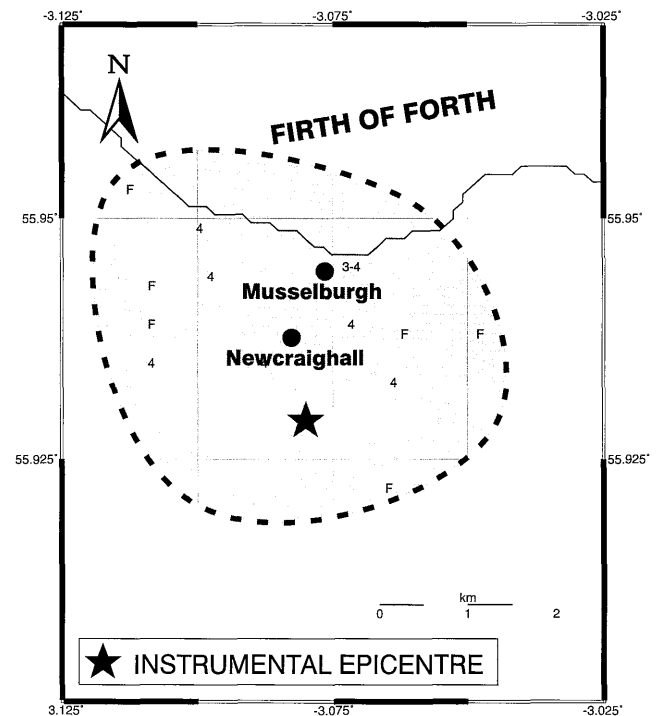
14th October 1996, 21:52 UTC (1.6ML)



21st October 1996, 11:26 UTC (1.9ML)



25th October 1996, 12:37 UTC (2.0ML)



28th October 1996, 20:36 UTC (1.9ML)

Figure A5.2. Felt areas of the four largest events in the series (EMS Intensities)

