BRITISH GEOLOGICAL SURVEY

REPORT OR/12/041

Bulletin of British Earthquakes 2011

D D Galloway (Editor)

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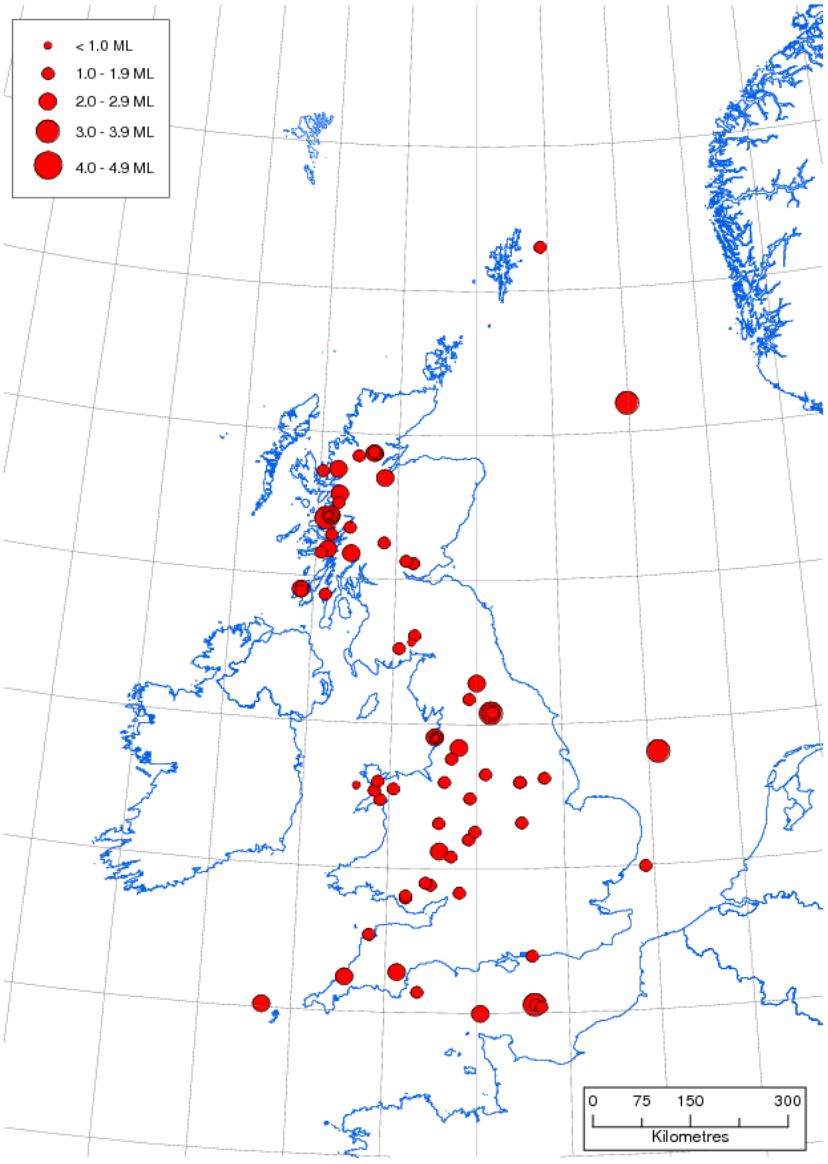

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1 Introduction

The British Geological Survey's (BGS) Seismic Monitoring and Information Service operate a nationwide network of seismograph stations in the United Kingdom (UK). Earthquakes in the UK and coastal waters are detected within limits dependent on the distribution of seismograph stations. Location accuracy is improved in offshore areas through data exchange with neighbouring countries. This bulletin contains locations, magnitudes and phase data for all earthquakes detected and located by the BGS during 2011, listed in Tables 1 and 2. Maps showing seismic activity in 2011 (Figure 1), and the larger magnitude events since 1979 (ML> 2.5) and since 1970 (ML> 3.5) are also included. The bulletin covers all of the UK land mass and its coastal waters including the North Sea (-11^{o}W to 6^{o}E and 47^{o}N to 65^{o}N).

All events believed to be of true tectonic origin are included. Coalfield events are also included. Acoustic disturbances, such as sonic booms from supersonic aircraft, are included when they are felt. The airborne waves are readily identified by their slow travel time across an array or by their signature on a microphone, but they are frequently mistaken as small earthquakes by the public. They are indicated by 'SONIC' in both the locality and comments column of Table 1.

Significant non-natural events, such as explosions, which received media attention or were greater than magnitude 2.5 ML or felt by local residents, are also included in Table 1. Smaller events that are known, or suspected to be of explosive origin are excluded from the bulletin where possible. These include explosions due to quarrying, mining, weapon testing or disposal, naval exercises, geophysical prospecting and civil engineering. Unfortunately, identification by record character, location and time of occurrence is not always conclusive and some man-made events may be included in the bulletin or, more rarely, a small natural event may have been excluded.

2 The BGS UK Seismograph Network

The UK seismograph network consists of almost 100 stations with broadband, short period and/or strong motion accelerometers. Thirty-five sites are equipped with broadband seismometers and twenty-four have strong motion accelerometers, fifteen of which are co-located with broadband sensors. The remaining sites are equipped with short period seismometers. Data from nearly all stations are transferred in near real-time to the BGS offices in Edinburgh for automatic processing, analysis and archival. Seismic events are detected using automatic processing algorithms, but can also be extracted manually from our archive of continuous data, then analysed to determine event types, locations and magnitudes. Operational BGS seismograph stations are shown in Figure 2.

The detection capabilities of a network depend upon station distribution, instrument sensitivity and background noise levels. Figure 2 also shows the magnitude detection thresholds for the seismograph stations operational in December 2011. The contours illustrate the lower threshold magnitude for an earthquake to significantly exceed 4 nanometres of noise (average) at 10 Hz on at least four seismographs. These detection levels hold true only if data from all stations are continuously monitored. Smaller events may go undetected unless they are felt and reported to BGS by local inhabitants, in which case detection can be strongly dependent on the population density.

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. Noise sources such as wind, ocean waves and traffic vary considerably with time (typically 0.5 to 15 nanometres, at 10 Hz) causing the magnitude thresholds to increase or decrease. In conditions of high noise, 0.8 ML should be added to the contour values, causing the 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.

Given the variability in the earthquake detection threshold, as governed by ambient noise conditions and the geometry of the observing network, the bulletin is biased towards certain localities. Figure 3 shows only earthquakes with magnitude 2.5 ML or greater, in the period 1979 to 2011. The data set is considered complete for these magnitudes in all localities onshore. Seismicity for the period 1970 to 2011 is shown in Figure 4 with a threshold magnitude of 3.5 ML. This is the period covered by BGS instrumentation that, in the early years, only consisted of the network around Edinburgh (LOWNET) and Eskdalemuir (ESK) and a station near Kyle of Lochalsh (KYL). The data set is likely to be complete for such magnitudes.

3 Earthquake Parameters and Their Errors

HYPOCENTRE LOCATION

By accurately timing the signal onsets at a minimum of three stations, a location can be found for an earthquake that satisfies the observed pattern of arrivals. Instrumental locations in the bulletin were obtained using the computer program HYPOCENTER (Lienert and Havskov 1995) that 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 velocities through the Earth are known.

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. Depth is usually only well constrained when there is a station very close to the epicentre.

The best depth determinations are obtained when an earthquake or earthquake series occurs almost beneath a network. For events at larger distances the depth errors can be many kilometres. Where the depth error, ERZ in Table 1, is 0.0, this indicates that the depth has been fixed in the hypocentre calculation. This is the case for explosions, which are known to occur at the surface, and for events at larger distances, where depth control is poor.

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 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 km, and later adjusted to

include up to 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 worldwide today. The ML magnitudes in this bulletin have been calculated according to Richter's formula after 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 is not possible, the mean of the magnitudes from a number of verticals are used. Ground motion registered at a seismograph varies with site conditions, distance and 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.

INTENSITY

Intensity is a measure of the effect of the shaking produced by the earthquake 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, with reference to the European Macroseismic Scale (EMS), (Grünthal, 1993).

4 Summary of 2011 Seismicity

There were 129 earthquakes located by the BGS seismic monitoring network during the year, with 28 having magnitudes of 2.0 ML or greater and five having magnitudes of 3.0 ML or greater. Fourteen events with a magnitude of 2.0 ML or greater were reported felt, together with a further seventeen smaller ones, bringing the total to 31 felt earthquakes in 2011.

The largest onshore earthquake of the year, with a magnitude of 3.6 ML, occurred approximately 9 km WNW of Ripon, North Yorkshire, on 3 January at 21:03 UTC, at a depth of approximately 7 km (Figure 5). Data from some 1,200 questionnaires, collected online, were used to determine how widely the earthquake had been felt. The highest intensity experienced was 5 EMS (European Macroseismic Scale), which was observed over an area extending approximately 25 km to the north and 40 km to the southwest of the epicentre. Elsewhere, from more densely populated areas where more than 5 reports were received within a 5 km square, the intensity was 4 EMS; namely areas such as Bradford and Leeds (approx 40 km south of the epicentre) and Leyburn (about 30 km to the northwest). The most credible distant reports were from the following places; to the south, the earthquake was felt in towns in the Greater Manchester area (80-90 km distant) and to the north it was reported felt in several areas around Middlesborough (around 50 km distant). This event was followed by two aftershocks, the first, with a magnitude of 2.6 ML occurred approximately 20 seconds after the mainshock, and the second, with a magnitude of 1.2 ML occurred the following morning. This is the largest event detected in the general area since a magnitude 2.8 ML earthquake on 4 June 1970 in the Pennines. Historically, the largest earthquakes to have occurred nearby were the magnitude 4.8 ML Wensleydale event that occurred on 9 December 1780, which was felt throughout the region with a maximum intensity of 5 EMS and the magnitude 3.1 ML Skipton event on 14 November 1900, which was felt with a maximum intensity of 4 EMS.

The largest offshore earthquake occurred in the English Channel on 14 July, at 06:59 UTC, with a magnitude of 3.9 ML (Figure 6). It was located approximately 80 km SSE of Portsmouth, Hampshire and 100 km SW of Eastbourne, East Sussex. It was reported felt by many residents in towns along a 100 km stretch of the south coast of England from Portsmouth to Eastbourne, with intensities of at least 3 EMS. This is the largest event detected in the area, within 25 km, since a magnitude 4.5 earthquake in 1734. Historically, there have been two other significant events nearby (around 30-40 km distant); a magnitude 5.0 earthquake in 1878 and a magnitude

4.3 earthquake in 1750. A further three events occurred in the English Channel during the year with magnitudes ranging between 1.8 and 2.5 ML of which none were felt.

Four other offshore earthquakes occurred in the North Sea and adjacent waters during 2011. Two occurred in the Southern North Sea, on 21 July and 5 September, with magnitudes of 3.5 and 1.8, respectively. One occurred in the Northern North Sea on 13 February with a magnitude of 3.5 ML and another occurred 75 km NE of Lerwick in the Shetland Islands on 22 April, with a magnitude of 1.9 ML. None were reported felt.

On 14 January, an earthquake with a magnitude of 2.1 ML, occurred on the island of Islay, Argyll and Bute. Reports from the hamlets of Bowmore, Port Charlotte and Kilchoman on the island described "felt like a very heavy road roller passing the house" and "you could quite clearly feel the vibration" indicating an intensity of at least 3 EMS. A further two events were detected on the island during the year, on 22 February and 29 March, both with magnitudes of 1.3 ML. The 29 March event was felt with intensities of 2 EMS in Port Charlotte.

An earthquake with a magnitude of 3.5 ML, occurred on 23 January, with a location near Glenuig, Highland (Figure 7). The BGS received many felt reports, from the Police, the Media and from residents in Glenuig, St Fillans, Mallaig, Glenfinnan, Kilchoan, Kentra, Acharacle, Strontian, Gairloch, Spean Bridge, Duror, Lochyside, Kinloceil, Corpach, Fort William, Roybridge, Carrbridge, Toward, Drumnadrochit, Lochcarron, Tarskavaig, Farr, Whitebridge, Errogie, Inverness, Dingwall, Pitcaple, Lochailort, Isle of Barra, Isle of Mull and Isle of Tiree. Reports described "I was awakened by noise and vibration in my bedroom", "similar to being on a tube station platform and a train comimg in", thought it was an enormous articulated lorry thundering along" and "sounded like a large shift of snow falling from the roof". Data from some 300 questionnaires, collected online, were used to determine an intensity of 4 EMS for this earthquake. This is the largest event detected in the general area since a magnitude 3.5 ML earthquake on 10 January 2008 near Glenfinnan. Historically, the largest earthquakes to have occurred nearby were the magnitude 3.6 Moidart event on 14 October 1902 and the magnitude 3.2 Moidart event on 1 February 1809.

Near Inverness, Highland, an earthquake with a magnitude of 2.4 ML occurred on 29 March. It was felt in Inverness, Dores, Abriachan and Drumnadrochit where residents described "felt a tremor and heard a rumble", "shelving in my shop squeaked and vibrated" and "it was very brief but quite loud and rattled my house" indicating an intensity of at least 3 EMS. This is an area which has experienced a number of earthquakes in the historical past. In particular, between 1768 and 1901, when an number of earthquakes occurred with magnitudes between 3.1 and 5.1 ML.

On 1 April and 27 May, two earthquakes with magnitudes of 2.3 and 1.5 ML, respectively, were detected in the Blackpool area. The 1 April event was felt in Blackpool, Poulton-le-Fylde, Staining, Westby, Weeton, Kirkham, Singleton, Thornton-Cleveleys and Preston with a maximum intensity of 4 EMS. The 27 May event was felt by two people in Poulton-le-Fylde. These earthquakes were immediately suspected to be linked to hydraulic fracture injections at the Preese Hall well. The well was hydraulically fractured during the exploration of a shale gas reservoir in the Bowland basin. Between 31 March and 27 May a further 49 events were detected in the region with magnitudes ranging between -1.5 and 1.4 ML; none of these were reported felt.

An earthquake with a magnitude of 2.1 ML occurred on 28 April, on the Island of Mull, Argyll and Bute. The BGS received several reports from residents on the Island and from Oban, Kilmelford, Croggan and Kilchoan which described "sounded like a huge vehicle was driving into the house", very noticeable vibration and shudder" and "the windows rattled and the house shook" indicating an intensity of 3 EMS.

On 5 June, a magnitude 1.7 ML earthquake occurred near Stoke-on-Trent, Staffordshire, at a depth of 2.2 km. The BGS received three reports from residents in Stoke-on-Trent which

described, “a loud bang and the sofa moved”, “felt a large thud through my chair” and “our pet birds were very alarmed at the time” indicating an intensity of 3 EMS. The event was located within a few kilometres of the magnitude 2.8 ML Stoke-on-Trent earthquake on 6 May 1996, which was felt with intensities of at least 4 EMS in the epicentral area.

An earthquake with a magnitude of 2.7 ML occurred on 23 June, with a location approximately 10 km NW of Newton Abbot, Devon. The BGS received reports from many residents in several town and villages throughout south Devon, which described “pictures on the wall swung”, “the whole bed shuddered” and “all the children in the class felt the vibration” indicating an intensity of at least 4 EMS. This event locates around 20 km north of the magnitude 2.8 ML Dartmouth earthquake on 16 October 1997, which was also felt in the south Devon area with similar intensities.

Eight earthquakes, with magnitudes ranging between 0.5 and 2.9 ML, occurred near Loch Ailort, Highland on 21 and 22 August. Four were reported felt. The largest occurred at 08:37 UTC on 21 August and was felt in Acharacle, Glenuig, Duror, Gruline, Kinlochmoidart, Salen, Glenfinnan, Strontian, Kichoan, Kentra, Spean Bridge, Lochailort, Banavie, Kinlocheill, Fort William and Mallaig, with intensities of at least 3 EMS.

A magnitude 1.9 ML earthquake occurred on 29 August, with an epicentre near Ballachulish, Highland. The BGS received a few reports from residents of Ballachulish, Glencoe and Fort William describing “the floor vibrating” and “a slight shake of the building” indicating an intensity of 3 EMS.

In Perthshire, two events on 3 and 4 October with magnitudes of 1.6 ML and 1,4 ML, respectively, occurred near the village of Glendevon. Both events were felt in the village; the 1.6 ML event was felt (intensity 3 EMS) by four people who described “a slight tremor” and the 1.4 ML event was felt (intensity 2 EMS) by two people.

In Nottinghamshire, two events on 19 October and 4 November, both with magnitudes of 1.6 ML occurred near Ollerton. Both events were felt by residents in Ollerton, New Ollerton and Boughton and both were assigned intensities of 3 EMS. Their shallow depths and characteristics of their seismograms are similar to previous activity in the area that was associated with mining.

On 31 October, a magnitude 1.8 ML earthquake occurred with a location approximately 4 km north of Killin, Stirling. The BGS received several reports from residents in Killin and from Lawers and Aberfeldy, Perthshire, describing “it was like a short, distant thunderclap”, “loud rumbling explosion” and “like the ground was shifting below me”. An intensity of 3 EMS was assigned to the earthquake.

A magnitude 2.2 ML earthquake occurred on 14 November, with a location near Torridon, Highland. The BGS received one report for this event from Lochcarron, describing “we heard a loud roar and then all the furniture rattled”, indicating an intensity of 3 EMS.

On 4 December, an earthquake with a magnitude of 2.2 ML, occurred near Bodmin, Cornwall. The BGS received reports from people throughout Cornwall, which described “sounded like a large distant explosion”, “felt a tremor which woke me” and “heard a loud bang and the whole house shook” indicating an intensity of 3 EMS. It locates approximately 17 km SE of the magnitude 4.0 ML Padstow earthquake of 21 October 1859 which was felt throughout Cornwall with maximum intensities of around 5 EMS.

A magnitude 2.2 ML earthquake occurred on 17 December, with an epicentre near Darwen, Lancashire. A single report was received for this event from Egerton, Bolton describing “a moderate rumbling and a faint sound”.

An earthquake with a magnitude of 1.6 ML occurred in the Blackford area of Perth and Kinross on 21 December. The BGS received one felt report from a resident of Glendevon, who described, “a cracking noise from the stone gable, preceded by a rumbling noise” indicating an intensity of 2 EMS. This is an area that has continued to be active in recent years, the most

active year being 1997 when 50 events, of which five were felt by local residents, were located in the area. All these events are in the same general area as the magnitude 3.2 ML Ochil Hills earthquake in 1979, which had a maximum intensity of 5 EMS.

The BGS received reports of another five earthquakes being felt during the year. They occurred on 12 October, in Caernarfon Bay (1.0 ML), on 24 October, near Gaerwen, Anglesey (1.2 ML), on 12 November, near Dudley, West Midlands (1,5 ML), on 13 November, near Chichester, West Sussex (1.7 ML) and on 15 November, near Maesteg, Bridgend (1.5 ML).

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Scottish Water
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References

Grünthal, G.,(Ed) 1993. European Macroseismic scale 1992 (up-dated MSK-scale). Cahiers du Centre European 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**.

Lienert, B.R.E., and Havskov, J., 1995. A computer program for locating earthquakes both locally and globally, *Seis. Res. Lett*., **66**, 26-36.

Richter, C., 1935. An instrumental earthquake magnitude scale, *Bull.Seism. Soc.Am.*,**25,** 1-32.

Snoke, J. A., J. W. Munsey, A. C. Teague, and G. A. Bollinger (1984). A program for focal mechanism determination by combined use of polarity and SV –P amplitude ratio data, *Earthquake Notes*, **55**, **3, 15**.

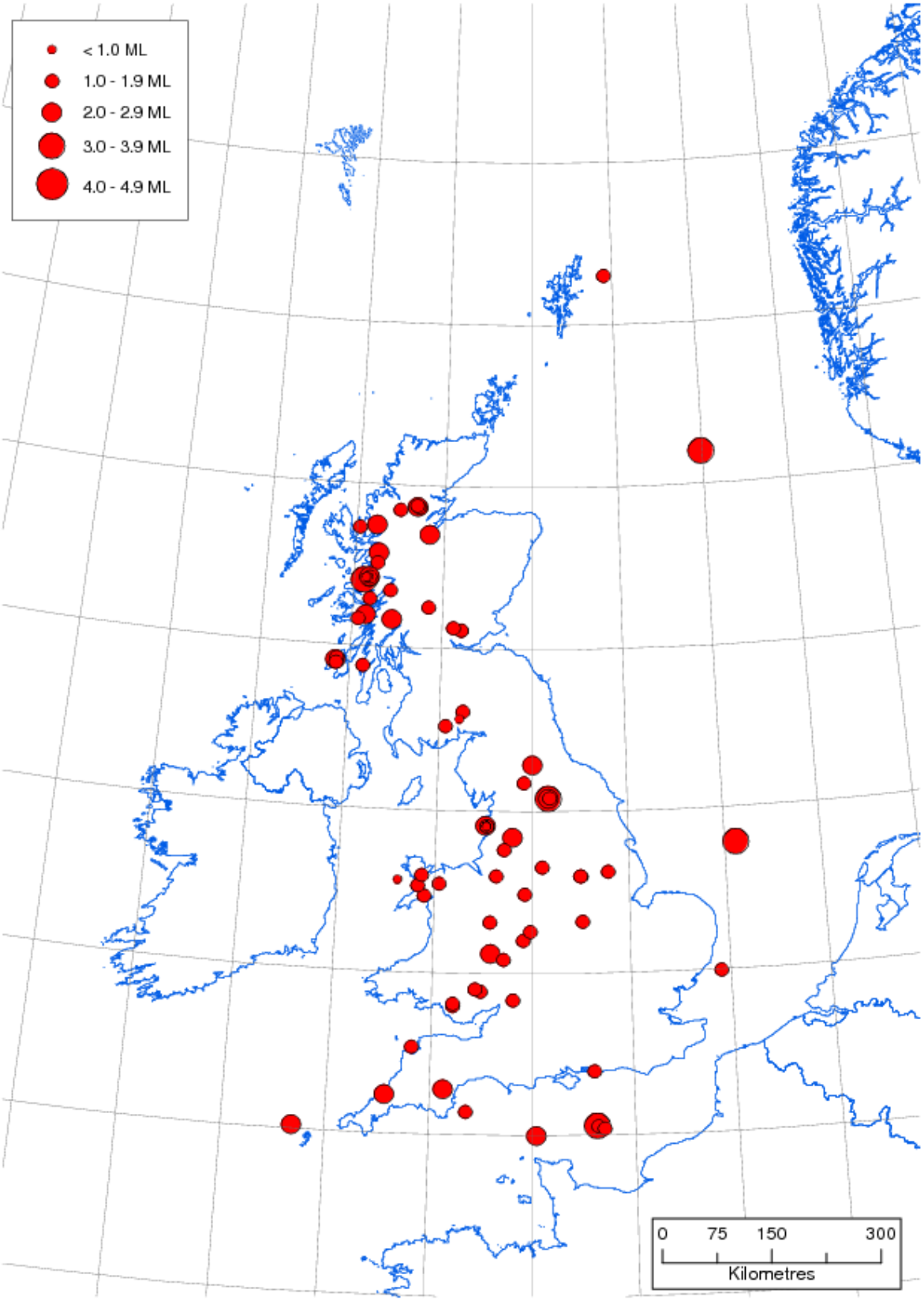

Figure 1. Epicentre map of earthquakes in 2011 as listed in Table 1.

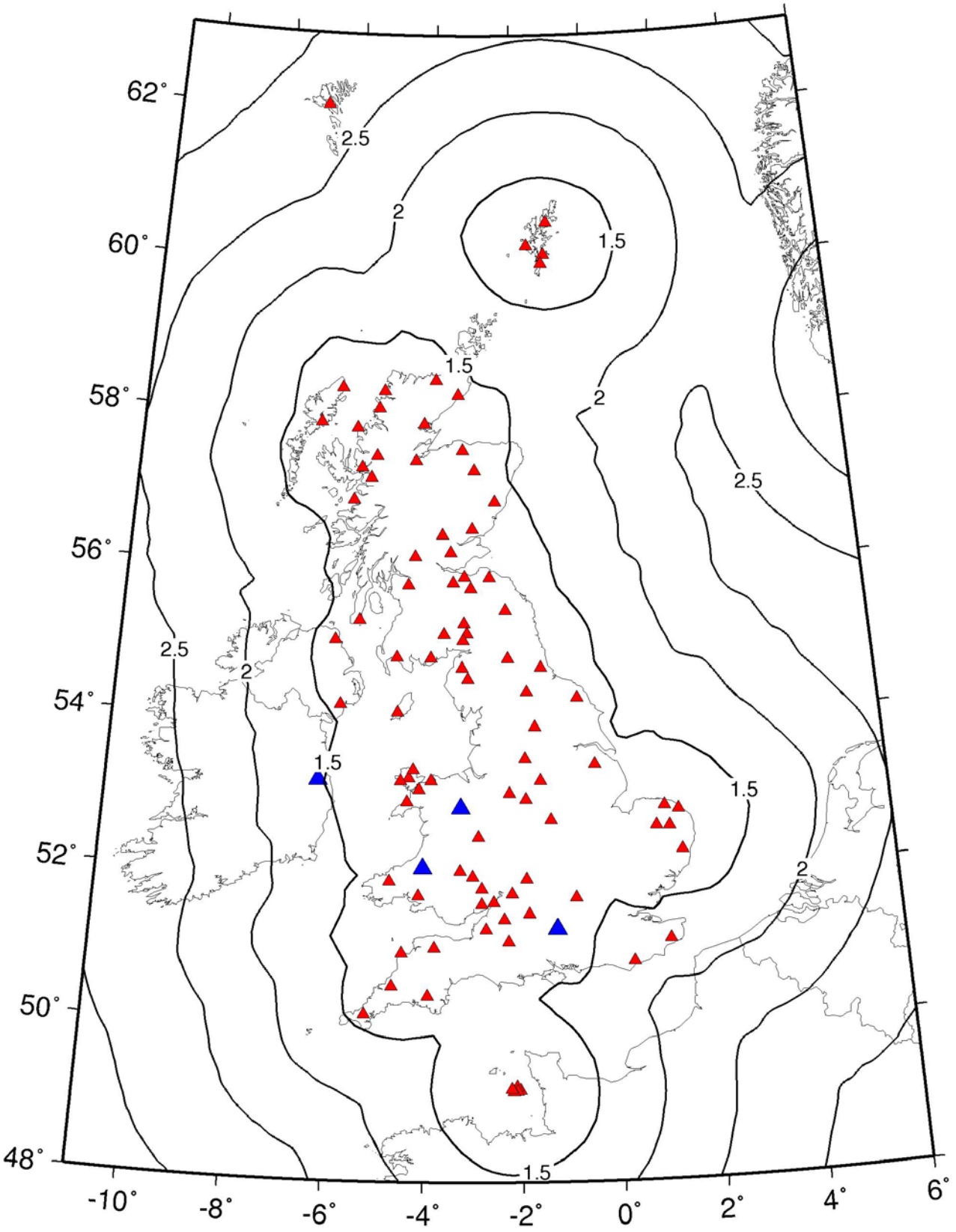

Figure 2. Seismograph stations operated by BGS during 2011 (red) along with station operated by other agencies in the British Isles and used for automatic detection (blue). The contours show earthquake detection capability in terms of Richter local magnitude (ML) calculated for average background noise conditions (4nm) where the detection criterion is that the signal has to exceed 4nm at 10Hz at 4 stations.

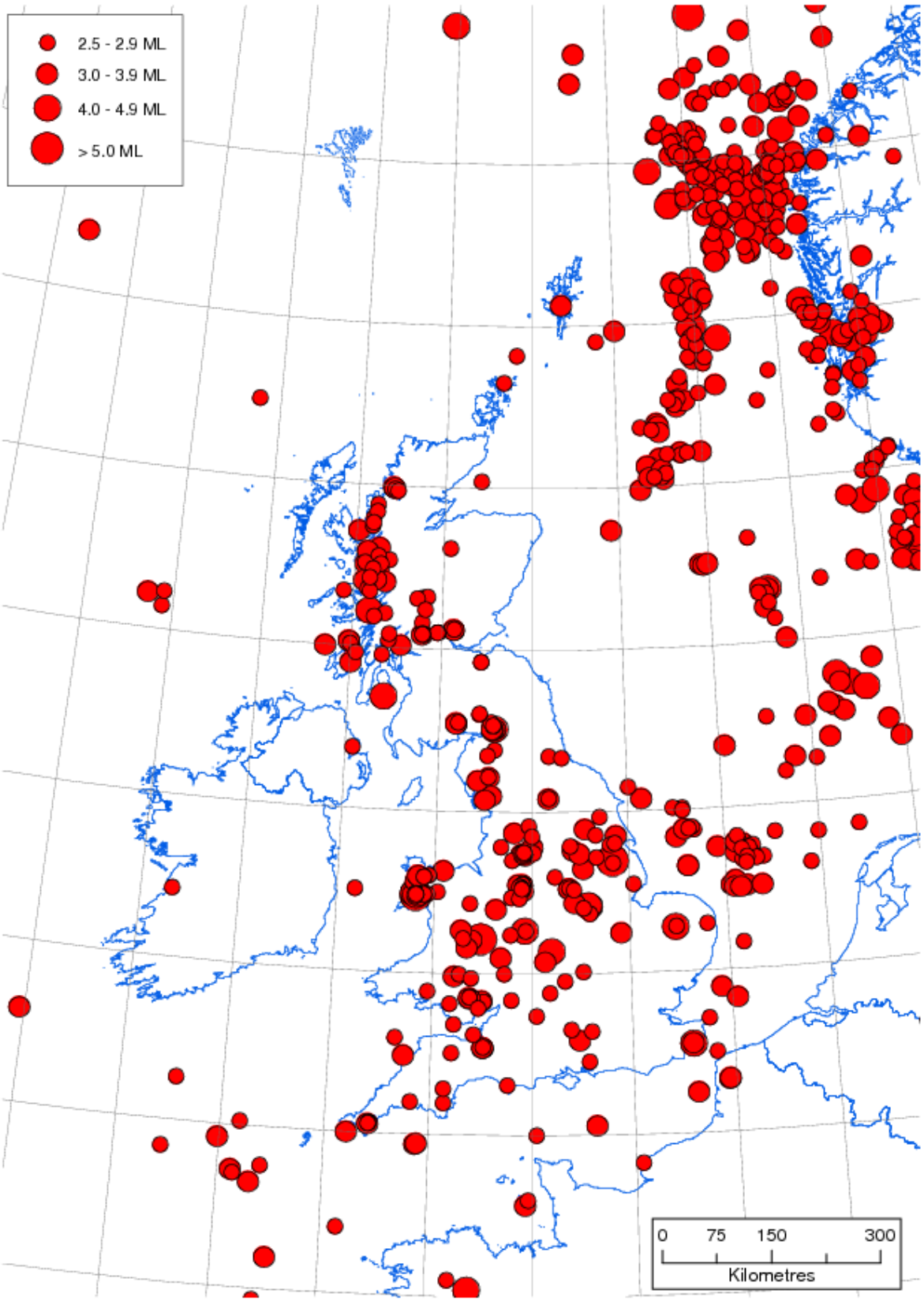

Figure 3. Epicentres of earthquakes with magnitudes of 2.5 ML and above, in the period 1979 to 2011.

