

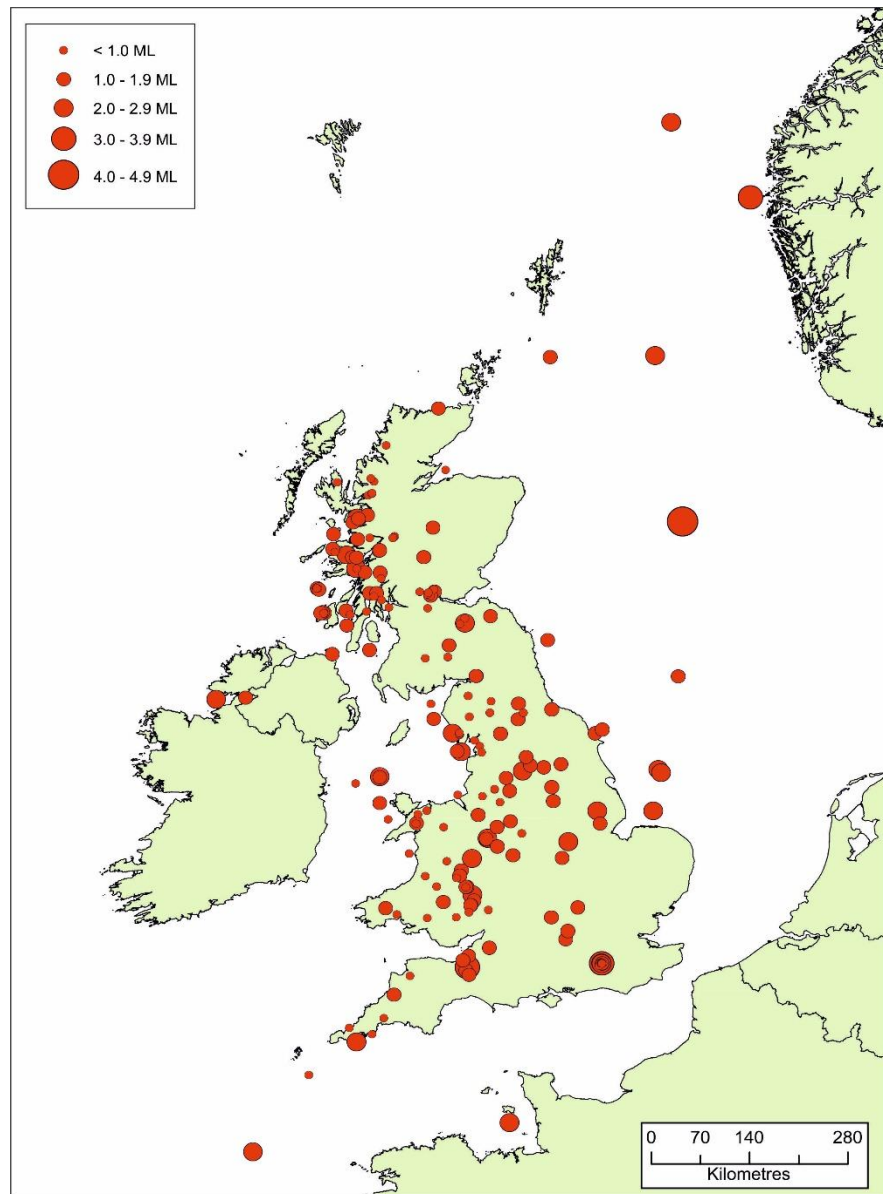
BRITISH GEOLOGICAL SURVEY

REPORT OR/20/007

Bulletin of British Earthquakes 2019

D D Galloway (Editor)

Contributors: G D Ford



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British Geological Survey offices

**Environmental Science Centre, Keyworth, Nottingham
NG12 5GG**

Tel 0115 936 3100

BGS Central Enquiries Desk

Tel 0115 936 3141

email enquiries@bgs.ac.uk

BGS Sales

Tel 0115 936 3241

email sales@bgs.ac.uk

**The Lyell Centre, Research Avenue South, Edinburgh
EH14 4AP**

Tel 0131 667 1000

email scotsales@bgs.ac.uk

Natural History Museum, Cromwell Road, London SW7 5BD

Tel 020 7589 4090

Tel 020 7942 5344/45

email bgs london@bgs.ac.uk

**Cardiff University, Main Building, Park Place, Cardiff
CF10 3AT**

Tel 029 2167 4280

**Maclean Building, Crowmarsh Gifford, Wallingford
OX10 8BB**

Tel 01491 838800

**Geological Survey of Northern Ireland, Department of
Enterprise, Trade & Investment, Dundonald House, Upper
Newtownards, Ballymiscaw Belfast, BT9 6BS**

Tel 01232 666595

www.bgs.ac.uk/gsni/

**Natural Environment Research Council, Polaris House,
North Star Avenue, Swindon SN2 1EU**

Tel 01793 411500

www.nerc.ac.uk

**UK Research and Innovation, Polaris House, Swindon
SN2 1FL**

Tel 01793 444000

www.ukri.org

Website www.bgs.ac.uk

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1 Introduction

The British Geological Survey (BGS) through its National Earthquake Information Service operates 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 2019, listed in Tables 1 and 2. Maps showing seismic activity in 2019 (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 ($12^{\circ}W$ to $6^{\circ}E$ and $48^{\circ}N$ to $64^{\circ}N$).

All events believed to be of tectonic origin are 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 but they are frequently mistaken as small earthquakes by the public. They are indicated by 'SONIC' in the locality column of Table 1.

Significant non-natural events, such as induced events and explosions, 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 100 (59 permanent and 41 temporary) stations with broadband, short period and strong motion accelerometers. Of the permanent sites, some 45 are equipped with broadband seismometers and 31 have strong motion accelerometers, 25 of which are co-located with broadband sensors. The remaining 8 sites are equipped with short period seismometers. Data from all stations are transferred in near real-time to the BGS offices in Edinburgh for automatic processing, analysis and archiving. Seismic events are detected using automatic processing algorithms, but they can also be extracted manually from the 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 during 2019. The contours show earthquake magnitudes (ML) that can be detected. Signal amplitudes must exceed the background noise level by a factor of two at five of more stations. A noise amplitude of 10 nm (high noise) is assumed for all stations. These detection levels hold true only if all stations are operational and that noise levels do not change. 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.

In average noise conditions (4 nm) we expect the network to detect all events with a magnitude of approximately 1.5 ML and above. 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. Therefore we expect the

bulletin to contain all earthquakes of magnitude 2.3 ML and above during periods where all stations were operational and noise levels did not exceed a threshold of 10 nm.

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 above, in the period 1979 to 2019. The data set is considered complete for these magnitudes in all localities onshore. Seismicity for the period 1970 to 2019 is shown in Figure 4 with a threshold magnitude of 3.5 ML. In the time period from 1970 to 1979, the only seismic monitoring instrumentation was the network around Edinburgh (LOWNET) and Eskdalemuir (ESK) and a station near Kyle of Lochalsh (KYL). As a result, the data set is only likely to be complete for magnitudes of 3.5 ML and above.

3 Earthquake Parameters and Their Errors

HYPOCENTRE LOCATION

By accurately measuring the arrival times of at least four seismic phases 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.

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, 1998).

FOCAL MECHANISM

Earthquake focal mechanisms provide information on the fault geometry and type of faulting that caused the earthquake, and can be used to better understand tectonic processes occurring within the Earth's crust. Calculating them involves mapping directions where the initial motion of the seismic P-waves is up (compressional) or down (dilatational) on a spherical projection. This results in distinctive “beach-ball” diagrams that show two shaded quadrants and two white quadrants that represent upward and downward initial motions. The dividing lines between the quadrants on the “beach-ball” define the orientation of the fault planes and the directions of slip. It is not possible to determine which of the two possible fault planes shown in the mechanism is the actual fault, so *a priori* information such as aftershock distribution is sometimes used to determine the causative fault. The strike and dip describe the orientation of the fault, and the rake describes the direction of slip (-90° for thrust or reverse faulting, 90° for normal faulting and 0° or 180° for strike-slip). The axes of maximum and minimum compression are denoted by black and white squares, respectively. The grid search method of Snoke *et al.* (1984) is used to determine the best-fitting fault plane solutions.

4 Summary of 2019 Seismicity

There were 454 earthquakes located by the BGS seismic monitoring network during the year, with 32 having magnitudes of 2.0 ML or above, four having magnitudes of 3.0 ML or above and one having a magnitude of 4.0 ML or above. Some 19 events with a magnitude of 2.0 ML or above were reported felt, together with a further 14 smaller ones, giving a total of 33 felt earthquakes in 2019. Of the 454 earthquakes located in 2019, some 135 were events that occurred in the Blackpool, Lancashire region as a result of hydraulic fracturing work that started at Preston New Road, on 18 October 2018, near Blackpool.

The largest onshore earthquake in 2019 was a magnitude 3.2 ML event, that occurred on 5 December, at 22:49 UTC, near Bridgwater, Somerset (Figure 5). Data from over 700 questionnaires collected online, were used to determine how widely it was felt (Figure 6). Data were grouped by postcode into 5 km by 5 km squares and an EMS (European Macroseismic Scale) intensity was calculated in each. The 700 plus reports were from Somerset, North Somerset, Bath and NE Somerset, City of Bristol, South Gloucestershire, Dorset, Devon and South Wales. Reports described, “the whole house rattled”, “physically felt my bed shake”, “we felt a low and faint rumble” and “there was a big rumble and the house was given a definite shove”. A maximum intensity of 5 EMS was assigned for this earthquake. It was the largest event to occur in the area since the four Bridgwater events which occurred on 29 January 2004 with magnitudes between 2.7 ML and 3.1 ML. Historically, the largest event to have occurred in the area (within 25 km) was the magnitude 3.5 ML Taunton earthquake on 1 July 1747, where the felt area extended from the Bristol Channel to Lyme Bay and as far as Exeter.

The largest offshore earthquake in 2019 was a magnitude 4.2 ML event, that occurred on 24 September, at 13:38 UTC, in the Central Graben region of the North Sea, approximately 240 km east of Aberdeen and 420 km SSW of Bergen, Norway (Figure 7). It was reported felt by several people on the Production/Utilities/Quarters (PUQ) platform in the Elgin-Franklin gas and oil field. Reports described, “a moderate shaking feeling” and “there was a trembling feeling that awoke us

from sleep”. An intensity of 3 EMS was assigned to this event. This event locates approximately 8 km ENE of the magnitude 3.9 ML Central North Sea earthquake, on 4 June 2007, that was felt on a jackup rig alongside one of the platforms in the Elgin-Franklin gas and oil field. A further nine earthquakes occurred in the Norwegian/North Sea areas during the year, with magnitudes ranging between 1.7 ML and 3.0 ML.

On 2 January, at 23:44 UTC, an earthquake with a magnitude of 1.5 ML occurred near the village of Caversham, Reading. It was reported felt by a single resident in Caversham, who described “a weak rumbling sound” and “what felt like a minor tremor”, indicating an intensity of 2 EMS.

An earthquake with a magnitude of 2.2 ML occurred on 3 January, at 02:20 UTC, with a location on the Morvern peninsula, Highland, approximately 5 km SW of the village of Drimnin. The BGS received several reports, via online macroseismic questionnaires, of the event being felt. The reports received, all from within around 30 km of the epicentre, were from residents in Drimnin, Lochaline, and Glenborradale, Highland, in Caignure, Gribun, Tobermory, Salen, Carsaig and Gruline (Isle of Mull) and in Lismore and Oban, Argyll and Bute. Typical reports described, “quite a loud rumbling sound”, “the effect was very short and jerky”, “a roaring, rushing noise” and “thought it was either an explosion or a thunder clap”, indicating an intensity of around 3 EMS. Another two earthquakes occurred on the Morvern peninsula during the year. They occurred on 22 February and 14 December with magnitudes of 1.2 ML and 1.3 ML, respectively.

An earthquake with a magnitude of 1.5 ML occurred on 24 January, at 02:20 UTC, near the village of Lochgair, Argyll and Bute. It was felt by residents in Castleton, Ardrishaig and Lochgilphead, who described “just a rumble like thunder” and “the windows and door rattled”. A maximum intensity of 3 EMS was assigned for this earthquake.

On 27 January, at 23:48 UTC, an earthquake with a magnitude of 2.2 ML occurred near the village of Bucknall, in the East Lindsey district, Lincolnshire. We received no reports that it was felt. The depth of the earthquake (around 26 km) probably contributed to the lack of felt effects at the surface. This earthquake locates approximately 22 km SSE of the magnitude 5.2 ML Market Rasen event on 27 February 2008, which was widely felt (with a maximum intensity of 6 EMS) across England and Wales and caused damage to chimneys and masonry over a widespread area. It also locates around 25 km northeast of the magnitude 4.2 ML Lincoln earthquake on 1 August 1755.

A magnitude 3.1 ML earthquake occurred at 03:42 UTC on 27 February, near the village of Newdigate, in the Mole Valley, Surrey (Figure 8). The BGS received over 1,780 reports, via online macroseismic questionnaires, of the earthquake being felt (Figure 9). The majority of the reports received were from residents in Newdigate, Charlwood, Horley and Dorking, Surrey and from Crawley and Horsham, West Sussex. Typical reports described “as if a large lorry had crashed into the side of the house”, “we woke to feel the bed shaking”, “sounded like an explosion”, “strongest I have felt in the region”, “it was unnerving”, “it woke me up”, “the bed shook and the furniture and windows rattled”, “awoke to everything vibrating”, and “felt like the whole house shifted”. A maximum intensity of 5 EMS was assigned for this event. This is the largest in a sequence of 182 earthquakes, of which twelve were felt, recorded in the Newdigate area between 1 April 2018 and 31 October 2019. The other events in the sequence had magnitudes between -1.7 ML and 3.0 ML. The magnitude 3.1 ML earthquake is the largest in the sequence to date, superceding a magnitude 3.0 ML event on 5 July 2018, which also had a maximum intensity of 5 EMS, and is the largest in the general area (within 50 km) since a magnitude 2.9 ML event near Chichester, West Sussex on 14 December 2012, which was felt in West Sussex, East Sussex and Surrey with a maximum intensity of 3 EMS. Four other Newdigate earthquakes were reported felt during 2019. They occurred on 14 February (magnitude 2.4 ML, intensity 4 EMS), on 19 February (2.0 ML, 3 EMS), on 4 May (2.5 ML, 4 EMS) and on 2 September (1.1 ML, 2 EMS).

An earthquake with a magnitude of 2.4 ML occurred, at 14:30 UTC, on 14 March with a location near Byford, a village on the River Wye in Herefordshire. It was not reported felt, perhaps because of the relatively deep focus of around 23 km. Historically, the largest earthquakes to have occurred nearby were the magnitude 5.2 ML Hereford earthquake on 6 October 1863, which was felt

throughout most of England and Wales, and caused minor damage in Hereford, Ross-on-Wye, Hay-on-Wye, Monmouth and Abergavenny and the magnitude 5.3 ML Hereford earthquake on 17 December 1896, which was also felt throughout England and Wales and caused significant damage in Hereford and its surrounding villages, where over 200 chimneys were damaged or twisted.

On 16 March, at 10:11 UTC, an earthquake with a magnitude of 1.8 ML occurred on the Isle of Islay, Argyll and Bute. It was felt, on the island, by a resident in Nerabus, near Port Charlotte and another in Conisby, near Bruichladdich. Their reports described, “it sounded and felt like thunder” and “we felt a weak trembling”, indicating an intensity of around 2 EMS. A further three events were detected on the island during the month, on 16 March, at 10:47 UTC, on 17 March, at 11:46 UTC and on 22 March, at 12:51 UTC, with magnitudes of 1.1 ML, 1.0 ML and 0.8 ML, respectively. None were reported felt.

Two earthquakes occurred in County Donegal, Ireland during the year. The first occurred on 7 April, at 22:58 UTC, with a magnitude of 2.2 ML and an offshore location, approximately 15 km southwest of Killybegs. The Dublin Institute for Advanced Studies (DIAS) received a number of felt reports from members of the public in Killybegs area and it was also reported felt in Ardara (around 30 km NNE) and Ballyshannon (around 25 km ESE). The second, with a magnitude of 1.8 ML, occurred on 29 April, at 04:29 UTC, with a location approximately 12 km southwest of Donegal. It was reported felt (to DIAS) by a few residents in County Donegal, County Fermanagh and County Leitrim, Ireland. Both events were assigned intensities of 3 EMS.

A magnitude 2.5 ML earthquake occurred at 01:49 UTC on 8 April, with an epicentre near the village of Hodnet, Shropshire, around 9 km southwest of Market Drayton. It was felt by several residents, in Whitchurch, Willaston, Shrewsbury and Market Drayton (Shropshire), in Telford and Newport (Telford and Wrekin) and in Nantwich (Cheshire East). Typical reports described, “was like something had fallen over”, “what woke me up was the sound”, “we felt a very slight rumble across most of the house”, “thought it was a heavy lorry going past the house at speed” and “the noise in the house was the same as a strong gust of wind with the roof beams creaking and the doors rattling”, indicating an intensity of around 3 EMS. This event locates approximately 11 km northeast of the magnitude 3.4 ML Shrewsbury earthquake on 7 March 1996, which was felt over an area of 3,000 km² with a maximum intensity of 5 EMS. Historically, the largest earthquakes to have occurred nearby, within 30 km, were the magnitude 4.6 ML Stafford event that occurred on 14 January 1916, which was reported to have caused considerable damage to many buildings in the region and the magnitude 3.6 ML Chester event that occurred on 1 June 1801, which was felt strongly in Chester, Shrewsbury and Salford.

On 9 April, at 19:23 UTC, a magnitude 1.4 ML earthquake occurred near the village of Blairlogie, Stirling. It was felt by a single resident in Menstrie, approximately 1 km from the epicentre, who reported, “it felt like the wall beside me was being shaken for a few seconds”, indicating an intensity of 2 EMS.

An earthquake with a magnitude of 2.2 ML occurred, at 11:20 UTC, on 13 April, with a location approximately 3 km SSW of the village of Bootle, Cumbria. It was felt, at intensities of 3 EMS, by residents in the town of Millom and the villages of Rosside and Broughton Beck. This earthquake locates approximately 20 km southwest of the magnitude 3.5 ML Coniston earthquake which occurred on 21 December 2010 and 27 km WNW of the magnitude 3.7 ML Ulverston earthquake on 28 April 2009. Both were reported felt throughout the region with a maximum intensity of 5 EMS, 25 km from the epicentres. Historically, the largest event to have occurred in this area was the magnitude 5.0 ML Whitehaven earthquake on 11 August 1786, which was felt over an area stretching from Dublin to Aberdeen, with a maximum intensity of 6 EMS.

A magnitude 2.4 ML earthquake occurred at 15:37 UTC on 14 May, with an offshore location approximately 15 km south of Jersey, Channel Islands (Figure 10). It was reported felt by a single resident in St Helier and by another in St Lawrence (both in the south of the Island), who described, “a very loud roaring, rumbling sound that appeared from below” and “it was similar to a large quarry blast at distance”, indicating an intensity of around 3 EMS. It locates approximately 10 km

SSE of the magnitude 3.5 ML St Aubins Bay earthquake on 30 April 1990, which was felt throughout the Channel Islands with a maximum intensity of 5 EMS, and 25 km ESE of the magnitude 4.3 ML Jersey earthquake on 11 July 2014, which was also felt throughout the Channel Islands and was also felt in Devon, Dorset and in France with a maximum intensity of 4 EMS. Historically, the largest earthquake to have occurred in the region was the magnitude 5.2 ML Normandy earthquake on 12 April 1933.

An earthquake, with a magnitude of 2.9 ML, occurred on 27 May at 05:35 UTC with an epicentre in the Celtic Sea, approximately 160 km SSW of the Isles of Scilly, Cornwall (Figure 11). This is an area that has little recorded seismicity, with only ten events located within a 100 km radius of this event.

On 1 July, at 22:16 UTC, a magnitude 1.8 ML earthquake occurred near the small village of Kilchrenan, Argyll and Bute. It was felt by a few residents in Kilchrenan, Kilmelford, Fasnaclloch and on Lismore, Argyll and Bute. Typical reports described, “it was a low rumble similar to thunder, but felt different”, “a long, low rumble and it sounded like a heavy lorry passing”, “a very brief, rumbling that lasted a few seconds” and “loud noise with a very brief shake then rumbling”, indicating an intensity of around 3 EMS.

An earthquake, with a magnitude of 2.4 ML, occurred on 11 July at 10:53 UTC with a location in the Irish Sea, approximately 12 km SSE of Barrow-in-Furness, Cumbria and 20 km WSW of Heysham, Lancashire. Eight other earthquakes occurred in the Irish Sea in 2019, with magnitudes ranging between 0.5 ML and 2.1 ML.

A magnitude 2.4 ML earthquake occurred at 16:52 UTC on 8 August, with an epicentre approximately 3 km southeast of the town of Helston, Cornwall (Figure 12). The BGS received over 520 reports, via an online macroseismic questionnaire, of the earthquake being felt. Reports received were from towns, villages and hamlets within approximately 25 km of the epicentre with the majority coming from residents in Helston, Porthleven, Constantine, Falmouth, Breage, Wendron, Mullion and Penryn. Reports described, “a boom a bit like a thunder clap but felt in the house”, “house shook for a split second”, “a rumble that was followed by a loud bang”, “sound was reminiscent of a sonic boom from Concorde” and “all the windows and doors rattled”. An intensity of 4 EMS was assigned for this event. This is the largest event to occur in this region of Cornwall since the magnitude 2.4 ML earthquake on 8 February 1998, which was felt, with a maximum intensity of 4 EMS, in Penzance, Land’s End and St Ives. Historically, the largest earthquakes to have occurred within 25 km were the magnitude 4.1 ML Helston event that occurred on 23 July 1966, the magnitude 4.4 ML Penzance event that occurred on 15 July 1757 and the magnitude 3.8 ML Penzance event that occurred on 10 November 1996. Minor damage, mainly damage to plaster cracks, was reported for all these events, indicating a maximum intensity of between 5 and 6 EMS.