MUSSELBURGH TREMORS

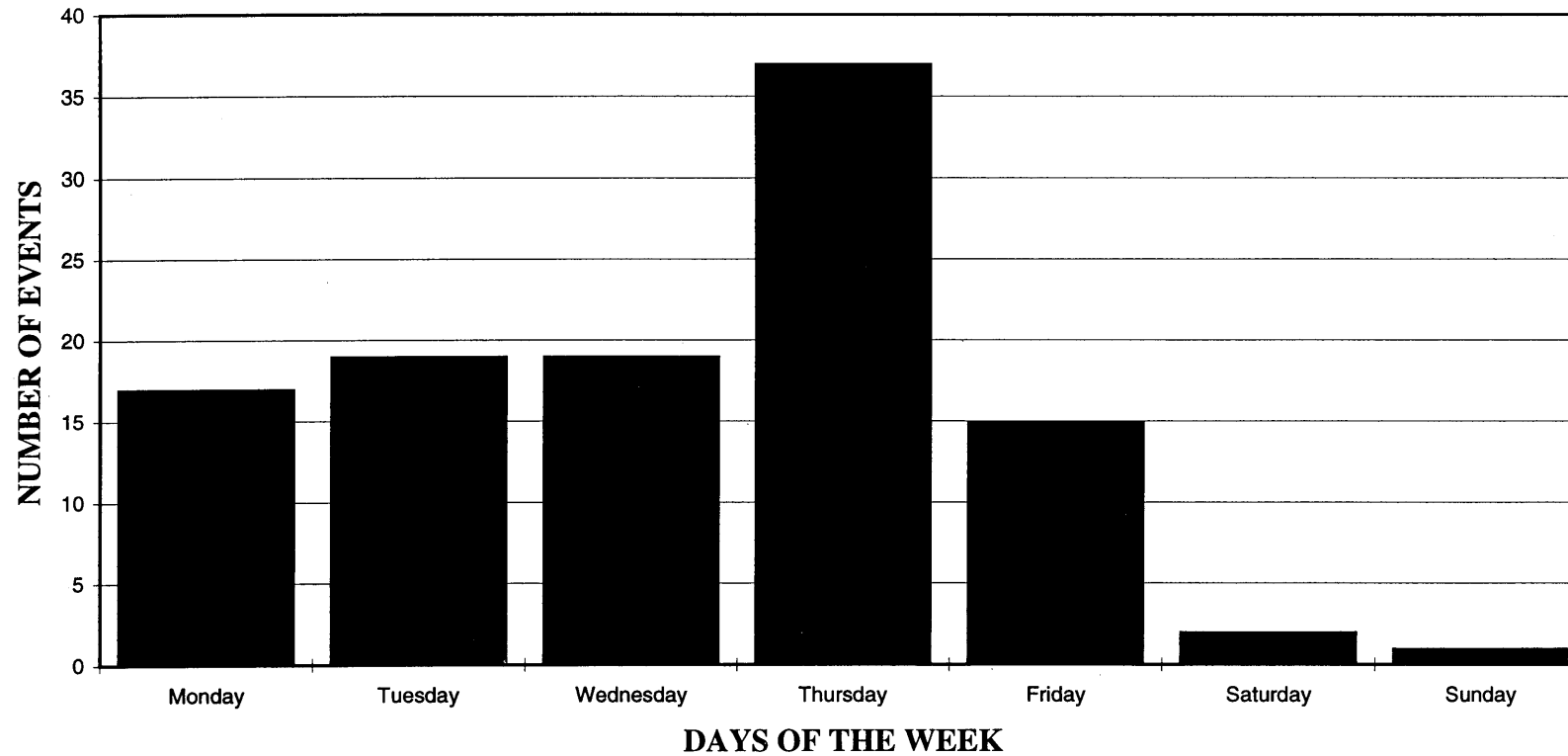


Figure A5.3. Histogram of cumulative number of Musselburgh events in 1996 against day of the week.

APPENDIX B
EARTHQUAKE INFORMATION CHARGES

APPENDIX B

SUMMARY OF CHARGES FOR DATABASE ENQUIRIES	COST (£)
A search of the instrumental database producing a catalogue list, a map of the seismicity, a key to the abbreviations and a covering letter.	£150.00 + VAT
A search of the historical database producing a catalogue list, a map of the seismicity, a key to the abbreviations and a covering letter.	£150.00 + VAT
A combined search of both the historical and instrumental database providing the above for both the historical and instrumental seismicity.	£275.00 + VAT
An enquiry involving searching data tapes for specific events. £70.00 for first hour and £35.00 for each additional ½ hour. Note: charges can be waived for the public, media and schools.	£70.00 + VAT
A search and interpretation of raw macroseismic data (felt reports) for a specific region for an individual earthquake.	£90.00 + VAT

For more information on the above and other services available please contact Ms A B Walker at the Global Seismology Research Group, Murchison House, West Mains Road, Edinburgh, EH9 3LA.

BULLETIN OF BRITISH EARTHQUAKES: PRICE LIST

Burton, P.W. and Neilson, G., 1980. Annual catalogues of British earthquakes recorded on LOWNET (1967-1978). Inst.Geol.Sci. Seismological bulletin No.7.	£3 + pp
Turbitt, T., et al., 1984. Catalogue of British earthquakes recorded by the BGS seismograph network 1979, 1980, 1981. BGS Global Seismology Report No. 210.	£11 + pp
Turbitt, T., et al., 1985. Catalogue of British Earthquakes recorded by the BGS Seismograph Network 1982, 1983, 1984. BGS Global Seismology Report No. 260.	£15 + pp
Turbitt, T., et al., 1987. Bulletin of British Earthquakes 1985. BGS Global Seismology Report No. 303.	£10 + pp
Turbitt, T., et al., 1988. Bulletin of British Earthquakes 1986. BGS Global Seismology Report No. WL/88/11.	£10 + pp
Turbitt, T., et al., 1989. Bulletin of British Earthquakes 1987. BGS Global Seismology Report No. WL/89/09.	£10 + pp
Turbitt, T., et al., 1990. Bulletin of British Earthquakes 1988. BGS Global Seismology Report No. WL/90/03	£10 + pp