Figure 4. Epicentres of earthquakes with magnitudes of 3.5 ML and above, in the period 1970 - 2011.

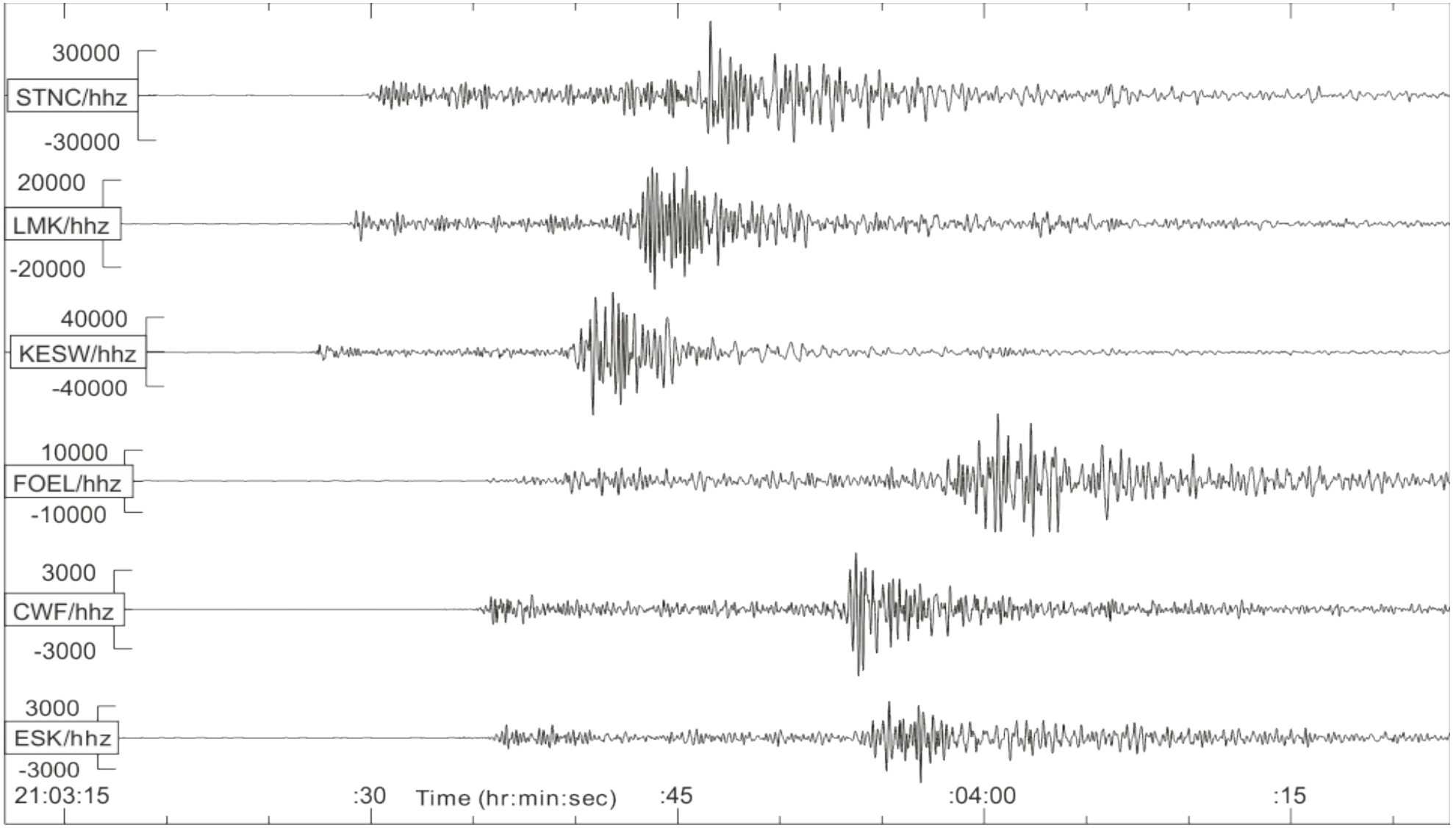

Figure 5. Seismograms of the ground displacement from the magnitude 3.6 ML Ripon earthquake, 3 January 2011, recorded by BGS seismograph stations

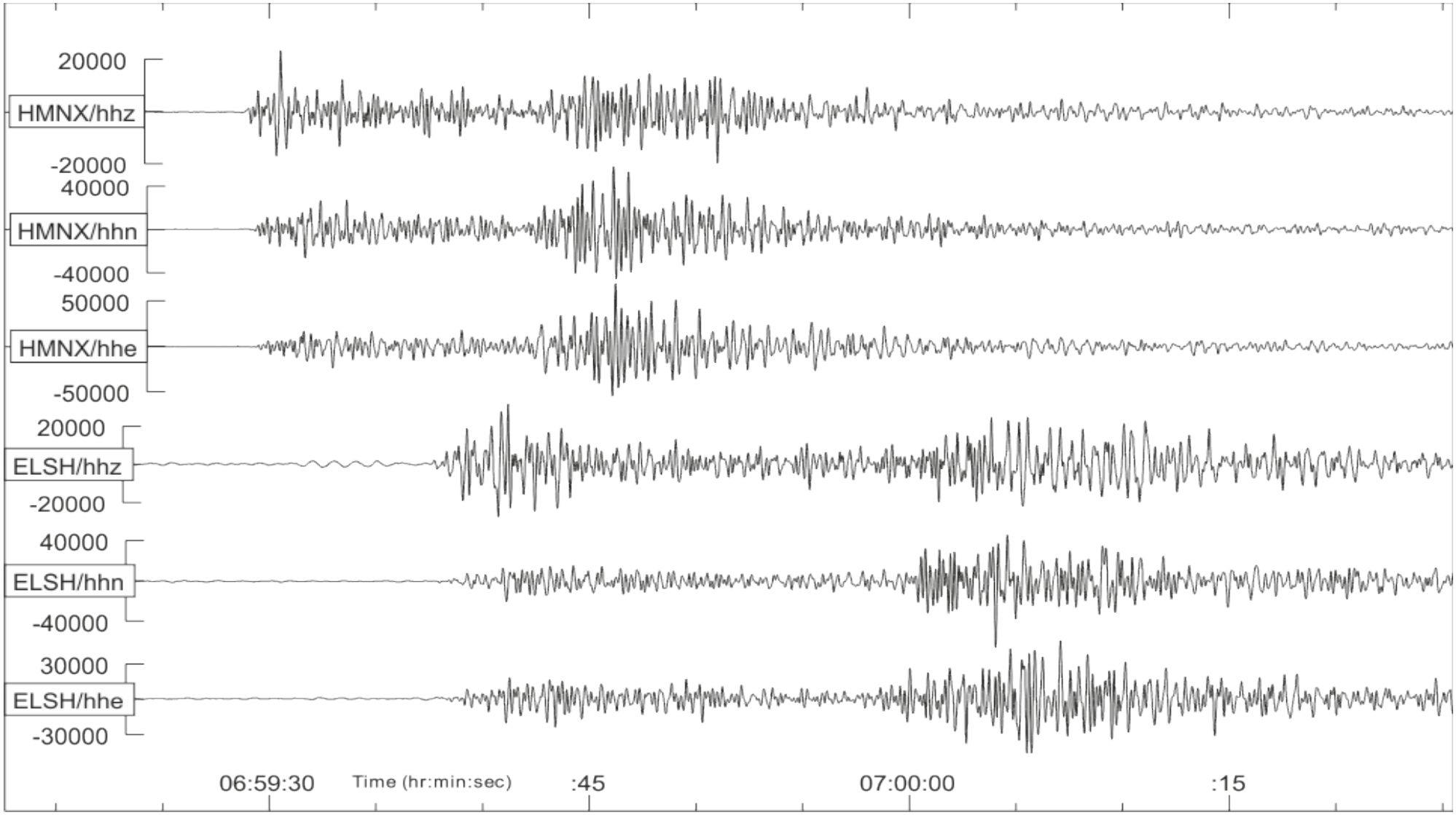

Figure 6. Seismograms of the ground displacement from the magnitude 3.9 ML English Channel earthquake, 14 July 2011, recorded by BGS seismograph stations.

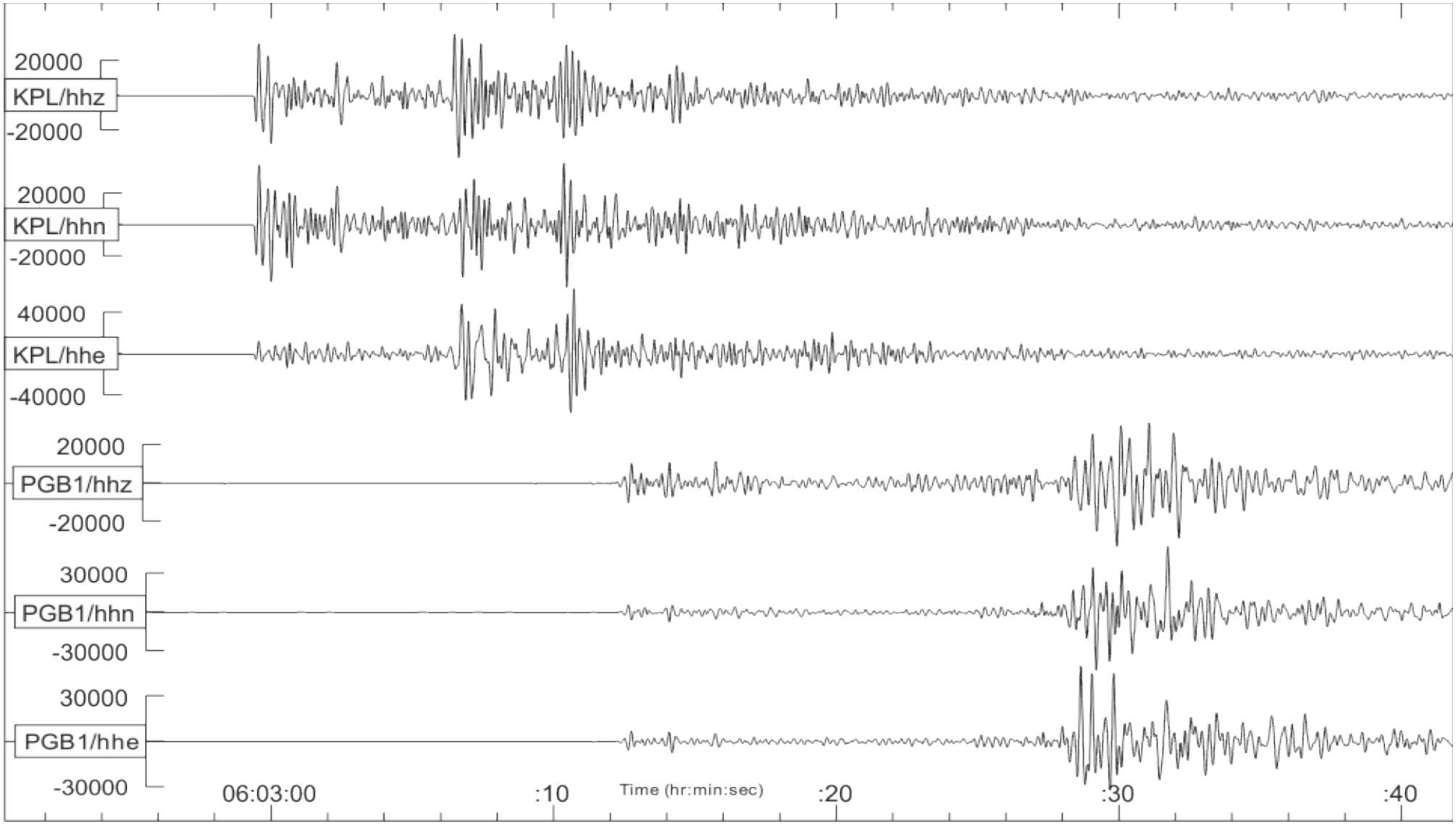

Figure 7. Seismograms of the ground displacement from the magnitude 3.5 ML Glenuig earthquake, 23 January 2011, recorded by BGS seismograph stations

TABLE 1 : CATALOGUE OF EVENTS : 2011

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20110103	123720.9	52.63	-0.98	468.8	304.7	14.9	1.2	MELTON MOWBRAY,LEICS		3	306	0.10	0.27	8.80	
20110103	210309.5	54.17	-1.65	422.7	474.9	6.9	3.6	RIPON,NORTH YORKSHIRE	5	22	169	0.50	4.61	0.00	FELT NORTH YORKSHIRE ...
20110103	210328.8	54.17	-1.65	422.7	474.8	6.9	2.6	RIPON,NORTH YORKSHIRE	3	2	238	0.60	6.40	0.00	FELT NORTH YORKSHIRE
20110104	070335.2	54.17	-1.64	423.5	474.5	4.8	1.2	RIPON,NORTH YORKSHIRE		5	210	0.20	5.79	3.60	
20110106	034620.2	57.46	-5.95	163.3	847.7	6.5	1.3	INNER SOUND,HIGHLAND		9	175	0.50	0.35	6.90	9KM WNW APPLECROSS
20110114	224544.1	55.82	-6.33	128.9	667.0	9.1	2.1	ISLAY,ARGYLL & BUTE	3	7	238	0.30	1.61	9.30	FELT ISLAY
20110116	024029.7	55.14	-3.57	299.7	583.8	5.4	0.9	DUMFRIES,D & G		5	207	0.20	1.97	3.60	8KM NNE OF DUMFRIES
20110117	142811.2	51.59	-3.59	289.9	189.7	10.1	1.8	MAESTEG,BRIDGEND		10	107	0.20	2.36	5.60	6KM ESE OF MAESTEG
20110118	110415.4	57.73	-4.57	246.7	873.8	7.8	1.8	STRATHRANNOCH,HIGHLAND		7	145	0.30	5.88	9.70	17KM NW OF DINGWALL
20110123	060249.3	56.82	-5.78	169.1	776.4	13.2	3.5	GLENUIG,HIGHLAND	4	20	154	0.40	7.25	4.30	FELT GLENUIG...
20110127	060413.9	50.00	-1.91	406.3	11.1	5.0	2.5	ENGLISH CHANNEL		17	128	0.40	5.07	7.80	
20110206	053127.1	55.23	-3.50	304.4	593.9	5.9	1.1	JOHNSTONEBRIDGE,D & G		8	132	0.40	3.70	4.20	
20110213	192900.9	58.41	1.97	632.1	953.1	10.0	3.5	NORTHERN NORTH SEA		22	230	0.60	2.73	0.00	275KM NE OF ABERDEEN
20110222	003850.9	55.84	-6.30	131.1	668.8	8.9	1.3	ISLAY,ARGYLL & BUTE		5	237	0.30	0.70	6.60	
20110224	014155.3	57.73	-4.62	244.2	874.0	7.8	1.0	STRATHRANNOCH,HIGHLAND		5	171	0.20	3.33	5.00	19KM NW OF DINGWALL
20110318	102742.8	53.31	-1.79	413.7	379.8	2.5	1.4	BRADWELL,DERBYSHIRE		6	144	0.20	4.37	2.80	4KM WSW OF BRADWELL
20110321	123312.1	52.41	-2.18	387.6	279.3	8.2	1.3	KIDDERMINSTER,WORCS		8	121	0.20	2.73	1.70	
20110323	053758.6	52.17	-2.59	359.9	252.4	4.6	1.3	BROMYARD,HEREFORDSHIRE		13	93	0.20	2.69	3.70	
20110326	160909.4	55.76	-5.72	166.8	658.3	9.6	1.6	SOUND OF JURA		7	191	0.40	8.27	7.00	
20110329	111307.6	57.40	-4.34	259.1	837.3	6.7	2.4	INVERNESS,HIGHLAND	3	14	69	0.30	3.00	3.40	FELT INVERNESS...
20110329	232158.7	55.77	-6.32	129.1	662.0	7.7	1.3	ISLAY,ARGYLL & BUTE	2	5	237	0.10	4.37	4.70	FELT ISLAY
20110331	104343.0	53.82	-2.95	337.5	436.2	2.3	0.6	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	141723.0	53.82	-2.95	337.5	436.2	2.3	0.6	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	141932.0	53.82	-2.95	337.5	436.2	2.3	1.4	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	153511.0	53.82	-2.95	337.5	436.2	2.3	0.3	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	154301.0	53.82	-2.95	337.5	436.2	2.3	0.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	160309.0	53.82	-2.95	337.5	436.2	2.3	0.4	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	173133.0	53.82	-2.95	337.5	436.2	2.3	0.5	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	175758.0	53.82	-2.95	337.5	436.2	2.3	0.9	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	185025.0	53.82	-2.95	337.5	436.2	2.3	0.1	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	230414.0	53.82	-2.95	337.5	436.2	2.3	-0.1	BLACKPOOL,LANCASHIRE		12		0.10			
20110331	233035.0	53.82	-2.95	337.5	436.2	2.3	-0.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110401	004244.0	53.82	-2.95	337.5	436.2	2.3	0.1	BLACKPOOL,LANCASHIRE		12		0.10			
20110401	023431.9	53.83	-2.98	335.8	437.3	3.6	2.3	BLACKPOOL,LANCASHIRE	4	25	49	0.30	2.37	7.20	FELT BLACKPOOL...
20110401	031207.0	53.82	-2.95	337.5	436.2	2.3	0.4	BLACKPOOL,LANCASHIRE		12		0.10			
20110401	182358.0	55.04	-3.88	279.8	573.7	11.2	1.0	CASTLE DOUGLAS,D & G		6	168	0.30	4.39	1.50	
20110403	082853.0	53.82	-2.95	337.5	436.2	2.3	0.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110403	205719.0	53.82	-2.95	337.5	436.2	2.3	0.2	BLACKPOOL,LANCASHIRE		12		0.10			

TABLE 1 : CATALOGUE OF EVENTS : 2011

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20110405	161450.0	53.82	-2.95	337.5	436.2	2.3	1.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110408	135542.8	53.53	-2.59	361.0	403.4	14.1	1.8	WIGAN,GTR MANCHESTER		8	151	0.20	2.55	3.70	
20110412	043333.7	52.95	-4.22	251.1	341.0	12.8	1.0	PORTHMADOG,GWYNEDD		10	112	0.20	2.77	2.30	5KM WNW OF PORTHMADOG
20110414	041159.0	57.69	-5.04	219.0	871.2	7.4	1.4	LOCH FANNICH,HIGHLAND		8	104	0.40	4.72	3.50	13KM NNE ACHNASHEEN
20110422	172623.8	60.61	-0.21	497.9	1192.9	7.2	1.9	SHETLAND ISLANDS		4	318	0.20	4.25	5.20	75KM NE OF LERWICK
20110428	212622.9	56.39	-5.70	171.5	727.9	14.8	2.1	MULL,ARGYLL & BUTE	3	16	181	0.30	7.98	6.10	FELT MULL...
20110501	123900.5	50.05	-6.64	67.8	27.5	10.0	2.0	ISLES OF SCILLY		4	334	0.70	4.76	0.00	25KM NW OF ST MARY'S
20110504	094038.0	53.82	-2.95	337.5	436.2	2.3	-0.9	BLACKPOOL,LANCASHIRE		12		0.10			
20110507	114410.0	53.82	-2.95	337.5	436.2	2.3	-1.6	BLACKPOOL,LANCASHIRE		12		0.10			
20110507	183326.4	56.33	-5.88	160.1	722.0	10.3	1.5	MULL,ARGYLL & BUTE		10	196	0.20	8.02	5.50	
20110514	022848.0	53.82	-2.95	337.5	436.2	2.3	-1.9	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	135648.0	53.82	-2.95	337.5	436.2	2.3	-1.0	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	140631.0	53.82	-2.95	337.5	436.2	2.3	-0.5	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	143938.0	53.82	-2.95	337.5	436.2	2.3	0.4	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	144249.0	53.82	-2.95	337.5	436.2	2.3	-1.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	144734.0	53.82	-2.95	337.5	436.2	2.3	-0.8	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	150635.0	53.82	-2.95	337.5	436.2	2.3	-1.1	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	154140.0	53.82	-2.95	337.5	436.2	2.3	-1.0	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	160349.0	53.82	-2.95	337.5	436.2	2.3	-0.9	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	175405.0	53.82	-2.95	337.5	436.2	2.3	-0.7	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	184028.0	53.82	-2.95	337.5	436.2	2.3	-1.3	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	223600.0	53.82	-2.95	337.5	436.2	2.3	1.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110526	230602.0	53.82	-2.95	337.5	436.2	2.3	0.7	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	004846.0	53.82	-2.95	337.5	436.2	2.3	1.5	BLACKPOOL,LANCASHIRE	3	12		0.10	2.37	7.20	FELT POULTON-LE-FYLDE
20110527	005721.0	53.82	-2.95	337.5	436.2	2.3	-0.9	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	012117.0	53.82	-2.95	337.5	436.2	2.3	-1.9	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	035902.0	53.82	-2.95	337.5	436.2	2.3	-1.8	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	093348.0	53.82	-2.95	337.5	436.2	2.3	-1.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	132224.0	53.82	-2.95	337.5	436.2	2.3	-0.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	141251.0	53.82	-2.95	337.5	436.2	2.3	-1.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	141341.0	53.82	-2.95	337.5	436.2	2.3	-1.0	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	141934.0	53.82	-2.95	337.5	436.2	2.3	-0.9	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	142113.0	53.82	-2.95	337.5	436.2	2.3	0.1	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	142128.0	53.82	-2.95	337.5	436.2	2.3	0.5	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	144100.0	53.82	-2.95	337.5	436.2	2.3	-1.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	144722.0	53.82	-2.95	337.5	436.2	2.3	-1.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	150428.0	53.82	-2.95	337.5	436.2	2.3	-1.1	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	153340.0	53.82	-2.95	337.5	436.2	2.3	-0.7	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	153820.0	53.82	-2.95	337.5	436.2	2.3	-1.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110527	160738.0	53.82	-2.95	337.5	436.2	2.3	-1.5	BLACKPOOL,LANCASHIRE		12		0.10			

TABLE 1 : CATALOGUE OF EVENTS : 2011

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20110527	161144.0	53.82	-2.95	337.5	436.2	2.3	-0.7	BLACKPOOL,LANCASHIRE		12		0.10			
20110528	084839.7	57.75	-4.66	241.6	876.9	7.5	1.5	STRATHRANNOCH,HIGHLAND		9	74	0.50	5.91	6.80	22KM NW OF DINGWALL
20110528	085920.7	57.74	-4.64	242.7	875.2	7.5	2.4	STRATHRANNOCH,HIGHLAND		18	74	0.30	2.86	8.10	20KM NW OF DINGWALL
20110602	093557.7	50.29	-3.29	308.0	44.0	6.5	1.5	OFF DARTMOUTH,DEVON		6	137	0.50	0.20	3.20	20KM ESE OF DARTMOUTH
20110605	093519.1	52.98	-2.16	389.3	342.5	2.5	1.7	STOKE-ON-TRENT,STAFFS	3	10	129	0.10	1.88	2.20	FELT STOKE-ON-TRENT
20110623	134338.1	50.57	-3.73	277.2	76.1	2.8	2.7	NEWTON ABBOT,DEVON	4	13	98	0.30	2.98	4.40	FELT SOUTH DEVON
20110709	215524.3	51.78	-3.05	327.8	209.3	17.4	1.3	ABERGAVENNEY,GWENT		5	265	0.10	4.79	2.30	
20110714	065910.9	50.12	-0.74	489.8	25.5	10.0	3.9	ENGLISH CHANNEL	3	34	174	0.50	4.21	0.00	FELT SOUTH COAST
20110714	133050.6	50.11	-0.73	491.0	24.5	10.0	1.8	ENGLISH CHANNEL		6	238	0.10	4.30	0.00	
20110714	205509.1	50.08	-0.60	500.2	20.8	10.0	1.8	ENGLISH CHANNEL		7	191	0.20	8.36	0.00	
20110715	163204.3	51.08	-4.38	233.2	133.6	7.5	1.0	BARNSTAPLE BAY,DEVON		5	233	0.30	5.81	3.40	
20110721	142118.6	53.58	2.24	680.5	417.1	11.5	3.5	SOUTHERN NORTH SEA		29	228	0.60	2.89	8.20	
20110730	155611.1	57.03	-5.51	187.2	798.7	9.7	1.7	KNOYDART,HIGHLAND		5	191	0.20	8.10	2.70	10KM EAST OF INVERIE
20110802	081256.0	53.82	-2.95	337.5	436.2	2.3	-0.2	BLACKPOOL,LANCASHIRE		12		0.10			
20110804	164518.5	52.25	-2.84	342.5	261.9	8.4	2.0	LEOMINSTER,HEREFORD		8	127	0.20	2.62	5.60	10KM NW LEOMINSTER
20110804	232548.7	54.58	-1.99	400.5	520.0	1.3	2.0	BARNARD CASTLE,DURHAM		10	153	0.30	7.19	4.50	
20110807	171157.9	53.14	-4.77	214.7	363.7	9.3	0.8	CAERNARFON BAY,N WALES		6	288	0.10	3.58	3.00	20KM SW OF HOLYHEAD
20110809	211500.0							SONIC - NORFOLK	2						FELT NORFOLK
20110811	032616.8	53.20	-2.75	349.8	367.2	7.5	1.1	CHESTER,CHESHIRE		6	264	0.10	5.05	6.80	10KM EAST OF CHESTER
20110821	083723.9	56.85	-5.67	176.6	779.3	11.8	2.9	LOCH AILORT,HIGHLAND	3	16	186	0.30	6.55	3.30	FELT ACHARACLE...
20110821	111310.1	56.85	-5.67	175.9	779.2	9.7	1.4	LOCH AILORT,HIGHLAND	2	4	230	0.10	3.83	4.10	FELT GLENUIG
20110821	111655.9	56.84	-5.76	171.0	778.8	10.0	0.9	LOCH AILORT,HIGHLAND	2	4	237	0.30	9.09		FELT GLENUIG
20110821	172623.5	56.84	-5.77	169.8	778.3	10.0	0.8	LOCH AILORT,HIGHLAND		4	239	0.20	5.52		
20110821	182413.8	56.86	-5.67	176.3	780.3	11.1	2.0	LOCH AILORT,HIGHLAND	3	8	201	0.20	6.20	3.20	FELT ACHARACLE...
20110822	004322.2	56.85	-5.72	173.3	779.8	10.3	0.6	LOCH AILORT,HIGHLAND		3	234	0.10	6.99	6.80	
20110822	023746.5	56.85	-5.68	175.6	779.3	9.7	0.5	LOCH AILORT,HIGHLAND		3	231	0.10	1.36	6.00	
20110822	031518.9	56.85	-5.74	172.0	779.6	11.2	0.7	LOCH AILORT,HIGHLAND		4	236	0.20	3.25	2.50	
20110829	100805.9	56.70	-5.20	204.4	760.9	7.1	1.9	BALLACHULISH,HIGHLAND	3	7	183	0.40	8.71	1.10	FELT BALLACHULISH...
20110905	022325.5	51.99	1.80	660.8	239.0	11.0	1.8	SOUTHERN NORTH SEA		4	250	0.20	2.70	7.00	30KM EAST FELIXSTOWE
20110907	110902.4	53.10	-3.92	271.8	357.6	15.7	1.1	BETWS-Y-COED,CONWY		6	171	0.10	3.04	3.30	7KM WEST OF BETWS
20110908	104157.8	56.59	-5.64	176.5	750.3	5.5	1.9	LOCHALINE,HIGHLAND		8	181	0.30	9.29	6.80	
20110914	175601.0	56.34	-5.12	206.9	720.9	12.2	2.1	INVERARAY,ARGYLL/BUTE		11	149	0.30	5.85	6.30	13KM N OF INVERARAY
20110920	154500.0							SONIC - CUMBRIA	2	1					FELT KESWICK...
20111003	211237.7	56.23	-3.58	302.4	704.9	7.9	1.6	GLENDEVON,PERTHSHIRE	3	6	136	0.10	0.78	2.40	FELT GLENDEVON...
20111004	081528.7	56.23	-3.58	302.2	705.0	8.6	1.4	GLENDEVON,PERTHSHIRE	2	6	136	0.10	0.72	6.40	FELT GLENDEVON
20111011	153217.2	51.80	-3.15	321.0	211.7	19.3	1.4	BRYNMAWR,GWENT		9	100	0.10	2.11	2.50	
20111012	234959.3	53.07	-4.37	241.6	355.3	13.8	1.0	CAERNARFON BAY,N WALES	3	8	205	0.20	6.05	3.70	FELT PENYGROES...
20111019	023247.2	53.20	-0.99	467.4	367.5	1.3	1.6	OLLERTON,NOTTS	3	6	229	0.50	3.09	0.00	FELT NEW OLLERTON
20111020	165200.3	57.16	-5.47	189.9	813.0	14.2	2.4	SHEIL BRIDGE,HIGHLAND		16	162	0.20	3.24	1.70	7KM SSW SHEIL BRIDGE
20111022	085416.4	52.63	-2.87	341.3	304.2	12.9	1.1	SHREWSBURY,SHROPS		3	222	0.00	3.28	0.40	10KM SW SHREWSBURY