An earthquake, with a magnitude of 2.9 ML, occurred near Blackpool, Lancashire on 26 August, at 07:30 UTC (Figure 13). The BGS received over 2,300 reports, via online macroseismic questionnaires, of the event being felt (Figure 14). Reports received were from towns, villages and hamlets within approximately 12 km of the epicentre with the majority coming from residents in Plumpton, Ballam, Westby, Wesham, Blackpool, Weeton, Kirkham, Wrea Green, Lytham Saint Annes, Ansdell, Warton, Poulton-le-Fylde, Great Eccleston and Thornton-Cleveleys. Reports described, “the whole house shook”, “it was like something hit the house”, “felt like something had collapsed underneath and we heard debris falling in the wall cavity”, “felt like a high speed train passing by the window”, “small cracks in plaster seem to have grown”, “small cracks have appeared in plaster work in upstairs room” and “small ornaments rattled and vibrated”, indicating an intensity of around 6 EMS. This was the largest in a series of 192 induced earthquakes, with magnitudes between -1.7 ML and 2.9 ML, that have occurred in the region between 18 October 2018 and 6 October 2019, since hydraulic fracturing restarted (August 2018) at Preston New Road, near Blackpool. Five other events were reported felt in the Blackpool region during the year. They occurred on 21 August at 19:46 UTC (magnitude 1.6 ML), on 22 August at 15:23 UTC (1.0 ML),

on 24 August at 22:01 UTC (2.1 ML), on 26 August at 21:18 UTC (1.0 ML) and on 27 August at 06:55 UTC (0.5 ML). Over 250 reports were received for the magnitude 2.1 ML event which was assigned an intensity of 4 EMS, some 16 reports were received for the 1.6 ML event which was assigned an intensity of 3 EMS and one report was received for each of the other three events, which were all assigned an intensity of 2 EMS.

On 5 September at 15:39 UTC, a magnitude 1.5 ML earthquake occurred near the village of Beddgelert, in the Snowdonia area, Gwynedd. It was felt by residents in Llanberis, Groeslon and Carmel, who described “we all felt a low rumbling vibration”, “slight shaking of a loose window pane” and “the windows rattled”. A maximum intensity of 3 EMS was assigned for this earthquake. A further event, with a magnitude of 0.8 ML, occurred in the same region four days later, on 9 September.

An earthquake with a magnitude of 2.0 ML occurred, at 15:12 UTC, on 11 September, approximately 3 km ENE of the village of Eddleston in the Scottish Borders. It was reported felt by a single resident in Lyne Station, a small hamlet around 8 km SSW of Eddleston, who described “some items on desk top vibrated at the same time as a weak rumbling was heard”, indicating an intensity of 2 EMS.

A magnitude 2.4 ML earthquake occurred, at 19:22 UTC, on 2 October with an epicentre near the town of Melton Mowbray, Leicestershire. The BGS received over 100 reports, via online macroseismic questionnaires, of the event being felt. The reports were from residents in several towns and villages in Leicestershire, Rutland and Nottinghamshire. Typical reports described, “sounded like thunder”, “thought it was a train passing” and “the windows rattled”, indicating an intensity of around 3 EMS. It locates approximately 5 km SSW of the magnitude 4.1 ML Melton Mowbray earthquake, on 28 October 2001, which was felt over an area of around 25,000 km² (Isoseismal 3) with a maximum intensity of 5 EMS.

On 14 October, at 16:51 UTC, a magnitude 2.4 ML earthquake occurred around 10 km NNE of the market town of Bishop’s Castle, Shropshire (Figure 15). The BGS received some 90 reports, via online macroseismic questionnaires, of the event being felt in several towns and villages in the Shropshire area, especially those in the SY5 and SY6 postcode areas. Reports described “whole house rattled”, “a really deep earthy rumbling”, “loud unexplained rumbling” and “sounded as if a large tree might have fallen”, indicating an intensity of at least 3 EMS. This earthquake locates approximately 10 km NNE of the magnitude 5.1 ML Bishop’s Castle event on 2 April 1990, which was widely felt, with a maximum intensity of 6 EMS, across England and Wales. It also locates around 35 km NNW of the magnitude 4.8 ML Ludlow earthquake, on 15 August 1926, which was felt over much of England and caused slight damage, mostly to chimneys, in the epicentral area.

An earthquake with a magnitude of 2.3 ML occurred on 8 November, at 16:12 UTC, around 3 km NNE of Halifax, West Yorkshire. It was reported felt by a single resident in Mixenden, a small village on the outskirts of Halifax, approximately 4 km from the epicentre, who described “felt a sharp crack, much like someone slamming a door nearby”, indicating an intensity of 2 EMS. Although the general area is seismically active, this is the largest event in the area since the magnitude 3.1 ML Oldham, Greater Manchester earthquake on 29 February 2004, approximately 22 km to the SSW, which was felt with intensities of at least 4 EMS. Historically, the largest event in the region, with a magnitude of 4.8 ML, occurred on 30 December 1944 near Skipton, North Yorkshire and was felt with intensities of approximately 6 EMS.

Two earthquakes within seven minutes of each other were detected on 13 November near the village of Ballachulish, in the Lochaber region of the Highlands. They occurred at 17:40 UTC and 17:47 UTC, with magnitudes of 1.9 ML and 1.7 ML, respectively. Both events were felt by several residents in the towns and villages of Ballachulish, North Ballachulish, Fasnacloich, Kinlochleven, Glencoe, Duror, Lettermore and Fort William, who described, “a very deep, sudden rumble” and “sounded like really loud thunder”. A maximum intensity of 3 EMS was assigned for both these earthquakes.

On 17 November, at 22:31 UTC, an earthquake with a magnitude of 2.1 ML occurred near the settlement of Croggan on the Isle of Mull, Argyll and Bute. It was felt by residents on the Isle of Mull, on the Isle of Lismore and on the Isle of Seil with intensities of at least 3 EMS. A further three events occurred on the Isle of Mull during the year. These events locate approximately 5 km SSW of the magnitude 4.1 ML Oban earthquake of 29 September 1986 which was felt over an area of around 30,000 km² with a maximum intensity of 5 EMS. They also locate around 35 km northwest of the magnitude 5.2 ML Argyll earthquake on 28 November 1880, the largest of all recorded Scottish earthquakes, which was felt all along the west coast of Scotland, east as far as Perthshire, throughout the Inner and Outer Hebrides and extensively in Northern Ireland

An earthquake with a magnitude of 2.0 ML occurred, at 10:39 UTC, on 28 December with a location approximately 2 km WNW of the village of Airor, on the Knoydart peninsula, Highland.

5 UK Seismicity Statistics

Figure 16 shows a histogram of mainland UK earthquakes above magnitude 2.0 detected each year in different magnitude ranges. This shows significant variation across the 50 years of modern instrumental monitoring. In the first few years of the 1970s, instrumental coverage across the UK was sparse and relatively few events were detected although more events were detected in the second half of the decade. The annual catalogues are thought to be complete at magnitude 3.5 ML or greater for 1970 to 1978, and for magnitude 2.5 ML and greater from 1979. Almost all of the earthquakes above 2.5 ML would be felt by people. Some of the peaks seen in Figure 16 have obvious explanations:

- In 1980, there was a continuing long aftershock sequence of the Carlisle earthquake of 26 December 1979 (4.7 ML). The largest two (both 3.8 ML) occurred in January and December 1980, the latter almost one year later than the mainshock. A local, temporary station was installed in a Longtown church three days after the mainshock, followed by three more distant stations in 1980.
- The largest onshore earthquake known in the UK's history occurred on the Lleyn Peninsula, Gwynedd in 1984 (19 July) with a magnitude of 5.4 ML. A multi-station monitoring network was installed, shortly afterwards, across North Wales. The aftershock sequence continued for more than a year and confirmed that the activity was relatively deep for UK earthquakes, at around 20 km.
- The high peak in 2002 is dominated by an earthquake sequence near Manchester, which started on 19 October 2002 and continued until January 2003. Some 53 events above magnitude 2.0 ML were recorded and 37 were felt, the largest with a magnitude of 3.9 ML. Temporary stations were deployed to record the smaller events.
- The peak in 2014, is the result of an extended coal-mining induced series of earthquakes near New Ollerton, Nottinghamshire, which were studied with a temporary mobile network of monitoring stations. Some 65 events were felt, of which ten were magnitude 2.0 ML or greater.
- In 1974-75, there are clear peaks in earthquakes with magnitudes of 3.0 ML and greater during this period; around half of them were centred near Kintail, NW Scotland. There were few monitoring stations in the UK at this time, so it is not known whether they were accompanied by many or a few smaller magnitude events.
- The Bishops Castle, Shropshire, earthquake in April 1990 (5.1 ML) and the Market Rasen, Lincolnshire earthquake in February 2008 (5.2 ML), both showed very limited aftershock

sequences despite being well monitored. The former had seven aftershocks (all less than or equal to 1.5 ML and none felt) and the latter had eleven aftershocks, with magnitudes ranging between 0.6 ML and 2.8 ML, (the largest felt locally).

- The year 2016 is quite remarkable for producing the fewest earthquakes in the whole 49 year series, in all magnitude ranges above 2.0 ML, with a total of only three events in the 2.0 ML - 2.9 ML range and none above that.
- The largest earthquake in Scotland for 18 years, with a magnitude of 4.0 ML, occurred on Moidart, Highland in 2017 (4 August). Only five other earthquakes of this size or greater have been observed in Scotland, in the period of instrumental recording from 1970.
- The magnitude 4.6 ML earthquake near Cwmllynfell, Neath Port Talbot, South Wales in 2018 (17 February) was the largest earthquake on mainland Britain in almost 10 years, since the magnitude 5.2 ML Market Rasen earthquake on 27 February 2008. The epicentre was approximately 18 km NNE of Swansea and it was felt across all of Wales and much of England.
- The magnitude 3.1 ML Newdigate, Surrey earthquake in 2019 (27 February) is the largest in a sequence of 182 earthquakes, recorded in the Newdigate area between 1 April 2018 and 31 October 2019. The first in the sequence, a magnitude 2.6 ML event on 1 April 2018, was the first earthquake the BGS has detected in Surrey.

Figures 17 and 18 show the statistics for all earthquakes known to be felt from 1979 to 2019, including those below magnitude 2.0 ML. As might be expected, Figure 17 shows three of the same peaks as for the event occurrences seen in Figure 16; namely the 1984 Lley, 2002 Manchester and 2014 New Ollerton events. However, there were many events felt with magnitudes below 2.0 ML, and these were mainly related to coal mining.

Figure 18 shows the split between the number of felt events in coalfield areas (most of them mining-induced), and those which are natural earthquakes. It can be seen that the coalfield event distribution across the 40 years (1979 - 2019), largely mirrors the distribution of smaller events (2.0 ML or less) in Figure 17. As UK mining-induced events almost always occur within one km of the surface, they are felt at low magnitudes as they are close to the communities exposed. Natural earthquakes in the UK are generally in the depth range 3-20 km. By the year 2000, deep coal mining across the UK was tailing off and the upsurge in the mining-induced events in 2014 was associated with the Thoresby mine at New Ollerton, Nottinghamshire, which closed in 2015. The lack of mining events in 1984 is caused by the general miners' strike that year.

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Scottish Power
Scottish Water
Natural Environment Research Council

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Dublin Institute for Advanced Studies (Dublin, Ireland)
Institute de Physique du Globe (Paris, France)
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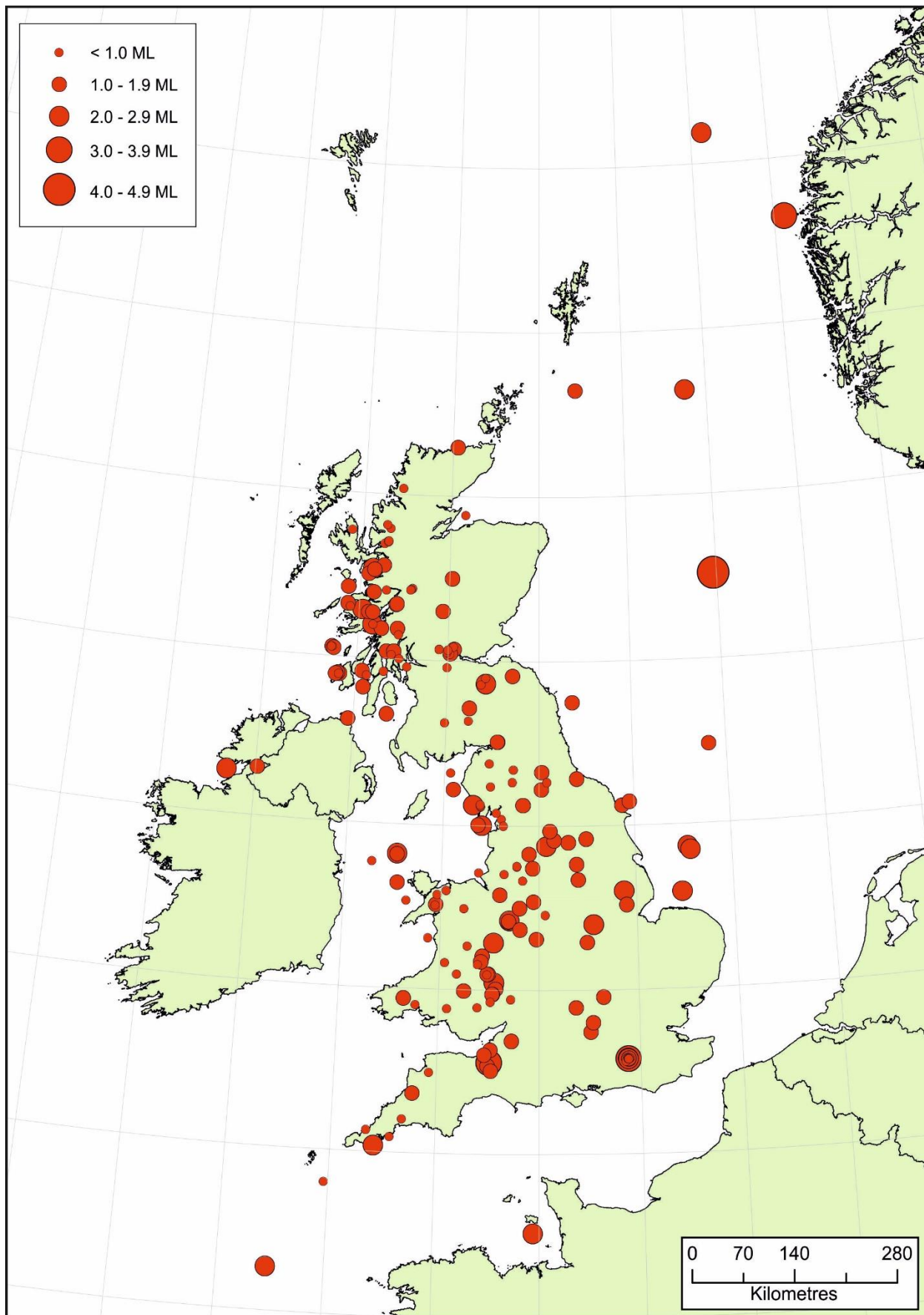


Figure 1. Epicentres of earthquakes in 2019 as listed in Table 1.

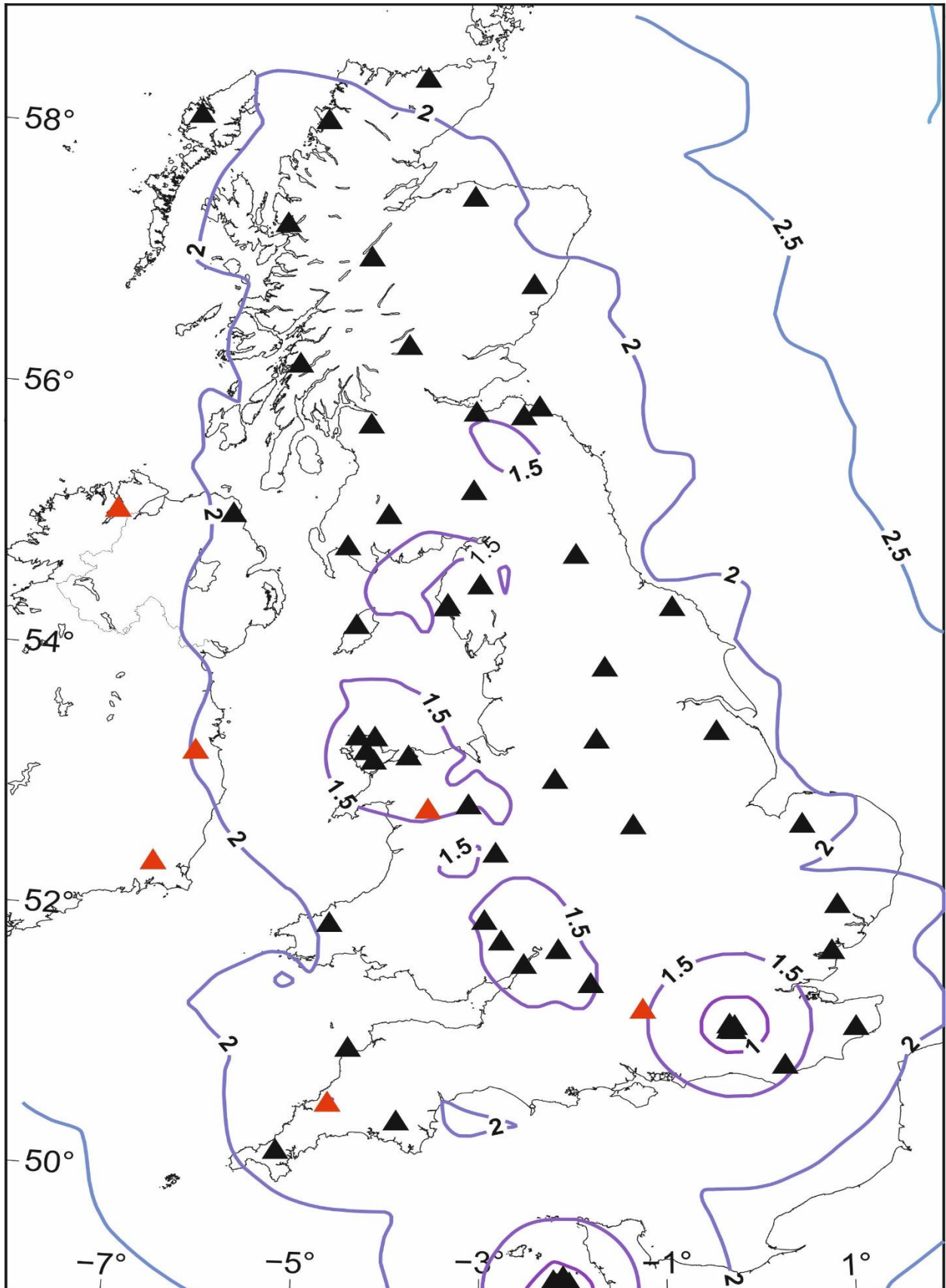


Figure 2. Detection capability of the network during 2019. The contours show earthquake magnitudes (ML) that can be detected. Signal amplitudes must exceed the background noise level by a factor of two at five of more stations. A noise amplitude of 10 nm (high noise) is assumed for all stations. Black triangles show stations operated by BGS. Red triangles show stations operated by partner agencies that are incorporated into our real time data acquisition and contribute to our detection and location capability.

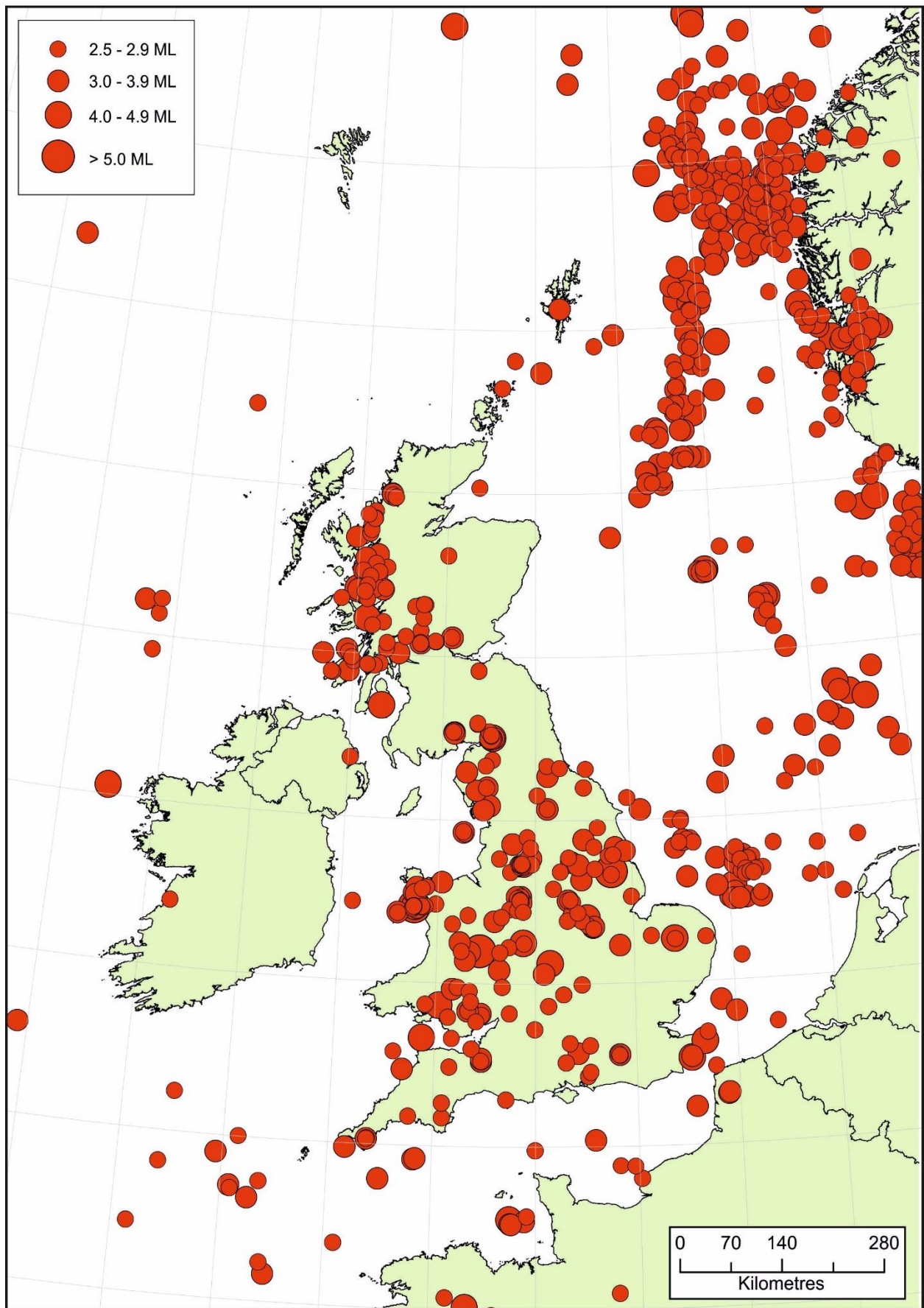


Figure 3. Epicentres of earthquakes with magnitudes of 2.5 ML and above, in the period 1979 to 2019.