BULLETIN OF BRITISH EARTHQUAKES: PRICE LIST	COST (£)
Turbitt, T., et al., 1990. Bulletin of British Earthquakes 1989. BGS Global Seismology Report No. WL/90/49	£12.50 + pp
Turbitt, T., et al., 1991. Bulletin of British Earthquakes 1990. BGS Global Seismology Report No. WL/91/34.	£12.50 + pp
Turbitt, T., et al., 1992. Bulletin of British Earthquakes 1991. BGS Global Seismology Report No. WL/92/29.	£12.50 + pp
Walker, A.B., et al., 1993. Bulletin of British Earthquakes 1992. BGS Global Seismology Report No. WL/93/11.	£12.50 + pp
Musson, R.M.W., 1994. A Catalogue of British earthquakes. BGS Global Seismology Report No. WL/94/04.	£15.00 + pp
Walker, A.B., et al., 1994. Bulletin of British Earthquakes 1993. BGS Global Seismology Report No. WL/94/09.	£12.50 + pp
Walker, A.B., et al., 1995. Bulletin of British Earthquakes 1994. BGS Global Seismology Report No. WL/95/04.	£12.50 + pp
Walker, A.B., et al., 1996. Bulletin of British Earthquakes 1995. BGS Global Seismology Report No. WL/96/04.	£12.50 + pp

A complete list of Seismology group publications can be obtained by writing to the secretary at the Global Seismology Research Group, Murchison House, West Mains Road, Edinburgh, EH9 3LA.

APPENDIX C
EUROPEAN MACROSEISMIC SCALE (EMS 92)

APPENDIX C

SYNOPSIS OF EMS-92 INTENSITY SCALE

1 - Not felt

Not felt, even under the most favourable circumstances.

2 - Scarcely felt

Vibration is felt only by individual people at rest in houses, especially on upper floors of buildings.

3 - Weak

The vibration is weak and is felt indoors by a few people. People at rest feel a swaying or light trembling.

4 - Largely observed

The earthquake is felt indoors by many people, outdoors by very few. A few people are awakened. The level of vibration is not frightening. Windows, doors and dishes rattle. Hanging objects swing.

5 - Strong

The earthquake is felt indoors by most, outdoors by few. Many sleeping people awake. A few run outdoors. Buildings tremble throughout. Hanging objects swing considerably. China and glasses clatter together. The vibration is strong. Top heavy objects topple over. Doors and windows swing open or shut.

6 - Slightly damaging

Felt by most indoors and by many outdoors. Many people in buildings are frightened and run outdoors. Small objects fall. Slight damage to many ordinary buildings eg; fine cracks in plaster and small pieces of plaster fall.

7 - Damaging

Most people are frightened and run outdoors. Furniture is shifted and objects fall from shelves in large numbers. Many ordinary buildings suffer moderate damage: small cracks in walls; partial collapse of chimneys.

8 - Heavily damaging

Furniture may be overturned. Many ordinary buildings suffer damage: chimneys fall; large cracks appear in walls and a few buildings may partially collapse.

9 - Destructive

Monuments and columns fall or are twisted. Many ordinary buildings partially collapse and a few collapse completely.

10 - Very destructive

Many ordinary buildings collapse.