TABLE 1 : CATALOGUE OF EVENTS : 2011

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20111024	002445.9	53.20	-4.29	247.2	369.2	16.0	1.2	GAERWEN,ANGLESEY	2	8	178	0.10	3.18	1.50	FELT MENAI BRIDGE
20111031	232615.8	56.51	-4.32	257.5	737.2	2.5	1.8	KILLIN,STIRLING	3	16	103	0.20	2.66	4.20	FELT KILLIN...
20111104	234047.3	53.20	-1.01	466.0	367.6	1.1	1.6	OLLERTON,NOTTS	3	6	141	0.60	6.71	6.40	FELT OLLERTON...
20111112	002842.2	52.52	-2.04	397.1	290.9	8.3	1.5	DUDLEY,WEST MIDLANDS	2	12	104	0.30	2.80	3.90	FELT STOURBRIDGE
20111113	052353.3	50.79	-0.79	485.4	100.1	7.0	1.7	CHICHESTER,W SUSSEX	2	12	221	0.40	1.13	2.40	FELT CHICHESTER
20111114	003313.1	57.51	-5.54	187.7	851.7	4.2	2.2	WESTER ROSS,HIGHLAND	3	11	105	0.20	2.52	3.60	FELT LOCHCARRON
20111115	160554.4	51.62	-3.58	290.6	192.0	9.3	1.5	MAESTEG,BRIDGEND	2	10	136	0.30	3.89		FELT BRIDGEND
20111204	024021.6	50.48	-4.87	196.3	68.7	3.0	2.2	BODMIN,CORNWALL	3	6	168	0.30	5.02	6.10	FELT BODMIN...
20111216	053122.4	54.35	-2.18	388.3	495.4	13.2	1.3	HAWES,NORTH YORKSHIRE		7	127	0.30	4.56	4.00	
20111217	143320.8	53.68	-2.41	373.1	420.4	7.7	2.2	DARWEN,LANCASHIRE	2	15	53	0.20	1.70	3.10	FELT EGERTON
20111219	055008.1	53.25	-0.44	504.2	373.4	6.8	1.4	LINCOLN,LINCOLSHIRE		6	209	0.50	9.81	7.10	6KM ENE OF LINCOLN
20111221	064053.0	56.25	-3.75	291.6	708.0	5.7	1.6	BLACKFORD,PERTH/KINROSS	2	12	63	0.40	4.38	1.80	FELT GLENDEVON
20111225	171153.3	51.67	-2.39	373.2	196.7	15.4	1.5	DURSLEY,GLOUCESTERSHIRE		6	118	0.20	2.61	3.40	

TABLE 2 : PHASE DATA

January 3 2011 Time: 12:37 20.9 UTC Magnitude: 1.2 ML
Lat: 52.635N Lon: -0.983W Depth: 14.9 km
Grid Ref: 468.82 kmE 304.66 kmN RMS: 0.10 secs
Locality: MELTON MOWBRAY,LEICS
Velocity model: Lownet Xnear: 100.0 Xfar: 300.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
CWF	HZ	24.8	IP		D	12:37	26.18			-0.04
CWF	HN	24.8	ES			12:37	30.18			0.08
CWF	HE	24.8	AML			12:37	30.55	64	0.10	
CWF	HN	24.8	AML			12:37	30.71	34	0.19	
HLM1	HZ	129.0	EP			12:37	41.08			-0.03
HLM1	HN	129.0	ES			12:37	55.72			-0.15
HLM1	HN	129.0	AML			12:37	56.47	5	0.17	
HLM1	HE	129.0	AML			12:37	56.47	6	0.14	
MCH1	HZ	155.0	EP			12:37	44.51			-0.03
MCH1	HE	155.0	ES			12:38	02.00			0.20
MCH1	HE	155.0	AML			12:38	02.89	2	0.17	
MCH1	HN	155.0	AML			12:38	03.36	4	0.36	

January 3 2011 Time: 21:03 09.5 UTC Magnitude: 3.6 ML
Lat: 54.169N Lon: -1.652W Depth: 6.9 km
Grid Ref: 422.72 kmE 474.88 kmN RMS: 0.50 secs
Locality: RIPON,NORTH YORKSHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT NORTH YORKSHIRE ... Intensity: 5

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HPK	HZ	23.5	IP		D	21:03	13.99			-0.09
HPK	HN	23.5	ES			21:03	17.45			0.03
HPK	HN	23.5	AML			21:03	17.74	22438	0.12	
HPK	HE	23.5	AML			21:03	17.75	30337	0.22	
KESW	HZ	105.0	EP			21:03	26.80			0.02
KESW	HN	105.0	ES			21:03	39.54			0.16
KESW	HN	105.0	AML			21:03	40.94	4994	0.34	
KESW	HE	105.0	AML			21:03	41.60	3898	0.28	
LMK	HZ	118.0	EP			21:03	28.81			0.10
LMK	HN	118.0	ES			21:03	43.10			0.38
LMK	HE	118.0	AML			21:03	45.27	5259	0.66	
LMK	HN	118.0	AML			21:03	45.31	5502	0.28	
SPK	EZ	123.0	EP			21:03	29.75			0.26
SPK	EN	123.0	ES			21:03	44.25			0.17
STNC	HZ	125.0	EP			21:03	29.71			-0.16
STNC	HE	125.0	ES			21:03	44.97			0.23
STNC	HN	125.0	AML			21:03	46.19	1635	0.36	
STNC	HE	125.0	AML			21:03	46.82	2039	0.42	
BHH	SZ	144.0	EP			21:03	32.80			0.24
BHH	SN	144.0	ES			21:03	49.51			0.12
BHH	SE	144.0	AML			21:03	51.41	2691	0.30	
BHH	SN	144.0	AML			21:03	51.84	2346	0.42	
CWF	HZ	161.0	EP			21:03	33.40			-1.53
CWF	HE	161.0	ES			21:03	52.99			-0.49
CWF	HE	161.0	AML			21:03	53.62	634	0.28	
CWF	HN	161.0	AML			21:03	54.73	862	0.20	
ESK	HZ	162.0	EP			21:03	33.58			-1.56
ESK	HE	162.0	ES			21:03	53.61			-0.24
ESK	HE	162.0	AML			21:03	55.86	404	0.22	
ESK	HN	162.0	AML			21:03	56.91	295	0.24	
BWH	SZ	171.0	EP			21:03	34.96			-1.37
FOEL	HZ	176.0	EP			21:03	35.54			-1.39
FOEL	HN	176.0	ES			21:03	55.83			-1.12
FOEL	HE	176.0	AML			21:04	00.13	452	0.28	
FOEL	HN	176.0	AML			21:04	00.24	1009	0.34	
WPM1	EZ	180.0	EP	9		21:03	40.27			2.80
WIM	EZ	197.0	EP	9		21:03	42.54			2.88
HLM1	HZ	201.0	EP			21:03	38.74			-1.38
HLM1	HE	201.0	AML			21:04	06.41	538	0.44	
HLM1	HN	201.0	AML			21:04	10.75	273	0.36	
ESY	EZ	204.0	EP			21:03	38.75			-1.74
WLF1	HZ	206.0	EP			21:03	38.90			-1.74
WLF1	HE	206.0	AML			21:04	10.19	166	0.44	
WLF1	HN	206.0	AML			21:04	13.61	112	0.16	
GAL1	HZ	213.0	EP			21:03	39.81			-1.71
GAL1	HN	213.0	AML			21:04	10.06	234	0.46	
GAL1	HE	213.0	AML			21:04	12.87	178	0.36	
YRC	EZ	218.0	EP	9		21:03	45.28			3.08
YRE	EZ	226.0	EP	9		21:03	46.07			2.85
PGB1	HZ	257.0	EP			21:03	45.96			-1.16
MCH1	HZ	258.0	EP			21:03	46.02			-1.17
MCH1	HE	258.0	ES			21:04	14.50			-0.19
MCH1	HE	258.0	AML			21:04	21.68	456	0.60	
MCH1	HN	258.0	AML			21:04	26.45	366	0.36	
STRD	HZ	269.0	EP			21:03	47.59			-0.91
MONM	HZ	271.0	EP			21:03	47.82			-0.92
LPW	BZ	280.0	EP			21:03	48.33			-1.59
OLDB	HZ	286.0	EP			21:03	49.69			-0.91
BATH	HZ	307.0	EP			21:03	52.42			-0.85
HEX	EZ	375.0	EP			21:04	00.53			-1.25

January 3 2011 Time: 21:03 28.8 UTC Magnitude: 2.6 ML
Lat: 54.168N Lon: -1.653W Depth: 6.9 km
Grid Ref: 422.65 kmE 474.76 kmN RMS: 0.60 secs
Locality: RIPON,NORTH YORKSHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT NORTH YORKSHIRE Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HPK	HZ	23.5	EP			21:03	32.90			-0.49
HPK	HN	23.5	ES			21:03	36.41			-0.30
HPK	HN	23.5	AML			21:03	36.63	1448	0.14	
HPK	HE	23.5	AML			21:03	36.74	1563	0.22	
KESW	HE	105.0	ES			21:03	59.59			0.88
KESW	HN	105.0	AML			21:03	59.89	249	0.38	
KESW	HE	105.0	AML			21:04	00.24	274	0.36	

January 4 2011 Time: 07:03 35.2 UTC Magnitude: 1.2 ML
Lat: 54.166N Lon: -1.640W Depth: 4.8 km
Grid Ref: 423.50 kmE 474.55 kmN RMS: 0.20 secs
Locality: RIPON,NORTH YORKSHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HPK	HZ	23.2	EP			07:03	39.43			-0.18
HPK	HE	23.2	ES			07:03	42.98			0.12
HPK	HN	23.2	AML			07:03	43.20	57	0.12	
HPK	HE	23.2	AML			07:03	43.28	50	0.24	
KESW	HZ	106.0	EP			07:03	52.72			0.02
KESW	HN	106.0	ES			07:04	05.47			-0.03
KESW	HN	106.0	AML			07:04	06.56	11	0.16	
KESW	HE	106.0	AML			07:04	07.19	10	0.23	
BHH	SZ	145.0	EP			07:03	58.49			-0.02
BHH	SN	145.0	ES			07:04	15.61			0.05
CWF	HZ	160.0	EP			07:04	01.14			0.43
CWF	HN	160.0	ES			07:04	19.06			-0.30
CWF	HN	160.0	AML			07:04	19.56	2	0.23	
CWF	HE	160.0	AML			07:04	20.72	3	0.25	
ESK	HZ	163.0	EP			07:04	01.58			0.50
ESK	HE	163.0	ES			07:04	19.78			-0.23
ESK	HN	163.0	AML			07:04	21.38	2	0.34	
ESK	HE	163.0	AML			07:04	21.42	2	0.22	

January 6 2011 Time: 03:46 20.2 UTC Magnitude: 1.3 ML
Lat: 57.458N Lon: -5.947W Depth: 6.5 km
Grid Ref: 163.28 kmE 847.71 kmN RMS: 0.50 secs
Locality: INNER SOUND,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 9KM WNW APPLECROSS

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	22.1	IP		C	03:46	24.72			0.29
KPL	HN	22.1	ES			03:46	26.60			-0.91
KPL	HN	22.1	AML			03:46	27.83	15	0.18	
KPL	HE	22.1	AML			03:46	27.92	21	0.38	
KAC	EZ	39.1	IP		C	03:46	27.71			0.35
KSB	EZ	42.0	IP		C	03:46	27.99			0.10
RRR	SE	45.3	ES			03:46	33.89			-0.44
RRR	SE	45.3	AML			03:46	34.04	38	0.26	
RRR	SN	45.3	AML			03:46	34.21	30	0.11	
RRH	SZ	67.8	EP			03:46	31.79			-0.15
MDO	EZ	95.1	EP			03:46	36.60			0.37
MVH1	EZ	117.0	EP			03:46	39.99			0.35
MCD	EZ	162.0	EP			03:46	47.08			0.86
MCD	EE	162.0	ES			03:47	05.34			0.14
MCD	EE	162.0	AML			03:47	07.91	23	0.21	
MCD	EN	162.0	AML			03:47	08.58	15	0.36	
EAB	EZ	172.0	EP			03:46	47.86			0.19

January 14 2011 Time: 22:45 44.1 UTC Magnitude: 2.1 ML
Lat: 55.820N Lon: -6.328W Depth: 9.1 km
Grid Ref: 128.94 kmE 667.00 kmN RMS: 0.30 secs
Locality: ISLAY,ARGYLL & BUTE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT ISLAY Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
PGB1	HZ	116.0	EP			22:46	03.16			0.23
PGB1	HE	116.0	ES			22:46	16.78			0.12
PGB1	HN	116.0	AML			22:46	17.89	73	0.20	
PGB1	HE	116.0	AML			22:46	19.08	57	0.20	
EAB	EZ	131.0	EP			22:46	04.55			-0.57
GAL1	HZ	148.0	EP			22:46	07.87			0.38
GAL1	HE	148.0	ES			22:46	24.18			-0.37
GAL1	HN	148.0	AML			22:46	26.72	12	0.16	
GAL1	HE	148.0	AML			22:46	26.91	15	0.12	
KSB	EZ	164.0	EP			22:46	09.89			-0.06
KPL	HZ	174.0	EP			22:46	10.96			-0.11
KPL	HE	174.0	ES			22:46	31.32			0.58
KPL	HE	174.0	AML			22:46	34.35	19	0.36	
KPL	HN	174.0	AML			22:46	35.28	8	0.14	
EDI	HN	197.0	AML			22:46	42.51	16	0.56	
EDI	HE	197.0	AML			22:46	42.53	16	0.48	
MCD	EE	272.0	ES			22:46	51.86			-0.13
MCD	EE	272.0	AML			22:47	05.51	36	0.42	
MCD	EN	272.0	AML			22:47	06.71	24	0.33	

TABLE 2 : PHASE DATA

January 16 2011 Time: 02:40 29.7 UTC Magnitude: 0.9 ML
Lat: 55.138N Lon: -3.574W Depth: 5.4 km
Grid Ref: 299.67 kmE 583.76 kmN RMS: 0.20 secs
Locality: DUMFRIES,D & G
Velocity model: Lownet Xnear: 50.0 Xfar: 100.0
Comment: 8KM NNE OF DUMFRIES

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BWH	SZ	6.6	IP		C	02:40	31.41			-0.01
BWH	SZ	6.6	ES			02:40	32.71			0.01
BHH	SZ	23.3	EP			02:40	34.21			0.06
BHH	SE	23.3	ES			02:40	37.40			-0.01
BHH	SE	23.3	AML			02:40	37.59	38	0.16	
BHH	SN	23.3	AML			02:40	38.42	34	0.60	
ESK	HZ	30.7	IP		C	02:40	35.28			-0.13
ESK	HE	30.7	ES			02:40	39.67			0.06
ESK	HE	30.7	AML			02:40	40.74	13	0.18	
ESK	HN	30.7	AML			02:40	40.78	9	0.12	
GAL1	HN	78.8	AML			02:40	50.91	5	0.56	
GAL1	HE	78.8	AML			02:40	51.20	3	0.56	
PGB1	HE	94.5	ES			02:40	58.03			1.21
PGB1	HN	94.5	AML			02:40	59.91	9	0.46	
PGB1	HE	94.5	AML			02:41	00.02	6	0.33	

January 17 2011 Time: 14:28 11.2 UTC Magnitude: 1.8 ML
Lat: 51.595N Lon: -3.589W Depth: 10.1 km
Grid Ref: 289.95 kmE 189.71 kmN RMS: 0.20 secs
Locality: MAESTEG,BRIDGEND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 6KM ESE OF MAESTEG

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MCH1	HZ	60.5	EP			14:28	21.15			-0.36
MCH1	HE	60.5	ES			14:28	28.67			-0.34
MCH1	HE	60.5	AML			14:28	28.89	57	0.18	
MCH1	HN	60.5	AML			14:28	28.95	44	0.15	
MONM	HZ	60.6	EP			14:28	21.41			-0.11
MONM	HE	60.6	ES			14:28	29.09			0.07
LPW	BZ	66.5	EP			14:28	22.51			0.10
LPW	BN	66.5	ES			14:28	30.72			0.15
LPW	BN	66.5	AML			14:28	31.06	43	0.35	
LPW	BE	66.5	AML			14:28	31.55	25	0.25	
OLDB	HZ	72.3	EP			14:28	23.37			0.07
OLDB	HE	72.3	ES			14:28	32.40			0.30
BATH	HZ	89.2	EP			14:28	25.81			-0.13
HTL	HZ	91.5	EP			14:28	26.26			-0.04
STRD	HZ	101.0	EP			14:28	28.01			0.28
HLM1	HZ	114.0	EP			14:28	29.71			-0.04
HLM1	HN	114.0	AML			14:28	47.12	23	0.26	
HLM1	HE	114.0	AML			14:28	47.84	21	0.28	
DYA	HZ	131.0	EP			14:28	32.17			-0.07
DYA	HE	131.0	ES			14:28	47.46			-0.11
DYA	HE	131.0	AML			14:28	48.97	71	0.26	
DYA	HN	131.0	AML			14:28	49.26	36	0.10	
FOEL	HZ	146.0	EP		C	14:28	34.90			0.46
FOEL	HE	146.0	AML			14:28	55.96	7	0.44	
FOEL	HN	146.0	AML			14:28	56.36	14	0.54	
YRE	EZ	164.0	EP	9		14:28	45.50			8.58
WPM1	EZ	186.0	EP	9		14:28	48.40			8.72
YRC	EZ	196.0	EP	9		14:28	49.69			8.86
WME	EZ	206.0	EP	9		14:28	51.22			9.09

January 18 2011 Time: 11:04 15.4 UTC Magnitude: 1.8 ML
Lat: 57.728N Lon: -4.574W Depth: 7.8 km
Grid Ref: 246.74 kmE 873.80 kmN RMS: 0.30 secs
Locality: STRATHRANNOCH,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 17KM NW OF DINGWALL

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MVH1	EZ	31.9	IP		D	11:04	21.43			0.25
MVH1	EZ	31.9	ES			11:04	25.22			-0.21
MDO	EZ	34.4	IP		C	11:04	21.89			0.28
MDO	EZ	34.4	ES			11:04	25.95			-0.22
KAC	EZ	50.3	EP			11:04	23.84			-0.19
KSB	EZ	76.9	EP			11:04	28.17			-0.03
MCD	EN	80.4	AML			11:04	42.98	18	0.22	
MCD	EE	80.4	AML			11:04	43.31	31	0.50	
BIGH	HZ	93.7	EP			11:04	31.31			0.57
BIGH	HE	93.7	ES			11:04	41.54			-0.43
BIGH	HE	93.7	AML			11:04	45.23	53	0.11	
BIGH	HN	93.7	AML			11:04	46.73	56	0.22	
EAB	EZ	172.0	EP			11:04	42.11			-0.10

January 23 2011 Time: 06:02 49.3 UTC Magnitude: 3.5 ML
Lat: 56.822N Lon: -5.784W Depth: 13.2 km
Grid Ref: 169.12 kmE 776.42 kmN RMS: 0.40 secs
Locality: GLENUIG,HIGHLAND
Velocity model: Lownet Xnear: 150.0 Xfar: 300.0
Comment: FELT GLENUIG... Intensity: 4

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KSB	EZ	48.5	IP		D	06:02	57.60			-0.25
KPL	HZ	58.2	IP		D	06:02	59.32			0.06
KPL	HE	58.2	ES			06:03	06.20			-0.30
KPL	HE	58.2	AML			06:03	06.85	1515	0.33	
KPL	HN	58.2	AML			06:03	10.28	1132	0.28	
KAC	EZ	80.9	IP		D	06:03	03.01			0.21
MDO	SZ	110.0	EP			06:03	07.49			0.32
EAB	EZ	114.0	IP		C	06:03	08.32			0.71
RRR	SZ	115.0	IP		D	06:03	08.01			0.18
RRR	SE	115.0	ES			06:03	21.58			0.25
RRR	SN	115.0	AML			06:03	24.30	882	0.22	
RRR	SE	115.0	AML			06:03	24.53	1189	0.38	
RRH	SZ	134.0	EP			06:03	10.68			0.20
PGB1	HZ	138.0	EP			06:03	11.20			0.07
PGB1	HE	138.0	ES			06:03	26.95			-0.08
PGB1	HE	138.0	AML			06:03	28.75	1448	0.52	
PGB1	HN	138.0	AML			06:03	31.82	1322	0.54	
MVH1	SZ	156.0	EP			06:03	12.73			-0.95
EDU	EZ	173.0	EP			06:03	15.60			-0.19
RSC	SZ	174.0	IP		D	06:03	15.90			0.01
MCD	SZ	175.0	EP			06:03	15.94			-0.10
MCD	SN	175.0	ES			06:03	35.79			0.26
MCD	SE	175.0	AML			06:03	40.53	802	0.24	
MCD	SN	175.0	AML			06:03	42.13	772	0.46	
MME1	SZ	180.0	EP			06:03	16.35			-0.33
EDI	HZ	189.0	EP			06:03	17.71			-0.07
EDI	HN	189.0	ES			06:03	38.62			0.08
EDI	HE	189.0	AML			06:03	43.21	493	0.26	
EDI	HN	189.0	AML			06:03	43.88	390	0.30	
DRUM	HZ	201.0	EP			06:03	19.11			-0.23
DRUM	HN	201.0	ES			06:03	41.54			0.30
DRUM	HN	201.0	AML			06:03	50.77	978	0.50	
DRUM	HE	201.0	AML			06:03	52.31	533	0.34	
GAL1	HZ	228.0	EP			06:03	22.44			-0.19
GAL1	HE	228.0	ES			06:03	45.90			-1.03
GAL1	HN	228.0	AML			06:03	46.46	90	0.16	
GAL1	HE	228.0	AML			06:03	55.32	252	0.54	
ESK	HZ	232.0	EP			06:03	23.04			-0.15
ESK	HN	232.0	AML			06:03	56.27	387	0.36	
ESK	HE	232.0	AML			06:03	56.73	539	0.36	
GMM	EZ	288.0	EP			06:03	29.36			-0.78
KESW	HZ	300.0	EP			06:03	31.76			0.05
KESW	HN	300.0	AML			06:04	17.18	174	0.44	
KESW	HE	300.0	AML			06:04	18.08	215	0.56	
LRW	HE	456.0	EP			06:03	51.83			0.63
LRW	HZ	456.0	AML			06:05	03.67	62	0.50	
LRW	HN	456.0	AML			06:05	09.08	65	0.54	

January 27 2011 Time: 06:04 13.9 UTC Magnitude: 2.5 ML
Lat: 49.999N Lon: -1.912W Depth: 5.0 km
Grid Ref: 406.31 kmE 11.06 kmN RMS: 0.40 secs
Locality: ENGLISH CHANNEL
Velocity model: Lownet Xnear: 200.0 Xfar: 300.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
JDC	EZ	90.0	EP			06:04	29.17			0.26
JDC	EE	90.0	ES			06:04	39.72			-0.11
JDG	EZ	90.0	EP			06:04	29.12			0.22
JDG	EE	90.0	ES			06:04	39.66			-0.16
JRS	EZ	90.6	EP	9		06:04	32.52			3.50
JRS	EE	90.6	ES			06:04	43.23			-0.30
JSA	HZ	92.1	EP			06:04	29.46			0.22
JSA	HE	92.1	ES			06:04	40.46			0.05
JSA	HE	92.1	AML			06:04	43.22	227	0.14	
JSA	HN	92.1	AML			06:04	43.88	200	0.25	
DYA	HZ	152.0	EP			06:04	38.12			-0.17
DYA	HN	152.0	ES			06:04	56.47			0.40
DYA	HN	152.0	AML			06:04	59.02	60	0.18	
DYA	HE	152.0	AML			06:05	00.95	51	0.19	
WOL	BZ	154.0	EP			06:04	39.24			0.69
WOL	BN	154.0	AML			06:05	02.60	55	0.30	
WOL	BE	154.0	AML			06:05	03.61	45	0.60	
BATH	HZ	163.0	EP			06:04	39.40			-0.46
SWN1	HZ	169.0	EP			06:04	40.65			0.01
SWN1	HE	169.0	ES			06:05	00.70			0.56
SWN1	HE	169.0	AML			06:05	05.47	75	0.23	
SWN1	HN	169.0	AML			06:05	06.72	89	0.44	
HMNX	HZ	187.0	EP			06:04	42.82			-0.06
HMNX	HN	187.0	AML			06:05	12.86	139	0.52	
HMNX	HE	187.0	AML			06:05	14.43	116	0.32	
OLDB	HZ	190.0	EP			06:04	42.94			-0.38
STRD	HZ	198.0	EP			06:04	43.89			-0.50
MONM	HZ	214.0	EP			06:04	46.08			-0.26
SSW	EZ	219.0	EP			06:04	46.80			-0.18
MCH1	HZ	235.0	EP			06:04	48.40			-0.57
MCH1	HE	235.0	AML			06:05	20.28	38	0.14	
MCH1	HN	235.0	AML			06:05	21.55	39	0.36	
LPW	BZ	280.0	EP			06:04	55.02			0.50
HLM1	HZ	288.0	EP			06:04	54.86			-0.82
HLM1	HE	288.0	AML			06:05	34.02	21	0.20	

TABLE 2 : PHASE DATA

HLM1	HN	288.0	AML		06:05	34.91	16	0.56
CWF	HN	308.0	AML		06:05	46.52	7	0.70
CWF	HE	308.0	AML		06:05	49.38	15	0.34

February 6 2011 Time: 05:31 27.1 UTC Magnitude: 1.1 ML
Lat: 55.230N Lon: -3.503W Depth: 5.9 km
Grid Ref: 304.42 kmE 593.90 kmN RMS: 0.40 secs
Locality: JOHNSTONEBRIDGE,D & G
Velocity model: Lownet Xnear: 80.0 Xfar: 100.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BWH	SZ	11.4	EP			05:31	29.85			0.22
BWH	SZ	11.4	ES			05:31	31.46			-0.03
ESK	HZ	21.2	IP		C	05:31	31.22			-0.03
ESK	HN	21.2	ES			05:31	33.88			-0.41
ESK	HN	21.2	AML			05:31	34.08	34	0.09	
ESK	HE	21.2	AML			05:31	34.11	42	0.08	
BHH	SZ	23.7	EP			05:31	31.98			0.33
BHH	SE	23.7	ES			05:31	34.77			-0.21
BHH	SE	23.7	AML			05:31	35.33	87	0.14	
BHH	SN	23.7	AML			05:31	35.65	63	0.21	
KESW	HZ	75.8	IP		D	05:31	40.13			0.28
EDI	HZ	79.7	EP			05:31	40.74			0.32
EDI	HE	79.7	AML			05:31	54.15	13	0.16	
EDI	HN	79.7	AML			05:31	54.27	8	0.10	
GAL1	HZ	87.2	EP			05:31	41.26			-0.32
GAL1	HN	87.2	ES			05:31	51.23			-0.93
GAL1	HN	87.2	AML			05:31	52.90	4	0.23	
GAL1	HE	87.2	AML			05:31	55.51	2	0.12	
ESY	EZ	94.9	EP			05:31	43.20			0.39
EAB	EZ	119.0	EP			05:31	46.83			0.30

February 13 2011 Time: 19:29 00.9 UTC Magnitude: 3.5 ML
Lat: 58.405N Lon: 1.973W Depth: 10.0 km
Grid Ref: 632.08 kmE 953.11 kmN RMS: 0.60 secs
Locality: NORTHERN NORTH SEA
Velocity model: North Sea Xnear: 400.0 Xfar: 600.0
Comment: 275KM NE OF ABERDEEN

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
SAN1	EZ	257.0	EP			19:29	37.34			0.03
LRW	HZ	264.0	EP			19:29	37.39			-0.75
LRW	HE	264.0	ES			19:30	06.16			0.82
LRW	HE	264.0	AML			19:30	24.05	82	0.48	
LRW	HN	264.0	AML			19:30	29.83	70	0.42	
WAL1	EZ	290.0	EP			19:29	42.16			0.68
YEL1	EZ	295.0	EP			19:29	42.84			0.76
MLA1	EZ	313.0	EP			19:29	44.37			0.13
DRUM	HZ	314.0	EP			19:29	44.56			0.17
DRUM	HN	314.0	ES			19:30	16.94			0.79
DRUM	HE	314.0	AML			19:30	40.62	122	0.66	
DRUM	HN	314.0	AML			19:30	53.34	143	0.50	
MCD	EZ	322.0	EP			19:29	45.20			-0.27
MCD	EE	322.0	ES			19:30	18.28			0.27
MCD	EE	322.0	AML			19:30	41.67	197	0.48	
MCD	EN	322.0	AML			19:30	45.69	150	0.52	
BIGH	HZ	344.0	EP			19:29	47.57			-0.52
BIGH	HN	344.0	ES			19:30	21.63			-0.90
BIGH	HE	344.0	AML			19:30	48.14	141	0.56	
BIGH	HN	344.0	AML			19:30	50.02	284	0.54	
EDU	EZ	363.0	EP			19:29	50.62			0.03
MVH1	EZ	366.0	EP			19:29	50.44			-0.46
MDO	EZ	390.0	EP			19:29	53.86			-0.08
ESY	EZ	392.0	EP			19:29	54.02			-0.10
EDI	HZ	417.0	EP			19:29	56.95			-0.23
EDI	HN	417.0	ES			19:30	38.79			0.52
EDI	HE	417.0	AML			19:30	40.24	89	0.42	
EDI	HN	417.0	AML			19:30	40.57	94	0.52	
KAC	EZ	442.0	EP			19:29	59.46			-0.87
EAB	EZ	453.0	EP			19:30	01.70			-0.02
ESK	HZ	467.0	EP			19:30	02.95			-0.45
ESK	HN	467.0	ES			19:30	49.46			0.44
ESK	HN	467.0	AML			19:30	52.43	56	0.34	
ESK	HE	467.0	AML			19:31	36.37	47	0.70	
KPL	HZ	468.0	EP			19:30	02.48			-1.00
KPL	HN	468.0	ES			19:30	48.14			-1.03
KPL	HN	468.0	AML			19:31	19.56	37	0.52	
KPL	HE	468.0	AML			19:31	22.65	38	0.60	
PGB1	HZ	486.0	EP			19:30	05.59			-0.19
PGB1	HN	486.0	ES			19:30	54.83			1.68
PGB1	HN	486.0	AML			19:31	30.55	58	0.72	
PGB1	HE	486.0	AML			19:31	43.43	64	0.64	
KESW	HZ	527.0	EP			19:30	10.70			-0.23
KESW	HN	527.0	ES			19:31	02.81			0.76
KESW	HN	527.0	AML			19:31	10.29	44	0.68	
KESW	HE	527.0	AML			19:31	19.77	41	0.66	
GAL1	HZ	568.0	EP			19:30	15.34			-0.66
GAL1	HN	568.0	ES			19:31	10.88			0.05
GAL1	HE	568.0	AML			19:31	16.05	15	0.64	
GAL1	HN	568.0	AML			19:31	18.87	16	0.48	
LMK	HN	569.0	ES			19:31	13.66			2.63
LMK	HN	569.0	AML			19:31	17.32	113	0.42	
LMK	HE	569.0	AML			19:31	18.83	136	0.36	
MCH1	HZ	780.0	EP			19:30	42.08			-0.21
MCH1	HN	780.0	ES			19:31	57.38			1.08
MCH1	HE	780.0	AML			19:32	00.32	23	0.36	
MCH1	HN	780.0	AML			19:32	01.80	28	0.73	