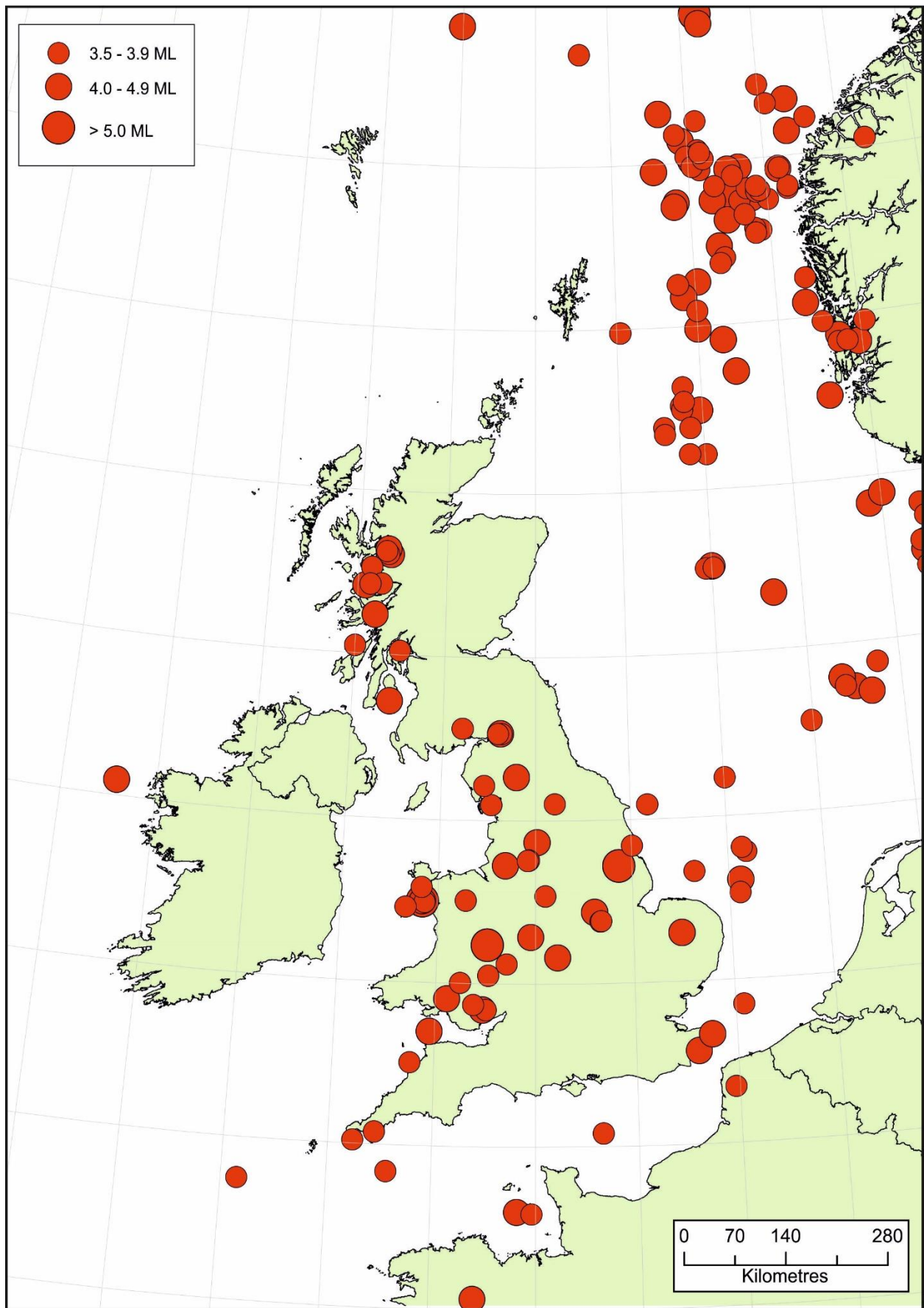


Figure 4. Epicentres of earthquakes with magnitudes of 3.5 ML and above, in the period 1970 – 2019.

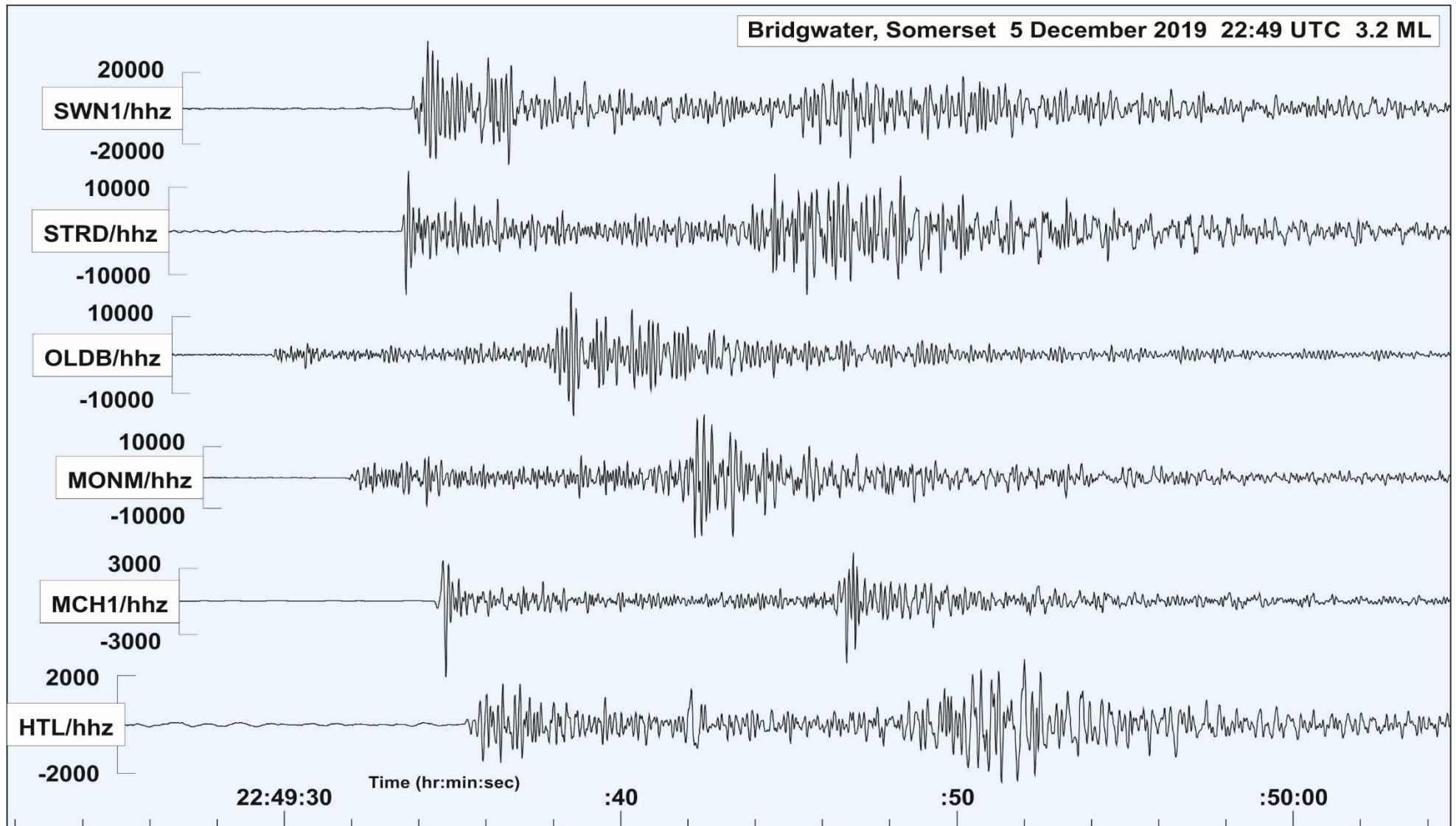


Figure 5. Seismograms of the ground displacements from the magnitude 3.2 ML Bridgwater, Somerset earthquake, 5 December 2019, recorded by BGS seismograph stations.

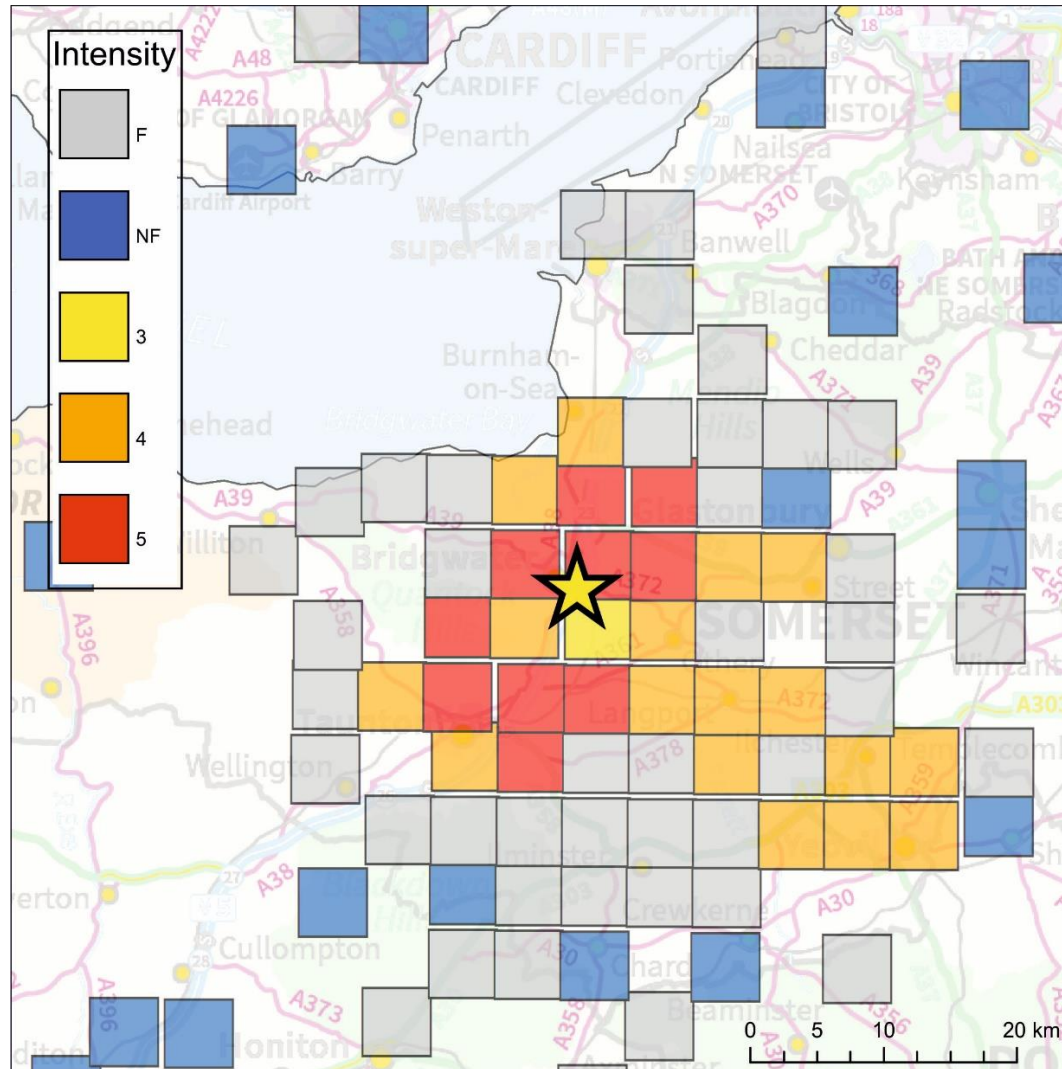


Figure 6. Macroseismic intensities for the Bridgwater, Somerset earthquake on 5 December 2019. The yellow star shows the epicentre. Intensities are calculated in 5 km grid squares from over 700 reports from people who felt the earthquake. A minimum of five observations are needed in any grid square to calculate a value of intensity, otherwise the value is calculated as ‘Felt’ but no intensity is calculated (grey squares). Blue squares indicate that any reports from these locations suggested that the earthquake was ‘Not Felt’.

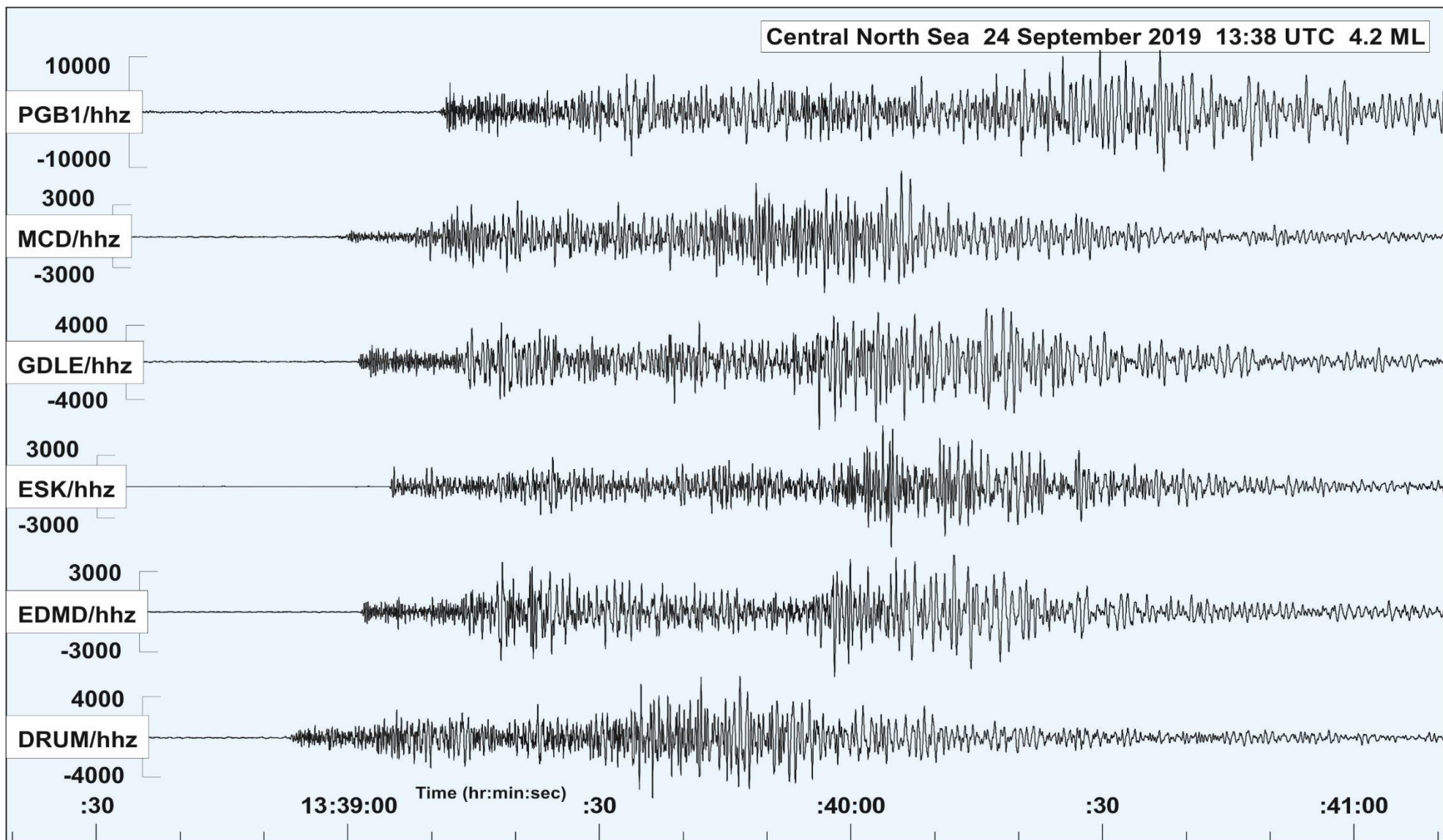


Figure 7. Seismograms of the ground displacements from the magnitude 4.2 ML Central North Sea earthquake, 24 September 2019, recorded by BGS seismograph stations.

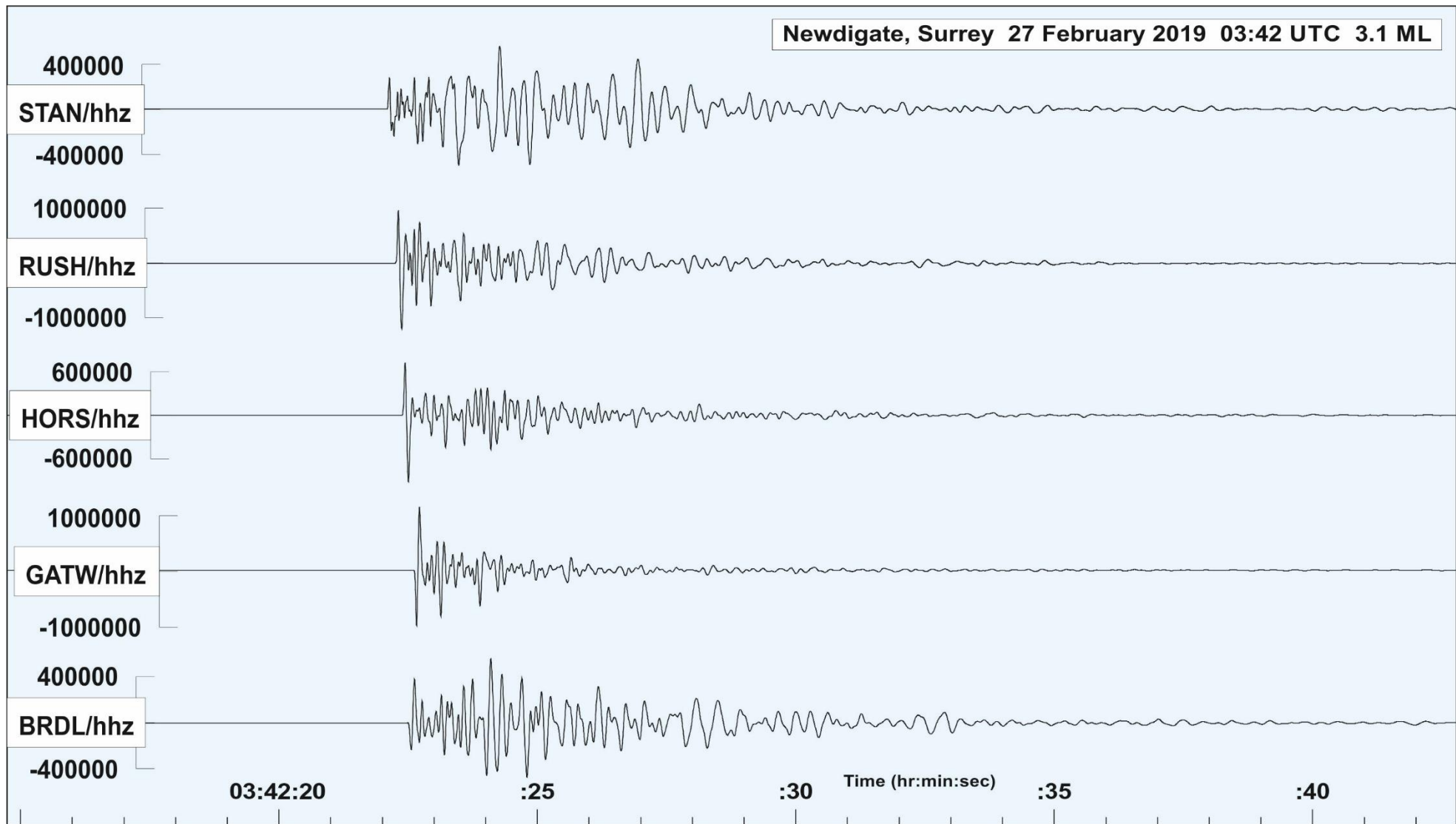


Figure 8. Seismograms of the ground displacements from the magnitude 3.1 ML Newdigte, Surrey earthquake, 27 February 2019, recorded by BGS seismograph stations.