11 - Devastating

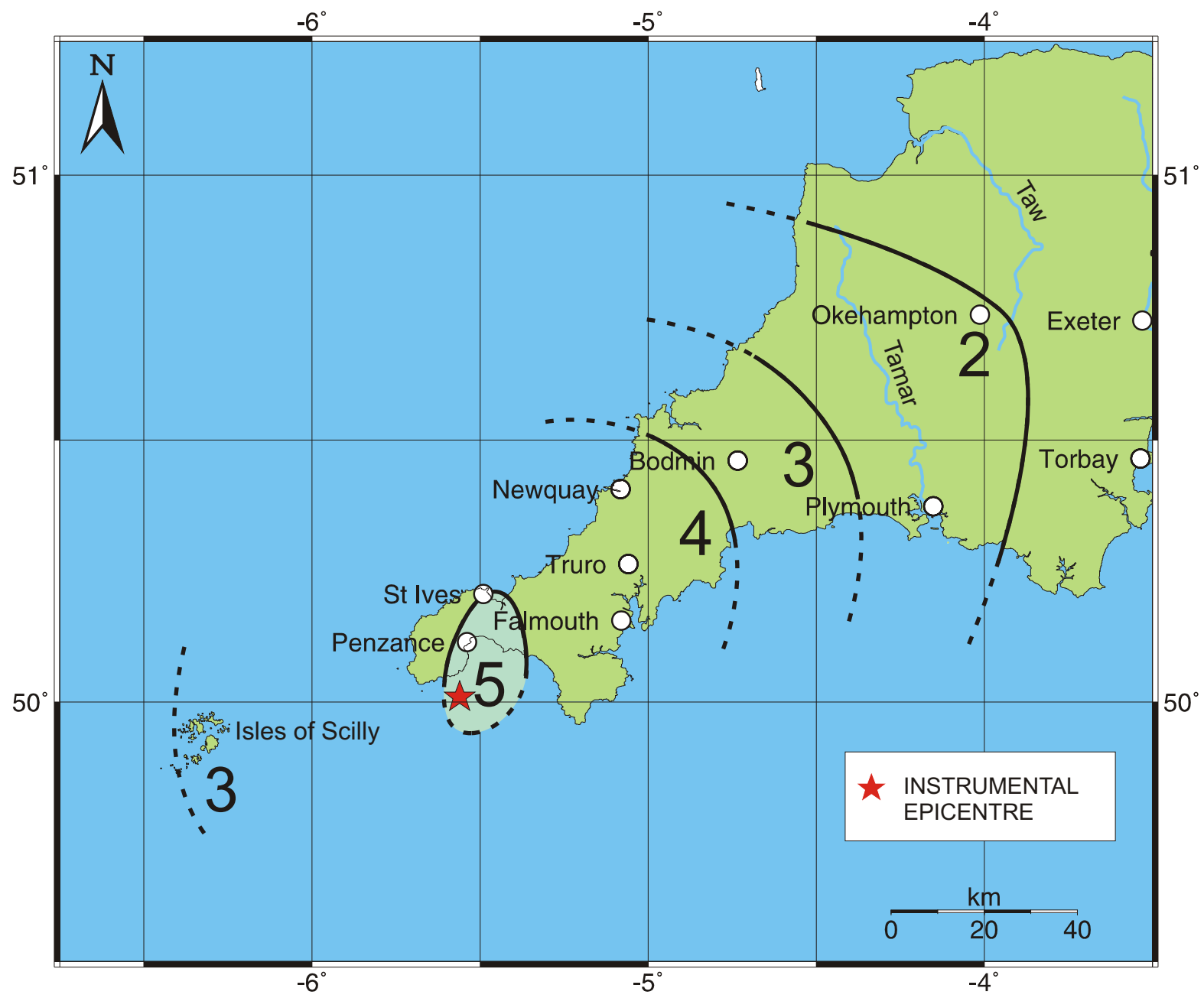
Most ordinary buildings collapse.

12 - Completely devastating

Practically all structures above and below ground are heavily damaged or destroyed.

-----****-----

A complete description of the EMS-92 scale is given in:
Grunthal, G.,(Ed) 1993. European Macroseismic scale 1992 (up-dated MSK-scale). Cahiers du Centre
European de Geodynamique et de Seismologie. Vol 7.



Penzance Earthquake 10th November 1996, 09:28 UTC (3.8ML) - EMS Intensities