February 22 2011 Time: 00:38 50.9 UTC Magnitude: 1.3 ML
Lat: 55.837N Lon: -6.296W Depth: 8.9 km
Grid Ref: 131.06 kmE 668.76 kmN RMS: 0.30 secs
Locality: ISLAY,ARGYLL & BUTE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
PGB1	HZ	114.0	EP			00:39	09.35			0.24
PGB1	HN	114.0	ES			00:39	22.46			0.09
PGB1	HN	114.0	AML			00:39	23.99	16	0.28	
PGB1	HE	114.0	AML			00:39	25.28	11	0.21	
EAB	EZ	128.0	EP			00:39	10.72			-0.50
GAL1	HZ	148.0	EP			00:39	14.20			0.26
GAL1	HE	148.0	ES			00:39	30.40			-0.33
GAL1	HN	148.0	AML			00:39	31.50	3	0.19	
GAL1	HE	148.0	AML			00:39	32.77	3	0.22	
KSB	EZ	162.0	EP			00:39	16.01			0.08
KPL	HZ	172.0	EP			00:39	17.31			0.24

February 24 2011 Time: 01:41 55.3 UTC Magnitude: 1.0 ML
Lat: 57.729N Lon: -4.616W Depth: 7.8 km
Grid Ref: 244.24 kmE 874.01 kmN RMS: 0.20 secs
Locality: STRATHRANNOCH,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 19KM NW OF DINGWALL

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MVH1	EZ	33.8	IP		D	01:42	01.31			-0.08
MDO	EZ	35.4	IP		C	01:42	01.72			0.03
KAC	EZ	48.2	EP			01:42	03.66			0.03
KPL	HZ	75.7	IP		D	01:42	08.16			0.30
KPL	HN	75.7	ES			01:42	16.79			-0.26
KPL	HE	75.7	AML			01:42	17.19	6	0.28	
KPL	HN	75.7	AML			01:42	20.18	6	0.20	
MCD	EN	82.9	ES			01:42	19.03			-0.03
MCD	EN	82.9	AML			01:42	22.81	7	0.27	
MCD	EE	82.9	AML			01:42	23.12	8	0.21	

March 18 2011 Time: 10:27 42.8 UTC Magnitude: 1.4 ML
Lat: 53.315N Lon: -1.795W Depth: 2.5 km
Grid Ref: 413.66 kmE 379.83 kmN RMS: 0.20 secs
Locality: BRADWELL,DERBYSHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 4KM WSW OF BRADWELL

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LHO	EZ	25.9	EP			10:27	47.87			0.12
STNC	HZ	37.1	EP			10:27	49.32			-0.28
STNC	HE	37.1	ES			10:27	54.41			-0.15
STNC	HE	37.1	AML			10:27	54.84	56	0.48	
STNC	HN	37.1	AML			10:27	54.93	51	0.42	
CWF	HZ	72.0	EP			10:27	55.29			0.09
HPK	HZ	72.4	EP			10:27	55.52			0.25
HPK	HN	72.4	ES			10:28	04.03			-0.33
HPK	HN	72.4	AML			10:28	07.95	18	0.38	
HPK	HE	72.4	AML			10:28	10.26	17	0.74	
FOEL	HZ	105.0	EP			10:28	00.54			0.13
FOEL	HE	105.0	ES			10:28	13.57			0.30
FOEL	HN	105.0	AML			10:28	16.50	16	0.42	
FOEL	HE	105.0	AML			10:28	16.81	7	0.56	
HLM1	HZ	115.0	EP			10:28	01.90			0.01
HLM1	HE	115.0	ES			10:28	15.68			-0.14
HLM1	HN	115.0	AML			10:28	19.66	11	0.70	
HLM1	HE	115.0	AML			10:28	19.67	17	0.64	

March 21 2011 Time: 12:33 12.1 UTC Magnitude: 1.3 ML
Lat: 52.411N Lon: -2.183W Depth: 8.2 km
Grid Ref: 387.55 kmE 279.28 kmN RMS: 0.20 secs
Locality: KIDDERMINSTER,WORCS
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
CWF	HZ	69.6	EP			12:33	23.55			-0.22
STRD	HZ	70.7	EP			12:33	24.15			0.21
STRD	HN	70.7	ES			12:33	32.71			0.12
STRD	HN	70.7	AML			12:33	33.21	31	0.14	
STRD	HE	70.7	AML			12:33	33.47	29	0.09	
MCH1	HZ	72.3	EP			12:33	23.90			-0.29
MCH1	HN	72.3	ES			12:33	32.75			-0.27
MCH1	HN	72.3	AML			12:33	34.93	10	0.10	
MCH1	HE	72.3	AML			12:33	36.90	9	0.28	
MONM	HZ	76.6	EP			12:33	24.92			0.09
MONM	HE	76.6	ES			12:33	34.24			0.11
MONM	HN	76.6	AML			12:33	35.50	28	0.16	
MONM	HE	76.6	AML			12:33	35.87	21	0.24	
FOEL	HZ	87.0	EP			12:33	26.71			0.20

TABLE 2 : PHASE DATA

FOEL	HE	87.0	ES		12:33	37.13		0.10
FOEL	HE	87.0	AML		12:33	38.13	5 0.48	
FOEL	HN	87.0	AML		12:33	39.54	10 0.25	
OLDB	HZ	87.2	EP		12:33	26.44		-0.02
LPW	BZ	133.0	EP		12:33	33.23		-0.17
WLF1	HZ	178.0	EP		12:33	40.69		1.05

March 23 2011 Time: 05:37 58.6 UTC Magnitude: 1.3 ML
Lat: 52.168N Lon: -2.586W Depth: 4.6 km
Grid Ref: 359.93 kmE 252.40 kmN RMS: 0.20 secs
Locality: BROMYARD,HEREFORDSHIRE
Velocity model: Lownet Xnear: 75.0 Xfar: 150.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MCH1	HZ	34.1	IP		C	05:38	05.02			0.10
MCH1	HE	34.1	ES			05:38	09.15			-0.36
MCH1	HE	34.1	AML			05:38	09.58	28	0.14	
MCH1	HN	34.1	AML			05:38	09.79	24	0.32	
MONM	HZ	39.6	IP		C	05:38	05.95			0.12
MONM	HE	39.6	ES			05:38	11.17			0.08
MONM	HN	39.6	AML			05:38	11.40	20	0.22	
MONM	HE	39.6	AML			05:38	11.49	21	0.15	
HLM1	HZ	43.8	IP		D	05:38	06.57			0.03
HLM1	HE	43.8	ES			05:38	12.08			-0.24
HLM1	HN	43.8	AML			05:38	12.29	17	0.12	
HLM1	HE	43.8	AML			05:38	12.32	25	0.14	
STRD	HZ	52.5	EP			05:38	07.74			-0.10
STRD	HN	52.5	ES			05:38	14.31			-0.26
STRD	HE	52.5	AML			05:38	14.82	14	0.11	
STRD	HN	52.5	AML			05:38	14.98	22	0.11	
OLDB	HE	56.6	ES			05:38	15.55			-0.05
OLDB	HE	56.6	AML			05:38	17.17	54	0.46	
OLDB	HN	56.6	AML			05:38	18.05	35	0.32	
BATH	HZ	82.7	EP			05:38	13.02			0.50
FOEL	HZ	90.4	EP			05:38	14.08			0.31
FOEL	HE	90.4	ES			05:38	24.83			0.00
LPW	BZ	102.0	EP			05:38	15.81			0.37
LPW	BE	102.0	ES			05:38	27.75			0.03
LPW	BN	102.0	AML			05:38	28.02	52	0.15	
LPW	BE	102.0	AML			05:38	28.12	28	0.25	
CWF	HZ	108.0	EP			05:38	16.15			-0.24
HEX	EZ	149.0	EP			05:38	23.39			0.86
WPM1	EZ	150.0	EP			05:38	23.47			0.66
YRE	EZ	154.0	EP			05:38	23.73			0.45
WLF1	HZ	175.0	EP			05:38	26.71			0.58
WLF1	HE	175.0	ES			05:38	46.72			0.52
WLF1	HE	175.0	AML			05:38	47.00	2	0.44	
WLF1	HN	175.0	AML			05:38	47.27	2	0.24	

March 26 2011 Time: 16:09 09.4 UTC Magnitude: 1.6 ML
Lat: 55.762N Lon: -5.717W Depth: 9.6 km
Grid Ref: 166.84 kmE 658.33 kmN RMS: 0.40 secs
Locality: SOUND OF JURA
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
GMK	EZ	47.0	IP		D	16:09	17.35			-0.18
PGB1	HZ	77.5	EP			16:09	22.64			0.37
PGB1	HN	77.5	ES			16:09	31.61			-0.08
PGB1	HN	77.5	AML			16:09	34.20	22	0.20	
PGB1	HE	77.5	AML			16:09	34.21	58	0.20	
EAB	EZ	98.4	EP			16:09	25.24			-0.27
GAL1	HZ	118.0	EP			16:09	28.99			0.47
GAL1	HN	118.0	ES			16:09	42.24			-0.26
GAL1	HN	118.0	AML			16:09	43.99	9	0.25	
GAL1	HE	118.0	AML			16:09	44.23	24	0.34	
ESK	HZ	166.0	EP			16:09	36.28			0.96
ESK	HE	166.0	ES			16:09	53.92			-0.34
ESK	HN	166.0	AML			16:09	56.72	14	0.29	
ESK	HE	166.0	AML			16:09	58.16	7	0.17	
ECK	EZ	176.0	EP			16:09	36.48			-0.08
KPL	HZ	176.0	EP			16:09	35.79			-0.67
KPL	HN	176.0	AML			16:09	58.19	3	0.16	
KPL	HE	176.0	AML			16:09	58.60	5	0.19	

March 29 2011 Time: 11:13 07.6 UTC Magnitude: 2.4 ML
Lat: 57.404N Lon: -4.345W Depth: 6.7 km
Grid Ref: 259.12 kmE 837.25 kmN RMS: 0.30 secs
Locality: INVERNESS,HIGHLAND
Velocity model: Lownet Xnear: 150.0 Xfar: 300.0
Comment: FELT INVERNESS... Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MDO	EZ	4.2	IP		C	11:13	08.91			-0.31
KAC	EZ	58.2	IP		C	11:13	17.60			0.08
KSB	EZ	68.4	IP		D	11:13	19.01			-0.13
MCD	EZ	68.4	IP		D	11:13	19.14			0.03
MCD	EN	68.4	ES			11:13	26.99			-0.56
MCD	EN	68.4	AML			11:13	28.64	190	0.63	
MCD	EE	68.4	AML			11:13	29.25	208	0.41	
KPL	HZ	79.0	IP		D	11:13	21.06			0.35
KPL	HN	79.0	ES			11:13	29.57			-0.74
KPL	HN	79.0	AML			11:13	31.00	109	0.27	
KPL	HE	79.0	AML			11:13	34.48	91	0.14	
MME1	EZ	83.7	EP			11:13	21.30			-0.22
RRR	SZ	101.0	IP		C	11:13	24.44			0.33
RRR	SN	101.0	ES			11:13	36.14			-0.05
RRR	SE	101.0	AML			11:13	39.47	52	0.33	
RRR	SN	101.0	AML			11:13	39.68	90	0.48	
RSC	SZ	116.0	EP			11:13	26.73			0.28
MLA1	EZ	116.0	EP		D	11:13	26.87			0.37
BIGH	HZ	124.0	EP			11:13	27.79			0.09
BIGH	HE	124.0	ES			11:13	42.34			-0.06
BIGH	HN	124.0	AML			11:13	43.91	107	0.18	
BIGH	HE	124.0	AML			11:13	44.77	158	0.35	
DRUM	HE	125.0	ES			11:13	42.70			-0.03
DRUM	HN	125.0	AML			11:13	45.83	152	0.31	
EDU	EZ	125.0	EP			11:13	28.18			0.23
DRUM	HZ	125.0	IP		C	11:13	28.05			0.16
DRUM	HE	125.0	AML			11:13	47.06	160	0.15	
EAB	EZ	135.0	EP			11:13	29.70			0.33
PGB1	HZ	178.0	EP			11:13	34.94			-0.26
PGB1	HE	178.0	AML			11:13	58.50	73	0.37	
PGB1	HN	178.0	AML			11:13	59.15	70	0.17	

March 29 2011 Time: 23:21 58.7 UTC Magnitude: 1.3 ML
Lat: 55.775N Lon: -6.320W Depth: 7.7 km
Grid Ref: 129.13 kmE 661.97 kmN RMS: 0.10 secs
Locality: ISLAY,ARGYLL & BUTE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT ISLAY Intensity: 2

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
GMK	EZ	66.2	EP			23:22	09.74			-0.09
PGB1	HZ	115.0	EP			23:22	17.58			0.14
PGB1	HE	115.0	ES			23:22	31.06			-0.07
PGB1	HN	115.0	AML			23:22	32.23	13	0.26	
PGB1	HE	115.0	AML			23:22	32.32	13	0.32	
EAB	EZ	132.0	EP			23:22	19.91			-0.03
GAL1	HZ	144.0	EP			23:22	21.72			0.14
GAL1	HN	144.0	ES			23:22	38.34			0.06
GAL1	HE	144.0	AML			23:22	39.40	2	0.28	
GAL1	HN	144.0	AML			23:22	41.04	3	0.16	
KPL	HZ	179.0	EP			23:22	26.08			-0.28
KPL	HE	179.0	AML			23:22	49.55	4	0.22	
KPL	HN	179.0	AML			23:22	51.52	2	0.36	

March 31 2011 Time: 10:43 43.0 UTC Magnitude: 0.6 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 14:17 23.0 UTC Magnitude: 0.6 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 14:19 32.0 UTC Magnitude: 1.4 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 15:35 11.0 UTC Magnitude: 0.3 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 15:43 01.0 UTC Magnitude: 0.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 16:03 09.0 UTC Magnitude: 0.4 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 17:31 33.0 UTC Magnitude: 0.5 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 17:57 58.0 UTC Magnitude: 0.9 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs

TABLE 2 : PHASE DATA

Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 18:50 25.0 UTC Magnitude: 0.1 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 23:04 14.0 UTC Magnitude: -0.1 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

March 31 2011 Time: 23:30 35.0 UTC Magnitude: -0.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

April 1 2011 Time: 00:42 44.0 UTC Magnitude: 0.1 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

April 1 2011 Time: 02:34 31.9 UTC Magnitude: 2.3 ML
Lat: 53.828N Lon: -2.976W Depth: 3.6 km
Grid Ref: 335.77 kmE 437.32 kmN RMS: 0.30 secs
Locality: BLACKPOOL,LANCASHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 150.0
Comment: FELT BLACKPOOL... Intensity: 4

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
SPK	EZ	75.2	EP			02:34	44.90			0.25
SPK	EE	75.2	ES			02:34	54.11			0.13
LHO	EZ	80.5	EP			02:34	45.11			-0.44
KESW	HZ	85.0	EP			02:34	46.24			0.02
KESW	HN	85.0	ES			02:34	56.13			-0.56
KESW	HN	85.0	AML			02:34	59.69	154	0.36	
KESW	HE	85.0	AML			02:35	00.57	168	0.28	
WPM1	EZ	88.4	EP			02:34	46.90			0.15
HPK	HZ	90.1	EP			02:34	46.90			-0.09
HPK	HN	90.1	ES			02:34	58.30			0.28
HPK	HE	90.1	AML			02:35	01.04	120	0.40	
HPK	HN	90.1	AML			02:35	02.76	158	0.20	
STNC	HZ	96.7	EP			02:34	48.41			0.40
STNC	HN	96.7	AML			02:35	03.56	70	0.20	
STNC	HE	96.7	AML			02:35	11.98	77	0.36	
WME	EZ	100.0	EP			02:34	48.28			-0.24
FOEL	HZ	106.0	EP			02:34	49.17			-0.26
FOEL	HN	106.0	ES			02:35	02.21			-0.03
FOEL	HE	106.0	AML			02:35	06.38	46	0.42	
FOEL	HN	106.0	AML			02:35	08.49	96	0.40	
YLL	EZ	110.0	EP			02:34	50.24			0.14
WLF1	HZ	112.0	EP			02:34	50.09			-0.20
WLF1	HN	112.0	ES			02:35	03.91			0.17
WLF1	HN	112.0	AML			02:35	06.60	47	0.18	
WLF1	HE	112.0	AML			02:35	06.68	43	0.20	
WIM	EZ	117.0	EP			02:34	51.48			0.31
YRC	EZ	124.0	EP			02:34	52.57			0.37
YRE	EZ	135.0	EP			02:34	53.81			-0.06
LCP	EZ	141.0	EP			02:34	54.67			-0.04
BHH	SZ	142.0	EP			02:34	55.75			0.90
BHH	SN	142.0	ES			02:35	12.24			0.62
BHH	SE	142.0	AML			02:35	16.02	77	0.16	
BHH	SN	142.0	AML			02:35	19.66	114	0.36	
HLM1	HZ	146.0	EP			02:34	55.40			-0.10
HLM1	HE	146.0	ES			02:35	12.15			-0.60
HLM1	HE	146.0	AML			02:35	13.44	38	0.22	
HLM1	HN	146.0	AML			02:35	13.88	52	0.38	
ECK	EZ	151.0	EP			02:34	55.83			-0.37
BWH	SZ	156.0	EP			02:34	58.38			1.43
GAL1	HZ	161.0	EP			02:34	57.25			-0.41
GAL1	HN	161.0	ES			02:35	15.01			-1.48
GAL1	HE	161.0	AML			02:35	18.21	24	0.32	
GAL1	HN	161.0	AML			02:35	18.36	37	0.60	
CWF	HZ	165.0	EP			02:34	58.65			0.53
CWF	HN	165.0	ES			02:35	16.49			-0.80
CWF	HN	165.0	AML			02:35	19.08	34	0.42	
CWF	HE	165.0	AML			02:35	19.10	29	0.37	
ESK	HZ	166.0	EP			02:34	57.85			-0.53
ESK	HE	166.0	ES			02:35	16.61			-1.12
ESK	HN	166.0	AML			02:35	20.73	24	0.36	
ESK	HE	166.0	AML			02:35	23.40	41	0.40	
LPW	BZ	204.0	EP			02:35	04.28			1.08
LPW	BE	204.0	AML			02:35	29.71	31	0.20	
LPW	BN	204.0	AML			02:35	36.78	32	0.55	
MCH1	HZ	204.0	EP			02:35	03.56			0.41
MCH1	HE	204.0	ES			02:35	26.44			0.46
MCH1	HE	204.0	AML			02:35	30.65	18	0.37	
MCH1	HN	204.0	AML			02:35	37.09	22	0.27	
MONM	HZ	222.0	EP			02:35	05.72			0.35
MONM	HE	222.0	ES			02:35	30.31			0.49
MONM	HE	222.0	AML			02:35	38.27	43	0.44	
MONM	HN	222.0	AML			02:35	41.25	44	0.64	
PGB1	HZ	241.0	EP			02:35	08.03			0.22

April 1 2011 Time: 03:12 07.0 UTC Magnitude: 0.4 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

April 1 2011 Time: 18:23 58.0 UTC Magnitude: 1.0 ML
Lat: 55.043N Lon: -3.882W Depth: 11.2 km
Grid Ref: 279.76 kmE 573.68 kmN RMS: 0.30 secs
Locality: CASTLE DOUGLAS,D & G
Velocity model: Borders Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BWH	SZ	20.7	IP		C	18:24	02.81			0.46
BWH	SZ	20.7	ES			18:24	05.56			0.12
BHH	SZ	42.8	EP			18:24	06.17			0.41
BHH	SE	42.8	ES			18:24	11.44			0.17
BHH	SN	42.8	AML			18:24	12.05	32	0.46	
BHH	SE	42.8	AML			18:24	12.49	34	0.20	
ECK	EZ	50.4	EP			18:24	06.90			-0.11
ESK	HZ	52.8	IP		C	18:24	07.14			-0.23
ESK	HE	52.8	ES			18:24	13.20			-0.82
ESK	HE	52.8	AML			18:24	14.38	6	0.26	
ESK	HN	52.8	AML			18:24	14.42	7	0.14	
GAL1	HZ	56.6	EP			18:24	07.90			-0.06
GAL1	HN	56.6	ES			18:24	14.78			-0.25
GAL1	HE	56.6	AML			18:24	15.39	2	0.07	
GAL1	HN	56.6	AML			18:24	15.93	6	0.24	
PGB1	HZ	93.6	EP			18:24	14.25			0.30
PGB1	HE	93.6	ES			18:24	25.27			0.00
PGB1	HE	93.6	AML			18:24	27.04	6	0.18	
PGB1	HN	93.6	AML			18:24	27.71	11	0.27	

April 3 2011 Time: 08:28 53.0 UTC Magnitude: 0.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

April 3 2011 Time: 20:57 19.0 UTC Magnitude: 0.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

April 5 2011 Time: 16:14 50.0 UTC Magnitude: 1.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

April 8 2011 Time: 13:55 42.8 UTC Magnitude: 1.8 ML
Lat: 53.526N Lon: -2.588W Depth: 14.1 km
Grid Ref: 361.02 kmE 403.45 kmN RMS: 0.20 secs
Locality: WIGAN,GTR MANCHESTER
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
FOEL	HZ	81.8	EP			13:55	56.49			0.00
WPM1	EZ	92.5	EP			13:55	58.29			0.22
HLM1	HZ	114.0	EP			13:56	00.95			-0.18
HLM1	HE	114.0	ES			13:56	14.47			-0.02
HLM1	HE	114.0	AML			13:56	16.03	28	0.26	
HLM1	HN	114.0	AML			13:56	16.36	22	0.20	
KESW	HE	123.0	ES			13:56	16.80			0.10
CWF	HZ	123.0	EP			13:56	02.71			0.38
CWF	HN	123.0	ES			13:56	16.44			-0.12
CWF	HE	123.0	AML			13:56	17.21	27	0.16	
CWF	HN	123.0	AML			13:56	17.74	27	0.10	
WLF1	HZ	123.0	EP			13:56	02.31			-0.07
WLF1	HN	123.0	ES			13:56	16.70			0.05
WLF1	HN	123.0	AML			13:56	17.45	20	0.31	
KESW	HZ	123.0	EP			13:56	02.14			-0.27
WLF1	HE	123.0	AML			13:56	18.35	10	0.14	
YRC	EZ	136.0	EP			13:56	04.02			-0.15
YRE	EZ	137.0	EP			13:56	04.25			-0.11

April 12 2011 Time: 04:33 33.7 UTC Magnitude: 1.0 ML
Lat: 52.945N Lon: -4.216W Depth: 12.8 km
Grid Ref: 251.12 kmE 340.96 kmN RMS: 0.20 secs
Locality: PORTHMADOG,GWYNEDD
Velocity model: Lleyn Xnear: 80.0 Xfar: 200.0

TABLE 2 : PHASE DATA

Comment: 5KM WNW OF PORTHMADOG

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
YRE	EZ	14.6	EP			04:33	37.01			-0.01
YLL	EZ	21.9	EP			04:33	38.07			0.07
WLF1	HZ	40.1	EP			04:33	40.71			-0.08
WLF1	HE	40.1	ES			04:33	45.71			0.11
WLF1	HE	40.1	AML			04:33	45.90	19	0.09	
WLF1	HN	40.1	AML			04:33	45.90	9	0.09	
WPM1	EZ	40.5	IP		C	04:33	40.88			-0.01
YRC	EZ	41.6	IP		D	04:33	41.05			0.03
WME	EZ	50.6	IP		D	04:33	42.41			0.01
FOEL	HZ	68.6	EP			04:33	45.01			-0.20
FOEL	HN	68.6	ES			04:33	52.70			-0.33
FOEL	HE	68.6	AML			04:33	54.11	6	0.68	
FOEL	HN	68.6	AML			04:33	58.04	9	0.68	
LPW	BZ	93.1	EP			04:33	48.78			-0.16
LPW	BE	93.1	ES			04:33	59.10			-0.18
LPW	BE	93.1	AML			04:33	59.34	8	0.45	
LPW	BN	93.1	AML			04:34	04.35	5	0.20	
HLM1	HZ	102.0	EP			04:33	50.55			0.21
HLM1	HE	102.0	ES			04:34	02.07			0.43
HLM1	HE	102.0	AML			04:34	05.87	4	0.12	
HLM1	HN	102.0	AML			04:34	05.88	5	0.30	
MCH1	HZ	134.0	EP			04:33	55.30			0.04
MCH1	HN	134.0	ES			04:34	10.72			0.82
MCH1	HE	134.0	AML			04:34	11.64	4	1.18	
MCH1	HN	134.0	AML			04:34	12.84	4	0.64	

April 14 2011 Time: 04:11 59.0 UTC Magnitude: 1.4 ML
Lat: 57.694N Lon: -5.037W Depth: 7.4 km
Grid Ref: 219.01 kmE 871.16 kmN RMS: 0.40 secs
Locality: LOCH FANNICH,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 13KM NNE ACHNASHEEN

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KAC	EZ	26.8	EP			04:12	04.21			0.20
MDO	EZ	49.2	IP		C	04:12	07.14			-0.38
RRR	SZ	49.3	EP			04:12	07.56			0.10
RRR	SE	49.3	ES			04:12	13.63			-0.04
RRR	SN	49.3	AML			04:12	14.16	16	0.42	
RRR	SE	49.3	AML			04:12	14.20	9	0.34	
KPL	HZ	54.1	EP			04:12	08.70			0.50
KPL	HE	54.1	ES			04:12	14.47			-0.48
KPL	HE	54.1	AML			04:12	20.44	14	0.22	
KPL	HN	54.1	AML			04:12	20.76	14	0.62	
MVH1	EZ	56.9	IP		D	04:12	07.98			-0.68
MCD	EZ	107.0	EP			04:12	17.28			0.80
MCD	EN	107.0	ES			04:12	29.33			0.06
MCD	EN	107.0	AML			04:12	31.11	15	0.28	
MCD	EE	107.0	AML			04:12	31.28	22	0.38	
BIGH	HZ	111.0	EP			04:12	16.82			-0.21
BIGH	HE	111.0	ES			04:12	30.46			0.23
BIGH	HN	111.0	AML			04:12	31.27	22	0.24	
BIGH	HE	111.0	AML			04:12	31.28	27	0.30	
DRUM	HZ	177.0	EP			04:12	26.91			0.50

April 22 2011 Time: 17:26 23.8 UTC Magnitude: 1.9 ML
Lat: 60.608N Lon: -0.211W Depth: 7.2 km
Grid Ref: 497.93 kmE 1192.89 kmN RMS: 0.20 secs
Locality: SHETLAND ISLANDS
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 75KM NE OF LERWICK

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
YEL1	EZ	48.2	IP		D	17:26	32.17			-0.04
LRW	HZ	74.9	EP			17:26	35.97			-0.36
LRW	HE	74.9	ES			17:26	45.45			0.00
LRW	HE	74.9	AML			17:26	48.60	69	0.16	
LRW	HN	74.9	AML			17:26	48.62	53	0.12	
WAL1	EZ	86.8	EP			17:26	38.33			0.15
SAN1	EZ	86.9	EP			17:26	38.45			0.25

April 28 2011 Time: 21:26 22.9 UTC Magnitude: 2.1 ML
Lat: 56.388N Lon: -5.702W Depth: 14.8 km
Grid Ref: 171.52 kmE 727.89 kmN RMS: 0.30 secs
Locality: MULL,ARGYLL & BUTE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT MULL... Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
EAB	EZ	87.4	EP			21:26	37.45			0.28
KSB	EZ	93.2	EP			21:26	37.81			-0.21
PGB1	HZ	99.3	EP			21:26	39.37			0.52
PGB1	HE	99.3	ES			21:26	50.02			-0.46
PGB1	HN	99.3	AML			21:26	52.89	39	0.16	
PGB1	HE	99.3	AML			21:26	54.97	30	0.24	
KPL	HZ	106.0	EP			21:26	39.84			0.07
KPL	HN	106.0	ES			21:26	52.06			0.00
KPL	HE	106.0	AML			21:26	52.66	116	0.28	
KPL	HN	106.0	AML			21:26	54.11	54	0.34	
GMK	EZ	116.0	EP			21:26	41.11			-0.14
KAC	EZ	126.0	EP			21:26	42.39			-0.22
MDO	EZ	143.0	EP			21:26	44.57			-0.17
RRR	SZ	164.0	EP			21:26	47.04			-0.24
RRR	SE	164.0	ES			21:27	05.62			0.56
RRR	SN	164.0	AML			21:27	09.76	40	0.36	
RRR	SE	164.0	AML			21:27	09.92	42	0.42	
EDI	HE	165.0	AML			21:27	11.00	15	0.30	
EDI	HN	165.0	AML			21:27	14.21	20	0.24	
EDU	EZ	167.0	EP			21:26	48.14			0.41
GAL1	HZ	180.0	EP			21:26	49.39			0.01
GAL1	HN	180.0	AML			21:27	17.38	6	0.12	
GAL1	HE	180.0	AML			21:27	18.78	7	0.26	
MVH1	EZ	194.0	EP			21:26	50.29			-0.83
MME1	EZ	196.0	EP			21:26	50.66			-0.78
ESK	HZ	197.0	EP			21:26	51.22			-0.21
ESK	HE	197.0	AML			21:27	20.96	11	0.24	
ESK	HN	197.0	AML			21:27	24.47	12	0.26	
MCD	EZ	200.0	EP			21:26	51.14			-0.67
MCD	EN	200.0	AML			21:27	24.31	29	0.24	
MCD	EE	200.0	AML			21:27	25.97	32	0.38	
DRUM	HZ	206.0	EP			21:26	52.29			-0.26
DRUM	HN	206.0	AML			21:27	23.98	52	0.46	
DRUM	HE	206.0	AML			21:27	25.72	32	0.30	