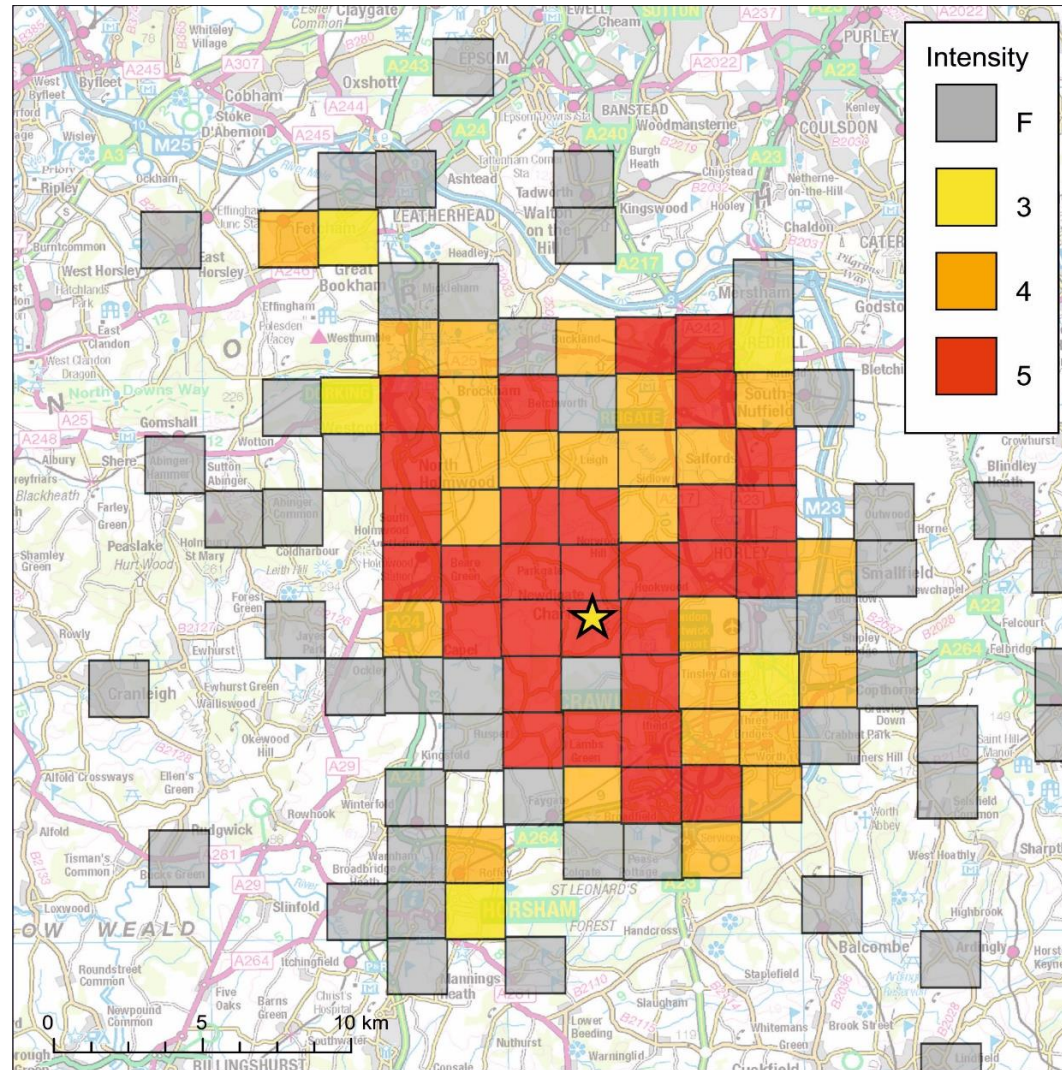


Figure 9. Macroseismic intensities for the Newdigate, Surrey earthquake on 27 February 2019. The yellow star shows the epicentre. Intensities are calculated in 2 km grid squares from over 1,780 reports from people who felt the earthquake. A minimum of five observations are needed in any grid square to calculate a value of intensity, otherwise the value is calculated as ‘Felt’ but no intensity is calculated (grey squares).

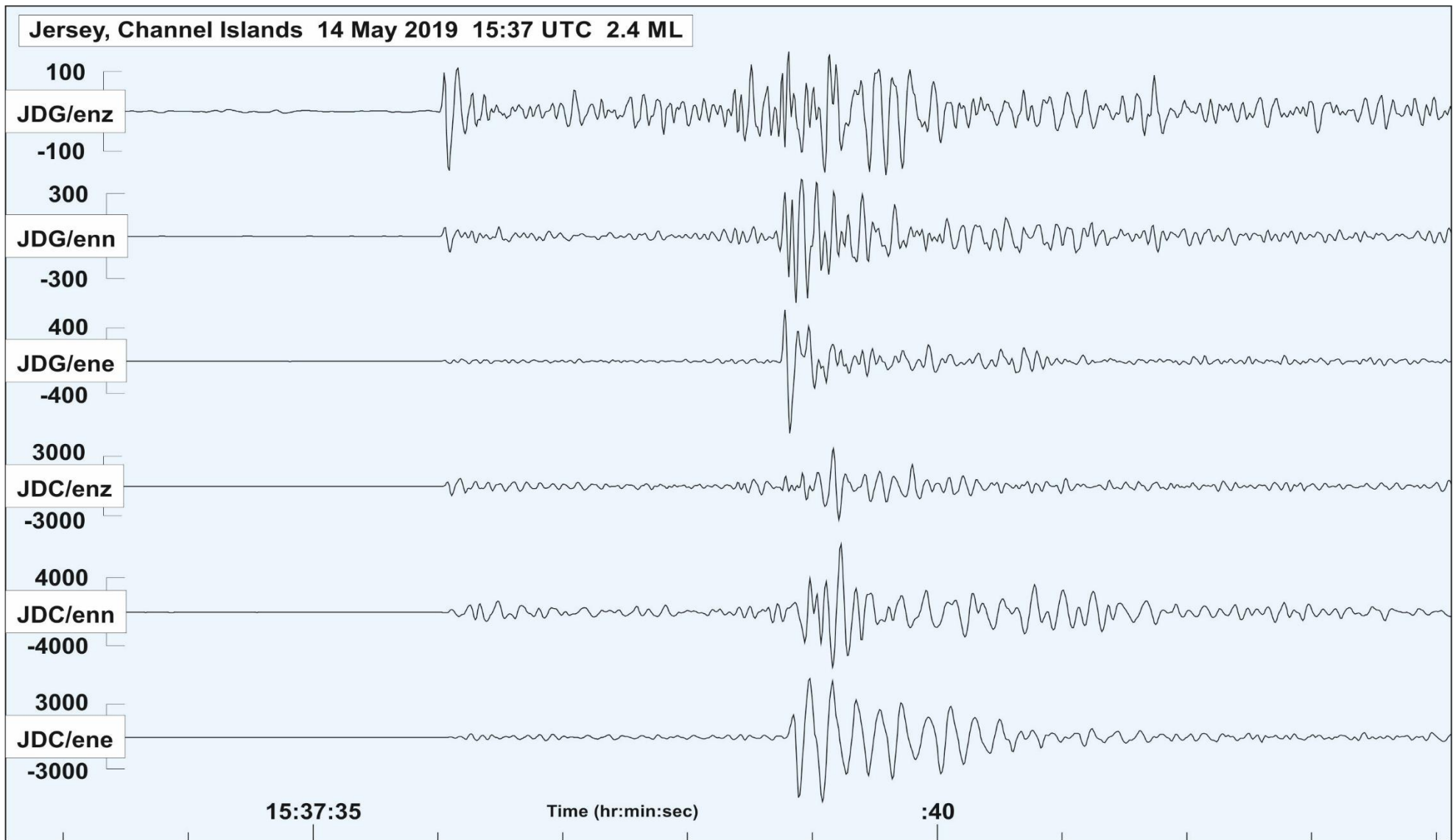


Figure 10. Seismograms of the ground displacements from the magnitude 2.4 ML Jersey, Channel Islands earthquake, 14 May 2019, recorded by BGS seismograph stations.

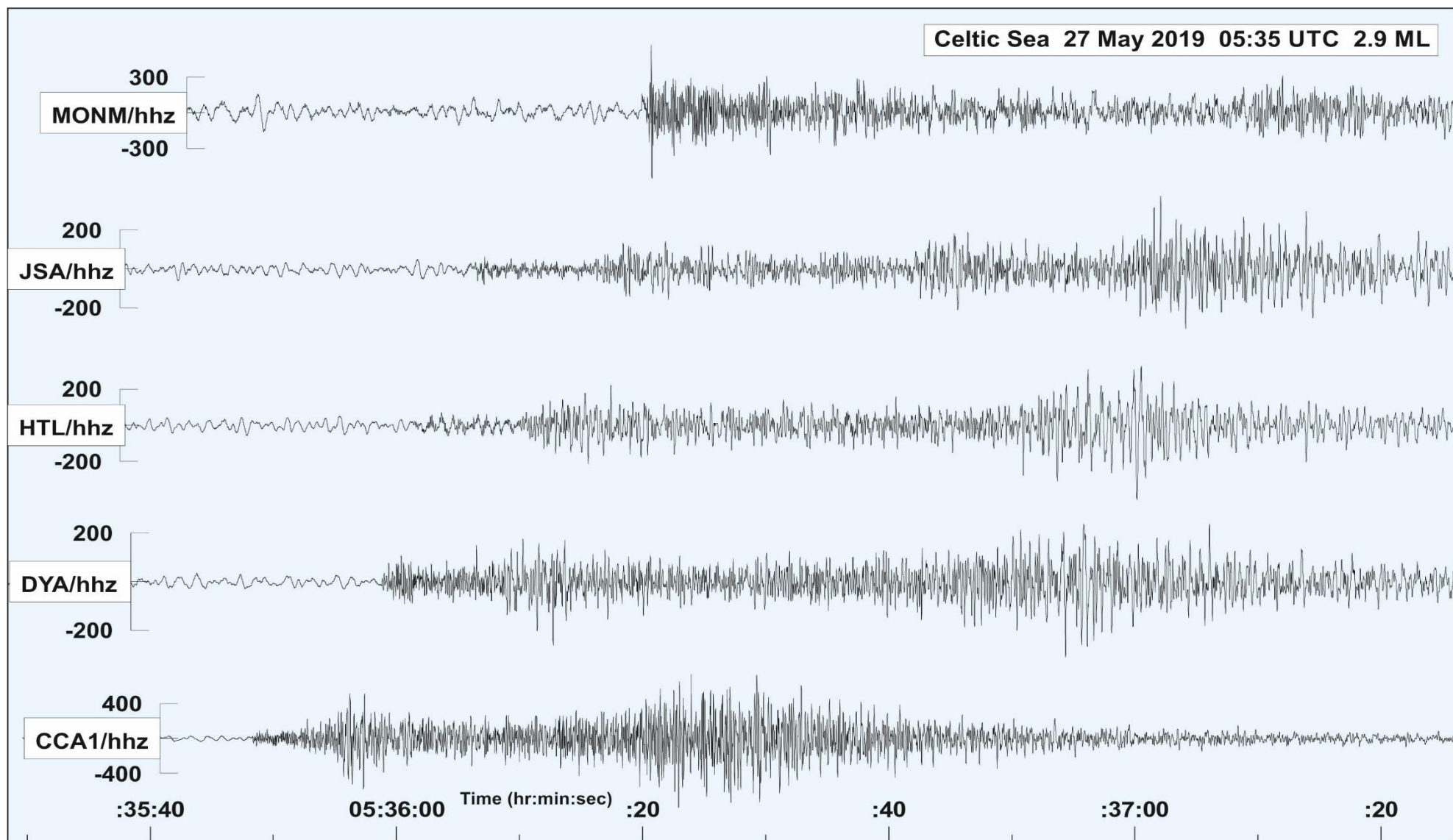


Figure 11. Seismograms of the ground displacements from the magnitude 2.9 ML Celtic Sea earthquake, 27 May 2019, recorded by BGS seismograph stations.

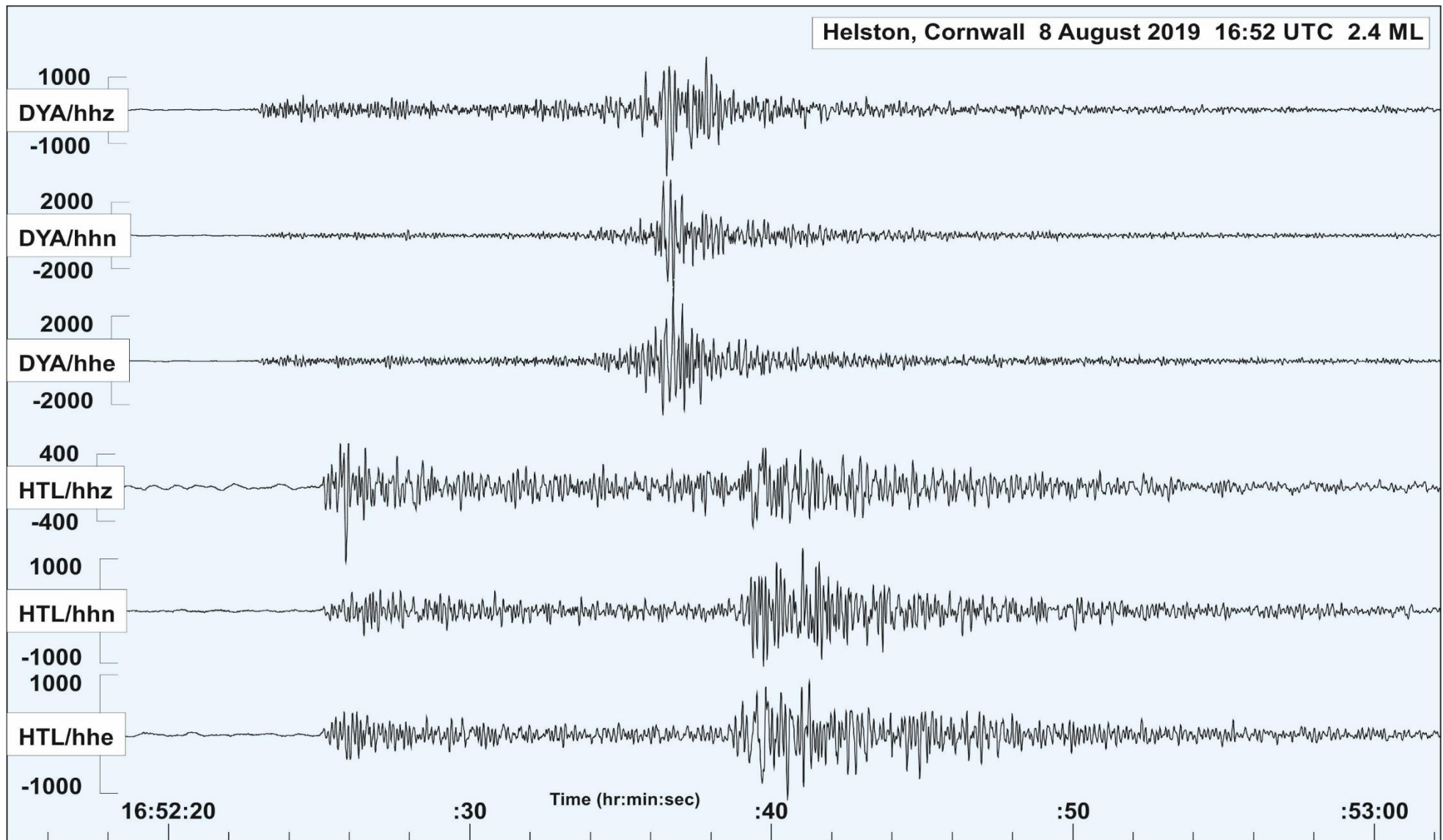


Figure 12. Seismograms of the ground displacements from the magnitude 2.4 ML Helston, Cornwall earthquake, 8 August 2019, recorded by BGS seismograph stations.

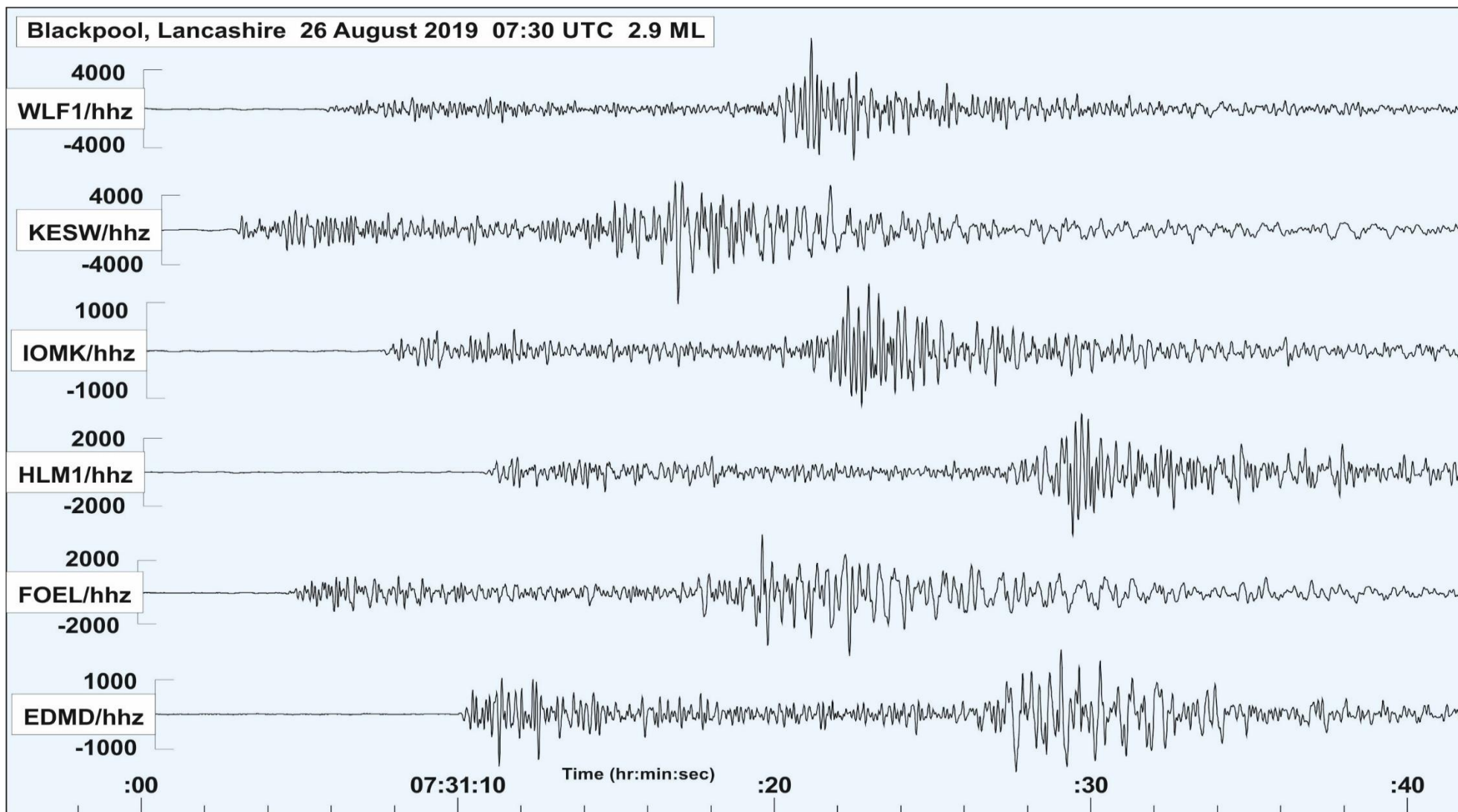


Figure 13. Seismograms of the ground displacements from the magnitude 2.9 ML Blackpool, Lancashire earthquake, 26 August 2019, recorded by BGS seismograph stations.

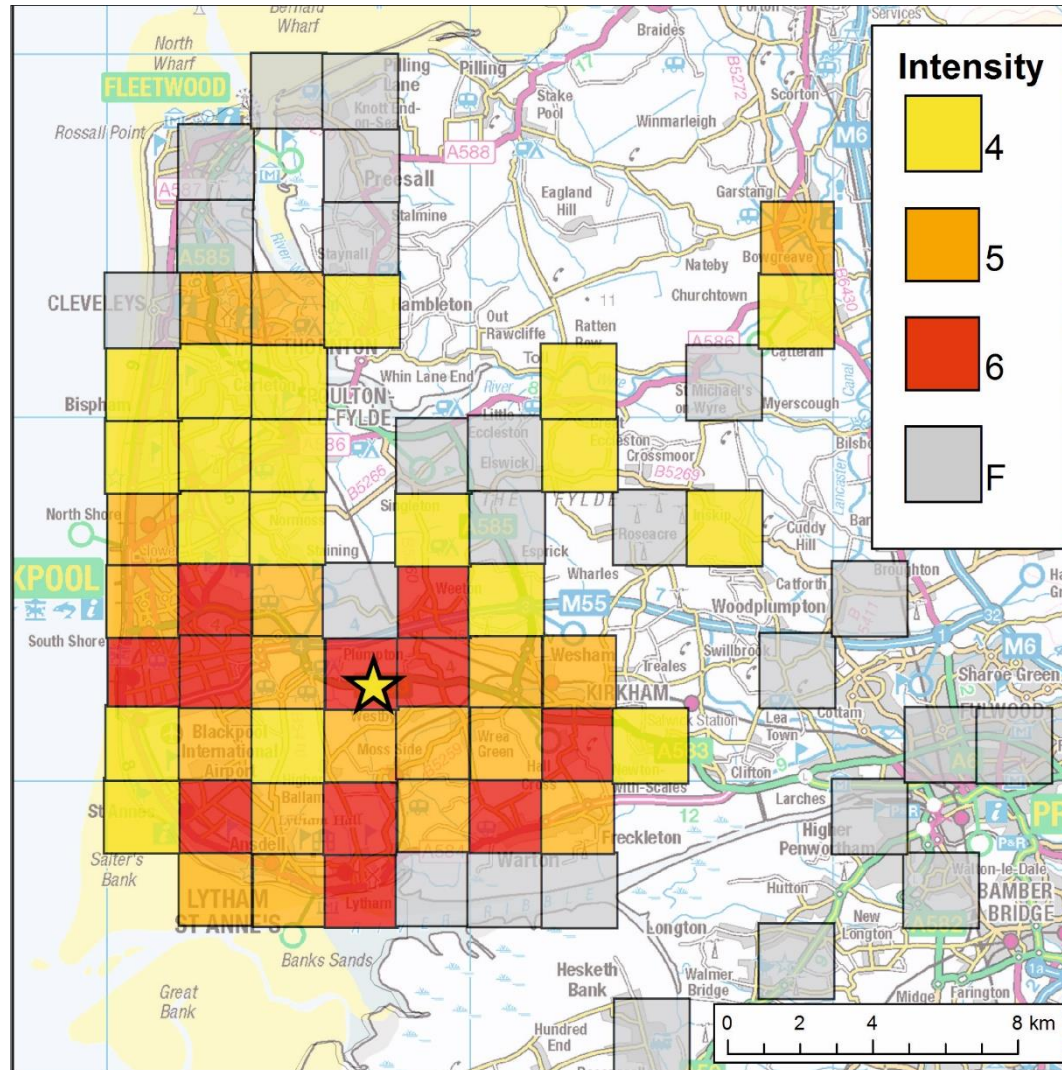


Figure 14. Macroseismic intensities for the Blackpool, Lancashire earthquake on 26 August 2019. The yellow star shows the epicentre. Intensities are calculated in 2 km grid squares from over 2,300 reports from people who felt the earthquake. A minimum of five observations are needed in any grid square to calculate a value of intensity, otherwise the value is calculated as ‘Felt’ but no intensity is calculated (grey squares).

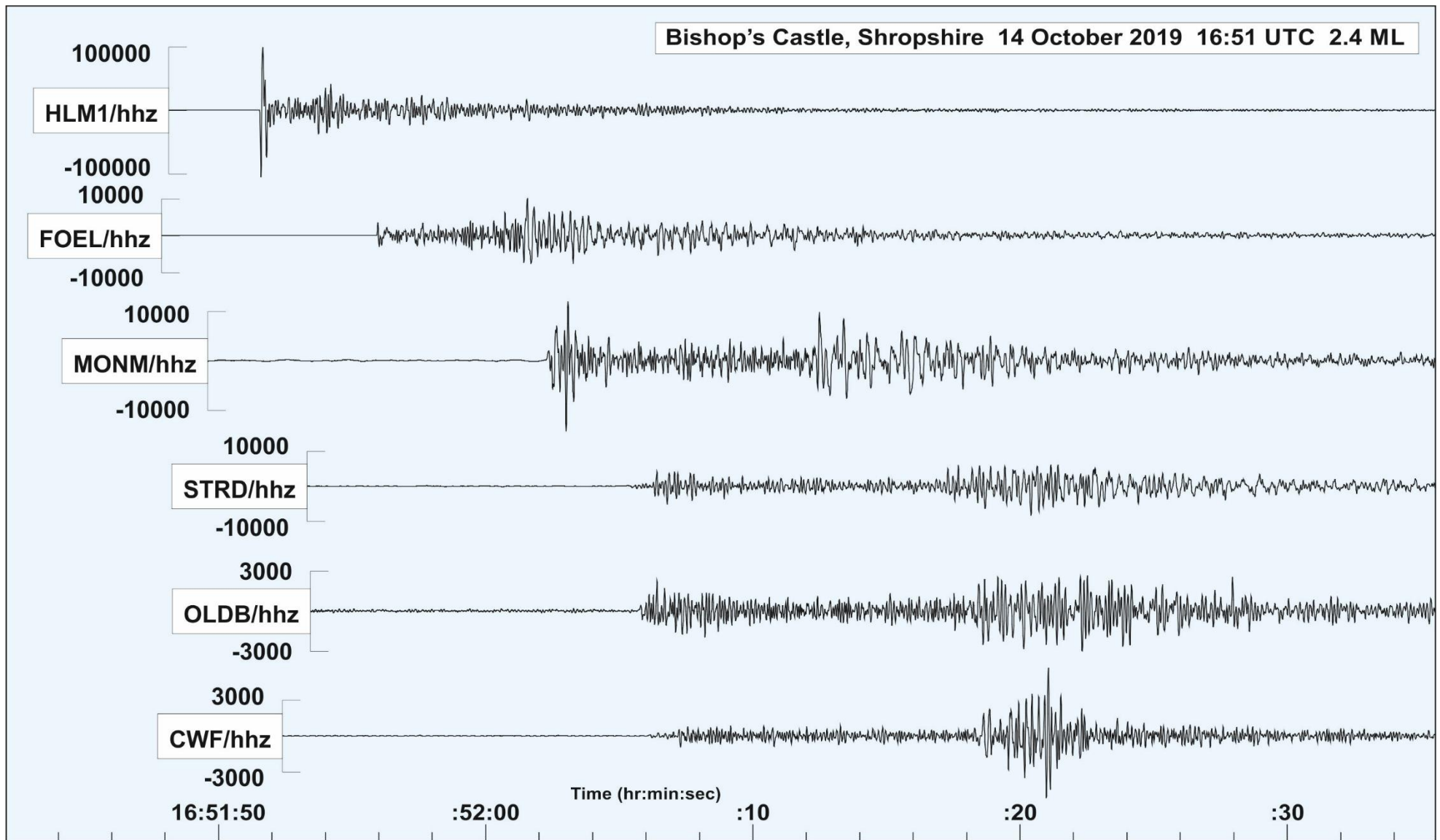


Figure 15. Seismograms of the ground displacements from the magnitude 2.4 ML Bishop's Castle, Shropshire earthquake, 14 October 2019, recorded by BGS seismograph stations.

MAGNITUDE BY YEAR MAINLAND UK EARTHQUAKES (1970 - 2019)

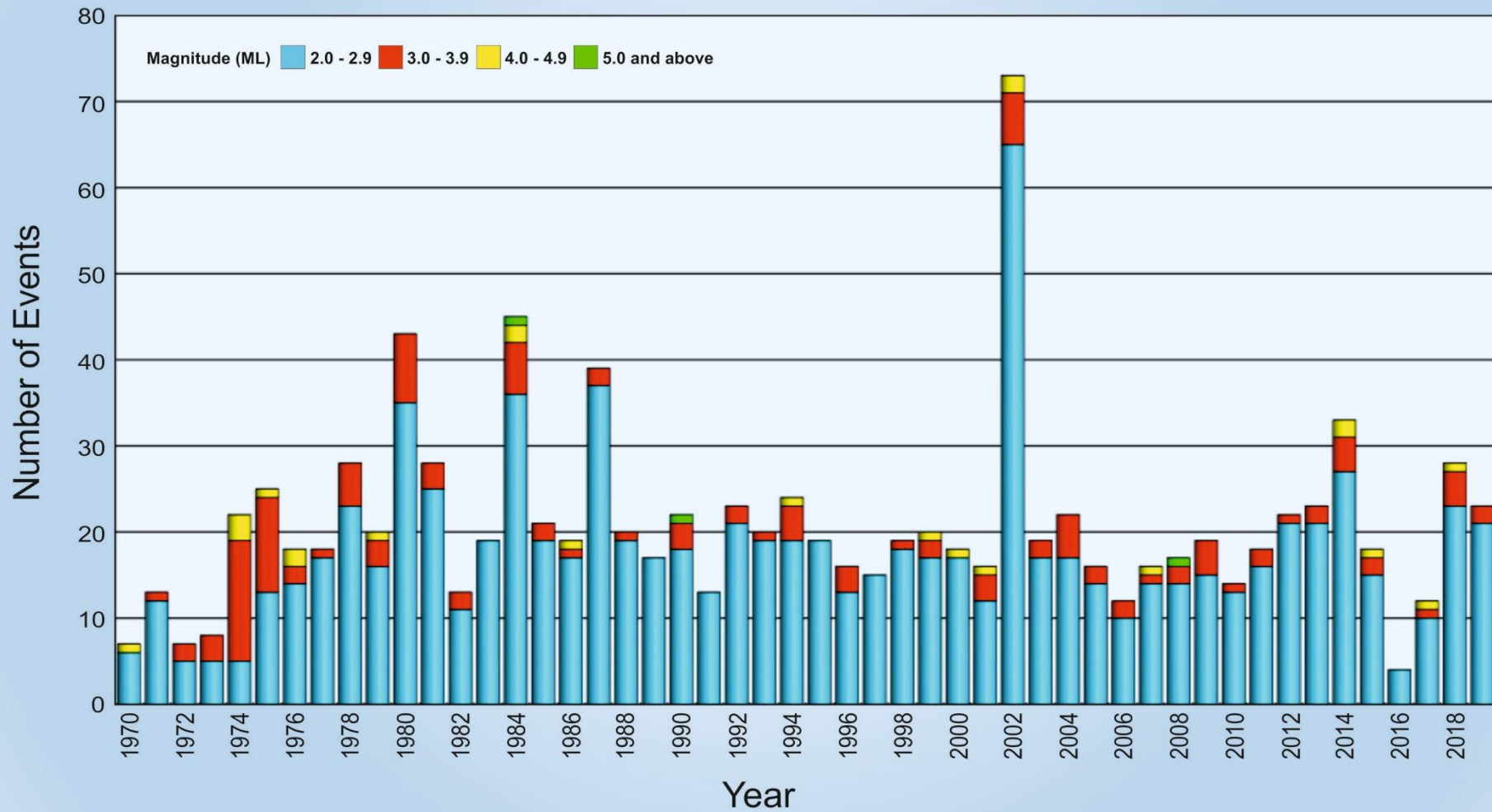


Figure 16. Histogram showing the number of mainland UK events, magnitude 2.0 ML or greater, detected 1970-2019.

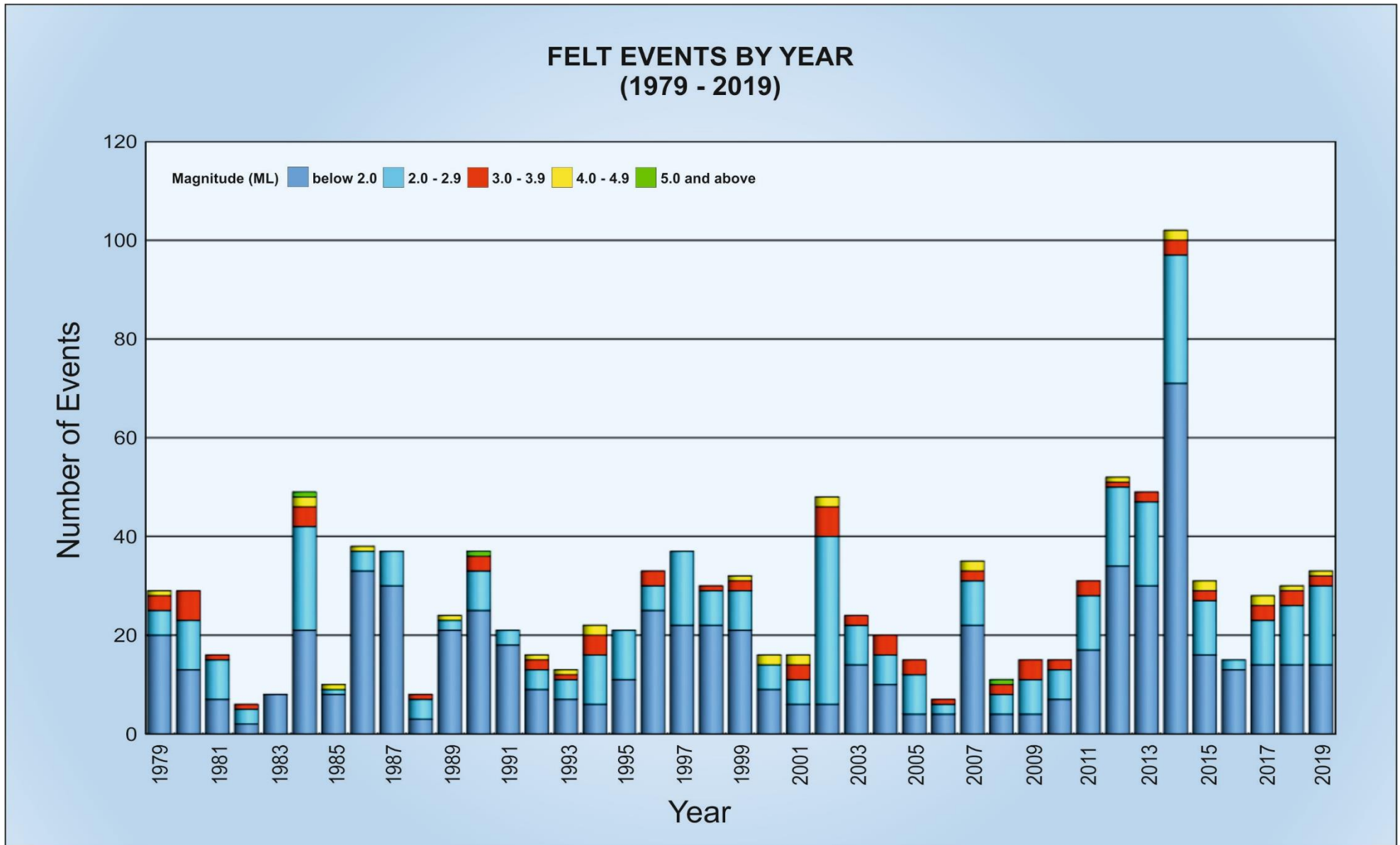


Figure 17. Histogram showing the number of felt events, 1979-2019.

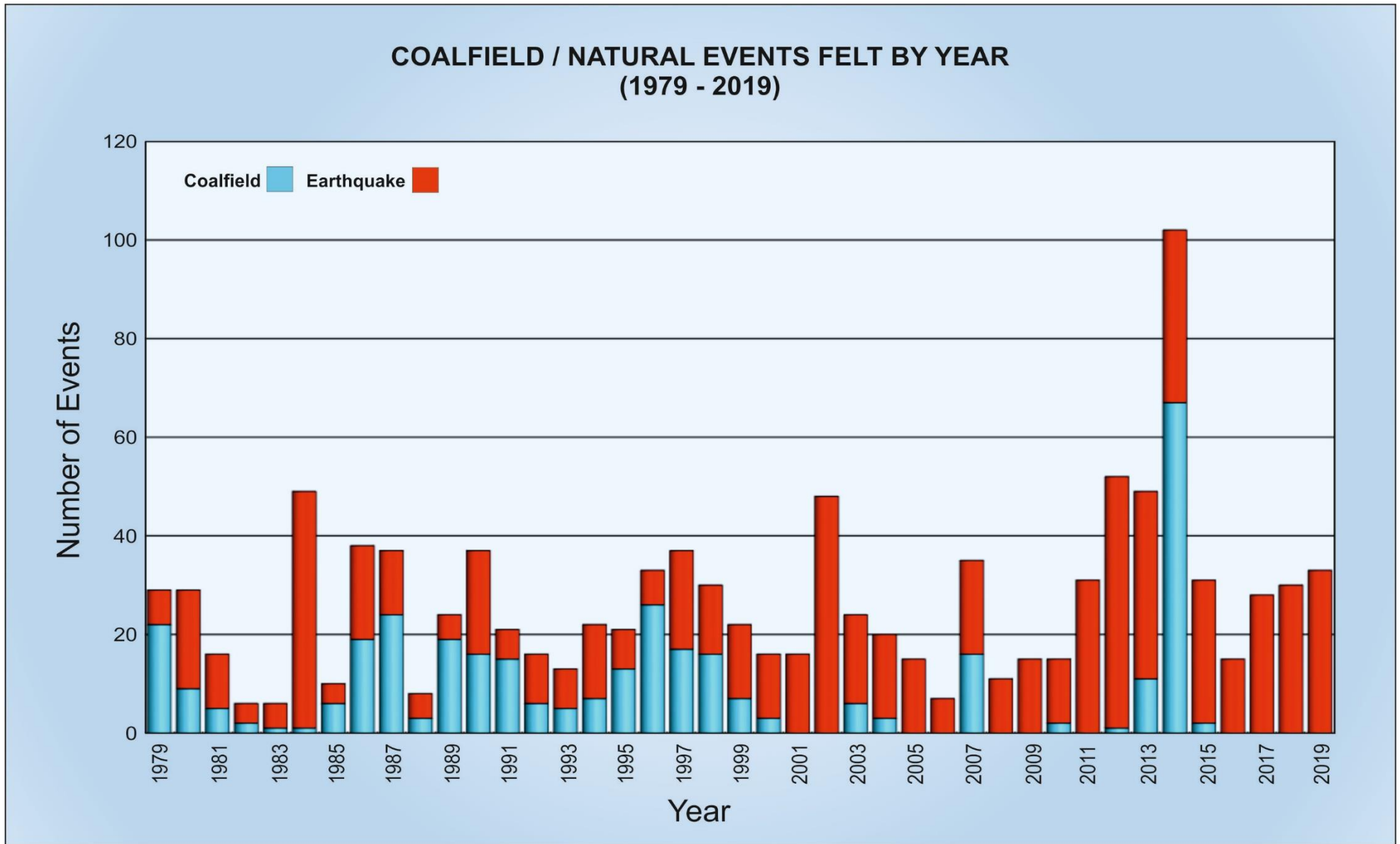


Figure 18. Histogram showing the split between the number of felt events in coalfield areas and those which are natural earthquakes, 1979-2019.

TABLE 1 : CATALOGUE OF EVENTS : 2019

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20190101	011831.1	52.41	-3.14	322.5	280.0	7.5	1.6	QUABBS, SHROPSHIRE		13	78	0.30	3.48	8.10	
20190102	044425.3	55.79	-5.76	164.2	661.3	9.0	0.9	SOUND OF JURA		6	187	0.30	6.52	8.20	
20190102	120245.6	51.17	-0.26	522.0	142.5	2.9	-0.4	NEWDIGATE, SURREY		4	219	0.10	1.39	1.00	
20190102	234407.1	51.49	-0.97	471.5	177.6	8.2	1.5	CAVERSHAM, READING	2	10	94	0.30	4.05	6.10	FELT READING
20190103	022054.0	56.58	-5.92	159.1	750.4	8.4	2.2	MORVERN, HIGHLAND	3	14	158	0.40	9.97	5.60	FELT DRIMNIN...
20190106	180744.2	56.65	-6.26	139.2	759.3	8.1	1.4	MULL, ARGYLL & BUTE		10	171	0.30	8.08	7.60	OFFSHORE LOCATION
20190106	220946.3	51.27	-2.96	333.1	153.0	9.9	1.7	LYMPHAM, SOMERSET		12	130	0.20	2.39	3.20	
20190110	004221.6	51.80	-4.46	230.7	214.6	4.6	0.9	ST CLEARS, CARMARTHNS		8	129	0.20	1.75	2.40	
20190110	011353.0	57.58	-5.38	198.1	859.9	4.1	0.8	KINLOCHEWE, HIGHLAND		7	94	0.40	8.22	9.00	
20190111	225123.3	53.73	1.09	603.7	430.7	6.2	2.6	SOUTHERN NORTH SEA		11	238	0.40	8.64	7.50	80KM ESE GRIMSBY
20190114	175812.1	55.27	-3.52	303.8	598.5	7.7	0.7	BEATTOCK, D & G		5	186	0.40	8.04	5.70	
20190116	170147.4	56.80	-5.69	174.7	773.8	7.4	1.4	MOIDART, HIGHLAND		7	172	0.40	9.11	2.50	
20190118	023337.6	50.73	-4.46	226.4	94.7	3.5	1.4	WHITSTONE, CORNWALL		6	134	0.30	5.54	7.60	
20190119	000003.5	54.64	-3.87	279.4	528.5	4.5	0.5	IRISH SEA		8	95	0.20	1.94	2.40	20KM NW WHITEHAVEN
20190120	021352.3	53.16	-2.80	346.4	362.9	7.7	1.0	CHESTER, CHESHIRE		10	101	0.20	2.20	7.60	7KM SE CHESTER
20190123	071033.1	52.99	-3.53	297.2	344.8	12.2	0.7	LLANGWM, CONWY		5	176	0.10	1.70	2.10	
20190124	022020.1	56.09	-5.35	191.5	693.3	10.6	1.5	LOCHGAIR, ARGYLL & BUTE	3	10	148	0.40	5.90	6.10	FELT CASTLETON...
20190125	200012.9	55.02	-2.88	343.8	570.2	8.3	1.0	LONGTOWN, CUMBRIA		9	137	0.10	1.70	3.30	
20190126	025032.9	53.08	-2.11	392.5	353.7	14.2	1.2	ENDON, STAFFORDSHIRE		8	89	0.30	4.11	2.50	
20190126	071637.0	56.60	-4.13	269.2	747.0	2.4	1.0	GLENLYON, PERTH/KINROSS		6	148	0.30	3.90	3.70	
20190126	071910.3	55.02	-2.89	343.3	569.8	7.8	1.1	LONGTOWN, CUMBRIA		8	140	0.20	1.75	0.00	
20190127	234819.1	53.20	-0.25	516.9	368.7	26.8	2.2	BUCKNALL, LINCOLNSHIRE		7	142	0.30	4.74	3.30	
20190130	115315.9	52.02	-2.86	340.9	235.6	8.3	1.0	KINGSTONE, HEREFORDSHIRE		4	170	0.20	3.81	4.80	
20190203	052219.3	58.08	-5.13	215.3	914.1	8.8	0.8	ELPHIN, HIGHLAND		5	85	0.20	3.02	3.80	6KM WNW ELPHIN
20190205	212707.1	56.17	-3.88	283.5	698.8	7.5	0.9	BLAIRLOGIE, STIRLING		8	77	0.20	1.79	4.90	
20190208	111439.9	59.30	-1.13	449.5	1045.9	22.2	1.7	NORTHERN NORTH SEA		5	199	0.10	2.91	3.40	35KM SE FAIR ISLE
20190210	171009.9	51.16	-0.25	522.5	141.9	2.5	0.1	NEWDIGATE, SURREY		5	117	0.10	0.89	0.90	
20190211	132336.0	56.36	-5.48	184.8	724.5	4.3	1.1	OBAN, ARGYLL & BUTE		5	159	0.20	3.94	3.80	4KM SSW OBAN
20190214	074333.0	51.16	-0.25	522.4	141.9	2.4	2.4	NEWDIGATE, SURREY	4	10	123	0.10	1.08	0.80	FELT SURREY...
20190214	080253.3	51.16	-0.25	522.2	141.9	2.4	0.2	NEWDIGATE, SURREY		5	128	0.10	1.12	1.20	
20190214	115007.6	51.16	-0.25	522.4	141.8	2.4	-0.7	NEWDIGATE, SURREY		4	138	0.00	1.48	1.00	
20190216	065846.0	51.18	-0.26	522.0	143.6	2.0	0.0	NEWDIGATE, SURREY		4	135	0.00	0.22	0.20	
20190216	154559.8	51.16	-0.25	522.6	141.3	2.3	-0.8	NEWDIGATE, SURREY		4	181	0.00	0.36	0.20	
20190218	011332.2	62.37	2.30	622.2	1395.3	10.0	2.4	NORWEGIAN SEA		6	222	0.40	7.76	0.00	300KM NE LERWICK
20190218	131619.8	51.16	-0.25	522.4	141.8	2.3	-0.3	NEWDIGATE, SURREY		5	121	0.10	0.81	1.00	
20190219	023851.7	51.17	-0.27	521.0	142.9	2.6	-1.1	NEWDIGATE, SURREY		3	281	0.00	0.67	0.30	
20190219	170357.0	51.16	-0.25	522.6	141.9	2.4	2.0	NEWDIGATE, SURREY	3	5	116	0.10	1.03	0.60	FELT SURREY...
20190220	172736.3	51.16	-0.25	522.5	141.9	2.5	0.3	NEWDIGATE, SURREY		5	116	0.10	1.03	1.00	
20190222	104658.9	56.56	-5.79	167.1	747.2	8.1	1.2	MORVERN, HIGHLAND		6	178	0.50	3.48	9.50	
20190223	044309.7	51.16	-0.27	521.2	141.6	2.0	-0.4	NEWDIGATE, SURREY		5	174	0.10	1.46	0.70	
20190224	215059.8	51.16	-0.25	522.6	141.3	2.0	-1.0	NEWDIGATE, SURREY		3	247	0.00	0.41	0.10	
20190225	054733.0	51.77	-3.83	273.9	209.0	7.7	0.8	CWMLLYNFELL, NPT		6	106	0.20	3.31	4.50	