May 1 2011 Time: 12:39 00.5 UTC Magnitude: 2.0 ML
Lat: 50.054N Lon: -6.642W Depth: 10.0 km
Grid Ref: 67.79 kmE 27.50 kmN RMS: 0.70 secs
Locality: ISLES OF SCILLY
Velocity model: Lownet Xnear: 200.0 Xfar: 300.0
Comment: 25KM NW OF ST MARY'S

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
CCA1	HZ	102.0	EP			12:39	16.62			-0.60
CCA1	HN	102.0	ES			12:39	29.23			-0.21
CCA1	HN	102.0	AML			12:39	30.56	128	0.22	
CCA1	HE	102.0	AML			12:39	30.75	93	0.22	
SBD	BZ	150.0	EP			12:39	23.74			-0.49
SBD	BE	150.0	ES			12:39	40.79			-0.76
SBD	BN	150.0	AML			12:39	42.16	26	0.30	
SBD	BE	150.0	AML			12:39	42.65	23	0.55	
HTL	HZ	185.0	EP			12:39	29.42			0.66
HTL	HE	185.0	ES			12:39	49.39			0.00
HTL	HE	185.0	AML			12:39	56.89	7	0.60	
HTL	HN	185.0	AML			12:39	58.12	8	0.78	
DYA	HZ	198.0	EP			12:39	30.13			-0.26
DYA	HE	198.0	ES			12:39	53.87			1.66
DYA	HE	198.0	AML			12:40	00.49	12	0.28	
DYA	HN	198.0	AML			12:40	01.48	28	0.32	

May 4 2011 Time: 09:40 38.0 UTC Magnitude: -0.9 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 7 2011 Time: 11:44 10.0 UTC Magnitude: -1.6 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 7 2011 Time: 18:33 26.4 UTC Magnitude: 1.5 ML
Lat: 56.330N Lon: -5.881W Depth: 10.3 km
Grid Ref: 160.11 kmE 722.05 kmN RMS: 0.20 secs
Locality: MULL,ARGYLL & BUTE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
EAB	EZ	96.9	EP			18:33	42.12			-0.17
KSB	EZ	102.0	EP			18:33	43.07			-0.02
PGB1	HZ	104.0	EP			18:33	43.58			0.15
GMK	EZ	111.0	EP			18:33	44.36			-0.06
KPL	HZ	113.0	EP			18:33	44.73			0.01
KPL	HE	113.0	ES			18:33	57.92			-0.20
KPL	HE	113.0	AML			18:34	00.82	21	0.24	
KPL	HN	113.0	AML			18:34	00.87	12	0.14	
KAC	EZ	135.0	EP			18:33	48.23			0.38
MDO	EZ	154.0	EP			18:33	51.19			0.50
GAL1	HZ	179.0	EP			18:33	53.40			-0.39
GAL1	HN	179.0	AML			18:34	15.38	2	1.00	
GAL1	HE	179.0	AML			18:34	18.92	2	0.68	
ESK	HZ	202.0	EP			18:33	56.51			-0.23
MCD	EE	212.0	AML			18:34	28.15	9	0.36	
MCD	EN	212.0	AML			18:34	32.92	11	0.86	

May 14 2011 Time: 02:28 48.0 UTC Magnitude: -1.9 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

TABLE 2 : PHASE DATA

May 26 2011 Time: 13:56 48.0 UTC Magnitude: -1.0 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 26 2011 Time: 14:06 31.0 UTC Magnitude: -0.5 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.3	EP			14:06	31.96			0.02
BAVH	HZ	1.3	ES			14:06	32.55			0.16
BAVH	HZ	1.3	AML			14:06	32.68	18	0.10	
BHHF	HZ	1.9	EP			14:06	31.91			-0.13
BHHF	HN	1.9	ES			14:06	32.52			-0.04
BHHF	HZ	1.9	AML			14:06	32.79	15	0.06	

May 26 2011 Time: 14:39 38.0 UTC Magnitude: 0.4 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.3	EP			14:39	38.73			-0.01
BAVH	HZ	1.3	ES			14:39	39.41			0.22
BAVH	HZ	1.3	AML			14:39	39.79	114	0.10	
BHHF	HZ	1.9	AML			14:39	39.52	122	0.08	
BHHF	HZ	1.9	EP			14:39	38.67			-0.17
BHHF	HN	1.9	ES			14:39	39.33			-0.03

May 26 2011 Time: 14:42 49.0 UTC Magnitude: -1.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 26 2011 Time: 14:47 34.0 UTC Magnitude: -0.8 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BHHF	HZ		EP			14:47	35.16			
BHHF	HZ		AML			14:47	36.26	26	0.24	
BHHF	HN		ES			14:47	35.76			

May 26 2011 Time: 15:06 35.0 UTC Magnitude: -1.1 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 26 2011 Time: 15:41 40.0 UTC Magnitude: -1.0 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 26 2011 Time: 16:03 49.0 UTC Magnitude: -0.9 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BHHF	HN		ES			16:03	50.94			
BHHF	HZ		AML			16:03	51.53	37	0.38	

May 26 2011 Time: 17:54 05.0 UTC Magnitude: -0.7 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 26 2011 Time: 18:40 28.0 UTC Magnitude: -1.3 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 26 2011 Time: 22:36 00.0 UTC Magnitude: 1.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.2	EP			22:36	00.28			0.05
BAVH	HZ	1.2	AML			22:36	01.06	623	0.08	
BHHF	HZ	2.2	EP			22:36	00.23			-0.17
BHHF	HN	2.2	ES			22:36	00.82			-0.09
BHHF	HZ	2.2	AML			22:36	01.38	1069	0.11	
SPK	EZ	76.5	EP			22:36	12.89			0.00
SPK	EN	76.5	ES			22:36	22.75			0.22
SPK	EE	76.5	AML			22:36	24.02	20	0.47	
SPK	EN	76.5	AML			22:36	24.71	28	0.22	
LHO	EZ	78.5	EP			22:36	13.00			-0.28
KESW	HZ	85.7	EP			22:36	14.40			0.04
KESW	HN	85.7	ES			22:36	25.15			0.08
KESW	HN	85.7	AML			22:36	26.68	10	0.76	
KESW	HE	85.7	AML			22:36	28.58	12	0.36	
HPK	HZ	88.2	EP			22:36	14.55			-0.19
HPK	HN	88.2	ES			22:36	25.17			-0.56
HPK	HE	88.2	AML			22:36	29.58	17	0.20	
HPK	HN	88.2	AML			22:36	30.74	17	0.20	
FOEL	HZ	105.0	EP			22:36	17.67			0.24
FOEL	HE	105.0	AML			22:36	34.85	4	0.76	
FOEL	HN	105.0	AML			22:36	38.67	9	0.42	
WLF1	HZ	113.0	EP			22:36	19.07			0.53
WLF1	HN	113.0	ES			22:36	32.92			0.61
WLF1	HN	113.0	AML			22:36	34.78	6	0.20	
WLF1	HE	113.0	AML			22:36	34.86	4	0.19	
YRC	EZ	125.0	EP			22:36	20.85			0.39
ECK	EZ	152.0	EP			22:36	24.42			0.07

May 26 2011 Time: 23:06 02.0 UTC Magnitude: 0.7 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.3	EP			23:06	02.82			0.01
BAVH	HZ	1.3	ES			23:06	03.46			0.20
BAVH	HZ	1.3	AML			23:06	03.68	124	0.08	
BHHF	HZ	1.9	EP			23:06	02.76			-0.15
BHHF	HN	1.9	ES			23:06	03.38			-0.05
BHHF	HZ	1.9	AML			23:06	03.95	282	0.13	

May 27 2011 Time: 00:48 46.0 UTC Magnitude: 1.5 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.50 secs
Locality: BLACKPOOL,LANCASHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 150.0
Comment: FELT POULTON-LE-FLYDE... Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.7	EP			00:48	47.13			0.04
BAVH	HZ	1.7	AML			00:48	48.01	1054	0.16	
BHHF	HZ	2.1	EP			00:48	47.07			-0.10
BHHF	HN	2.1	ES			00:48	47.67			0.00
BHHF	HZ	2.1	AML			00:48	48.23	1656	0.10	
SPK	EZ	76.4	EP			00:48	59.56			-0.12
SPK	EN	76.4	ES			00:49	09.31			0.00
SPK	EE	76.4	AML			00:49	11.27	49	0.18	
SPK	EN	76.4	AML			00:49	11.54	55	0.24	
LHO	EZ	79.6	EP			00:49	00.29			0.03
KESW	HZ	86.2	EP			00:49	01.13			-0.10
KESW	HN	86.2	ES			00:49	11.97			-0.04
KESW	HE	86.2	AML			00:49	15.41	29	0.38	
KESW	HN	86.2	AML			00:49	16.10	19	0.44	
HPK	HZ	89.8	EP			00:49	01.96			0.18
FOEL	HZ	105.0	EP			00:49	04.03			-0.08
FOEL	HN	105.0	ES			00:49	16.87			-0.12
FOEL	HN	105.0	AML			00:49	23.58	17	0.50	
FOEL	HE	105.0	AML			00:49	24.79	8	0.72	
WPS	HZ	111.0	EP			00:49	05.49			0.39
WLF1	HZ	111.0	EP			00:49	05.19			0.08
ECK	EZ	152.0	EP			00:49	11.09			-0.14
GAL1	HZ	163.0	EP			00:49	12.38			-0.32
GAL1	HE	163.0	ES			00:49	30.13			-1.71
GAL1	HN	163.0	AML			00:49	33.25	5	0.58	
GAL1	HE	163.0	AML			00:49	34.27	4	0.72	
ESK	HZ	167.0	EP			00:49	12.83			-0.59
ESK	HN	167.0	ES			00:49	31.57			-1.51
ESK	HN	167.0	AML			00:49	35.80	5	0.33	
ESK	HE	167.0	AML			00:49	38.13	5	0.32	

May 27 2011 Time: 00:57 21.0 UTC Magnitude: -0.9 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.3	EP			00:57	22.23			0.01
BAVH	HZ	1.3	ES			00:57	22.84			0.17
BAVH	HZ	1.3	AML			00:57	22.95	6	0.08	
BHHF	HZ	1.9	EP			00:57	22.21			-0.11
BHHF	HN	1.9	ES			00:57	22.77			-0.07
BHHF	HZ	1.9	AML			00:57	22.91	6	0.07	

May 27 2011 Time: 01:21 17.0 UTC Magnitude: -1.9 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

TABLE 2 : PHASE DATA

May 27 2011 Time: 03:59 02.0 UTC Magnitude: -1.8 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 09:33 48.0 UTC Magnitude: -1.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 13:22 24.0 UTC Magnitude: -0.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.3	EP			13:22	24.83			0.01
BAVH	HZ	1.3	ES			13:22	25.48			0.21
BAVH	HZ	1.3	AML			13:22	25.79	40	0.19	
BHHF	HZ	1.9	EP			13:22	24.75			-0.16
BHHF	HN	1.9	ES			13:22	25.38			-0.06
BHHF	HZ	1.9	AML			13:22	26.46	55	0.16	

May 27 2011 Time: 14:12 51.0 UTC Magnitude: -1.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 14:13 41.0 UTC Magnitude: -1.0 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 14:19 34.0 UTC Magnitude: -0.9 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 14:21 13.0 UTC Magnitude: 0.1 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.3	EP			14:21	13.79			0.00
BAVH	HZ	1.3	ES			14:21	14.43			0.20
BAVH	HZ	1.3	AML			14:21	14.81	47	0.14	
BHHF	HZ	1.9	EP			14:21	13.76			-0.15
BHHF	HN	1.9	ES			14:21	14.39			-0.05
BHHF	HZ	1.9	AML			14:21	14.56	56	0.09	

May 27 2011 Time: 14:21 28.0 UTC Magnitude: 0.5 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.3	EP			14:21	28.66			-0.01
BAVH	HZ	1.3	ES			14:21	29.30			0.18
BAVH	HZ	1.3	AML			14:21	29.61	125	0.07	
BHHF	HZ	1.9	EP			14:21	28.63			-0.13
BHHF	HN	1.9	ES			14:21	29.25			-0.04
BHHF	HZ	1.9	AML			14:21	29.76	154	0.08	

May 27 2011 Time: 14:41 00.0 UTC Magnitude: -1.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 14:47 22.0 UTC Magnitude: -1.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 15:04 28.0 UTC Magnitude: -1.1 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 15:33 40.0 UTC Magnitude: -0.7 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.3	EP			15:33	41.45			0.06
BAVH	HZ	1.3	ES			15:33	42.06			0.21
BAVH	HZ	1.3	AML			15:33	42.13	13	0.10	
BHHF	HZ	1.9	EP			15:33	41.29			-0.20
BHHF	HN	1.9	ES			15:33	41.95			-0.07

May 27 2011 Time: 15:38 20.0 UTC Magnitude: -1.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 16:07 38.0 UTC Magnitude: -1.5 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

May 27 2011 Time: 16:11 44.0 UTC Magnitude: -0.7 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BAVH	HZ	1.3	EP			16:11	44.94			-0.05
BAVH	HZ	1.3	ES			16:11	45.59			0.35
BAVH	HZ	1.3	AML			16:11	45.89	27	0.22	
BHHF	HZ	1.9	EP			16:11	44.91			-0.27
BHHF	HN	1.9	ES			16:11	45.52			-0.03
BHHF	HZ	1.9	AML			16:11	45.80	14	0.09	

May 28 2011 Time: 08:48 39.7 UTC Magnitude: 1.5 ML
Lat: 57.754N Lon: -4.662W Depth: 7.5 km
Grid Ref: 241.61 kmE 876.89 kmN RMS: 0.50 secs
Locality: STRATHRANNOCH,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 22KM NW OF DINGWALL

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MDO	EZ	39.2	EP			08:48	45.99			-0.70
KAC	EZ	47.5	EP			08:48	48.04			0.10
RRR	SZ	69.0	EP			08:48	51.09			-0.16
RRR	SN	69.0	ES			08:48	58.92			-0.77
RRR	SE	69.0	AML			08:49	05.03	10	0.58	
RRR	SN	69.0	AML			08:49	05.29	24	0.46	
RSC	SZ	72.6	EP			08:48	52.20			0.39
KPL	HZ	75.2	EP			08:48	52.66			0.46
KPL	HN	75.2	ES			08:49	01.12			-0.21
KPL	HE	75.2	AML			08:49	01.63	9	0.28	
KPL	HN	75.2	AML			08:49	04.67	12	0.16	
KSB	EZ	75.8	EP			08:48	52.97			0.60
MCD	EZ	86.1	EP			08:48	54.63			0.68
MCD	EE	86.1	ES			08:49	03.73			-0.62
BIGH	HZ	93.5	EP			08:48	55.71			0.67
BIGH	HE	93.5	ES			08:49	05.76			-0.48
BIGH	HN	93.5	AML			08:49	09.16	47	0.11	
BIGH	HE	93.5	AML			08:49	09.57	60	0.12	
EAB	EZ	175.0	EP			08:49	07.57			0.57

May 28 2011 Time: 08:59 20.7 UTC Magnitude: 2.4 ML
Lat: 57.739N Lon: -4.642W Depth: 7.5 km
Grid Ref: 242.74 kmE 875.18 kmN RMS: 0.30 secs
Locality: STRATHRANNOCH,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 20KM NW OF DINGWALL

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MDO	EZ	37.1	IP		C	08:59	27.12			-0.23
KAC	EZ	47.5	IP		D	08:59	28.94			0.02
RRR	SZ	70.5	EP			08:59	32.69			0.23
RRR	SN	70.5	ES			08:59	40.73			-0.33
RRR	SN	70.5	AML			08:59	41.15	139	0.42	
RRR	SE	70.5	AML			08:59	46.13	104	0.14	
RSC	SZ	74.7	IP		C	08:59	33.09			-0.01
KPL	HZ	75.1	IP		D	08:59	33.56			0.40
KPL	HN	75.1	ES			08:59	41.81			-0.48
KPL	HE	75.1	AML			08:59	42.50	78	0.32	
KPL	HN	75.1	AML			08:59	45.57	114	0.14	
KSB	EZ	75.2	EP			08:59	33.36			0.10
MCD	EZ	84.6	EP			08:59	34.86			0.17
MCD	EE	84.6	ES			08:59	44.44			-0.49
MCD	EN	84.6	AML			08:59	48.20	128	0.24	
MCD	EE	84.6	AML			08:59	48.52	204	0.52	
BIGH	HZ	94.4	IP		C	08:59	36.44			0.27
BIGH	HN	94.4	ES			08:59	47.18			-0.30
BIGH	HE	94.4	AML			08:59	50.47	380	0.11	
BIGH	HN	94.4	AML			08:59	52.06	396	0.22	
MME1	EZ	111.0	EP			08:59	39.19			0.37
RRH	SZ	123.0	EP			08:59	40.91			0.27
DRUM	HZ	159.0	EP			08:59	46.27			0.48
DRUM	HN	159.0	ES			09:00	04.69			0.57

TABLE 2 : PHASE DATA

DRUM	HE	159.0		AML		09:00	07.69	61	0.22
DRUM	HN	159.0		AML		09:00	07.89	76	0.22
EDU	EZ	165.0	EP			08:59	46.62		-0.10
EAB	EZ	174.0	EP			08:59	48.12		0.37
PGB1	HE	215.0		AML		09:00	22.66	62	0.24
PGB1	HN	215.0		AML		09:00	24.75	47	0.70
EDI	HZ	221.0	EP		9	08:59	57.32		3.71
EDI	HE	221.0	ES			09:00	22.20		0.83
EDI	HN	221.0		AML		09:00	29.91	27	0.52
EDI	HE	221.0		AML		09:00	30.75	36	0.36
GMK	EZ	273.0	EP			08:59	59.71		-0.41
ESK	HZ	284.0	EP			09:00	02.28		0.76
ESK	HN	284.0		AML		09:00	42.88	16	0.23
ESK	HE	284.0		AML		09:00	43.87	18	0.30
ECK	EZ	300.0	EP			09:00	04.23		0.71

June 2 2011 Time: 09:35 57.7 UTC Magnitude: 1.5 ML
Lat: 50.288N Lon: -3.291W Depth: 6.5 km
Grid Ref: 308.04 kmE 43.98 kmN RMS: 0.50 secs
Locality: OFF DARTMOUTH,DEVON
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 20KM ESE OF DARTMOUTH

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
DYA	HZ	48.4	EP			09:36	05.91			-0.30
DYA	HN	48.4	ES			09:36	11.85			-0.55
DYA	HN	48.4		AML		09:36	12.63	46	0.36	
DYA	HE	48.4		AML		09:36	13.59	39	0.66	
HTL	HZ	115.0	EP			09:36	16.92			0.37
HTL	HN	115.0	ES			09:36	30.46			0.17
HTL	HE	115.0		AML		09:36	31.13	8	0.42	
HTL	HN	115.0		AML		09:36	33.74	13	0.42	
CCA1	HZ	139.0	EP			09:36	20.83			0.81
CCA1	HN	139.0	ES			09:36	37.03			0.74
CCA1	HE	139.0		AML		09:36	39.40	6	0.28	
CCA1	HN	139.0		AML		09:36	39.47	8	0.16	
JSA	HE	147.0	ES			09:36	37.93			-0.27
JSA	HN	147.0		AML		09:36	39.25	5	0.38	
JSA	HE	147.0		AML		09:36	40.18	12	0.43	
JDC	EN	151.0	ES			09:36	39.15			-0.17
MCH1	HZ	191.0	EP			09:36	27.60			0.46
MCH1	HN	191.0	ES			09:36	48.18			-0.41
MCH1	HE	191.0		AML		09:36	50.13	6	0.22	
MCH1	HN	191.0		AML		09:36	50.32	7	0.32	

June 5 2011 Time: 09:35 19.1 UTC Magnitude: 1.7 ML
Lat: 52.979N Lon: -2.160W Depth: 2.5 km
Grid Ref: 389.26 kmE 342.45 kmN RMS: 0.10 secs
Locality: STOKE-ON-TRENT,STAFFS
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT STOKE-ON-TRENT Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STNC	HZ	12.8	IP		D	09:35	21.69			-0.07
STNC	HN	12.8	ES			09:35	23.68			-0.04
STNC	HN	12.8		AML		09:35	27.94	949	0.42	
STNC	HE	12.8		AML		09:35	28.30	705	0.50	
CWF	HZ	63.4	EP			09:35	30.20			0.07
CWF	HE	63.4	ES			09:35	38.20			0.01
CWF	HN	63.4		AML		09:35	40.27	12	0.33	
CWF	HE	63.4		AML		09:35	42.98	12	0.24	
FOEL	HZ	70.6	EP			09:35	31.44			0.14
FOEL	HN	70.6		AML		09:35	46.08	32	0.40	
FOEL	HE	70.6		AML		09:35	47.57	17	0.56	
HLM1	HZ	70.7	EP			09:35	31.08			-0.23
HLM1	HN	70.7		AML		09:35	45.14	17	0.30	
HLM1	HE	70.7		AML		09:35	46.34	25	0.53	
MCH1	HZ	123.0	EP			09:35	39.37			-0.04
MCH1	HE	123.0		AML		09:35	58.35	34	0.24	
MCH1	HN	123.0		AML		09:35	58.56	32	0.21	
YRE	EZ	152.0	EP			09:35	43.94			0.29
WLF1	HZ	154.0	EP			09:35	44.12			0.28
WLF1	HN	154.0		AML		09:36	03.12	16	0.24	
WLF1	HE	154.0		AML		09:36	03.97	11	0.24	
WPS	HE	163.0	EP			09:35	45.41			0.21
YRC	EZ	165.0	EP			09:35	45.36			-0.03
KESW	HZ	190.0	EP			09:35	48.80			0.06
KESW	HN	190.0		AML		09:36	17.06	8	0.52	
KESW	HE	190.0		AML		09:36	19.23	12	0.43	

June 23 2011 Time: 13:43 38.1 UTC Magnitude: 2.7 ML
Lat: 50.571N Lon: -3.734W Depth: 2.8 km
Grid Ref: 277.22 kmE 76.08 kmN RMS: 0.30 secs
Locality: NEWTON ABBOT,DEVON
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT SOUTH DEVON Intensity: 4

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
DYA	HZ	20.6	EP			13:43	42.12			-0.04
DYA	HE	20.6	ES			13:43	45.03			-0.06
DYA	HN	20.6		AML		13:43	45.18	1718	0.05	
DYA	HE	20.6		AML		13:43	45.28	2425	0.12	
HEX	EZ	55.3	EP			13:43	47.70			-0.22
SBD	BZ	67.4	EP			13:43	49.80			-0.01
SBD	BN	67.4	ES			13:43	57.95			-0.38
HTL	HZ	70.8	IP		D	13:43	50.51			0.20
HTL	HN	70.8	ES			13:43	59.50			0.31
HTL	HN	70.8		AML		13:44	02.73	331	0.23	
HTL	HE	70.8		AML		13:44	02.99	226	0.46	
CCA1	HZ	115.0	EP			13:43	57.27			0.16
CCA1	HN	115.0	ES			13:44	11.15			0.19
CCA1	HN	115.0		AML		13:44	12.56	228	0.15	
CCA1	HE	115.0		AML		13:44	13.25	140	0.15	
BATH	HZ	138.0	EP			13:44	00.82			0.12
BATH	HE	138.0	ES			13:44	17.56			0.39
BATH	HE	138.0		AML		13:44	22.03	487	0.27	
BATH	HN	138.0		AML		13:44	25.07	484	0.58	
OLDB	HZ	147.0	EP			13:44	02.03			0.14
MONM	HZ	155.0	EP			13:44	02.84			-0.29
MONM	HN	155.0	ES			13:44	20.95			-0.42
MCH1	HZ	167.0	EP			13:44	04.46			-0.32
MCH1	HN	167.0	ES			13:44	23.54			-0.69
MCH1	HE	167.0		AML		13:44	25.74	61	0.16	
MCH1	HN	167.0		AML		13:44	25.95	92	0.23	
LPW	BE	173.0	ES			13:44	25.48			-0.28
LPW	BE	173.0		AML		13:44	27.58	98	0.42	
LPW	BN	173.0		AML		13:44	27.83	57	0.21	
STRD	HZ	173.0	EP			13:44	05.51			-0.20
STRD	HN	173.0		AML		13:44	34.72	158	0.64	
LPW	BZ	173.0	EP			13:44	05.73			0.06
STRD	HE	173.0		AML		13:44	33.29	158	0.74	
JSA	HZ	190.0	EP			13:44	09.00			1.18
JSA	HN	190.0		AML		13:44	35.20	70	0.26	
JSA	HE	190.0		AML		13:44	37.13	70	0.30	
HLM1	HZ	225.0	EP			13:44	11.36			-0.80
HLM1	HN	225.0		AML		13:44	44.36	37	0.23	
HLM1	HE	225.0		AML		13:44	46.10	50	0.51	

July 9 2011 Time: 21:55 24.3 UTC Magnitude: 1.3 ML
Lat: 51.777N Lon: -3.046W Depth: 17.4 km
Grid Ref: 327.84 kmE 209.27 kmN RMS: 0.10 secs
Locality: ABERGAVENNEY,GWENT
Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MONM	HZ	18.0	EP			21:55	28.61			0.07
MONM	HE	18.0	ES			21:55	31.49			-0.09
MONM	HE	18.0		AML		21:55	32.22	95	0.20	
MONM	HN	18.0		AML		21:55	32.46	58	0.28	
MCH1	HZ	24.7	EP			21:55	29.39			-0.01
MCH1	HN	24.7	ES			21:55	33.13			0.07
MCH1	HN	24.7		AML		21:55	33.43	70	0.10	
MCH1	HE	24.7		AML		21:55	33.44	51	0.10	
STRD	HZ	61.0	EP			21:55	34.80			0.07
STRD	HE	61.0		AML		21:55	43.10	20	0.18	
STRD	HN	61.0		AML		21:55	43.76	10	0.19	
HLM1	HZ	83.2	EP			21:55	37.85			-0.25
HLM1	HE	83.2	ES			21:55	48.08			0.06
HLM1	HE	83.2		AML		21:55	50.96	9	0.20	
HLM1	HN	83.2		AML		21:55	51.08	6	0.16	
FOEL	HZ	124.0	EP			21:55	44.43			0.17

July 14 2011 Time: 06:59 10.9 UTC Magnitude: 3.9 ML
Lat: 50.122N Lon: -0.743W Depth: 10.0 km
Grid Ref: 489.85 kmE 25.49 kmN RMS: 0.50 secs
Locality: ENGLISH CHANNEL
Velocity model: Lownet Xnear: 250.0 Xfar: 500.0
Comment: FELT SOUTH COAST Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HMNX	HZ	113.0	EP			06:59	28.84			-0.41
HMNX	HE	113.0	ES			06:59	42.41			-0.21
HMNX	HN	113.0		AML		06:59	46.08	6714	0.32	
HMNX	HE	113.0		AML		06:59	46.20	7492	0.30	
WOL	BZ	137.0	EP			06:59	32.73			0.04
WOL	BN	137.0	ES			06:59	48.98			0.41
WOL	BE	137.0		AML		06:59	52.37	3526	0.65	
WOL	BN	137.0		AML		06:59	59.61	1341	0.30	
JQE	EZ	139.0	EP			06:59	33.25			0.28
JRS	EZ	142.0	EP			06:59	33.85			0.41
JRS	EE	142.0	ES			06:59	50.18			0.32
JSA	HZ	146.0	EP			06:59	34.25			0.20
JSA	HE	146.0	ES			06:59	50.90			-0.03
JSA	HE	146.0		AML		06:59	53.80	1475	0.60	
JSA	HN	146.0		AML		06:59	53.93	1446	0.54	
SWN1	HZ	172.0	EP			06:59	37.76			0.23
SWN1	HN	172.0		AML		07:00	08.61	1719	0.58	
SWN1	HE	172.0		AML		07:00	14.76	1217	0.70	
ELSH	HZ	175.0	EP			06:59	37.58			-0.36
ELSH	HE	175.0	ES			06:59	58.51			0.86
ELSH	HN	175.0		AML		07:00	04.01	1680	0.24	
ELSH	HE	175.0		AML		07:00	05.22	1965	0.50	
STRD	HZ	209.0	EP			06:59	42.41			0.19