TABLE 1 : CATALOGUE OF EVENTS : 2019

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20190225	165706.5	54.25	-2.33	378.2	484.0	3.5	1.7	COWGILL, CUMBRIA		15	68	0.40	2.94	3.40	
20190226	132755.5	51.16	-0.26	522.0	141.7	2.0	-0.6	NEWDIGATE, SURREY		4	134	0.00	0.45	0.30	
20190227	034221.3	51.16	-0.25	522.6	142.0	2.4	3.1	NEWDIGATE, SURREY	5	12	113	0.10	1.03	0.70	FELT SURREY...
20190227	034338.7	51.16	-0.25	522.4	142.0	2.5	-0.5	NEWDIGATE, SURREY		4	136	0.10	0.81	0.60	
20190227	034340.5	51.16	-0.25	522.1	141.8	2.3	-0.8	NEWDIGATE, SURREY		4	129	0.00	0.89	0.60	
20190227	035131.8	51.16	-0.24	522.8	142.1	2.1	-0.6	NEWDIGATE, SURREY		5	101	0.10	0.81	0.50	
20190227	035615.8	51.16	-0.25	522.3	141.8	2.1	-1.4	NEWDIGATE, SURREY		5	123	0.10	0.76	0.50	
20190227	035823.5	51.16	-0.25	522.1	141.6	2.0	-1.2	NEWDIGATE, SURREY		4	128	0.10	0.54	0.80	
20190227	035930.5	51.16	-0.25	522.4	141.8	2.0	-1.0	NEWDIGATE, SURREY		4	133	0.10	0.95	0.50	
20190227	041132.6	51.16	-0.25	522.5	141.6	2.0	-1.3	NEWDIGATE, SURREY		4	134	0.10	0.98	1.30	
20190227	044652.2	51.16	-0.24	522.8	141.6	2.2	-0.5	NEWDIGATE, SURREY		5	102	0.10	0.94	1.20	
20190227	045042.0	51.16	-0.26	522.0	141.7	2.0	-1.1	NEWDIGATE, SURREY		4	134	0.10	0.67	0.80	
20190227	045626.3	51.16	-0.24	523.1	141.5	2.2	-1.1	NEWDIGATE, SURREY		4	189	0.00	0.36	0.40	
20190227	051739.2	51.16	-0.25	522.5	141.8	2.0	-0.7	NEWDIGATE, SURREY		5	115	0.10	0.76	0.30	
20190227	060731.4	51.16	-0.26	522.0	142.0	2.3	-1.2	NEWDIGATE, SURREY		4	138	0.00	0.85	0.40	
20190227	072554.1	51.16	-0.25	522.2	141.7	2.3	-0.3	NEWDIGATE, SURREY		5	128	0.10	0.98	1.20	
20190227	082412.8	51.16	-0.25	522.4	141.8	2.0	-0.8	NEWDIGATE, SURREY		4	135	0.10	1.04	0.60	
20190227	091535.9	51.16	-0.24	522.7	141.9	2.0	-0.1	NEWDIGATE, SURREY		5	110	0.10	0.89	0.70	
20190227	094316.0	51.16	-0.24	522.9	142.1	2.5	-0.1	NEWDIGATE, SURREY		5	98	0.10	0.89	1.00	
20190227	123522.1	51.16	-0.24	522.7	141.9	2.1	0.3	NEWDIGATE, SURREY		5	109	0.10	0.89	0.60	
20190227	130533.1	51.16	-0.24	523.0	141.9	2.3	0.3	NEWDIGATE, SURREY		5	94	0.10	0.94	1.00	
20190227	130546.0	51.16	-0.24	522.9	142.1	2.3	-0.2	NEWDIGATE, SURREY		5	98	0.10	0.89	1.10	
20190227	130641.6	51.16	-0.23	523.4	141.4	2.3	-0.7	NEWDIGATE, SURREY		4	199	0.00	0.50	0.30	
20190227	134739.2	51.16	-0.25	522.1	142.0	2.3	-0.7	NEWDIGATE, SURREY		4	132	0.00	0.67	0.40	
20190227	154552.6	51.16	-0.25	522.4	141.8	2.0	-0.7	NEWDIGATE, SURREY		4	127	0.10	1.17	0.60	
20190227	160434.2	51.16	-0.24	523.0	141.9	2.3	-0.5	NEWDIGATE, SURREY		5	94	0.10	0.94	1.10	
20190227	160605.3	51.16	-0.25	522.4	141.7	2.1	-0.4	NEWDIGATE, SURREY		5	118	0.10	0.76	0.50	
20190227	190017.5	51.16	-0.24	523.0	142.1	2.3	-0.8	NEWDIGATE, SURREY		5	94	0.10	0.89	0.50	
20190228	012315.0	51.16	-0.25	522.3	141.7	2.1	-1.4	NEWDIGATE, SURREY		4	125	0.10	1.04	0.80	
20190228	031643.9	51.16	-0.24	522.8	142.2	2.6	-0.9	NEWDIGATE, SURREY		5	103	0.10	1.08	0.90	
20190228	042610.6	51.16	-0.24	522.8	141.6	2.4	-0.8	NEWDIGATE, SURREY		5	100	0.10	1.17	0.70	
20190228	044850.1	51.16	-0.25	522.3	141.8	2.1	-0.7	NEWDIGATE, SURREY		5	125	0.10	0.81	0.50	
20190228	053753.3	51.16	-0.24	522.8	141.7	2.4	-0.2	NEWDIGATE, SURREY		5	103	0.10	0.94	0.70	
20190228	053937.0	51.16	-0.24	522.8	141.7	2.3	-0.1	NEWDIGATE, SURREY		5	105	0.10	0.94	0.70	
20190228	070749.3	51.16	-0.24	522.7	141.7	2.3	-0.2	NEWDIGATE, SURREY		5	107	0.10	0.81	1.00	
20190228	093328.7	51.16	-0.26	521.6	141.9	2.3	-0.8	NEWDIGATE, SURREY		4	158	0.00	0.85	0.50	
20190228	111548.4	51.16	-0.26	521.4	141.6	2.3	0.1	NEWDIGATE, SURREY		5	168	0.10	1.14	0.80	
20190228	130211.6	51.16	-0.24	523.3	141.5	2.1	-0.7	NEWDIGATE, SURREY		4	194	0.00	0.36	0.20	
20190228	165159.0	51.16	-0.24	522.8	141.6	2.3	-0.3	NEWDIGATE, SURREY		5	104	0.10	1.03	0.60	
20190228	165206.5	51.16	-0.24	522.7	141.6	2.2	0.5	NEWDIGATE, SURREY		5	106	0.10	0.81	1.00	
20190301	000000.1	51.16	-0.25	522.2	141.8	2.0	-1.0	NEWDIGATE, SURREY		5	126	0.10	0.76	0.50	
20190301	192629.8	51.16	-0.24	523.2	141.5	2.0	-1.0	NEWDIGATE, SURREY		4	192	0.00	0.45	0.30	

TABLE 1 : CATALOGUE OF EVENTS : 2019

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20190302	095026.9	51.16	-0.25	522.2	141.8	2.0	-0.5	NEWDIGATE, SURREY		5	127	0.10	0.89	0.60	
20190302	184817.8	54.48	-3.02	333.9	509.3	2.7	0.3	GRASMERE, CUMBRIA		5	127	0.10	1.44	3.40	
20190303	023318.4	51.16	-0.24	522.8	142.1	2.1	0.6	NEWDIGATE, SURREY		5	107	0.10	0.81	0.40	
20190303	044813.9	51.16	-0.25	522.6	141.9	2.1	-0.6	NEWDIGATE, SURREY		5	116	0.10	0.81	0.50	
20190303	223133.1	51.16	-0.25	522.2	141.9	2.0	-0.5	NEWDIGATE, SURREY		5	127	0.10	0.98	0.90	
20190304	141805.6	51.16	-0.25	522.6	142.0	2.3	-0.2	NEWDIGATE, SURREY		5	114	0.10	0.89	1.00	
20190305	110430.4	51.16	-0.25	522.3	141.9	2.1	-0.6	NEWDIGATE, SURREY		5	126	0.10	0.89	0.60	
20190305	121645.0	51.16	-0.25	522.3	141.8	2.0	-0.4	NEWDIGATE, SURREY		5	125	0.10	0.81	1.00	
20190305	190308.7	51.16	-0.24	522.8	141.9	2.0	-1.1	NEWDIGATE, SURREY		4	191	0.10	0.64	0.40	
20190306	181855.7	51.16	-0.24	523.1	141.5	2.0	-0.7	NEWDIGATE, SURREY		4	190	0.00	0.22	0.00	
20190307	055338.1	51.16	-0.25	522.6	141.9	2.2	-0.8	NEWDIGATE, SURREY		5	115	0.10	0.94	0.60	
20190307	071706.8	51.16	-0.25	522.4	141.8	2.3	-0.6	NEWDIGATE, SURREY		4	129	0.10	0.95	0.70	
20190308	023941.2	51.16	-0.24	522.9	142.1	2.3	0.3	NEWDIGATE, SURREY		5	98	0.10	0.81	1.00	
20190308	024030.4	51.16	-0.24	523.0	142.2	2.1	-0.1	NEWDIGATE, SURREY		5	94	0.10	0.81	0.60	
20190308	030142.3	51.16	-0.26	522.0	141.7	2.0	-0.8	NEWDIGATE, SURREY		5	136	0.10	0.67	0.00	
20190308	042712.6	51.16	-0.25	522.6	141.9	2.2	-1.2	NEWDIGATE, SURREY		5	114	0.10	1.12	1.00	
20190309	112542.2	51.17	-0.27	520.9	142.3	2.5	-0.7	NEWDIGATE, SURREY		4	259	0.10	1.43	0.90	
20190310	065121.1	51.16	-0.25	522.1	141.8	2.0	-0.3	NEWDIGATE, SURREY		5	133	0.10	0.98	0.70	
20190313	185944.9	50.41	-4.64	212.4	59.7	6.2	0.8	LOSTWITHIEL, CORNWALL		4	154	0.40	7.63	2.30	
20190314	010057.8	51.16	-0.25	522.4	141.9	2.1	0.0	NEWDIGATE, SURREY		5	122	0.10	0.89	0.60	
20190314	143059.7	52.09	-2.90	338.5	243.4	23.4	2.4	BYFORD, HEREFORDSHIRE		12	83	0.30	3.42	2.20	
20190315	053947.8	53.66	-2.21	386.4	418.1	11.2	1.0	WHITWORTH, LANCASHIRE		4	166	0.00	3.74	1.20	
20190316	101131.9	55.79	-6.35	127.2	664.2	7.5	1.8	ISLAY, ARGYLL & BUTE	2	6	205	0.40	9.43	6.20	FELT ISLAY
20190316	104723.9	55.80	-6.39	124.9	665.2	6.2	1.1	ISLAY, ARGYLL & BUTE		5	243	0.70	3.91	6.10	
20190316	184248.2	51.16	-0.25	522.3	141.9	2.1	-0.4	NEWDIGATE, SURREY		5	124	0.10	0.89	0.60	
20190317	015345.8	51.16	-0.25	522.5	141.9	2.1	-1.1	NEWDIGATE, SURREY		5	118	0.10	0.89	0.40	
20190317	114643.8	55.79	-6.43	122.0	663.9	7.5	1.0	ISLAY, ARGYLL & BUTE		4	245	0.50	1.70	0.00	
20190321	024008.8	51.16	-0.25	522.2	141.8	2.0	-1.4	NEWDIGATE, SURREY		4	127	0.10	0.67	0.70	
20190321	130846.8	51.16	-0.25	522.6	141.8	2.1	-0.6	NEWDIGATE, SURREY		5	111	0.10	0.98	0.60	
20190322	125125.5	55.79	-6.37	126.2	663.4	7.5	0.8	ISLAY, ARGYLL & BUTE		4	240	0.40	4.53	6.30	
20190322	140245.0	51.16	-0.24	523.0	142.1	2.2	-0.4	NEWDIGATE, SURREY		5	94	0.10	0.86	1.00	
20190325	154209.6	57.55	-6.25	145.5	858.7	6.9	0.9	SKYE, HIGHLAND		5	172	0.20	3.40	6.20	
20190326	055257.3	55.33	-5.29	191.3	608.9	7.7	1.7	FIRTH OF CLYDE		14	114	0.40	3.94	2.20	12KM SOUTH OF ARRAN
20190326	230440.7	51.16	-0.24	523.3	141.7	2.1	-0.7	NEWDIGATE, SURREY		4	171	0.00	0.67	0.30	
20190327	100513.5	51.78	-3.23	315.4	210.0	7.5	0.9	EBBW VALE, BLAENAU GWENT		8	175	0.20	1.70	4.50	
20190328	210752.8	51.16	-0.24	523.0	141.5	2.1	-0.7	NEWDIGATE, SURREY		4	192	0.00	0.32	0.20	
20190328	223157.9	54.24	-0.26	513.5	484.6	1.0	1.7	FILEY, NORTH YORKSHIRE		19	242	0.30	7.68	4.30	OFFSHORE FILEY
20190330	050346.3	53.68	1.14	607.3	425.4	9.2	2.4	SOUTHERN NORTH SEA		18	254	0.40	9.90	0.10	80KM EAST OF GRIMSBY
20190330	072047.0	51.16	-0.24	523.1	141.5	2.1	-0.4	NEWDIGATE, SURREY		4	187	0.00	0.58	0.30	
20190402	032439.4	55.72	-3.26	321.0	647.9	7.2	0.3	EDDLESTON, BORDERS		6	165	0.20	3.38	6.60	
20190405	005800.5	51.16	-0.26	522.0	141.0	2.1	-0.9	NEWDIGATE, SURREY		3	235	0.00	0.45	0.10	
20190407	225819.4	54.54	-8.63	-28.8	536.7	10.0	2.2	COUNTY DONEGAL, IRELAND	3	8	209	0.40	8.27	0.00	FELT COUNTY DONEGAL

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YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20190407	234105.7	56.87	-4.83	227.5	778.4	11.3	0.8	ROYBRIDGE, HIGHLAND		5	109	0.20	3.00	6.10	
20190408	014927.3	52.84	-2.60	359.7	327.6	3.7	2.5	HODNET, SHROPSHIRE	3	17	95	0.40	3.54	4.60	FELT WHITCHURCH...
20190409	192310.4	56.14	-3.86	284.3	695.6	8.5	1.4	BLAIRLOGIE, STIRLING	2	11	76	0.40	2.64	6.30	FELT MENSTRIE
20190411	001834.2	51.16	-0.24	522.9	141.6	2.5	0.7	NEWDIGATE, SURREY		5	99	0.00	0.14	0.20	
20190411	012003.8	51.16	-0.25	522.6	141.4	2.3	-1.1	NEWDIGATE, SURREY		5	105	0.00	0.32	0.20	
20190412	010504.4	54.57	-1.20	451.8	520.2	5.9	1.0	MIDDLESBROUGH, N YORKS		4	184	0.10	1.56	1.80	
20190412	131312.0	57.13	-5.49	188.7	810.1	6.7	1.1	ARNISDALE, HIGHLAND		5	148	0.20	4.63	3.20	
20190413	112047.0	54.25	-3.38	310.0	484.9	6.6	2.2	BOOTLE, CUMBRIA	3	24	60	0.40	2.97	3.20	FELT MILLOM...
20190413	184045.2	51.16	-0.24	522.8	141.6	2.1	-0.8	NEWDIGATE, SURREY		5	101	0.00	0.36	0.30	
20190415	122526.7	51.16	-0.24	523.0	141.4	2.3	-0.4	NEWDIGATE, SURREY		4	189	0.00	0.36	0.30	
20190415	235450.9	51.16	-0.24	523.3	141.6	2.1	-0.3	NEWDIGATE, SURREY		5	99	0.00	0.22	0.20	
20190416	011741.7	51.16	-0.25	522.2	141.1	2.1	-0.8	NEWDIGATE, SURREY		4	116	0.00	0.22	0.30	
20190421	235850.8	51.88	-4.70	214.3	223.8	6.4	1.1	LLANBOIDY, CARMARTHNS		10	166	0.30	3.86	2.50	
20190422	171655.5	51.16	-0.24	523.1	141.6	2.3	0.4	NEWDIGATE, SURREY		5	96	0.00	0.22	0.20	
20190422	184634.2	56.62	-6.20	142.4	755.0	3.4	0.9	MULL, ARGYLL & BUTE		5	219	0.20	0.37	17.50	
20190425	101515.8	51.08	-3.01	329.0	131.7	6.0	1.5	NORTH NEWTON, SOMERSET		7	185	0.20	6.02	9.10	
20190425	221748.5	50.98	-4.15	249.2	122.9	5.1	0.6	BIDEFORD, DEVON		5	122	0.10	2.33	3.50	
20190429	052607.5	53.80	-1.39	440.3	433.6	4.3	1.0	GARFORTH, WEST YORKSHIRE		16	129	0.20	2.11	2.70	
20190429	201824.6	54.59	-7.97	14.6	537.8	16.5	1.8	COUNTY DONEGAL, IRELAND	3	11	173	0.30	5.55	9.80	FELT CO DONEGAL...
20190430	182258.2	51.16	-0.24	522.8	141.6	2.0	-0.6	NEWDIGATE, SURREY		5	103	0.00	0.22	0.60	
20190502	113910.6	57.03	-5.82	168.1	799.2	6.8	1.0	MALLAIG, HIGHLAND		5	171	0.40	9.46	1.40	
20190503	051424.4	51.16	-0.24	522.8	141.5	2.0	-0.8	NEWDIGATE, SURREY		4	154	0.00	0.22	0.30	
20190504	001919.5	51.16	-0.24	522.9	141.6	2.4	2.5	NEWDIGATE, SURREY	4	13	100	0.00	0.22	0.20	FELT SURREY...
20190504	004629.2	51.16	-0.24	523.0	141.6	2.3	-1.2	NEWDIGATE, SURREY		4	166	0.00	0.32	0.40	
20190504	020307.9	51.16	-0.24	522.7	141.5	2.1	0.2	NEWDIGATE, SURREY		5	105	0.00	0.14	0.10	
20190504	175921.2	51.16	-0.24	522.9	141.6	2.1	-0.6	NEWDIGATE, SURREY		4	166	0.00	0.45	0.30	
20190504	202122.1	51.16	-0.25	522.6	141.3	2.2	-0.7	NEWDIGATE, SURREY		4	183	0.00	0.36	0.20	
20190504	232045.8	51.16	-0.25	522.6	141.5	2.3	-0.6	NEWDIGATE, SURREY		5	108	0.00	0.22	0.20	
20190505	021119.4	51.16	-0.24	522.7	141.5	2.1	-0.5	NEWDIGATE, SURREY		5	105	0.00	0.22	0.10	
20190506	003528.3	57.42	-5.43	194.1	842.2	4.4	0.5	STRATHCARRON, HIGHLAND		4	188	0.30	8.58	6.50	
20190506	025535.6	51.16	-0.24	523.2	141.6	2.2	-0.1	NEWDIGATE, SURREY		5	96	0.00	0.22	0.30	
20190506	030111.1	51.16	-0.24	523.3	141.7	2.1	-0.8	NEWDIGATE, SURREY		5	99	0.00	0.22	0.20	
20190506	101922.9	51.16	-0.25	522.3	141.4	2.2	0.9	NEWDIGATE, SURREY		5	119	0.00	0.22	0.30	
20190507	020458.5	51.16	-0.24	523.0	141.6	2.0	-0.7	NEWDIGATE, SURREY		5	96	0.00	0.22	0.20	
20190507	040535.5	51.16	-0.24	523.0	141.6	2.1	-0.4	NEWDIGATE, SURREY		5	97	0.00	0.22	0.20	
20190507	042113.6	51.16	-0.24	523.3	141.7	2.0	-0.9	NEWDIGATE, SURREY		4	180	0.00	0.22	0.20	
20190509	094643.0	51.16	-0.24	522.8	141.5	2.1	0.5	NEWDIGATE, SURREY		5	104	0.00	0.22	0.20	
20190509	124150.6	53.15	-4.08	260.6	363.8	17.8	0.3	BETHESDA, GWYNEDD		4	185	0.00	7.34	1.90	
20190510	121036.5	51.16	-0.24	522.8	141.4	2.3	-0.4	NEWDIGATE, SURREY		4	150	0.00	0.22	0.10	
20190510	124942.5	51.17	-0.21	524.9	142.4	2.1	-0.2	NEWDIGATE, SURREY		4	180	0.00	0.32	0.20	
20190511	050500.9	51.16	-0.24	523.1	141.6	2.3	0.0	NEWDIGATE, SURREY		5	96	0.00	0.22	0.20	
20190511	050537.5	51.16	-0.24	523.0	141.7	2.0	0.5	NEWDIGATE, SURREY		5	98	0.00	0.14	0.30	

TABLE 1 : CATALOGUE OF EVENTS : 2019

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20190511	055210.8	57.43	-5.42	195.0	842.4	4.1	0.5	STRATHCARRON, HIGHLAND		5	133	0.20	4.30	4.10	
20190511	055309.5	57.40	-5.50	190.0	839.7	6.2	0.2	STRATHCARRON, HIGHLAND		5	128	0.90	6.54	0.80	
20190511	180959.4	54.09	-2.78	348.7	465.8	2.5	0.5	HALTON, LANCASHIRE		6	194	0.30	4.16	4.00	
20190512	164250.9	58.59	-3.89	290.0	969.0	5.7	1.3	MELVICH, HIGHLAND		4	266	0.20	4.94	2.40	3KM NNE MELVICH
20190513	041936.1	57.42	-5.42	194.7	841.9	5.4	0.7	STRATHCARRON, HIGHLAND		5	133	0.30	5.79	4.80	
20190514	023645.7	56.12	-6.54	117.7	700.8	2.6	0.9	COLONSAY, ARGYLL & BUTE		5	215	0.40	8.19	0.20	20KM WEST COLONSAY
20190514	153732.4	49.04	-2.11	391.7	-95.7	9.0	2.4	JERSEY, CHANNEL ISLANDS	3	5	330	0.00	1.80	4.80	FELT JERSEY
20190517	025650.6	52.58	-1.02	466.3	299.0	2.5	1.6	GREAT GLEN, LEICS		9	155	0.40	6.35	5.40	
20190517	044801.1	51.16	-0.24	523.3	141.6	2.1	0.5	NEWDIGATE, SURREY		4	190	0.00	0.36	0.30	
20190518	153044.8	57.00	-3.94	282.4	791.4	7.7	1.4	KINGUSSIE, HIGHLAND		8	90	0.30	3.28	3.50	11KM SE KINGUSSIE
20190519	165643.4	51.16	-0.24	523.1	141.6	2.0	-0.8	NEWDIGATE, SURREY		4	184	0.00	0.28	0.20	
20190520	084748.3	56.85	-6.27	139.9	781.4	8.1	1.4	MUCK, HIGHLAND		6	169	0.20	4.30	3.20	
20190521	103023.0	51.16	-0.24	523.1	141.4	2.3	-0.3	NEWDIGATE, SURREY		3	266	0.00	0.63	0.20	
20190523	232303.6	51.16	-0.24	523.3	141.5	2.0	-0.8	NEWDIGATE, SURREY		3	271	0.00	0.51	0.10	
20190527	053515.2	48.53	-7.08	25.1	-139.8	14.8	2.9	CELTIC SEA		17	270	0.30	2.16	0.00	210KM SSW PENZANCE
20190528	125705.1	54.29	-0.10	523.8	490.2	13.1	1.8	FILEY, NORTH YORKSHIRE		17	299	0.20	5.06	3.80	15KM OFFSHORE FILEY
20190528	222130.5	51.16	-0.23	523.5	141.5	2.2	-1.0	NEWDIGATE, SURREY		3	277	0.00	0.63	0.30	
20190530	012128.8	51.95	-2.92	336.4	228.5	14.1	1.2	PONTRILAS, HEREFORDSHIRE		7	125	0.20	3.04	1.60	
20190530	012150.5	51.95	-2.94	335.6	228.1	15.5	1.4	PONTRILAS, HEREFORDSHIRE		6	128	0.20	3.00	1.80	
20190601	011440.1	54.00	-2.74	351.6	456.2	2.5	0.6	ELLEL, LANCASHIRE		8	99	0.30	2.59	2.90	5KM SE LANCASTER
20190601	085650.1	56.12	-6.55	117.0	700.9	5.3	1.0	COLONSAY, ARGYLL & BUTE		6	216	0.10	1.49	2.60	20KM WEST COLONSAY
20190603	222602.7	51.16	-0.24	523.3	141.2	2.3	-1.2	NEWDIGATE, SURREY		3	275	0.00	0.95	0.30	
20190604	233940.6	53.53	-1.22	451.6	404.3	12.2	1.2	DONCASTER, S YORKSHIRE		12	152	0.30	3.22	7.90	5KM WNW DONCASTER
20190605	080033.9	55.79	-3.16	327.4	656.2	5.1	0.8	PENICUIK, MIDLOTHIAN		7	165	0.20	4.75	3.30	5KM SE PENICUIK
20190608	061153.8	56.08	-3.94	279.2	689.5	7.2	1.6	BANNOCKBURN, STIRLING		12	67	0.40	2.87	4.70	
20190608	204149.8	56.08	-3.95	278.4	689.1	8.1	0.4	BANNOCKBURN, STIRLING		5	159	0.20	3.05	4.70	
20190609	024318.2	51.16	-0.24	523.2	141.6	2.3	-0.7	NEWDIGATE, SURREY		5	102	0.00	0.32	0.30	
20190609	230014.8	51.13	-0.29	519.6	138.0	3.6	-0.1	NEWDIGATE, SURREY		4	307	0.10	1.61	1.20	
20190610	212138.9	50.19	-4.87	195.3	35.9	2.6	0.7	PORTLOE, CORNWALL		4	203	0.30	5.19	7.20	4KM OFFSHORE PORTLOE
20190618	100544.1	51.16	-0.24	522.8	141.6	2.1	-0.4	NEWDIGATE, SURREY		5	100	0.00	0.22	0.20	
20190618	112026.5	54.68	-2.54	365.2	532.0	8.3	0.9	MILBURN, CUMBRIA		9	97	0.40	3.26	5.50	14KM ENE PENRITH
20190618	195312.9	53.29	-4.91	206.0	380.9	10.4	1.7	IRISH SEA		12	131	0.20	2.19	2.20	18KM WEST HOLYHEAD
20190621	233305.8	53.42	-3.24	317.5	392.8	7.5	0.6	IRISH SEA		9	116	0.30	3.09	8.60	5KM NW HOYLAK
20190622	145156.7	55.51	-1.28	445.6	623.8	10.0	1.8	CENTRAL NORTH SEA		6	227	0.40	7.87	0.00	25KM NE AMBLE
20190625	052107.4	56.29	-5.09	208.6	715.4	7.7	0.8	INVERARAY, ARGYLL/BUTE		3	183	0.20	8.16	0.80	7KM NORTH INVERARAY
20190628	134809.0	51.16	-0.25	522.1	141.3	2.5	-0.1	NEWDIGATE, SURREY		4	123	0.00	0.41	0.30	
20190630	232234.5	59.27	1.49	599.0	1047.6	13.9	2.7	NORTHERN NORTH SEA		15	137	0.40	8.99	7.10	180KM SE LERWICK
20190701	001744.6	57.62	-5.46	193.5	864.5	2.5	0.6	TALLADALE, HIGHLAND		6	105	0.50	5.98	4.60	
20190701	221611.2	56.37	-5.13	206.8	724.0	7.0	1.8	KILCHRENAN, ARGYLL/BUTE	3	13	110	0.40	5.52	7.10	FELT KILCHRENAN...
20190702	040639.1	51.01	-2.95	333.6	124.3	7.5	1.0	NORTH CURRY, SOMERSET		8	173	0.30	5.15	8.60	
20190704	011921.7	56.13	-4.20	263.5	695.5	7.7	0.5	KIPPEN, STIRLING		6	95	0.30	3.35	7.80	
20190704	072957.6	52.19	-3.01	330.8	255.6	12.1	1.5	KINGTON, HEREFORDSHIRE		10	146	0.10	2.09	1.70	

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20190706	010320.4	51.16	-0.24	523.2	141.7	2.8	-1.7	NEWDIGATE, SURREY		3	193	0.00	0.28	0.40	
20190706	010321.8	51.16	-0.24	523.2	141.7	2.6	-1.2	NEWDIGATE, SURREY		4	185	0.00	0.36	0.30	
20190706	010340.2	51.16	-0.24	523.2	141.6	2.3	-1.3	NEWDIGATE, SURREY		4	179	0.00	0.45	0.50	
20190706	010341.8	51.16	-0.24	523.1	141.7	2.0	-1.1	NEWDIGATE, SURREY		4	178	0.00	0.54	0.40	
20190706	035715.4	51.16	-0.24	523.2	141.6	2.2	-0.3	NEWDIGATE, SURREY		5	102	0.00	0.22	0.40	
20190709	225213.3	56.14	-4.20	263.4	695.9	10.4	0.6	KIPPEN, STIRLING		7	95	0.40	4.52	6.90	
20190710	093636.5	52.19	-3.03	329.5	255.6	13.6	1.2	KINGTON, HEREFORDSHIRE		6	178	0.20	3.91	3.50	
20190710	232642.6	54.59	-0.78	478.9	522.2	1.0	1.2	BOULBY, NORTH YORKSHIRE		7	305	0.20	8.09	5.10	COLLAPSE TYPE EVENT
20190711	105357.9	54.00	-3.19	321.9	456.9	3.3	2.4	IRISH SEA		22	50	0.20	2.10	2.90	14KM NW FLEETWOOD
20190713	222508.9	57.43	-5.41	195.1	842.7	3.8	0.7	STRATHCARRON, HIGHLAND		6	93	0.10	2.19	2.90	
20190714	035742.6	52.19	-3.04	329.3	255.3	16.1	0.8	KINGTON, HEREFORDSHIRE		7	94	0.10	1.43	1.10	
20190720	220226.0	51.16	-0.25	522.4	141.5	2.1	-0.7	NEWDIGATE, SURREY		5	116	0.00	0.14	0.10	
20190727	000410.1	53.83	-1.68	420.8	436.6	12.0	1.6	CALVERLEY, W YORKSHIRE		22	83	0.20	1.70	3.70	
20190728	201749.8	55.43	-3.50	305.3	615.8	2.7	1.2	GLENBRECK, BORDERS		7	175	0.20	4.83	9.50	
20190729	033525.6	51.16	-0.24	523.1	141.7	2.1	-0.4	NEWDIGATE, SURREY		5	95	0.00	0.22	0.20	
20190729	054744.6	56.83	-5.41	192.2	775.9	7.5	0.5	GLENFINNAN, HIGHLAND		4	150	0.10	2.85	5.10	5KM SSE GLENFINNAN
20190805	021339.0	51.61	-0.92	474.8	190.3	12.3	1.0	TURVILLE, BUCKS		6	225	0.10	3.28	3.70	2KM WSW TURVILLE
20190805	195502.3	61.29	4.26	735.1	1283.7	23.8	3.0	NORWEGIAN SEA		8	160	0.20	4.17	3.80	320KM ENE LERWICK
20190806	023200.9	51.16	-0.24	523.1	141.3	2.2	-0.5	NEWDIGATE, SURREY		5	99	0.00	0.22	0.20	
20190808	002500.3	54.44	-1.95	403.5	505.3	11.1	1.0	LANGTHWAITE, N YORKSHIRE		3	202	0.40	7.63	7.90	
20190808	165205.3	50.08	-5.25	167.6	24.7	6.4	2.4	HELSTON, CORNWALL	4	20	297	0.20	3.72	1.60	FELT HELSTON...
20190809	043502.1	55.92	-4.01	274.4	671.0	12.2	0.3	ANNATHILL, N LANARKSHIRE		5	100	0.10	1.26	5.30	
20190812	004646.6	51.16	-0.24	523.0	141.6	2.1	-0.7	NEWDIGATE, SURREY		5	98	0.00	0.36	0.30	
20190812	004649.2	51.16	-0.24	523.0	141.6	2.1	-1.4	NEWDIGATE, SURREY		4	173	0.00	0.73	0.40	
20190814	025236.5	54.23	-3.22	320.6	482.6	8.1	0.3	MILLOM, CUMBRIA		5	222	0.10	1.97	2.40	4KM NE MILLOM
20190814	073611.1	55.84	-5.86	158.2	667.4	7.4	1.3	SOUND OF JURA		7	160	0.50	8.42	2.90	
20190815	121502.6	53.79	-2.97	336.0	432.8	2.3	-0.2	BLACKPOOL, LANCASHIRE		10	117	0.10	0.82	0.70	HYDROFRAC EVENT
20190816	090344.3	53.79	-2.97	336.0	433.0	1.7	-0.7	BLACKPOOL, LANCASHIRE		7	119	0.10	0.58	1.10	HYDROFRAC EVENT
20190816	090847.0	53.78	-2.97	336.0	432.1	2.7	-0.6	BLACKPOOL, LANCASHIRE		10	103	0.10	1.66	1.60	HYDROFRAC EVENT
20190816	090939.5	53.79	-2.97	335.9	432.8	2.3	-0.4	BLACKPOOL, LANCASHIRE		8	111	0.10	0.63	0.70	HYDROFRAC EVENT
20190816	094140.6	53.79	-2.97	336.2	432.6	2.1	-0.8	BLACKPOOL, LANCASHIRE		8	134	0.00	0.50	0.60	HYDROFRAC EVENT
20190816	095140.2	53.79	-2.97	336.2	432.8	2.1	-0.6	BLACKPOOL, LANCASHIRE		5	148	0.00	0.67	0.70	HYDROFRAC EVENT
20190816	095201.6	53.79	-2.97	336.2	432.9	1.8	-0.6	BLACKPOOL, LANCASHIRE		6	109	0.00	0.72	1.10	HYDROFRAC EVENT
20190816	100133.7	53.79	-2.97	336.4	433.1	1.7	-0.8	BLACKPOOL, LANCASHIRE		5	190	0.10	0.85	1.30	HYDROFRAC EVENT
20190816	100545.2	53.79	-2.97	336.2	433.1	1.7	-0.7	BLACKPOOL, LANCASHIRE		6	148	0.10	0.54	1.10	HYDROFRAC EVENT
20190816	100941.1	53.79	-2.98	335.8	432.9	2.2	-0.6	BLACKPOOL, LANCASHIRE		7	129	0.10	0.95	0.90	HYDROFRAC EVENT
20190816	102651.3	53.79	-2.97	336.0	432.9	2.3	-0.5	BLACKPOOL, LANCASHIRE		7	119	0.10	0.85	0.80	HYDROFRAC EVENT
20190816	110849.2	53.79	-2.97	336.0	432.9	2.0	-0.6	BLACKPOOL, LANCASHIRE		7	119	0.10	0.63	0.70	HYDROFRAC EVENT
20190817	103602.5	53.79	-2.97	336.0	432.9	2.1	-0.8	BLACKPOOL, LANCASHIRE		8	120	0.10	0.67	0.70	HYDROFRAC EVENT
20190817	103907.7	53.79	-2.97	336.0	433.0	1.7	-0.5	BLACKPOOL, LANCASHIRE		6	141	0.10	0.63	1.10	HYDROFRAC EVENT
20190817	112444.1	53.79	-2.97	336.1	433.1	1.6	-1.1	BLACKPOOL, LANCASHIRE		4	179	0.10	1.39	2.10	HYDROFRAC EVENT
20190817	112523.1	53.79	-2.97	336.1	433.0	1.7	-0.6	BLACKPOOL, LANCASHIRE		7	108	0.10	0.45	0.90	HYDROFRAC EVENT

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20190817	133850.9	56.05	-5.24	198.0	688.5	9.3	0.7	LOCHGAIR, ARGYLL & BUTE		5	173	0.10	2.75	4.60	6KM ESE LOCHGAIR
20190817	184959.0	54.96	1.63	632.3	569.2	17.5	1.7	CENTRAL NORTH SEA		8	267	0.50	7.83	1.00	
20190819	093550.5	53.79	-2.97	336.1	433.0	1.9	0.0	BLACKPOOL, LANCASHIRE		10	105	0.10	0.54	0.80	HYDROFRAC EVENT
20190819	094050.0	53.79	-2.97	336.0	433.0	1.9	-0.7	BLACKPOOL, LANCASHIRE		7	142	0.10	0.95	1.40	HYDROFRAC EVENT
20190819	095059.3	53.79	-2.97	336.2	433.0	2.1	-0.3	BLACKPOOL, LANCASHIRE		10	101	0.10	0.76	1.20	HYDROFRAC EVENT
20190819	100614.2	53.79	-2.97	336.2	433.0	1.6	0.0	BLACKPOOL, LANCASHIRE		10	93	0.10	0.45	1.00	HYDROFRAC EVENT
20190819	100924.2	53.79	-2.97	336.0	433.0	1.8	-0.6	BLACKPOOL, LANCASHIRE		7	143	0.20	3.26	5.80	HYDROFRAC EVENT
20190819	101812.0	53.79	-2.97	336.0	433.1	2.0	-0.5	BLACKPOOL, LANCASHIRE		7	143	0.10	0.95	1.20	HYDROFRAC EVENT
20190819	102041.7	53.79	-2.97	336.1	433.0	1.8	-0.5	BLACKPOOL, LANCASHIRE		8	107	0.10	0.58	1.00	HYDROFRAC EVENT
20190820	050020.7	52.62	-2.06	396.2	302.5	7.9	1.0	WILLENHALL, W MIDLANDS		5	109	0.40	4.66	5.50	
20190820	090626.1	53.79	-2.97	336.0	433.0	2.0	-0.6	BLACKPOOL, LANCASHIRE		9	121	0.00	0.63	0.80	HYDROFRAC EVENT
20190820	091356.5	53.79	-2.96	336.5	432.8	2.7	0.0	BLACKPOOL, LANCASHIRE		14	81	0.10	0.89	0.90	HYDROFRAC EVENT
20190820	091412.9	53.79	-2.96	336.5	432.6	2.7	-0.1	BLACKPOOL, LANCASHIRE		15	79	0.10	1.03	0.90	HYDROFRAC EVENT
20190820	091654.4	53.79	-2.97	335.9	432.9	1.9	-0.8	BLACKPOOL, LANCASHIRE		10	123	0.10	0.95	1.10	HYDROFRAC EVENT
20190820	092348.4	53.79	-2.97	336.2	432.9	2.8	-0.7	BLACKPOOL, LANCASHIRE		7	108	0.10	2.16	2.40	HYDROFRAC EVENT
20190820	092404.6	53.79	-2.97	336.0	432.8	2.1	-1.2	BLACKPOOL, LANCASHIRE		7	107	0.10	0.67	1.00	HYDROFRAC EVENT
20190820	093337.8	53.78	-2.97	336.2	432.5	2.1	-0.7	BLACKPOOL, LANCASHIRE		7	133	0.00	0.54	0.70	HYDROFRAC EVENT
20190820	093748.7	53.79	-2.97	336.2	432.8	1.5	-1.0	BLACKPOOL, LANCASHIRE		5	138	0.00	0.45	1.30	HYDROFRAC EVENT
20190820	093824.7	53.79	-2.97	335.9	432.8	2.2	-0.7	BLACKPOOL, LANCASHIRE		10	103	0.10	0.76	1.00	HYDROFRAC EVENT
20190820	094111.5	53.79	-2.97	336.0	432.8	2.1	-0.5	BLACKPOOL, LANCASHIRE		7	107	0.10	0.54	0.90	HYDROFRAC EVENT
20190820	094327.7	53.79	-2.97	336.1	432.8	2.0	-0.5	BLACKPOOL, LANCASHIRE		9	102	0.10	0.54	0.80	HYDROFRAC EVENT
20190820	100412.3	53.79	-2.97	336.2	432.8	1.9	-0.9	BLACKPOOL, LANCASHIRE		7	129	0.00	0.45	0.80	HYDROFRAC EVENT
20190820	101642.2	53.79	-2.97	336.2	432.8	2.2	-0.3	BLACKPOOL, LANCASHIRE		12	102	0.10	0.54	0.70	HYDROFRAC EVENT
20190820	104840.9	53.79	-2.97	335.9	432.9	2.1	-0.5	BLACKPOOL, LANCASHIRE		9	111	0.10	0.63	1.00	HYDROFRAC EVENT
20190820	152447.7	53.79	-2.97	335.9	432.9	2.2	-0.8	BLACKPOOL, LANCASHIRE		6	123	0.10	1.36	1.50	HYDROFRAC EVENT
20190820	160203.6	53.79	-2.97	336.0	432.8	2.3	-0.8	BLACKPOOL, LANCASHIRE		9	108	0.10	0.76	0.80	HYDROFRAC EVENT
20190820	170251.6	53.79	-2.97	336.0	432.6	2.2	-0.9	BLACKPOOL, LANCASHIRE		11	92	0.10	0.63	0.70	HYDROFRAC EVENT
20190820	184945.9	53.79	-2.97	336.0	433.0	2.2	-0.7	BLACKPOOL, LANCASHIRE		11	110	0.10	0.63	0.70	HYDROFRAC EVENT
20190820	200758.9	53.79	-2.97	336.0	433.0	2.2	-1.0	BLACKPOOL, LANCASHIRE		8	119	0.10	0.76	0.80	HYDROFRAC EVENT
20190820	221154.0	53.79	-2.97	336.1	432.6	2.2	-0.9	BLACKPOOL, LANCASHIRE		11	91	0.10	0.58	0.70	HYDROFRAC EVENT
20190820	223559.1	53.79	-2.97	335.8	432.9	2.2	-1.3	BLACKPOOL, LANCASHIRE		9	114	0.10	0.67	0.90	HYDROFRAC EVENT
20190820	231548.8	53.79	-2.97	335.9	433.0	2.2	-1.3	BLACKPOOL, LANCASHIRE		5	123	0.10	0.98	1.10	HYDROFRAC EVENT
20190820	233530.1	53.78	-2.97	336.0	432.5	2.4	-1.4	BLACKPOOL, LANCASHIRE		8	133	0.10	1.25	1.20	HYDROFRAC EVENT
20190820	234633.9	53.79	-2.97	336.2	432.9	2.3	-1.0	BLACKPOOL, LANCASHIRE		7	123	0.10	0.85	0.90	HYDROFRAC EVENT
20190821	094554.3	53.79	-2.97	336.0	432.9	2.1	-0.7	BLACKPOOL, LANCASHIRE		6	147	0.00	0.63	0.90	HYDROFRAC EVENT
20190821	095732.8	53.79	-2.97	336.2	432.9	2.1	-0.3	BLACKPOOL, LANCASHIRE		11	95	0.10	0.58	0.80	HYDROFRAC EVENT
20190821	095922.0	53.79	-2.97	336.3	432.6	2.2	-0.7	BLACKPOOL, LANCASHIRE		8	103	0.10	0.95	1.10	HYDROFRAC EVENT
20190821	100220.9	53.79	-2.96	336.5	432.9	2.3	-0.1	BLACKPOOL, LANCASHIRE		14	80	0.10	0.89	1.10	HYDROFRAC EVENT
20190821	101210.0	53.79	-2.97	336.0	432.8	2.2	-0.6	BLACKPOOL, LANCASHIRE		8	117	0.10	0.76	0.80	HYDROFRAC EVENT
20190821	144402.8	53.79	-2.97	336.4	432.9	2.2	-0.8	BLACKPOOL, LANCASHIRE		6	107	0.10	0.78	1.20	HYDROFRAC EVENT
20190821	144601.5	53.79	-2.97	335.8	433.0	2.0	-0.8	BLACKPOOL, LANCASHIRE		8	169	0.00	0.85	0.70	HYDROFRAC EVENT
20190821	150522.4	53.79	-2.97	336.1	432.8	2.1	-0.9	BLACKPOOL, LANCASHIRE		9	112	0.10	0.73	0.70	HYDROFRAC EVENT