TABLE 2 : PHASE DATA

STRD	HE	209.0	AML	07:00	13.12	1751	0.46	
STRD	HN	209.0	AML	07:00	17.26	2078	0.52	
OLDB	HZ	213.0	EP	06:59	42.68			0.01
OLDB	HN	213.0	AML	07:00	16.65	1739	0.38	
OLDB	HE	213.0	AML	07:00	17.74	3092	0.36	
SSW	EZ	219.0	EP	06:59	43.90			0.39
HGH	EZ	222.0	EP	06:59	43.90			0.02
DYA	HZ	230.0	EP	06:59	44.36			-0.46
MONM	HZ	240.0	EP	06:59	45.94			-0.07
MONM	HN	240.0	ES	07:00	12.53			0.92
MONM	HE	240.0	AML	07:00	19.39	455	0.18	
MONM	HN	240.0	AML	07:00	26.73	623	0.60	
HEX	EZ	241.0	EP	06:59	45.54			-0.62
MCH1	HZ	262.0	EP	06:59	48.44			-0.34
MCH1	HE	262.0	AML	07:00	34.69	693	0.58	
MCH1	HN	262.0	AML	07:00	41.29	257	0.64	
HTL	HZ	282.0	EP	06:59	50.84			-0.49
HTL	HN	282.0	AML	07:00	40.17	246	0.46	
HTL	HE	282.0	AML	07:00	40.52	211	0.36	
CWF	HZ	294.0	EP	06:59	52.25			-0.53
CWF	HN	294.0	AML	07:00	34.33	266	0.22	
CWF	HE	294.0	AML	07:00	34.63	473	0.44	
HLM1	HZ	305.0	EP	06:59	53.86			-0.43
HLM1	HN	305.0	AML	07:00	42.39	272	0.40	
HLM1	HE	305.0	AML	07:00	42.52	352	0.34	
CCA1	HZ	321.0	EP	06:59	55.49			-0.64
CCA1	HE	321.0	AML	07:00	50.11	185	0.96	
CCA1	HN	321.0	AML	07:00	57.01	216	0.74	
LPW	BE	321.0	AML	07:00	47.54	169	0.65	
LPW	BN	321.0	AML	07:00	49.94	163	0.40	
LPW	BZ	321.0	EP	06:59	56.05			-0.16
FOEL	HZ	352.0	EP	06:59	59.70			-0.41
FOEL	HE	352.0	AML	07:00	56.59	240	0.54	
FOEL	HN	352.0	AML	07:00	56.89	330	0.56	
LMK	HN	372.0	AML	07:01	07.13	1159	0.74	
LMK	HE	372.0	AML	07:01	09.78	958	0.56	
WPM1	EZ	412.0	EP	07:00	06.68			-0.88
WLF1	HZ	433.0	EP	07:00	09.20			-1.01
WLF1	HE	433.0	AML	07:01	20.67	56	0.64	
WLF1	HN	433.0	AML	07:01	27.41	78	0.72	
YRC	EZ	437.0	EP	07:00	09.55			-1.15
WPS	HZ	447.0	EP	07:00	11.31			-0.64
WPS	HE	447.0	AML	07:01	26.60	117	0.50	
WPS	HN	447.0	AML	07:01	27.62	70	0.60	
IWEX	BZ	490.0	EP	07:00	15.43			-1.86
KESW	HZ	522.0	EP	07:00	20.16			-1.22
WIM	EZ	522.0	EP	07:00	19.88			-1.52
GMM	EZ	580.0	EP	07:00	26.64			-1.90
ECK	EZ	586.0	EP	07:00	27.63			-1.67
GAL1	HZ	593.0	EP	07:00	27.79			-2.33
ESK	HZ	601.0	EP	07:00	29.54			-1.72
ESK	HN	601.0	AML	07:01	31.20	37	0.40	
ESK	HE	601.0	AML	07:01	31.59	32	0.30	
GMK	EZ	667.0	EP	07:00	37.42			-2.01

July 14 2011 Time: 13:30 50.6 UTC Magnitude: 1.8 ML
Lat: 50.113N Lon: -0.727W Depth: 10.0 km
Grid Ref: 491.01 kmE 24.50 kmN RMS: 0.10 secs
Locality: ENGLISH CHANNEL
Velocity model: Lownet Xnear: 250.0 Xfar: 500.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WOL	BZ	138.0	EP			13:31	12.53			0.00
JQE	EZ	139.0	EP			13:31	12.46			-0.18
JDG	EZ	140.0	EP			13:31	12.81			0.06
JDG	EN	140.0	ES			13:31	28.94			0.02
JDC	EZ	140.0	EP			13:31	12.77			0.01
JDC	EE	140.0	ES			13:31	28.97			0.04
JRS	EZ	142.0	EP			13:31	13.17			0.06
JRS	EE	142.0	ES			13:31	29.43			-0.11
JSA	HZ	147.0	EP			13:31	13.79			0.06
JSA	HE	147.0	ES			13:31	30.67			0.05
JSA	HE	147.0	AML			13:31	32.80	18	0.40	
JSA	HN	147.0	AML			13:31	32.86	17	0.24	

July 14 2011 Time: 20:55 09.1 UTC Magnitude: 1.8 ML
Lat: 50.078N Lon: -0.600W Depth: 10.0 km
Grid Ref: 500.16 kmE 20.78 kmN RMS: 0.20 secs
Locality: ENGLISH CHANNEL
Velocity model: Lownet Xnear: 250.0 Xfar: 500.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HMNX	HZ	110.0	EP			20:55	26.70			-0.27
JDC	EE	143.0	ES			20:55	48.35			0.03
JDG	EN	143.0	ES			20:55	48.21			-0.10
JDC	EZ	143.0	EP			20:55	32.02			0.27
JQE	EZ	143.0	EP			20:55	31.61			-0.02
WOL	BZ	144.0	EP			20:55	31.97			0.08
WOL	BE	144.0	AML			20:55	50.37	22	0.55	
WOL	BN	144.0	AML			20:55	51.03	10	0.30	
JRS	EZ	146.0	EP			20:55	32.45			0.33
JRS	EE	146.0	ES			20:55	48.92			-0.04
JSA	HZ	151.0	EP			20:55	33.01			0.23
JSA	HN	151.0	ES			20:55	49.59			-0.51
JSA	HE	151.0	AML			20:55	51.59	16	0.16	
JSA	HN	151.0	AML			20:55	52.29	22	0.28	

July 15 2011 Time: 16:32 04.3 UTC Magnitude: 1.0 ML
Lat: 51.077N Lon: -4.381W Depth: 7.5 km
Grid Ref: 233.23 kmE 133.61 kmN RMS: 0.30 secs
Locality: BARNSTAPLE BAY,DEVON
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HTL	HZ	11.7	IP		C	16:32	07.06			0.12
HTL	HN	11.7	ES			16:32	08.74			-0.14
HTL	HN	11.7	AML			16:32	08.89	116	0.14	
HTL	HE	11.7	AML			16:32	08.90	57	0.34	
HEX	EZ	40.6	EP			16:32	11.90			0.45
HEX	EZ	40.6	ES			16:32	16.26			-0.43
SBD	BZ	60.8	EP			16:32	14.80			0.22
SBD	BE	60.8	ES			16:32	22.00			-0.11
DYA	HZ	78.1	EP			16:32	17.23			-0.05
DYA	HE	78.1	ES			16:32	26.98			0.20
DYA	HE	78.1	AML			16:32	29.13	5	0.18	
DYA	HN	78.1	AML			16:32	30.66	6	0.44	
CCA1	HZ	116.0	EP			16:32	22.69			-0.40
CCA1	HE	116.0	ES			16:32	36.88			0.04
CCA1	HE	116.0	AML			16:32	37.44	6	0.35	
CCA1	HN	116.0	AML			16:32	39.30	4	0.09	

July 21 2011 Time: 14:21 18.6 UTC Magnitude: 3.5 ML
Lat: 53.575N Lon: 2.237W Depth: 11.5 km
Grid Ref: 680.45 kmE 417.09 kmN RMS: 0.60 secs
Locality: SOUTHERN NORTH SEA
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WACR	HZ	143.0	EP			14:21	41.71			0.50
WACR	HN	143.0	ES			14:21	57.86			0.17
LMK	HZ	171.0	EP			14:21	46.62			1.71
LMK	HN	171.0	AML			14:22	12.79	686	0.30	
LMK	HE	171.0	AML			14:22	17.16	838	0.60	
ELSH	HZ	280.0	EP			14:22	00.01			1.39
ELSH	HE	280.0	AML			14:22	38.55	137	0.32	
ELSH	HN	280.0	AML			14:22	43.90	144	0.50	
STRD	HZ	359.0	EP			14:22	08.86			0.43
HLM1	HZ	363.0	EP			14:22	08.60			-0.40
HLM1	HN	363.0	ES			14:22	46.55			0.78
HLM1	HN	363.0	AML			14:23	09.41	75	0.56	
HLM1	HE	363.0	AML			14:23	15.06	80	0.44	
FOEL	HZ	371.0	EP			14:22	09.76			-0.27
FOEL	HE	371.0	AML			14:23	09.81	78	0.60	
FOEL	HN	371.0	AML			14:23	11.24	149	0.50	
OLDB	HZ	388.0	EP			14:22	11.87			-0.17
BATH	HZ	390.0	EP			14:22	12.56			0.19
BATH	HE	390.0	AML			14:23	12.51	420	0.58	
BATH	HN	390.0	AML			14:23	14.16	486	0.58	
MONM	HZ	392.0	EP			14:22	12.34			-0.20
MONM	HE	392.0	AML			14:23	15.59	84	0.46	
MONM	HN	392.0	AML			14:23	16.58	150	0.52	
MCH1	HZ	394.0	EP			14:22	12.76			-0.14
MCH1	HE	394.0	ES			14:22	51.83			-0.70
MCH1	HE	394.0	AML			14:23	11.78	62	0.34	
MCH1	HN	394.0	AML			14:23	17.07	68	0.48	
LLW	BZ	402.0	EP			14:22	13.48			-0.42
HGH	EZ	404.0	EP			14:22	13.30			-0.79
ESY	EZ	407.0	EP			14:22	14.82			0.32
WPM1	EZ	410.0	EP			14:22	14.48			-0.39
EDI	HZ	436.0	EP			14:22	18.65			0.54
LPW	BZ	455.0	EP			14:22	20.18			-0.24
LPW	BN	455.0	AML			14:23	31.75	42	0.70	
LPW	BE	455.0	AML			14:23	35.29	26	0.65	
EDU	EZ	471.0	EP			14:22	22.54			0.01
GAL1	HZ	475.0	EP			14:22	23.29			0.29
DRUM	HZ	478.0	EP			14:22	23.48			0.15
DRUM	HE	478.0	ES			14:23	11.22			0.66
DRUM	HN	478.0	AML			14:23	12.91	32	0.54	
DRUM	HE	478.0	AML			14:23	13.44	30	0.54	
EAB	EZ	512.0	EP			14:22	27.78			0.12
MME1	EZ	531.0	EP			14:22	29.60			-0.39
GMM	EZ	543.0	EP			14:22	31.23			-0.22
GMK	EZ	544.0	EP			14:22	31.90			0.25
DYA	HZ	549.0	EP			14:22	31.24			-0.97
MCD	EZ	565.0	EP			14:22	33.97			-0.23
MCD	EE	565.0	ES			14:23	28.67			-0.71
MCD	EE	565.0	AML			14:23	31.52	16	0.52	
MCD	EN	565.0	AML			14:23	34.21	20	0.62	
JSA	HZ	576.0	EP			14:22	34.31			-1.29
KAC	EZ	645.0	EP			14:22	43.82			-0.46
KPL	HZ	651.0	EP			14:22	44.53			-0.43
KPL	HN	651.0	AML			14:23	52.96	18	0.70	

TABLE 2 : PHASE DATA

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HE	651.0	AML			14:23	53.05	14	0.52	
BIGH	HZ	668.0	EP			14:22	46.30			-0.77
BIGH	HE	668.0	AML			14:23	53.39	21	0.38	
BIGH	HN	668.0	AML			14:23	54.73	23	0.50	

July 30 2011 Time: 15:56 11.1 UTC Magnitude: 1.7 ML
Lat: 57.030N Lon: -5.507W Depth: 9.7 km
Grid Ref: 187.20 kmE 798.66 kmN RMS: 0.20 secs
Locality: KNOYDART,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 10KM EAST OF INVERIE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	35.6	EP			15:56	17.53			0.06
KPL	HN	35.6	ES			15:56	22.07			-0.06
KPL	HN	35.6	AML			15:56	22.34	19	0.28	
KPL	HE	35.6	AML			15:56	22.53	84	0.22	
KAC	SZ	53.7	EP			15:56	20.30			-0.02
PGB1	HZ	150.0	EP			15:56	34.94			0.22
PGB1	HE	150.0	ES			15:56	51.72			-0.25
PGB1	HE	150.0	AML			15:56	53.70	20	0.32	
PGB1	HN	150.0	AML			15:56	53.92	20	0.32	
DRUM	HZ	184.0	EP			15:56	40.24			0.97
DRUM	HE	184.0	AML			15:57	03.98	10	0.25	
DRUM	HN	184.0	AML			15:57	04.84	23	0.26	
BIGH	HZ	189.0	EP			15:56	40.20			0.39
BIGH	HN	189.0	AML			15:57	08.07	8	0.12	
BIGH	HE	189.0	AML			15:57	08.25	10	0.19	

August 2 2011 Time: 08:12 56.0 UTC Magnitude: -0.2 ML
Lat: 53.818N Lon: -2.950W Depth: 2.3 km
Grid Ref: 337.46 kmE 436.19 kmN RMS: 0.10 secs
Locality: BLACKPOOL,LANCASHIRE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES

August 4 2011 Time: 16:45 18.5 UTC Magnitude: 2.0 ML
Lat: 52.252N Lon: -2.842W Depth: 8.4 km
Grid Ref: 342.53 kmE 261.91 kmN RMS: 0.20 secs
Locality: LEOMINSTER,HEREFORD
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 10KM NW LEOMINSTER

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HLM1	HZ	29.8	EP			16:45	24.12			0.05
HLM1	HN	29.8	ES			16:45	28.06			-0.06
HLM1	HE	29.8	AML			16:45	28.37	161	0.20	
HLM1	HN	29.8	AML			16:45	28.47	95	0.14	
MCH1	HZ	30.2	IP		C	16:45	24.02			-0.09
MCH1	HN	30.2	ES			16:45	28.07			-0.11
MCH1	HN	30.2	AML			16:45	28.46	272	0.08	
MCH1	HE	30.2	AML			16:45	28.48	424	0.10	
MONM	HZ	46.0	IP		C	16:45	26.58			0.05
MONM	HE	46.0	ES			16:45	32.43			0.06
MONM	HE	46.0	AML			16:45	32.74	306	0.21	
MONM	HN	46.0	AML			16:45	33.93	58	0.23	
HGH	EZ	68.3	IP		C	16:45	30.13			0.12
OLDB	HZ	68.8	EP			16:45	30.13			0.09
STRD	HZ	70.6	EP			16:45	30.15			-0.21
STRD	HE	70.6	ES			16:45	38.95			-0.04
SSW	EZ	75.0	EP			16:45	31.09			0.03
WPM1	EZ	133.0	EP			16:45	40.49			0.60
WPM1	EZ	133.0	ES			16:45	55.11			-0.37

August 4 2011 Time: 23:25 48.7 UTC Magnitude: 2.0 ML
Lat: 54.575N Lon: -1.992W Depth: 1.3 km
Grid Ref: 400.52 kmE 519.99 kmN RMS: 0.30 secs
Locality: BARNARD CASTLE,DURHAM
Velocity model: Lownet Xnear: 200.0 Xfar: 300.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KESW	HZ	72.0	EP			23:26	01.08			-0.31
KESW	HN	72.0	ES			23:26	10.84			0.23
KESW	HE	72.0	AML			23:26	13.34	53	0.12	
KESW	HN	72.0	AML			23:26	13.38	54	0.18	
BHH	SZ	97.6	EP			23:26	05.63			0.28
BHH	SE	97.6	ES			23:26	17.75			0.28
BHH	SN	97.6	AML			23:26	19.19	169	0.17	
BHH	SE	97.6	AML			23:26	19.72	192	0.28	
ECK	EZ	99.4	EP			23:26	05.25			-0.40
ESK	HZ	113.0	EP			23:26	07.50			-0.30
ESK	HN	113.0	ES			23:26	21.35			-0.36
ESK	HE	113.0	AML			23:26	21.84	46	0.16	
ESK	HN	113.0	AML			23:26	23.05	46	0.10	
ESY	EZ	155.0	EP			23:26	14.22			0.27
LMK	HZ	166.0	EP			23:26	15.60			0.12
GAL1	HZ	178.0	EP			23:26	17.82			0.62
GAL1	HN	178.0	AML			23:26	39.92	14	0.36	
GAL1	HE	178.0	AML			23:26	40.00	6	0.48	
FOEL	HZ	204.0	EP			23:26	20.41			-0.07
FOEL	HN	204.0	ES			23:26	43.43			-0.21
FOEL	HE	204.0	AML			23:26	50.53	14	0.54	
FOEL	HN	204.0	AML			23:26	51.56	24	0.36	
CWF	HZ	209.0	AML			23:26	45.81	11	0.32	
CWF	HN	209.0	AML			23:26	47.36	14	0.22	
GMK	EZ	246.0	EP			23:26	25.04			-0.66

August 7 2011 Time: 17:11 57.9 UTC Magnitude: 0.8 ML
Lat: 53.138N Lon: -4.771W Depth: 9.3 km
Grid Ref: 214.67 kmE 363.71 kmN RMS: 0.10 secs
Locality: CAERNARFON BAY,N WALES
Velocity model: Lleyn Xnear: 80.0 Xfar: 200.0
Comment: 20KM SW OF HOLYHEAD

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WLF1	HZ	30.1	EP			17:12	03.10			-0.09
WLF1	HN	30.1	ES			17:12	06.78			-0.03
WLF1	HE	30.1	AML			17:12	07.31	15	0.08	
WLF1	HN	30.1	AML			17:12	07.38	16	0.05	
WPS	HZ	34.4	EP			17:12	04.00			0.13
WPS	HE	34.4	ES			17:12	07.94			0.00
YLL	EZ	40.2	EP			17:12	04.94			0.12
WME	EZ	42.4	IP		C	17:12	05.15			-0.03
WPM1	EZ	59.4	EP			17:12	07.91			-0.06
FOEL	HZ	109.0	EP			17:12	15.61			-0.18
FOEL	HN	109.0	ES			17:12	28.10			0.12

August 11 2011 Time: 03:26 16.8 UTC Magnitude: 1.1 ML
Lat: 53.199N Lon: -2.752W Depth: 7.5 km
Grid Ref: 349.77 kmE 367.18 kmN RMS: 0.10 secs
Locality: CHESTER,CHESHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 10KM EAST OF CHESTER

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
FOEL	HZ	45.7	IP		C	03:26	24.72			-0.09
FOEL	HE	45.7	ES			03:26	30.86			0.20
FOEL	HE	45.7	AML			03:26	31.49	5	0.11	
FOEL	HN	45.7	AML			03:26	32.45	28	0.44	
HLM1	HZ	76.2	EP			03:26	29.52			-0.02
HLM1	HE	76.2	ES			03:26	38.64			-0.21
HLM1	HN	76.2	AML			03:26	39.09	6	0.13	
HLM1	HE	76.2	AML			03:26	39.30	12	0.33	
WPM1	EZ	77.2	EP			03:26	29.76			0.08
WME	EZ	106.0	EP			03:26	34.09			0.04
WLF1	HZ	110.0	EP			03:26	34.80			0.06
WLF1	HN	110.0	ES			03:26	47.60			-0.23
WLF1	HN	110.0	AML			03:26	48.85	6	0.15	
WLF1	HE	110.0	AML			03:26	48.98	5	0.24	
MCH1	HZ	135.0	EP			03:26	38.61			0.18
MCH1	HN	135.0	ES			03:26	54.38			0.15
MCH1	HE	135.0	AML			03:26	56.12	5	0.16	
MCH1	HN	135.0	AML			03:26	56.53	6	0.18	

August 21 2011 Time: 08:37 23.9 UTC Magnitude: 2.9 ML
Lat: 56.851N Lon: -5.665W Depth: 11.8 km
Grid Ref: 176.55 kmE 779.25 kmN RMS: 0.30 secs
Locality: LOCH AILORT,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT ACHARACLE... Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	54.4	IP		C	08:37	33.24			-0.01
KPL	HE	54.4	ES			08:37	39.99			-0.05
KPL	HE	54.4	AML			08:37	40.33	781	0.20	
KPL	HN	54.4	AML			08:37	44.32	583	0.20	
KAC	EZ	75.5	EP			08:37	36.65			0.10
MDO	EZ	103.0	EP			08:37	40.70			-0.07
EAB	EZ	110.0	IP		C	08:37	42.00			0.19
RRR	SZ	112.0	EP			08:37	42.03			-0.07
RRR	SE	112.0	ES			08:37	55.45			0.10
RRR	SE	112.0	AML			08:37	58.20	369	0.24	
RRR	SN	112.0	AML			08:37	58.31	329	0.17	
RRH	SZ	134.0	EP			08:37	45.24			0.06
PGB1	HZ	137.0	EP			08:37	45.23			-0.39
PGB1	HE	137.0	AML			08:38	02.54	169	0.50	
PGB1	HN	137.0	AML			08:38	04.07	311	0.46	
EDU	EZ	166.0	EP			08:37	50.80			1.09
MCD	EZ	167.0	EP			08:37	49.24			-0.55
MCD	EE	167.0	ES			08:38	08.65			-0.01
MCD	EN	167.0	AML			08:38	13.11	170	0.34	
MCD	EE	167.0	AML			08:38	14.25	171	0.20	
RSC	SZ	169.0	EP			08:37	49.80			-0.25
MME1	EZ	172.0	EP			08:37	49.58			-0.85
EDI	HN	185.0	AML			08:38	15.90	153	0.44	
EDI	HE	185.0	AML			08:38	16.24	131	0.38	
DRUM	HZ	194.0	EP			08:37	52.64			-0.50
DRUM	HN	194.0	AML			08:38	19.40	217	0.43	
DRUM	HE	194.0	AML			08:38	20.00	168	0.18	
ESK	HE	229.0	AML			08:38	30.98	67	0.30	
GAL1	HZ	229.0	EP			08:37	56.61			-0.89
GAL1	HE	229.0	AML			08:38	29.86	38	0.42	
ESK	HZ	229.0	EP			08:37	56.85			-0.75
ESK	HN	229.0	AML			08:38	30.64	66	0.44	
GAL1	HN	229.0	AML			08:38	30.65	24	0.30	

TABLE 2 : PHASE DATA

```
ECK    EZ  244.0  EP          08:37  58.73             -0.72

August 21 2011      Time: 11:13 10.1 UTC     Magnitude: 1.4 ML
  Lat: 56.850N      Lon: -5.675W             Depth: 9.7 km
  Grid Ref: 175.94 kmE  779.18 kmN           RMS: 0.10 secs
  Locality: LOCH AILORT,HIGHLAND
  Velocity model: Lownet  Xnear: 100.0  Xfar: 200.0
  Comment: FELT GLENUIG                      Intensity: 2
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
KPL    HZ   54.5  EP          11:13  19.39              0.01
KPL    HE   54.5  ES          11:13  26.09             -0.07
KPL    HE   54.5   AML        11:13  26.42    33  0.18
KPL    HN   54.5   AML        11:13  30.12    24  0.16
KAC    EZ   75.8  EP          11:13  22.80              0.09
MDO    EZ  103.0  EP          11:13  26.99              0.00
EAB    EZ  110.0  EP          11:13  28.05             -0.04

August 21 2011      Time: 11:16 55.9 UTC     Magnitude: 0.9 ML
  Lat: 56.844N      Lon: -5.756W             Depth: 10.0 km
  Grid Ref: 170.97 kmE  778.78 kmN           RMS: 0.30 secs
  Locality: LOCH AILORT,HIGHLAND
  Velocity model: Lownet  Xnear: 100.0  Xfar: 200.0
  Comment: FELT GLENUIG                      Intensity: 2
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
KPL    HZ   55.5  EP          11:17  05.70              0.31
KPL    HN   55.5  ES          11:17  11.99             -0.31
KPL    HE   55.5   AML        11:17  12.44    12  0.20
KPL    HN   55.5   AML        11:17  16.17     7  0.14
KAC    EZ   78.0  EP          11:17  08.87             -0.04
MDO    EZ  107.0  EP          11:17  13.76              0.26
EAB    EZ  114.0  EP          11:17  14.17             -0.26

August 21 2011      Time: 17:26 23.5 UTC     Magnitude: 0.8 ML
  Lat: 56.839N      Lon: -5.774W             Depth: 10.0 km
  Grid Ref: 169.84 kmE  778.28 kmN           RMS: 0.20 secs
  Locality: LOCH AILORT,HIGHLAND
  Velocity model: Lownet  Xnear: 100.0  Xfar: 200.0
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
KPL    HZ   56.2  EP          17:26  33.35              0.24
KPL    HE   56.2  ES          17:26  39.85             -0.24
KPL    HE   56.2   AML        17:26  40.22    10  0.24
KPL    HN   56.2   AML        17:26  44.10     4  0.10
KAC    EZ   78.9  EP          17:26  36.64             -0.03
MDO    EZ  109.0  EP          17:26  41.51              0.21
EAB    EZ  114.0  EP          17:26  41.92             -0.20

August 21 2011      Time: 18:24 13.8 UTC     Magnitude: 2.0 ML
  Lat: 56.860N      Lon: -5.670W             Depth: 11.1 km
  Grid Ref: 176.30 kmE  780.27 kmN           RMS: 0.20 secs
  Locality: LOCH AILORT,HIGHLAND
  Velocity model: Lownet  Xnear: 100.0  Xfar: 200.0
  Comment: FELT ACHARACLE...                 Intensity: 3
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
KPL    HZ   53.3  EP          18:24  22.92             -0.04
KPL    HN   53.3  ES          18:24  29.54             -0.09
KPL    HE   53.3   AML        18:24  30.00   113  0.20
KPL    HN   53.3   AML        18:24  33.71    67  0.16
KAC    EZ   74.6  EP          18:24  26.38              0.10
MDO    EZ  102.0  EP          18:24  30.62              0.03
EAB    EZ  111.0  IP          18:24  31.70             -0.16
RRR    SZ  111.0  EP          18:24  32.11              0.24
RRR    SE  111.0  ES          18:24  45.01             -0.04
RRR    SE  111.0   AML        18:24  48.54    42  0.24
RRR    SN  111.0   AML        18:24  48.79    42  0.20
RRH    SZ  133.0  EP          18:24  34.81             -0.15
EDU    EZ  167.0  EP          18:24  40.61              0.90
MCD    EE  167.0  ES          18:24  58.17             -0.42
MCD    EN  167.0   AML        18:25  02.80    17  0.32
MCD    EE  167.0   AML        18:25  06.68    17  0.44

August 22 2011      Time: 00:43 22.2 UTC     Magnitude: 0.6 ML
  Lat: 56.854N      Lon: -5.719W             Depth: 10.3 km
  Grid Ref: 173.28 kmE  779.77 kmN           RMS: 0.10 secs
  Locality: LOCH AILORT,HIGHLAND
  Velocity model: Lownet  Xnear: 100.0  Xfar: 200.0
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
KPL    HZ   54.2  EP          00:43  31.56             -0.01
KPL    HE   54.2  ES          00:43  38.28             -0.12
KPL    HN   54.2   AML        00:43  38.45     3  0.44
KPL    HE   54.2   AML        00:43  38.46     5  0.36
KAC    EZ   76.2  EP          00:43  35.15              0.17
EAB    EZ  113.0  EP          00:43  40.18             -0.07

August 22 2011      Time: 02:37 46.5 UTC     Magnitude: 0.5 ML
  Lat: 56.851N      Lon: -5.681W             Depth: 9.7 km
  Grid Ref: 175.58 kmE  779.31 kmN           RMS: 0.10 secs
  Locality: LOCH AILORT,HIGHLAND
  Velocity model: Lownet  Xnear: 100.0  Xfar: 200.0
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
KPL    HZ   54.4  EP          02:37  55.73              0.01
KPL    HE   54.4  ES          02:38  02.41             -0.08
KPL    HE   54.4   AML        02:38  02.88     6  0.30
KPL    HN   54.4   AML        02:38  02.89     2  0.21
KAC    EZ   75.7  EP          02:37  59.18              0.11
EAB    EZ  111.0  EP          02:38  04.48             -0.05

August 22 2011      Time: 03:15 18.9 UTC     Magnitude: 0.7 ML
  Lat: 56.852N      Lon: -5.740W             Depth: 11.2 km
  Grid Ref: 171.99 kmE  779.61 kmN           RMS: 0.20 secs
  Locality: LOCH AILORT,HIGHLAND
  Velocity model: Lownet  Xnear: 100.0  Xfar: 200.0
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
KPL    HZ   54.5  EP          03:15  28.44              0.21
KPL    HE   54.5  ES          03:15  34.82             -0.21
KPL    HE   54.5   AML        03:15  35.59    10  0.42
KPL    HN   54.5   AML        03:15  35.60     4  0.21
KAC    EZ   76.8  EP          03:15  31.67             -0.04
MDO    EZ  106.0  EP          03:15  36.47              0.20
EAB    EZ  114.0  EP          03:15  37.13             -0.19

August 29 2011      Time: 10:08 05.9 UTC     Magnitude: 1.9 ML
  Lat: 56.699N      Lon: -5.195W             Depth: 7.1 km
  Grid Ref: 204.41 kmE  760.91 kmN           RMS: 0.40 secs
  Locality: BALLACHULISH,HIGHLAND
  Velocity model: Lownet  Xnear: 100.0  Xfar: 200.0
  Comment: FELT BALLACHULISH...              Intensity: 3
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
KPL    HZ   76.6  IP        C 10:08  19.13              0.47
KPL    HE   76.6  ES          10:08  27.47             -0.49
KPL    HE   76.6   AML        10:08  31.16    41  0.45
KPL    HN   76.6   AML        10:08  32.25    34  0.11
EAB    EZ   77.6  IP        C 10:08  18.42             -0.45
KAC    EZ   89.3  EP          10:08  20.84              0.16
MDO    EZ   96.8  EP          10:08  21.76             -0.12
PGB1   HZ  108.0  EP          10:08  23.98              0.39
PGB1   HN  108.0  ES          10:08  36.40             -0.09
PGB1   HE  108.0   AML        10:08  38.12    31  0.34
PGB1   HN  108.0   AML        10:08  38.93    22  0.45
MCD    EZ  153.0  EP          10:08  30.44              0.19
MCD    EN  153.0  ES          10:08  48.57              0.55
MCD    EE  153.0   AML        10:08  49.47    19  0.18
MCD    EN  153.0   AML        10:08  50.27    18  0.20
DRUM   HZ  167.0  EP          10:08  32.47              0.26
DRUM   HE  167.0  ES          10:08  51.29             -0.12
DRUM   HN  167.0   AML        10:08  53.60    29  0.26
DRUM   HE  167.0   AML        10:08  54.13    18  0.08

September 5 2011    Time: 02:23 25.5 UTC     Magnitude: 1.8 ML
  Lat: 51.988N      Lon: 1.799W              Depth: 11.0 km
  Grid Ref: 660.80 kmE  239.04 kmN           RMS: 0.20 secs
  Locality: SOUTHERN NORTH SEA
  Velocity model: North Sea  Xnear: 400.0  Xfar: 600.0
  Comment: 30KM EAST FELIXSTOWE
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
ELSH   HZ  104.0  EP          02:23  42.30              0.17
ELSH   HE  104.0  ES          02:23  54.25             -0.03
ELSH   HE  104.0   AML        02:23  55.71    28  0.24
ELSH   HN  104.0   AML        02:23  56.24    27  0.51
WACR   HZ  114.0  EP          02:23  43.63             -0.07
WACR   HE  114.0  ES          02:23  57.07              0.06
WACR   HE  114.0   AML        02:23  58.83    35  0.12
WACR   HN  114.0   AML        02:23  58.88    41  0.19
CWF    HZ  228.0  EP          02:23  57.94             -0.21
CWF    HN  228.0  ES          02:24  22.30              0.29
CWF    HN  228.0   AML        02:24  26.40     4  0.23
CWF    HE  228.0   AML        02:24  27.82     5  0.12
MCH1   HE  329.0  ES          02:24  43.72             -0.21

September 7 2011    Time: 11:09 02.4 UTC     Magnitude: 1.1 ML
  Lat: 53.100N      Lon: -3.915W             Depth: 15.7 km
  Grid Ref: 271.80 kmE  357.61 kmN           RMS: 0.10 secs
  Locality: BETWS-Y-COED,CONWY
  Velocity model: Lleyn  Xnear: 50.0  Xfar: 100.0
  Comment: 7KM WEST OF BETWS
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
WPM1   EZ   17.7  EP          11:09  06.33             -0.01
WLF1   HZ   38.5  IP        D 11:09  09.22             -0.01
WLF1   HE   38.5  ES          11:09  13.88             -0.01
WLF1   HN   38.5   AML        11:09  14.10    33  0.14
WLF1   HE   38.5   AML        11:09  14.82    16  0.10
WME    EZ   42.0  IP        D 11:09  09.70             -0.07
WPS    HZ   51.4  EP          11:09  11.17             -0.01
WPS    HE   51.4  ES          11:09  17.28              0.11
WPS    HE   51.4   AML        11:09  17.54    19  0.16
WPS    HN   51.4   AML        11:09  17.69    12  0.09
FOEL   HZ   53.4  EP          11:09  11.46             -0.08
FOEL   HN   53.4  ES          11:09  17.86              0.09
FOEL   HE   53.4   AML        11:09  18.35    11  0.20
```

TABLE 2 : PHASE DATA

```
FOEL   HN   53.4   AML        11:09  18.71    22  0.25
HLM1   HZ   95.1  EP          11:09  18.31              0.37
HLM1   HE   95.1   AML        11:09  32.27     5  0.30
HLM1   HN   95.1   AML        11:09  33.77     6  0.14

September 8 2011    Time: 10:41 57.8 UTC     Magnitude: 1.9 ML
  Lat: 56.591N      Lon: -5.641W             Depth: 5.5 km
  Grid Ref: 176.48 kmE  750.26 kmN           RMS: 0.30 secs
  Locality: LOCHALINE,HIGHLAND
  Velocity model: Lownet  Xnear: 150.0  Xfar: 300.0
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
KPL    HZ   83.3  EP          10:42  12.09              0.24
KPL    HE   83.3  ES          10:42  21.96             -0.18
KPL    HE   83.3   AML        10:42  27.40    57  0.24
KPL    HN   83.3   AML        10:42  27.48    49  0.22
EAB    EZ   92.2  EP          10:42  12.97             -0.31
KAC    EZ  103.0  EP          10:42  15.15              0.17
PGB1   HZ  113.0  EP          10:42  16.40             -0.05
PGB1   HE  113.0   AML        10:42  32.72    22  0.40
PGB1   HN  113.0   AML        10:42  33.09    20  0.47
MDO    EZ  122.0  EP          10:42  17.63             -0.36
GMK    EZ  139.0  EP          10:42  20.38             -0.03
EDU    EZ  162.0  EP          10:42  24.37              0.62
MCD    EZ  182.0  EP          10:42  26.46              0.00
MCD    EN  182.0   AML        10:42  50.62    29  0.24
MCD    EE  182.0   AML        10:42  51.02    30  0.48

September 14 2011   Time: 17:56 01.0 UTC     Magnitude: 2.1 ML
  Lat: 56.341N      Lon: -5.124W             Depth: 12.2 km
  Grid Ref: 206.94 kmE  720.89 kmN           RMS: 0.30 secs
  Locality: INVERARAY,ARGYLL/BUTE
  Velocity model: Lownet  Xnear: 100.0  Xfar: 150.0
  Comment: 13KM N OF INVERARAY
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
EAB    EZ   51.6  IP        C  17:56  09.69             -0.21
PGB1   HZ   71.2  IP        C  17:56  13.17              0.27
PGB1   HN   71.2  ES           17:56  21.49             -0.13
PGB1   HE   71.2   AML        17:56  23.88    98  0.26
PGB1   HN   71.2   AML        17:56  23.97   131  0.30
GMK    EZ  115.0  IP        C  17:56  19.30             -0.13
KPL    HZ  116.0  EP          17:56  19.76              0.20
KPL    HE  116.0  ES          17:56  32.81             -0.32
KPL    HE  116.0   AML        17:56  35.52    27  0.29
KPL    HN  116.0   AML        17:56  36.09    22  0.23
KAC    EZ  129.0  EP          17:56  21.57              0.03
EDI    HZ  129.0  EP          17:56  21.86              0.38
EDI    HN  129.0  ES          17:56  36.43             -0.04
EDI    HE  129.0   AML        17:56  39.80    17  0.24
EDI    HN  129.0   AML        17:56  40.16    20  0.36
MDO    EZ  131.0  EP          17:56  22.39              0.58
EDU    EZ  132.0  EP          17:56  22.32              0.31
MME1   EZ  171.0  EP          17:56  27.86              0.58
DRUM   HZ  174.0  EP          17:56  29.25              1.62
MCD    EZ  179.0  EP          17:56  29.79              1.50
MCD    EE  179.0   AML        17:56  52.90    70  0.18
MCD    EN  179.0   AML        17:56  53.11    48  0.27

October 3 2011      Time: 21:12 37.7 UTC     Magnitude: 1.6 ML
  Lat: 56.227N      Lon: -3.575W             Depth: 7.9 km
  Grid Ref: 302.36 kmE  704.93 kmN           RMS: 0.10 secs
  Locality: GLENDEVON,PERTHSHIRE
  Velocity model: Lownet  Xnear: 75.0  Xfar: 120.0
  Comment: FELT GLENDEVON...                 Intensity: 3
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
EDI    HZ   41.6  IP        D  21:12  44.97              0.00
EDI    HN   41.6  ES           21:12  50.28             -0.03
EDI    HN   41.6   AML        21:12  51.04    29  0.14
EDI    HE   41.6   AML        21:12  51.24    30  0.25
EAB    EZ   47.5  EP          21:12  45.84             -0.07
EDU    EZ   49.9  EP          21:12  46.34              0.03
PGB1   HZ   73.1  EP          21:12  49.93              0.05
PGB1   HE   73.1  ES          21:12  58.81              0.01
PGB1   HN   73.1   AML        21:12  59.60    26  0.29
PGB1   HE   73.1   AML        21:12  59.63    31  0.55
DRUM   HZ  102.0  EP          21:12  54.29              0.02
DRUM   HE  102.0  ES          21:13  06.36             -0.05
DRUM   HN  102.0   AML        21:13  10.31    55  0.17
DRUM   HE  102.0   AML        21:13  08.34    32  0.17
ESK    HZ  104.0  EP          21:12  54.95              0.27
ESK    HE  104.0  ES          21:13  06.97             -0.13
ESK    HN  104.0   AML        21:13  10.24    10  0.13
ESK    HE  104.0   AML        21:13  10.55    14  0.21

October 4 2011      Time: 08:15 28.7 UTC     Magnitude: 1.4 ML
  Lat: 56.228N      Lon: -3.577W             Depth: 8.6 km
  Grid Ref: 302.24 kmE  705.05 kmN           RMS: 0.10 secs
  Locality: GLENDEVON,PERTHSHIRE
  Velocity model: Lownet  Xnear: 75.0  Xfar: 120.0
  Comment: FELT GLENDEVON                    Intensity: 2
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
EDI    HZ   41.7  IP        D  08:15  36.01             -0.02
EDI    HE   41.7  ES           08:15  41.37             -0.01
EDI    HN   41.7   AML        08:15  42.01    18  0.12
EDI    HE   41.7   AML        08:15  42.14    23  0.24
EAB    EZ   47.3  EP          08:15  36.97              0.03
EDU    EZ   49.9  EP          08:15  37.42              0.05
PGB1   HN   73.1  ES          08:15  49.79             -0.04
PGB1   HE   73.1   AML        08:15  50.40    22  0.54
PGB1   HN   73.1   AML        08:15  50.60    13  0.22
DRUM   HZ  102.0  EP          08:15  45.40              0.07
DRUM   HE  102.0  ES          08:15  57.33             -0.14
DRUM   HE  102.0   AML        08:16  01.20    22  0.12
DRUM   HN  102.0   AML        08:16  01.27    33  0.14
ESK    HZ  104.0  EP          08:15  45.85              0.12
ESK    HN  104.0  ES          08:15  58.13             -0.03
ESK    HE  104.0   AML        08:16  01.02     9  0.12
ESK    HN  104.0   AML        08:16  01.21     7  0.12

October 11 2011     Time: 15:32 17.2 UTC     Magnitude: 1.4 ML
  Lat: 51.798N      Lon: -3.146W             Depth: 19.3 km
  Grid Ref: 320.98 kmE  211.71 kmN           RMS: 0.10 secs
  Locality: BRYNMAWR,GWENT
  Velocity model: Lownet  Xnear: 75.0  Xfar: 150.0
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
MONM   HZ   24.0  EP          15:32  22.44             -0.01
MONM   HE   24.0  ES          15:32  26.17             -0.09
MONM   HN   24.0   AML        15:32  27.26    47  0.25
MONM   HE   24.0   AML        15:32  27.28    48  0.21
MCH1   HZ   24.4  EP          15:32  22.43             -0.09
MCH1   HE   24.4  ES          15:32  26.57              0.19
MCH1   HN   24.4   AML        15:32  26.89    81  0.06
MCH1   HE   24.4   AML        15:32  26.92    58  0.11
HGH    EZ   29.5  EP          15:32  23.00             -0.18
OLDB   HZ   43.9  EP          15:32  25.30              0.14
OLDB   HN   43.9  ES          15:32  31.10              0.15
STRD   HZ   67.9  EP          15:32  28.78              0.16
STRD   HE   67.9  ES          15:32  36.77             -0.18
STRD   HE   67.9   AML        15:32  37.86    39  0.14
STRD   HN   67.9   AML        15:32  37.88    40  0.12
LPW    BZ   72.5  EP          15:32  29.27              0.01
HLM1   HZ   82.2  EP          15:32  30.56             -0.16
HLM1   HE   82.2  ES          15:32  40.54             -0.03
HLM1   HE   82.2   AML        15:32  41.26    14  0.11
HLM1   HN   82.2   AML        15:32  41.27    10  0.09
FOEL   HZ  122.0  EP          15:32  36.50              0.16
FOEL   HE  122.0   AML        15:32  51.85     6  0.44
FOEL   HN  122.0   AML        15:32  54.41     8  0.52
HTL    HZ  129.0  EP          15:32  37.44              0.10

October 12 2011     Time: 23:49 59.3 UTC     Magnitude: 1.0 ML
  Lat: 53.071N      Lon: -4.365W             Depth: 13.8 km
  Grid Ref: 241.57 kmE  355.29 kmN           RMS: 0.20 secs
  Locality: CAERNARFON BAY,N WALES
  Velocity model: Lleyn  Xnear: 80.0  Xfar: 200.0
  Comment: FELT PENYGROES...                 Intensity: 3
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
YLL    EZ   15.1  IP        C  23:50  02.79              0.03
YLL    EZ   15.1  ES           23:50  05.05             -0.06
WLF1   HZ   24.4  IP        D  23:50  03.97             -0.03
WLF1   HN   24.4  ES           23:50  07.29              0.10
WLF1   HE   24.4   AML        23:50  07.66    57  0.12
WLF1   HN   24.4   AML        23:50  07.68    25  0.08
WME    EZ   36.5  EP          23:50  05.75             -0.07
WPM1   EZ   37.2  IP        C  23:50  05.99              0.05
WPS    HZ   37.8  EP          23:50  06.08              0.08
WPS    HE   37.8  ES          23:50  10.57              0.02
WPS    HE   37.8   AML        23:50  10.97     6  0.14
WPS    HN   37.8   AML        23:50  11.23     9  0.18
FOEL   HZ   80.8  IP        C  23:50  12.34             -0.32
FOEL   HE   80.8  ES          23:50  21.73             -0.01
FOEL   HN   80.8   AML        23:50  23.20     6  0.46
FOEL   HE   80.8   AML        23:50  23.33     6  0.48
HLM1   HZ  117.0  EP          23:50  18.28             -0.02
HLM1   HE  117.0  ES          23:50  31.78              0.57
HLM1   HN  117.0   AML        23:50  34.14     5  0.23
HLM1   HE  117.0   AML        23:50  34.41     4  0.14
MCH1   HZ  151.0  EP          23:50  22.61             -0.57
MCH1   HE  151.0  ES          23:50  39.78              0.37
MCH1   HE  151.0   AML        23:50  55.73     6  0.14
MCH1   HN  151.0   AML        23:50  55.81     3  0.12

October 19 2011     Time: 02:32 47.2 UTC     Magnitude: 1.6 ML
  Lat: 53.200N      Lon: -0.991W             Depth: 1.3 km
  Grid Ref: 467.39 kmE  367.50 kmN           RMS: 0.50 secs
  Locality: OLLERTON,NOTTS
  Velocity model: Lownet  Xnear: 100.0  Xfar: 200.0
  Comment: FELT NEW OLLERTON                 Intensity: 3
STAT   CO  DIST   PHAS  WT P  HrMn   SECS   AMPL  PERI   RES
```

TABLE 2 : PHASE DATA

CWF	HZ	55.6	EP		02:32	57.33		0.05
CWF	HE	55.6	ES		02:33	04.15		-0.49
CWF	HE	55.6	AML		02:33	05.10	8 0.32	
CWF	HN	55.6	AML		02:33	06.74	9 0.35	
LHO	EZ	69.1	EP		02:32	58.96		-0.47
STNC	HZ	82.2	EP		02:33	02.13		0.72
STNC	HN	82.2	AML		02:33	17.65	18 0.34	
STNC	HE	82.2	AML		02:33	19.24	24 0.46	
HPK	HZ	94.2	EP		02:33	03.51		0.24
HPK	HE	94.2	ES		02:33	14.69		-0.32
HPK	HE	94.2	AML		02:33	18.30	37 0.23	
HPK	HN	94.2	AML		02:33	19.77	53 0.33	
HLM1	HZ	148.0	EP		02:33	12.22		0.72
HLM1	HE	148.0	ES		02:33	29.61		0.37
HLM1	HN	148.0	AML		02:33	32.73	15 0.27	
HLM1	HE	148.0	AML		02:33	33.73	18 0.24	
FOEL	HZ	152.0	EP		02:33	12.87		0.80
FOEL	HE	152.0	ES		02:33	29.37		-0.86
FOEL	HE	152.0	AML		02:33	33.19	10 0.54	
FOEL	HN	152.0	AML		02:33	34.82	18 0.30	

October 20 2011 Time: 16:52 00.3 UTC Magnitude: 2.4 ML
Lat: 57.160N Lon: -5.474W Depth: 14.2 km
Grid Ref: 189.94 kmE 813.01 kmN RMS: 0.20 secs
Locality: SHEIL BRIDGE,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: 7KM SSW SHEIL BRIDGE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KSB	EZ	6.5	IP		D	16:52	03.22			0.02
KSB	EZ	6.5	AMPG			16:52	03.28	163	0.09	
KSB	EZ	6.5	AMSG			16:52	05.47	2516	0.10	
KPL	HZ	22.7	IP		C	16:52	04.99			0.02
KPL	HE	22.7	ES			16:52	08.25			-0.10
KPL	HZ	22.7	AMPG			16:52	05.08	157	0.06	
KPL	HZ	22.7	AMSG			16:52	08.38	332	0.11	
KPL	HT	22.7	AMSG			16:52	08.49	714	0.17	
KPL	HN	22.7	AML			16:52	08.41	615	0.12	
KPL	HE	22.7	AML			16:52	08.49	731	0.16	
KAC	EZ	39.2	IP		D	16:52	07.56			0.13
MDO	EZ	73.9	EP			16:52	12.77			-0.01
RRH	SZ	112.0	EP			16:52	18.33			0.09
EAB	EZ	129.0	EP			16:52	20.82			0.11
RSC	SZ	134.0	EP			16:52	21.26			-0.13
MCD	EZ	142.0	EP			16:52	22.74			0.16
MCD	EE	142.0	ES			16:52	38.97			0.16
MCD	EE	142.0	AML			16:52	40.85	85	0.18	
MCD	EN	142.0	AML			16:52	40.90	70	0.25	
MME1	EZ	153.0	EP			16:52	23.48			-0.69
PGB1	HZ	162.0	EP			16:52	25.37			0.03
PGB1	HE	162.0	AML			16:52	46.02	73	0.42	
PGB1	HN	162.0	AML			16:52	46.26	66	0.39	
EDU	EZ	165.0	EP			16:52	25.30			-0.46
DRUM	HZ	183.0	EP			16:52	27.35			-0.67
DRUM	HN	183.0	AML			16:52	52.25	59	0.16	
DRUM	HE	183.0	AML			16:52	55.74	38	0.26	
GMK	EZ	202.0	EP			16:52	30.32			-0.02
ESY	EZ	224.0	EP			16:52	33.36			0.27
ESK	HZ	249.0	EP			16:52	35.93			-0.27
ESK	HN	249.0	AML			16:53	10.77	13	0.28	
ESK	HE	249.0	AML			16:53	11.36	17	0.20	
ECK	EZ	264.0	EP			16:52	37.63			-0.50

October 22 2011 Time: 08:54 16.4 UTC Magnitude: 1.1 ML
Lat: 52.632N Lon: -2.867W Depth: 12.9 km
Grid Ref: 341.33 kmE 304.20 kmN RMS: 0.00 secs
Locality: SHREWSBURY,SHROPS
Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0
Comment: 10KM SW SHREWSBURY

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HLM1	HZ	12.7	EP			08:54	19.55			-0.03
HLM1	HE	12.7	ES			08:54	21.87			0.02
HLM1	HN	12.7	AML			08:54	22.03	105	0.10	
HLM1	HE	12.7	AML			08:54	22.13	100	0.19	
FOEL	HZ	36.4	EP			08:54	23.11			0.07
FOEL	HE	36.4	ES			08:54	27.76			-0.04
FOEL	HE	36.4	AML			08:54	28.31	4	0.18	
FOEL	HN	36.4	AML			08:54	32.66	16	0.48	
MCH1	HZ	71.2	IP		C	08:54	28.52			-0.03
MCH1	HE	71.2	ES			08:54	37.30			0.02
MCH1	HN	71.2	AML			08:54	37.86	17	0.21	
MCH1	HE	71.2	AML			08:54	37.94	21	0.23	

October 24 2011 Time: 00:24 45.9 UTC Magnitude: 1.2 ML
Lat: 53.198N Lon: -4.287W Depth: 16.0 km
Grid Ref: 247.25 kmE 369.24 kmN RMS: 0.10 secs
Locality: GAERWEN,ANGLESEY
Velocity model: Lleyn Xnear: 80.0 Xfar: 200.0
Comment: FELT MENAI BRIDGE Intensity: 2

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
YLL	EZ	10.1	IP		C	00:24	48.99			-0.05
YLL	EZ	10.1	AMPG			00:24	49.07	11	0.06	
YLL	EZ	10.1	ES			00:24	51.25			0.06
YLL	EZ	10.1	AMSG			00:24	51.42	23	0.13	
WLF1	HZ	12.5	IP		D	00:24	49.16			-0.09
WLF1	HZ	12.5	AMPG			00:24	49.23	6	0.06	
WLF1	HE	12.5	ES			00:24	51.52			-0.02
WLF1	HN	12.5	AML			00:24	51.63	87	0.14	
WLF1	HT	12.5	AMSG			00:24	51.65	72	0.07	
WLF1	HZ	12.5	AMSG			00:24	51.65	42	0.09	
WLF1	HE	12.5	AML			00:24	51.68	86	0.10	
WME	EZ	22.1	EP			00:24	50.45			0.04
WME	EZ	22.1	AMPG			00:24	50.60	7	0.04	
WME	EZ	22.1	ES			00:24	53.58			0.09
WME	EZ	22.1	AMSG			00:24	53.86	10	0.04	
WPM1	EZ	26.4	EP			00:24	51.17			0.15
WPM1	EZ	26.4	AMPG			00:24	51.30	6	0.15	
WPM1	EZ	26.4	AMSG			00:24	55.33	9	0.12	
WPS	HZ	26.6	EP			00:24	51.06			0.06
WPS	HE	26.6	ES			00:24	54.52			0.03
FOEL	HZ	80.6	EP			00:24	58.90			-0.31
FOEL	HN	80.6	ES			00:25	08.29			0.01
FOEL	HN	80.6	AML			00:25	09.59	6	0.23	
FOEL	HE	80.6	AML			00:25	09.75	6	0.56	
HLM1	HZ	121.0	EP			00:25	05.41			-0.04
MCH1	HZ	160.0	EP			00:25	11.01			0.41

October 31 2011 Time: 23:26 15.8 UTC Magnitude: 1.8 ML
Lat: 56.505N Lon: -4.315W Depth: 2.5 km
Grid Ref: 257.54 kmE 737.16 kmN RMS: 0.20 secs
Locality: KILLIN,STIRLING
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT KILLIN... Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
EAB	EZ	35.2	IP		C	23:26	22.31			0.05
EAB	EZ	35.2	ES			23:26	26.78			-0.22
PGB1	HZ	77.9	IP		C	23:26	29.35			0.27
PGB1	HE	77.9	ES			23:26	38.61			-0.18
PGB1	HE	77.9	AML			23:26	40.27	26	0.37	
PGB1	HN	77.9	AML			23:26	45.01	18	0.22	
EDI	HZ	95.3	EP			23:26	31.96			0.19
EDI	HE	95.3	AML			23:26	47.62	17	0.37	
EDI	HN	95.3	AML			23:26	47.98	20	0.26	
KSB	EZ	104.0	IP		C	23:26	32.90			-0.20
MDO	EZ	104.0	IP		C	23:26	32.94			-0.27
DRUM	HZ	121.0	EP			23:26	35.62			-0.12
DRUM	HE	121.0	ES			23:26	50.42			0.10
DRUM	HN	121.0	AML			23:26	54.00	38	0.25	
DRUM	HE	121.0	AML			23:26	54.06	36	0.13	
MME1	EZ	122.0	EP			23:26	35.70			-0.29
KPL	HE	124.0	ES			23:26	51.16			0.18
KPL	HN	124.0	AML			23:26	52.26	46	0.15	
KPL	HE	124.0	AML			23:26	52.52	60	0.25	
ESY	EZ	124.0	EP			23:26	36.11			-0.17
KPL	HZ	124.0	EP			23:26	36.32			0.20
KAC	EZ	126.0	EP			23:26	36.62			0.11
MCD	EZ	136.0	EP			23:26	38.42			0.32
ESK	HZ	149.0	EP			23:26	40.56			0.59
GMK	EZ	152.0	EP			23:26	40.46			0.17
GAL1	HZ	184.0	EP	4		23:26	54.53			9.83
GCL	EZ	195.0	EP			23:26	45.20			-0.93
BIGH	HZ	223.0	EP			23:26	48.52			-1.01
KESW	HZ	227.0	EP			23:26	50.60			0.55

November 4 2011 Time: 23:40 47.3 UTC Magnitude: 1.6 ML
Lat: 53.201N Lon: -1.012W Depth: 1.1 km
Grid Ref: 465.99 kmE 367.59 kmN RMS: 0.60 secs
Locality: OLLERTON,NOTTS
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT OLLERTON... Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
CWF	HZ	55.2	EP			23:40	57.04			-0.34
CWF	HE	55.2	ES			23:41	03.98			-0.73
LHO	EZ	68.0	EP			23:40	59.05			-0.36
STNC	HZ	80.8	EP			23:41	01.89			0.52
STNC	HN	80.8	ES			23:41	12.62			1.01
HPK	HZ	93.5	EP			23:41	03.20			-0.13
HPK	HN	93.5	ES			23:41	14.65			-0.36
HPK	HE	93.5	AML			23:41	18.00	24	0.20	
HPK	HN	93.5	AML			23:41	18.75	34	0.42	
WACR	HZ	122.0	EP			23:41	08.11			0.35
WACR	HN	122.0	ES			23:41	23.24			0.57
WACR	HN	122.0	AML			23:41	28.89	12	0.18	
WACR	HE	122.0	AML			23:41	29.68	10	0.18	
FOEL	HZ	151.0	EP			23:41	12.35			0.30
FOEL	HE	151.0	ES			23:41	29.10			-0.99
FOEL	HN	151.0	AML			23:41	34.47	14	0.30	
FOEL	HE	151.0	AML			23:41	34.88	10	0.78	

TABLE 2 : PHASE DATA

November 12 2011 Time: 00:28 42.2 UTC Magnitude: 1.5 ML
Lat: 52.516N Lon: -2.043W Depth: 8.3 km
Grid Ref: 397.08 kmE 290.94 kmN RMS: 0.30 secs
Locality: DUDLEY,WEST MIDLANDS
Velocity model: Lownet Xnear: 75.0 Xfar: 150.0
Comment: FELT STOURBRIDGE Intensity: 2

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
CWF	HZ	55.6	EP			00:28	51.62			-0.07
CWF	HE	55.6	ES			00:28	58.23			-0.40
CWF	HN	55.6	AML			00:28	58.42	10	0.16	
CWF	HE	55.6	AML			00:28	58.46	7	0.10	
HLM1	HZ	56.8	EP			00:28	52.03			0.11
HLM1	HE	56.8	ES			00:28	58.74			-0.29
SSW	EZ	62.6	EP			00:28	53.22			0.43
STRD	HZ	82.8	EP			00:28	56.05			0.15
STRD	HN	82.8	ES			00:29	06.03			0.11
STRD	HE	82.8	AML			00:29	06.77	55	0.12	
STRD	HN	82.8	AML			00:29	06.83	62	0.10	
MCH1	HZ	87.1	EP			00:28	56.29			-0.28
MCH1	HN	87.1	ES			00:29	06.43			-0.65
MCH1	HE	87.1	AML			00:29	06.88	10	0.22	
MCH1	HN	87.1	AML			00:29	07.26	14	0.25	
FOEL	HZ	88.5	EP			00:28	57.32			0.48
FOEL	HE	88.5	ES			00:29	07.77			0.24
FOEL	HE	88.5	AML			00:29	08.16	8	0.30	
FOEL	HN	88.5	AML			00:29	08.33	16	0.48	
MONM	HZ	91.6	EP			00:28	57.28			0.03
MONM	HN	91.6	ES			00:29	08.06			-0.19
MONM	HE	91.6	ES			00:29	08.10			
MONM	HN	91.6	AML			00:29	08.42	37	0.22	
MONM	HE	91.6	AML			00:29	08.55	17	0.26	
OLDB	HZ	101.0	EP			00:28	59.08			0.34
HGH	EZ	111.0	EP			00:29	00.50			0.24
LHO	EZ	115.0	EP			00:29	01.37			0.39
LPW	BZ	145.0	EP			00:29	05.37			0.13
LPW	BN	145.0	ES			00:29	21.53			-0.53
LPW	BN	145.0	AML			00:29	23.09	11	0.50	
LPW	BE	145.0	AML			00:29	23.25	10	0.10	
HPK	HZ	163.0	EP			00:29	08.25			0.45
HPK	HE	163.0	ES			00:29	27.36			0.86
HPK	HE	163.0	AML			00:29	27.73	20	0.26	
HPK	HN	163.0	AML			00:29	27.90	33	0.38	

November 13 2011 Time: 05:23 53.3 UTC Magnitude: 1.7 ML
Lat: 50.794N Lon: -0.788W Depth: 7.0 km
Grid Ref: 485.41 kmE 100.14 kmN RMS: 0.40 secs
Locality: CHICHESTER,W SUSSEX
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT CHICHESTER Intensity: 2

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WOL	BZ	65.3	EP			05:24	03.90			-0.38
WOL	BE	65.3	ES			05:24	12.06			-0.28
WOL	BE	65.3	AML			05:24	13.30	10	0.36	
WOL	BN	65.3	AML			05:24	15.41	18	0.34	
HMNX	HN	79.7	ES			05:24	16.19			0.04
SWN1	HZ	107.0	EP			05:24	10.83			0.09
SWN1	HE	107.0	ES			05:24	24.25			0.75
SWN1	HN	107.0	AML			05:24	25.96	16	0.21	
SWN1	HE	107.0	AML			05:24	26.23	26	0.22	
ELSH	HZ	141.0	EP			05:24	16.13			0.35
ELSH	HE	141.0	ES			05:24	31.55			-0.67
ELSH	HN	141.0	AML			05:24	34.35	16	0.41	
ELSH	HE	141.0	AML			05:24	36.08	33	0.40	
STRD	HZ	145.0	EP			05:24	16.65			0.20
STRD	HE	145.0	ES			05:24	33.35			-0.04
STRD	HE	145.0	AML			05:24	34.92	27	0.18	
STRD	HN	145.0	AML			05:24	34.94	22	0.14	
SSW	EZ	150.0	EP			05:24	17.40			0.27
OLDB	HZ	156.0	EP			05:24	17.63			-0.35
HGH	EZ	169.0	EP			05:24	19.64			-0.21
MONM	HZ	182.0	EP			05:24	21.15			-0.32
MONM	HN	182.0	ES			05:24	41.57			-0.49
MCH1	HZ	204.0	EP			05:24	23.29			-0.88
DYA	HZ	226.0	EP			05:24	27.09			0.15
HLM1	HZ	240.0	EP			05:24	28.16			-0.61

November 14 2011 Time: 00:33 13.1 UTC Magnitude: 2.2 ML
Lat: 57.506N Lon: -5.545W Depth: 4.2 km
Grid Ref: 187.66 kmE 851.72 kmN RMS: 0.20 secs
Locality: WESTER ROSS,HIGHLAND
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT LOCHCARRON Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KAC	EZ	14.8	IP		C	00:33	16.42			0.30
KAC	EZ	14.8	ES			00:33	18.08			-0.24
KPL	HZ	19.6	IP		D	00:33	17.18			0.28
KPL	HN	19.6	ES			00:33	19.39			-0.29
KPL	HZ	19.6	AMPG			00:33	17.33	112	0.06	
KPL	HZ	19.6	AMSG			00:33	19.90	366	0.09	
KPL	HT	19.6	AMSG			00:33	19.94	1260	0.10	
KPL	HE	19.6	AML			00:33	20.02	1288	0.11	
KPL	HN	19.6	AML			00:33	20.02	622	0.10	
KSB	EZ	33.8	IP		C	00:33	19.31			-0.05
RRR	SZ	42.2	IP		C	00:33	20.75			0.04
RRR	SE	42.2	ES			00:33	26.08			-0.20
RRR	SN	42.2	AML			00:33	26.53	73	0.16	
RRR	SE	42.2	AML			00:33	26.60	74	0.14	
MDO	EZ	71.3	IP		C	00:33	25.23			-0.06
RRH	SZ	82.3	EP			00:33	27.02			0.09
RSC	SZ	96.5	EP			00:33	29.00			-0.13
MCD	EZ	137.0	EP			00:33	35.49			0.05
MCD	EE	137.0	ES			00:33	51.60			-0.15
MCD	EN	137.0	AML			00:33	53.40	74	0.17	
MCD	EE	137.0	AML			00:33	56.20	63	0.48	
BIGH	HZ	146.0	EP			00:33	37.27			0.60
BIGH	HN	146.0	ES			00:33	53.95			0.06
BIGH	HN	146.0	AML			00:33	55.93	78	0.38	
BIGH	HE	146.0	AML			00:33	55.98	80	0.10	
MME1	EZ	157.0	EP			00:33	38.42			0.22
EAB	EZ	164.0	EP			00:33	39.79			0.55

November 15 2011 Time: 16:05 54.4 UTC Magnitude: 1.5 ML
Lat: 51.616N Lon: -3.581W Depth: 9.3 km
Grid Ref: 290.55 kmE 192.03 kmN RMS: 0.30 secs
Locality: MAESTEG,BRIDGEND
Velocity model: Lownet Xnear: 60.0 Xfar: 120.0
Comment: FELT BRIDGEND Intensity: 2

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HGH	EZ	53.7	EP			16:06	03.63			-0.01
MCH1	HZ	58.5	EP			16:06	04.19			-0.17
MCH1	HN	58.5	ES			16:06	11.23			-0.40
MCH1	HE	58.5	AML			16:06	11.84	45	0.20	
MCH1	HN	58.5	AML			16:06	11.94	36	0.10	
MONM	HZ	59.1	EP			16:06	04.60			0.14
MONM	HE	59.1	ES			16:06	11.92			0.13
MONM	HE	59.1	AML			16:06	13.32	29	0.18	
MONM	HN	59.1	AML			16:06	13.65	20	0.40	
LPW	BZ	64.8	EP			16:06	05.59			0.27
LPW	BE	64.8	ES			16:06	13.28			0.00
LPW	BN	64.8	ES			16:06	13.29			
LPW	BN	64.8	AML			16:06	14.01	21	0.25	
LPW	BE	64.8	AML			16:06	14.82	10	0.26	
OLDB	HZ	71.5	EP			16:06	06.65			0.30
HTL	HZ	93.5	EP			16:06	09.82			0.05
HTL	HE	93.5	ES			16:06	20.16			-0.83
HTL	HE	93.5	AML			16:06	20.91	8	0.30	
HTL	HN	93.5	AML			16:06	21.56	7	0.38	
STRD	HZ	99.7	EP			16:06	11.11			0.36
STRD	HE	99.7	ES			16:06	22.59			-0.09
STRD	HN	99.7	AML			16:06	25.45	24	0.21	
STRD	HE	99.7	AML			16:06	27.17	24	0.44	
DYA	HZ	134.0	EP			16:06	15.66			-0.13
DYA	HE	134.0	ES			16:06	30.89			-0.51
DYA	HN	134.0	AML			16:06	31.80	28	0.20	
DYA	HE	134.0	AML			16:06	32.00	27	0.44	
LLW	BZ	137.0	EP			16:06	16.88			0.57
LLW	BE	137.0	ES			16:06	32.51			0.22
FOEL	HZ	144.0	EP			16:06	18.22			0.89

December 4 2011 Time: 02:40 21.6 UTC Magnitude: 2.2 ML
Lat: 50.482N Lon: -4.872W Depth: 3.0 km
Grid Ref: 196.27 kmE 68.69 kmN RMS: 0.30 secs
Locality: BODMIN,CORNWALL
Velocity model: default (Lownet) Xnear: 75.0 Xfar: 150.0
Comment: FELT BODMIN... Intensity: 3

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
SBD	BZ	16.1	EP			02:40	24.85			0.05
SBD	BN	16.1	ES			02:40	26.90			-0.26
SBD	BN	16.1	AML			02:40	27.12	1069	0.20	
SBD	BE	16.1	AML			02:40	27.12	1423	0.20	
CCA1	HZ	41.5	IP		C	02:40	29.40			0.30
CCA1	HN	41.5	AML			02:40	29.47	283	0.10	
CCA1	HE	41.5	AML			02:40	29.52	235	0.14	
CCA1	HE	41.5	ES			02:40	34.17			-0.43
HTL	HZ	63.2	IP		C	02:40	32.72			0.19
HTL	HN	63.2	ES			02:40	40.22			-0.31
HTL	HE	63.2	AML			02:40	40.42	71	0.36	
HTL	HN	63.2	AML			02:40	40.62	77	0.40	
DYA	HZ	67.0	EP			02:40	33.58			0.42
DYA	HN	67.0	ES			02:40	41.40			-0.23
DYA	HE	67.0	AML			02:40	42.02	109	0.09	
DYA	HN	67.0	AML			02:40	42.23	140	0.09	
HEX	EZ	99.5	EP			02:40	38.81			0.61
HGH	EZ	194.0	EP			02:40	51.12			-0.54

December 16 2011 Time: 05:31 22.4 UTC Magnitude: 1.3 ML
Lat: 54.354N Lon: -2.180W Depth: 13.2 km
Grid Ref: 388.30 kmE 495.42 kmN RMS: 0.30 secs

TABLE 2 : PHASE DATA

Locality: HAWES,NORTH YORKSHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HPK	HZ	57.1	IP		D	05:31	32.29			0.09
HPK	HN	57.1	ES			05:31	39.44			0.09
HPK	HN	57.1	AML			05:31	39.87	30	0.15	
HPK	HE	57.1	AML			05:31	40.05	33	0.26	
LCP	EZ	62.4	EP			05:31	32.68			-0.33
KESW	HZ	65.4	EP			05:31	33.49			0.01
KESW	HE	65.4	ES			05:31	41.31			-0.26
KESW	HN	65.4	AML			05:31	41.91	18	0.10	
KESW	HE	65.4	AML			05:31	41.98	27	0.38	
LHO	EZ	92.5	EP			05:31	37.89			0.18
BHH	SZ	106.0	EP			05:31	40.01			0.41
BHH	SN	106.0	ES			05:31	52.13			-0.02
BHH	SN	106.0	AML			05:31	52.97	12	0.22	
BHH	SE	106.0	AML			05:31	53.56	10	0.22	
LBWR	HZ	110.0	EP			05:31	40.59			0.37
LBWR	HN	110.0	ES			05:31	52.63			-0.59
LBWR	HE	110.0	AML			05:31	54.62	5	0.16	
LBWR	HN	110.0	AML			05:31	55.03	4	0.09	
ESK	HZ	126.0	EP			05:31	42.39			-0.03
ESK	HN	126.0	ES			05:31	57.15			0.11
ESK	HE	126.0	AML			05:31	58.15	3	0.28	
ESK	HN	126.0	AML			05:31	58.42	4	0.16	

December 17 2011 Time: 14:33 20.8 UTC Magnitude: 2.2 ML
Lat: 53.679N Lon: -2.408W Depth: 7.7 km
Grid Ref: 373.05 kmE 420.38 kmN RMS: 0.20 secs
Locality: DARWEN,LANCASHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT EGERTON Intensity: 2

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LHO	EZ	39.5	IP		D	14:33	27.74			-0.08
LBWR	HZ	54.8	IP		D	14:33	30.28			0.10
LBWR	HN	54.8	ES			14:33	37.08			0.04
LBWR	HE	54.8	ES			14:33	37.13			
LBWR	HE	54.8	AML			14:33	37.86	79	0.28	
LBWR	HN	54.8	AML			14:33	38.07	41	0.20	
HPK	HZ	60.2	IP		C	14:33	31.03			0.04
HPK	HE	60.2	ES			14:33	38.13			-0.33
HPK	HE	60.2	AML			14:33	39.20	247	0.24	
HPK	HN	60.2	AML			14:33	40.31	273	0.24	
FOEL	HZ	103.0	EP			14:33	37.70			0.11
FOEL	HE	103.0	ES			14:33	49.71			-0.16
FOEL	HE	103.0	AML			14:33	52.20	62	0.26	
FOEL	HN	103.0	AML			14:33	53.36	95	0.42	
WPM1	EZ	110.0	EP			14:33	38.88			0.17
KESW	HZ	111.0	EP			14:33	39.12			0.24
KESW	HN	111.0	ES			14:33	52.24			0.14
KESW	HN	111.0	AML			14:33	54.37	50	0.32	
KESW	HE	111.0	AML			14:33	54.68	68	0.27	
CWF	HZ	128.0	EP			14:33	41.54			0.13
CWF	HE	128.0	ES			14:33	56.88			0.40
CWF	HE	128.0	AML			14:33	58.18	51	0.18	
CWF	HN	128.0	AML			14:33	59.20	32	0.19	
BBO1	SN	130.0	ES			14:33	57.01			0.04
BBO1	SN	130.0	AML			14:33	58.27	63	0.42	
BBO1	SE	130.0	AML			14:33	58.28	70	0.30	
WME	EZ	130.0	EP			14:33	41.37			-0.26
LCP	EZ	133.0	EP			14:33	42.01			-0.07
HLM1	HZ	133.0	EP			14:33	42.26			0.07
HLM1	HE	133.0	ES			14:33	57.59			-0.23
HLM1	HN	133.0	AML			14:33	58.90	52	0.38	
HLM1	HE	133.0	AML			14:33	59.07	80	0.22	
WLF1	HZ	139.0	EP			14:33	42.70			-0.27
WPS	HZ	142.0	EP			14:33	43.18			-0.22
WIM	EZ	158.0	EP			14:33	45.16			-0.56
BHH	SN	166.0	ES			14:34	06.30			0.39
BHH	SE	166.0	AML			14:34	08.76	59	0.22	
BHH	SN	166.0	AML			14:34	08.96	64	0.32	

December 19 2011 Time: 05:50 08.1 UTC Magnitude: 1.4 ML
Lat: 53.247N Lon: -0.438W Depth: 6.8 km
Grid Ref: 504.21 kmE 373.39 kmN RMS: 0.50 secs
Locality: LINCOLN,LINCOLSHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 300.0
Comment: 6KM ENE OF LINCOLN

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LMK	HZ	24.6	EP			05:50	13.63			0.53
LMK	HE	24.6	ES			05:50	16.21			-0.52
LMK	HE	24.6	AML			05:50	23.40	357	0.34	
LMK	HN	24.6	AML			05:50	23.58	224	0.48	
CWF	HZ	81.3	EP			05:50	22.12			-0.17
CWF	HE	81.3	AML			05:50	34.59	5	0.17	
CWF	HN	81.3	AML			05:50	36.36	7	0.22	
LBWR	HZ	87.4	EP			05:50	23.04			-0.24
LBWR	HN	87.4	ES			05:50	33.94			-0.39
LBWR	HE	87.4	AML			05:50	38.00	6	0.13	
LBWR	HN	87.4	AML			05:50	38.33	6	0.20	
LHO	EZ	99.9	EP			05:50	24.92			-0.31
HPK	HZ	112.0	EP			05:50	26.89			-0.10
HPK	HE	112.0	ES			05:50	41.51			0.76
HPK	HN	112.0	AML			05:50	43.97	28	0.28	
HPK	HE	112.0	AML			05:50	44.80	21	0.20	
HLM1	HZ	183.0	EP			05:50	38.56			1.16
HLM1	HN	183.0	ES			05:50	59.12			0.36
HLM1	HN	183.0	AML			05:51	01.89	5	0.40	
HLM1	HE	183.0	AML			05:51	03.40	4	0.26	

December 21 2011 Time: 06:40 53.0 UTC Magnitude: 1.6 ML
Lat: 56.252N Lon: -3.750W Depth: 5.7 km
Grid Ref: 291.58 kmE 707.98 kmN RMS: 0.40 secs
Locality: BLACKFORD,PERTH/KINROSS
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
Comment: FELT GLENDEVON Intensity: 2

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
EAB	EZ	37.1	IP		C	06:40	59.57			-0.11
EDI	HZ	50.6	EP			06:41	01.87			0.12
EDI	HN	50.6	ES			06:41	08.05			-0.06
EDI	HE	50.6	AML			06:41	10.89	14	0.30	
EDI	HN	50.6	AML			06:41	15.81	11	0.24	
EDU	EZ	56.3	EP			06:41	02.59			-0.10
PGB1	HZ	67.0	EP			06:41	04.09			-0.22
PGB1	HE	67.0	ES			06:41	12.14			-0.39
PGB1	HN	67.0	AML			06:41	15.49	20	0.20	
PGB1	HE	67.0	AML			06:41	16.78	25	0.74	
ESY	EZ	79.9	EP			06:41	06.64			0.31
DRUM	HZ	107.0	EP			06:41	10.21			-0.29
DRUM	HE	107.0	ES			06:41	22.56			-0.70
DRUM	HE	107.0	AML			06:41	23.01	34	0.21	
DRUM	HN	107.0	AML			06:41	26.10	44	0.12	
ESK	HZ	110.0	EP			06:41	11.60			0.68
ESK	HN	110.0	ES			06:41	23.81			-0.16
ESK	HE	110.0	ES			06:41	24.40			
ESK	HE	110.0	AML			06:41	27.02	28	0.20	
ESK	HN	110.0	AML			06:41	27.39	20	0.22	
MDO	EZ	138.0	EP			06:41	16.17			1.05
MCD	EZ	151.0	EP			06:41	17.95			0.90
MCD	EN	151.0	ES			06:41	35.13			0.55
MCD	EE	151.0	AML			06:41	37.43	36	0.16	
MCD	EN	151.0	AML			06:41	37.71	27	0.12	
GMK	EZ	153.0	EP			06:41	17.68			0.36
KAC	EZ	168.0	EP			06:41	19.58			0.19
KPL	HZ	168.0	EP			06:41	19.68			0.35
KPL	HE	168.0	AML			06:41	41.18	6	0.28	
KPL	HN	168.0	AML			06:41	41.32	10	0.24	

December 25 2011 Time: 17:11 53.3 UTC Magnitude: 1.5 ML
Lat: 51.668N Lon: -2.387W Depth: 15.4 km
Grid Ref: 373.24 kmE 196.70 kmN RMS: 0.20 secs
Locality: DURSLEY,GLOUCESTERSHIRE
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
OLDB	HZ	11.3	EP			17:11	56.71			0.10
OLDB	HE	11.3	ES			17:11	59.13			0.09
OLDB	HE	11.3	AML			17:11	59.40	392	0.17	
OLDB	HN	11.3	AML			17:11	59.65	420	0.18	
STRD	HZ	19.6	EP			17:11	57.89			0.26
STRD	HE	19.6	ES			17:12	00.63			-0.17
STRD	HN	19.6	AML			17:12	01.50	144	0.16	
STRD	HE	19.6	AML			17:12	01.55	130	0.15	
BATH	HZ	25.4	EP			17:11	58.65			0.25
BATH	HN	25.4	ES			17:12	01.77			-0.37
BATH	HN	25.4	AML			17:12	02.77	123	0.14	
BATH	HE	25.4	AML			17:12	02.94	117	0.18	
HGH	EZ	29.1	IP		C	17:11	59.03			0.09
MONM	HZ	34.5	EP			17:11	59.78			0.07
MONM	HE	34.5	ES			17:12	04.49			0.10
MONM	HE	34.5	AML			17:12	04.66	18	0.11	
MONM	HN	34.5	AML			17:12	04.82	30	0.26	
MCH1	HZ	55.8	EP			17:12	02.85			-0.08
MCH1	HN	55.8	ES			17:12	09.63			-0.34
MCH1	HN	55.8	AML			17:12	10.28	11	0.19	
MCH1	HE	55.8	AML			17:12	10.35	6	0.15	EDU
EZ	597.0	EP			05:14	28.11			0.13	
MCD	EZ	603.0	EP			05:14	28.41			-0.21
MCD	EN	603.0	ES			05:15	25.17			-0.49
MCD	EE	603.0	AML			05:15	29.57	21	0.56	
MCD	EN	603.0	AML			05:15	30.48	13	0.32	
EDI	HZ	624.0	EP			05:14	31.48			0.21
EDI	HN	624.0	ES			05:15	30.40			0.16
EDI	HE	624.0	AML			05:15	39.40	14	0.42	
EDI	HN	624.0	AML			05:15	40.03	28	0.42	
ESK	HZ	647.0	EP			05:14	33.63			-0.55
ESK	HN	647.0	ES			05:15	34.98			-0.30
ESK	HN	647.0	AML			05:15	39.12	19	0.22	
ESK	HE	647.0	AML			05:15	39.71	33	0.38	

TABLE 2 : PHASE DATA

BIGH	HZ	650.0	EP	05:14	34.19			-0.29		PGB1	HE	705.0	ES	05:15	48.08			0.35	
BIGH	HE	650.0	ES	05:15	36.13			0.32		PGB1	HN	705.0	AML	05:15	52.53	21	0.24		
BIGH	HE	650.0	AML	05:15	41.16	27	0.34			PGB1	HE	705.0	AML	05:15	53.74	37	0.52		
BIGH	HN	650.0	AML	05:15	42.20	21	0.36			KSB	EZ	734.0	EP	05:14	44.73			-0.25	
MDO	EZ	669.0	EP	05:14	37.01			0.10		KPL	HZ	747.0	EP	05:14	46.34			-0.21	
EAB	EZ	686.0	EP	05:14	39.13			0.18		KPL	HE	747.0	AML	05:16	00.94	7	0.38		
PGB1	HZ	705.0	EP	05:14	41.65			0.27		KPL	HE	747.0	AML	05:16	05.80	7	0.54		

TABLE 3

GEOGRAPHIC COORDINATES OF SEISMOGRAPH STATIONS, 2011

Code	Name	Lat	Lon	E (km)	N (km)	Ht (m)	Comp
ABA1	BACONSTHORPE	52.8884	1.1453	611.58	337.00	74	1R
AEA	EAST ANGLIA UNIV	52.6208	1.2403	619.30	307.53	45	3M
AEU	EAST ANGLIA	52.6202	1.2347	618.93	307.45	28	SMR
APAE	PACKWAY	52.3006	1.4782	637.12	272.68	58	1R
AWH	WHINBURGH	52.6297	0.9507	599.67	307.68	64	1R
BATH	BATH	51.4429	-2.3292	377.22	171.60	131	BBR
BBH	BRUNTSHEIL	55.1333	-2.9299	340.72	582.50	216	1R
BBO1	BOTHEL	54.7367	-3.2464	319.76	538.69	209	3R
BCC1	CHAPELCROSS	55.0153	-3.2201	321.99	569.66	138	1SMR
BDL	DOBCROSS HALL	54.8030	-2.9385	339.68	545.76	157	1R
BHH	HOWATS HILL	55.0931	-3.2181	322.27	578.31	216	3R
BIGH	UPPER BIGHOUSE	58.4932	-3.9102	288.75	957.69	70	BBR
BTA	TALKIN	54.9057	-2.6844	356.12	557.00	279	3R
BWH	WARDLAW	55.1758	-3.6549	294.62	588.09	269	1R
CCA1	CARNMENELLIS	50.1866	-5.2277	169.62	36.90	210	BBR
CWF	CHARNWOOD FST	52.7385	-1.3076	446.74	315.91	203	BBR
DRUM	DRUMTOCHTY	56.9123	-2.4865	370.48	780.23	208	BBR
DYA	YADSWORTHY	50.4353	-3.9310	262.88	61.34	292	BBR
EAB	ABERFOYLE	56.1887	-4.3373	254.97	702.02	279	1R
EAU	AUCHINOON	55.8454	-3.4474	309.38	662.30	359	1R
EBH	BLACK HILL	56.2476	-3.5084	306.54	707.13	375	1R
EBL	BROAD LAW	55.7723	-3.0445	334.48	653.71	436	1R
ECK	CAULDKAINE HILL	55.1810	-3.1292	328.10	588.00	351	1R
EDI	EDINBURGH	55.9233	-3.1875	325.80	670.66	125	BBR
EDMD	EDMUNDBYERS	54.8312	-1.9636	402.43	548.48	337	BBR
EDU	DUNDEE	56.5477	-3.0110	337.85	739.97	421	1R
ELO	LOGIEALMOND	56.4703	-3.7112	294.59	732.21	523	1R
ELSH	ELHAM	51.1482	1.1345	619.32	143.44	126	BBR
ESK	ESKDALEMUIR	55.3165	-3.2052	323.52	603.16	261	3MLGBBR
ESY	STONEYPATH	55.9175	-2.6141	361.62	669.55	337	1R
FOEL	FOEL WYLFA	52.8898	-3.2012	319.27	333.15	449	BBR
GAL1	GALLOWAY	54.8664	-4.7114	226.02	555.78	117	3MLGBBR
GCD	CASTLE DOUGLAS	54.8630	-3.9403	275.48	553.76	184	1R
GCL	CUSHENDALL	55.0783	-6.1264	136.66	583.77	278	1R
GMK	MULL OF KINTYRE	55.3458	-5.5934	172.19	611.64	164	1R
GMM	MTNS OF MOURNE	54.2377	-5.9498	142.66	489.67	155	1R
HEX	EXMOOR	51.0664	-3.8026	273.71	131.28	230	1R
HGH	GRAY HILL	51.6379	-2.8057	344.25	193.59	223	1R
HLM1	LONG MYND	52.5184	-2.8807	340.25	291.57	429	BBR
HMNX	HERSTMONCEUX	50.8674	0.3363	564.49	110.15	26	BBR
HPE	PEMBROKE	51.9372	-4.7746	209.29	230.21	349	1R
HPK	HAVERAH PARK	53.9581	-1.6241	424.66	451.42	233	BBR
HSA	SWANSEA	51.7500	-4.1532	251.38	207.94	293	1R
HTL	HARTLAND	50.9943	-4.4849	225.64	124.66	86	3MLGSMBBR
HTR	TREWERN HILL	52.0785	-3.2679	313.12	243.04	337	1R
INVG	INVERGELDIE	56.4273	-4.0452	273.96	727.99	279	BBR
JDC	DAM (CREST)	49.1947	-2.0469			39	SMR
JDG	DAM (GALLERY)	49.1947	-2.0469			7	SMR
JLP	LES PLATONS	49.2486	-2.1039			129	1R
JQE	QUEENS EAST	49.2000	-2.0383			58	1R
JRS	MAISON ST LOUIS	49.1922	-2.0922			56	3LGR
JSA	ST AUBINS	49.1878	-2.1717			39	BBR
JVM	VALLE D.L.MARE	49.2169	-2.2067			64	1R
KAC	ACHNASHELLACH	57.4989	-5.2988	202.36	850.19	206	1R
KBI1	BIRLEY GRANGE	53.2543	-1.5279	431.49	373.17	272	1R
KESW	KESWICK	54.5886	-3.1048	328.70	522.05	282	BBR
KEY2	KEYWORTH	52.8790	-1.0770	462.13	331.73	76	SMR
KPL	PLOCKTON	57.3391	-5.6527	180.21	833.50	13	3LGSMBBR
KSB	SHIEL BRIDGE	57.2099	-5.4214	193.40	818.40	417	1R

TABLE 3

GEOGRAPHIC COORDINATES OF SEISMOGRAPH STATIONS, 2011

Code	Name	Lat	Lon	E (km)	N (km)	Ht (m)	Comp
KSY	SYSTON	52.9642	-0.5872	494.88	341.73	121	1R
KTG1	TILBROOK GRNGE	52.3264	-0.4019	508.90	271.06	83	1R
KUF	UFFORD	52.6170	-0.3907	508.94	303.39	38	1R
LBWR	LADYBOWER	53.4016	-1.7248	418.40	389.45	353	BBR
LCP	CASSOP	54.7370	-1.4744	433.84	538.14	185	1R
LHO	HOLMEFIRTH	53.5453	-1.8548	409.62	405.44	462	1R
LMK1	MARKET RASEN	53.4573	-0.3274	511.15	396.92	133	BBR
LRN	RICHMOND	54.4165	-1.8007	412.93	502.37	313	1R
LRW	LERWICK	60.1360	-1.1779	445.66	1139.27	98	3MLGBBR
LWH	WHINNY NAB	54.3338	-0.6717	486.36	493.97	277	1R
MCD	COLEBURN DISTIL	57.5828	-3.2541	325.02	855.42	293	3MLGSMR
MCH1	MICHAELCHURCH	51.9974	-2.9983	331.47	233.74	219	SMBBR
MDO	DOCHFOUR	57.4409	-4.3633	258.17	841.39	415	1R
MLA1	LATHERON	58.3055	-3.3627	320.15	935.98	188	1R
MME1	MEIKLE CAIRN	57.3149	-2.9647	341.90	825.32	475	1R
MONM	MONMOUTH	51.8396	-2.8054	344.61	215.98	145	BBR
MVH1	ACHVAICH	57.9250	-4.1825	270.75	894.90	185	1R
OLDB	OLDBURY	51.6609	-2.5514	361.95	195.94	6	BBR
PCO1	CORRIE	55.9880	-4.1002	269.00	679.21	267	1R
PGB1	GLENIFFERBRAES	55.8115	-4.4837	244.38	660.37	199	BBR
REB	EISG-BRACHAIDH	58.1194	-5.2802	206.82	919.16	100	1R
RRH	RHENIGIDALE	57.9197	-6.6881	122.43	901.86	103	1R
RRR	RUBHA REIDH	57.8577	-5.8067	174.19	891.68	61	3MLGSMR
RSC	SCOURIE	58.3485	-5.1683	214.61	944.33	60	1R
RTO	TOLSTA	58.3778	-6.2092	153.95	950.93	74	1R
SAN1	SANDWICK	60.0179	-1.2392	442.41	1126.08	150	1R
SKP1	KOPHILL	51.7218	-0.8096	482.22	203.29	212	1R
SMD	MENDIPS	51.3083	-2.7170	350.03	156.88	310	1R
SOFL	SORNFELLI	62.0689	-6.9658			721	BBR
SSW	STOW-ON-WOLD	51.9667	-1.8499	410.31	229.86	291	1R
STNC	STOKE	53.0913	-2.2062	354.95	386.19	234	BBR
STRD	STROUD	51.7763	-2.1643	388.77	208.64	200	BBR
SWK	WARMINSTER	51.1483	-2.2471	382.72	138.87	266	1R
SWN1	SWINDON	51.5137	-1.8007	413.83	179.49	192	3MLGSMBBR
WACR	WEST ACRE	52.7247	0.6267	577.48	317.35	66	BBR
WAL1	WALLS	60.2564	-1.6173	421.18	1152.46	167	1R
WIM	ISLE OF MAN (South)	54.1475	-4.6738	225.39	475.73	386	1R
WLF1	LLYNFAES	53.2894	-4.3966	240.27	379.65	58	BBR
WME	MYNDD EILIAN	53.3969	-4.3032	246.88	391.40	129	1R
WPM1	PENMAENMAWR	53.2581	-3.9048	272.95	375.18	353	1R
WPS	CAMAES, ANGLESEY	53.4004	-4.4986	233.98	392.19	16	BBR
XAL	ALLENDALE	54.8617	-2.2147	386.22	551.91	458	1R
XSO	SOURHOPE	55.4924	-2.2510	384.14	622.10	516	1R
YEL1	YELL	60.5509	-1.0830	450.29	1185.55	203	1R
YLL	LLANBERIS	53.1402	-4.1704	254.84	362.57	159	1R
YRC	RHOSCOLYN	53.2508	-4.5753	228.21	375.77	22	1R
YRE	YR EIFL	52.9810	-4.4254	237.19	345.42	197	1R

Component Codes:

1 Single vertical seismometer
3 Orthogonal set of 3 seismometers
M Low-frequency microphone
LG Single low-gain vertical seismometer
SM Strong motion seismometers
BB Broadband Instrument
R Station coordinates registered with the International Seismological Centre (ISC), England and the National Earthquake Information Centre (NEIC), USA

TABLE 4

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	
	13.00	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	

Appendix 1 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, positive longitude indicates eest.
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.
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.

Locality abbreviations

Sonic	Sonic boom
Leics	Leicestershire
D & G	Dumfries and Galloway
Shrops	Shropshire
Notts	Nottinghamshire
Worcs	Worcestershire
Staffs	Staffordshire

Comments abbreviations

...	and felt elsewhere
N,S,E,W	North, South, East,West

Appendix 2 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.
RMS	Root Mean Square of the travel time residuals in seconds.
Velocity Model	Velocity model used in location.
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. AML
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 nanometres (nm)
PERI	Period in seconds
RES	Station residual

Appendix 3 The European Macroseismic Scale (EMS 98)

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.

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A complete description of the EMS-98 scale is given in: Grunthal, G., (Ed) 1998. European Macroseismic scale 1998. Cahiers du Centre European de Geodynamique et de Seismologie. Vol 15.