TABLE 1 : CATALOGUE OF EVENTS : 2019

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20190821	151245.2	53.78	-2.96	336.4	432.3	1.3	-1.0	BLACKPOOL, LANCASHIRE		6	173	0.00	0.42	1.20	HYDROFRAC EVENT
20190821	151658.9	53.79	-2.97	336.4	432.9	2.0	-0.3	BLACKPOOL, LANCASHIRE		12	88	0.10	0.63	0.90	HYDROFRAC EVENT
20190821	152325.7	53.79	-2.97	336.2	432.8	2.1	-0.8	BLACKPOOL, LANCASHIRE		9	109	0.10	0.58	0.90	HYDROFRAC EVENT
20190821	152510.1	53.79	-2.97	336.3	433.1	2.3	-0.6	BLACKPOOL, LANCASHIRE		10	92	0.10	1.34	2.20	HYDROFRAC EVENT
20190821	153804.4	53.79	-2.97	336.2	432.9	2.3	-0.3	BLACKPOOL, LANCASHIRE		15	94	0.10	0.76	1.00	HYDROFRAC EVENT
20190821	153846.6	53.79	-2.97	336.2	432.8	2.2	-0.7	BLACKPOOL, LANCASHIRE		8	111	0.10	1.26	1.10	HYDROFRAC EVENT
20190821	154232.2	53.79	-2.97	336.2	432.9	2.1	-0.3	BLACKPOOL, LANCASHIRE		11	93	0.10	0.73	0.90	HYDROFRAC EVENT
20190821	155712.5	53.79	-2.97	336.0	432.8	2.2	-0.8	BLACKPOOL, LANCASHIRE		7	128	0.10	0.95	0.90	HYDROFRAC EVENT
20190821	160036.3	53.79	-2.97	336.3	432.9	2.7	-0.4	BLACKPOOL, LANCASHIRE		13	89	0.10	0.98	1.00	HYDROFRAC EVENT
20190821	160315.9	53.79	-2.97	336.2	432.9	2.3	-0.2	BLACKPOOL, LANCASHIRE		14	101	0.10	0.85	0.90	HYDROFRAC EVENT
20190821	170345.5	53.79	-2.96	336.7	433.0	2.7	-0.5	BLACKPOOL, LANCASHIRE		11	86	0.20	1.21	1.70	HYDROFRAC EVENT
20190821	193946.6	53.79	-2.97	336.2	432.8	2.1	-1.0	BLACKPOOL, LANCASHIRE		7	106	0.10	0.76	1.00	HYDROFRAC EVENT
20190821	194633.3	53.79	-2.96	336.7	432.8	2.8	1.6	BLACKPOOL, LANCASHIRE	3	19	75	0.20	0.94	0.90	HYDROFRAC EVENT
20190821	195545.4	53.79	-2.96	336.4	432.8	2.2	-0.3	BLACKPOOL, LANCASHIRE		14	82	0.10	0.58	0.70	HYDROFRAC EVENT
20190821	200821.7	53.79	-2.96	336.5	432.6	2.6	-0.3	BLACKPOOL, LANCASHIRE		15	79	0.10	0.72	0.80	HYDROFRAC EVENT
20190821	202135.9	53.79	-2.98	335.8	433.0	2.2	-0.9	BLACKPOOL, LANCASHIRE		7	130	0.10	1.04	1.00	HYDROFRAC EVENT
20190821	214200.3	53.79	-2.96	336.6	432.8	2.4	0.9	BLACKPOOL, LANCASHIRE		18	75	0.10	0.67	0.50	HYDROFRAC EVENT
20190821	230443.5	53.79	-2.97	336.1	433.0	2.3	-1.1	BLACKPOOL, LANCASHIRE		7	116	0.10	0.85	1.10	HYDROFRAC EVENT
20190821	231512.4	53.79	-2.97	336.2	433.1	2.3	-0.5	BLACKPOOL, LANCASHIRE		12	111	0.10	0.95	1.10	HYDROFRAC EVENT
20190822	025243.9	53.79	-2.96	336.4	432.6	2.5	0.1	BLACKPOOL, LANCASHIRE		14	91	0.10	0.76	0.50	HYDROFRAC EVENT
20190822	064630.2	53.79	-2.96	336.8	432.7	2.2	0.3	BLACKPOOL, LANCASHIRE		16	72	0.20	0.72	1.00	HYDROFRAC EVENT
20190822	124833.1	52.83	-2.62	358.2	326.0	7.4	1.9	HODNET, SHROPSHIRE		13	73	0.40	4.08	7.60	
20190822	135951.7	53.79	-2.97	336.2	432.6	2.1	-0.5	BLACKPOOL, LANCASHIRE		8	106	0.10	0.76	1.00	HYDROFRAC EVENT
20190822	151042.7	53.78	-2.97	336.4	432.5	2.0	-0.5	BLACKPOOL, LANCASHIRE		8	119	0.10	0.45	0.60	HYDROFRAC EVENT
20190822	152333.9	53.79	-2.96	336.7	432.8	2.3	1.0	BLACKPOOL, LANCASHIRE	2	17	75	0.10	0.81	0.70	HYDROFRAC EVENT
20190822	203407.5	53.78	-2.96	336.4	432.3	2.2	-1.3	BLACKPOOL, LANCASHIRE		8	115	0.10	0.45	0.00	HYDROFRAC EVENT
20190822	234444.6	53.79	-2.96	336.6	432.6	2.2	-0.3	BLACKPOOL, LANCASHIRE		13	88	0.10	0.58	0.70	HYDROFRAC EVENT
20190822	235031.1	54.24	-3.23	320.0	483.6	9.4	0.3	MILLOM, CUMBRIA		6	154	0.30	3.47	4.50	4KM NE MILLOM
20190823	012220.7	53.79	-2.97	336.2	432.6	2.4	-0.6	BLACKPOOL, LANCASHIRE		13	88	0.10	0.76	0.80	HYDROFRAC EVENT
20190823	023554.9	53.79	-2.96	336.5	432.6	2.2	-0.5	BLACKPOOL, LANCASHIRE		14	78	0.10	0.67	0.80	HYDROFRAC EVENT
20190823	032609.3	53.78	-2.96	336.5	432.4	2.2	-1.2	BLACKPOOL, LANCASHIRE		7	120	0.00	0.36	0.00	HYDROFRAC EVENT
20190823	043336.1	53.79	-2.96	336.6	432.8	2.4	0.4	BLACKPOOL, LANCASHIRE		17	76	0.10	0.81	0.50	HYDROFRAC EVENT
20190823	051358.2	53.78	-2.97	336.4	432.4	2.2	-1.4	BLACKPOOL, LANCASHIRE		7	120	0.00	0.36	0.00	HYDROFRAC EVENT
20190823	065117.2	53.79	-2.97	336.2	432.9	2.1	-0.7	BLACKPOOL, LANCASHIRE		10	98	0.10	0.67	0.80	HYDROFRAC EVENT
20190823	131645.1	53.79	-2.97	336.0	432.8	2.3	-0.5	BLACKPOOL, LANCASHIRE		10	97	0.10	0.85	1.00	HYDROFRAC EVENT
20190823	132207.6	53.79	-2.97	336.0	432.8	2.2	-0.6	BLACKPOOL, LANCASHIRE		9	106	0.10	0.67	0.90	HYDROFRAC EVENT
20190823	152609.0	53.79	-2.97	336.1	432.9	2.2	-0.9	BLACKPOOL, LANCASHIRE		11	97	0.10	0.76	1.10	HYDROFRAC EVENT
20190823	174856.3	53.78	-2.96	336.6	432.5	2.4	-0.1	BLACKPOOL, LANCASHIRE		14	73	0.10	0.72	0.70	HYDROFRAC EVENT
20190823	190559.0	53.79	-2.96	336.4	432.6	2.0	-0.6	BLACKPOOL, LANCASHIRE		11	109	0.00	0.36	0.00	HYDROFRAC EVENT
20190823	193051.0	52.62	-4.24	248.3	305.2	7.8	0.8	CARDIGAN BAY		5	147	0.30	5.05		
20190823	193915.1	53.79	-2.96	336.5	432.8	2.0	-0.7	BLACKPOOL, LANCASHIRE		10	80	0.10	0.67	0.00	HYDROFRAC EVENT
20190823	211744.3	53.79	-2.96	336.5	432.6	2.2	-1.2	BLACKPOOL, LANCASHIRE		10	77	0.10	0.85	1.10	HYDROFRAC EVENT

TABLE 1 : CATALOGUE OF EVENTS : 2019

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20190823	212518.0	53.78	-2.96	336.4	432.5	2.0	-0.9	BLACKPOOL, LANCASHIRE		10	79	0.10	0.50	0.60	HYDROFRAC EVENT
20190823	212521.2	53.78	-2.97	336.4	432.5	2.0	-1.0	BLACKPOOL, LANCASHIRE		10	79	0.10	0.50	0.70	HYDROFRAC EVENT
20190823	214121.4	53.79	-2.96	336.6	432.6	2.3	0.2	BLACKPOOL, LANCASHIRE		14	75	0.10	0.58	0.70	HYDROFRAC EVENT
20190823	222208.6	53.79	-2.96	336.5	432.8	2.8	1.1	BLACKPOOL, LANCASHIRE		21	80	0.10	0.81	0.80	HYDROFRAC EVENT
20190823	230608.9	53.78	-2.96	336.7	432.4	2.3	-1.0	BLACKPOOL, LANCASHIRE		11	94	0.10	1.27	1.60	HYDROFRAC EVENT
20190823	234601.9	53.84	-1.02	464.6	439.0	2.6	1.7	RICCALL, NORTH YORKSHIRE		19	110	0.30	3.24	5.90	
20190824	020632.5	53.79	-2.96	336.4	432.8	1.8	-1.7	BLACKPOOL, LANCASHIRE		7	106	0.10	0.64	1.00	HYDROFRAC EVENT
20190824	020632.6	53.78	-2.96	336.5	432.5	1.9	-1.6	BLACKPOOL, LANCASHIRE		7	122	0.10	0.45	0.70	HYDROFRAC EVENT
20190824	040107.7	53.79	-2.96	336.7	432.8	2.5	0.5	BLACKPOOL, LANCASHIRE		17	76	0.10	0.72	0.60	HYDROFRAC EVENT
20190824	051752.3	53.78	-2.96	336.5	432.4	2.1	-1.6	BLACKPOOL, LANCASHIRE		5	183	0.00	0.57	0.00	HYDROFRAC EVENT
20190824	082426.2	53.79	-2.97	336.2	432.6	2.0	-1.1	BLACKPOOL, LANCASHIRE		9	96	0.00	0.36	0.50	HYDROFRAC EVENT
20190824	220135.1	53.79	-2.96	336.6	432.8	2.5	2.1	BLACKPOOL, LANCASHIRE	4	20	76	0.20	0.94	0.00	HYDROFRAC EVENT
20190824	223157.4	53.35	-1.19	453.7	383.7	7.5	1.2	ANSTON, SOUTH YORKSHIRE		8	165	0.20	3.79	8.80	
20190825	201004.7	53.79	-2.97	336.2	432.6	2.0	-1.0	BLACKPOOL, LANCASHIRE		9	97	0.10	0.54	0.80	HYDROFRAC EVENT
20190825	232024.9	53.78	-2.97	336.4	432.5	2.0	-1.6	BLACKPOOL, LANCASHIRE		6	122	0.00	0.36	0.00	HYDROFRAC EVENT
20190826	013339.0	53.78	-2.97	336.2	432.4	2.1	-1.4	BLACKPOOL, LANCASHIRE		7	95	0.10	0.50	0.60	HYDROFRAC EVENT
20190826	033922.8	53.78	-2.96	336.7	432.5	2.1	-1.3	BLACKPOOL, LANCASHIRE		12	70	0.20	1.25	1.50	HYDROFRAC EVENT
20190826	073047.0	53.79	-2.96	336.5	432.8	2.5	2.9	BLACKPOOL, LANCASHIRE	6	24	80	0.20	1.12	0.00	HYDROFRAC EVENT
20190826	074924.2	53.78	-2.97	336.3	432.4	2.1	-1.3	BLACKPOOL, LANCASHIRE		6	123	0.00	0.45	0.50	HYDROFRAC EVENT
20190826	092821.1	53.79	-2.97	336.4	432.8	1.8	-1.0	BLACKPOOL, LANCASHIRE		8	123	0.10	0.50	0.80	HYDROFRAC EVENT
20190826	095557.1	53.79	-2.96	336.5	432.6	2.0	-1.0	BLACKPOOL, LANCASHIRE		11	106	0.10	0.45	0.60	HYDROFRAC EVENT
20190826	135128.7	53.78	-2.97	336.4	432.2	2.0	-1.4	BLACKPOOL, LANCASHIRE		4	204	0.10	1.61	0.00	HYDROFRAC EVENT
20190826	135159.3	53.79	-2.96	336.4	432.6	2.2	-0.2	BLACKPOOL, LANCASHIRE		13	81	0.10	0.67	0.90	HYDROFRAC EVENT
20190826	211829.2	53.79	-2.96	336.8	432.7	2.7	1.0	BLACKPOOL, LANCASHIRE	2	18	74	0.10	0.94	0.90	HYDROFRAC EVENT
20190827	010117.1	53.00	-2.40	373.5	345.0	6.3	1.4	BRIDGEMERE, CHESHIRE		10	183	0.30	4.84	3.00	
20190827	040639.8	53.79	-2.96	336.4	432.6	2.2	-0.8	BLACKPOOL, LANCASHIRE		14	78	0.10	0.58	0.70	HYDROFRAC EVENT
20190827	065512.7	53.79	-2.96	336.8	432.7	2.2	0.5	BLACKPOOL, LANCASHIRE	2	15	70	0.10	0.98	1.20	HYDROFRAC EVENT
20190827	070750.0	53.79	-2.97	336.3	432.8	2.0	-0.6	BLACKPOOL, LANCASHIRE		12	97	0.00	0.36	0.50	HYDROFRAC EVENT
20190827	085209.9	53.78	-2.96	336.5	432.5	2.1	0.2	BLACKPOOL, LANCASHIRE		14	76	0.10	0.78	1.10	HYDROFRAC EVENT
20190827	114753.2	53.79	-2.96	336.4	432.8	1.8	-0.8	BLACKPOOL, LANCASHIRE		9	100	0.10	0.50	0.80	HYDROFRAC EVENT
20190827	145420.0	53.78	-2.97	336.3	432.5	2.7	-0.7	BLACKPOOL, LANCASHIRE		8	127	0.00	0.28	0.30	HYDROFRAC EVENT
20190828	204416.7	53.79	-2.96	336.4	432.6	1.9	-1.2	BLACKPOOL, LANCASHIRE		11	81	0.10	0.36	0.50	HYDROFRAC EVENT
20190829	012350.7	53.78	-2.96	336.4	432.4	1.9	-1.5	BLACKPOOL, LANCASHIRE		6	115	0.00	0.36	0.50	HYDROFRAC EVENT
20190829	070005.6	53.78	-2.96	336.5	432.4	1.8	-1.0	BLACKPOOL, LANCASHIRE		7	119	0.00	0.36	0.40	HYDROFRAC EVENT
20190830	103017.9	57.08	-5.70	175.5	804.4	7.5	1.6	KNOYDART, HIGHLAND		6	162	0.30	5.71	6.10	
20190901	184207.7	53.78	-2.96	336.4	432.5	2.2	-0.9	BLACKPOOL, LANCASHIRE		9	89	0.10	0.45	0.50	HYDROFRAC EVENT
20190902	031221.3	53.79	-2.97	336.4	432.6	2.4	0.0	BLACKPOOL, LANCASHIRE		17	80	0.10	0.85	0.60	HYDROFRAC EVENT
20190902	031237.3	53.79	-2.96	336.6	432.6	2.4	0.2	BLACKPOOL, LANCASHIRE		16	102	0.10	0.94	0.80	HYDROFRAC EVENT
20190902	051304.9	51.16	-0.24	523.3	141.6	2.0	1.1	NEWDIGATE, SURREY	2	5	104	0.00	0.22	0.30	FELT NEWDIGATE
20190902	053307.3	53.78	-2.96	336.5	432.5	2.2	-1.0	BLACKPOOL, LANCASHIRE		8	92	0.10	0.58	0.60	HYDROFRAC EVENT
20190903	201913.2	51.16	-0.24	523.3	141.7	2.0	0.2	NEWDIGATE, SURREY		5	104	0.00	0.32	0.30	
20190904	045937.2	51.89	-2.56	361.3	221.4	13.0	0.8	ROSS-ON-WYE, HEREF		5	135	0.20	3.40	6.50	

TABLE 1 : CATALOGUE OF EVENTS : 2019

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20190905	153901.3	53.03	-4.11	258.9	350.5	14.9	1.5	BEDDGELERT, GWYNEDD	3	9	147	0.20	3.86	1.50	FELT CARMEL...
20190906	070945.5	51.16	-0.24	523.3	141.7	2.0	1.0	NEWDIGATE, SURREY		5	104	0.00	0.22	0.50	
20190908	161231.3	53.78	-2.96	336.5	432.4	2.0	-1.3	BLACKPOOL, LANCASHIRE		5	113	0.10	0.50	0.00	HYDROFRAC EVENT
20190909	203600.7	53.02	-4.12	258.0	349.4	7.5	0.8	BEDDGELERT, GWYNEDD		6	150	0.30	3.98	9.50	
20190910	025200.3	53.79	-2.97	336.2	432.8	2.0	-1.0	BLACKPOOL, LANCASHIRE		12	97	0.10	0.54	0.70	HYDROFRAC EVENT
20190910	194731.1	53.41	-2.71	352.9	390.5	5.2	0.9	ST HELENS, MERSEYSIDE		8	96	0.30	5.96	7.30	5KM SSE ST HELENS
20190910	232342.6	55.91	-4.89	219.1	672.2	10.7	0.7	INVERKIP, INVERCLYDE		6	147	0.30	4.25	6.70	
20190911	151237.5	55.73	-3.16	327.4	648.8	7.7	2.0	EDDLESTON, BORDERS	2	9	167	0.20	3.04	4.30	FELT LYNE STATION
20190912	053123.2	53.79	-2.96	336.7	432.9	2.2	0.0	BLACKPOOL, LANCASHIRE		16	75	0.10	0.67	0.90	HYDROFRAC EVENT
20190912	234832.4	53.34	-2.34	377.6	382.2	17.7	0.8	KNUTSFORD, CHESHIRE		7	90	0.10	2.21	2.30	3KM NNE KNUTSFORD
20190914	195016.5	53.79	-2.97	336.4	432.6	2.2	-0.7	BLACKPOOL, LANCASHIRE		9	92	0.10	0.45	0.60	HYDROFRAC EVENT
20190915	093322.9	56.12	-6.56	116.7	700.8	3.4	0.9	COLONSAY, ARGYLL & BUTE		5	270	0.20	2.87	9.20	20KM WEST COLONSAY
20190915	133344.2	56.10	-6.51	119.4	699.2	3.3	1.1	COLONSAY, ARGYLL & BUTE		6	213	0.20	3.89	2.20	17KM WEST COLONSAY
20190916	124300.9	53.49	-2.13	391.6	399.0	7.8	1.2	ASHTON-U-LYNE, GTR MAN		6	111	0.40	4.47	3.60	
20190921	144345.2	51.16	-0.24	523.3	141.6	2.2	0.6	NEWDIGATE, SURREY		5	104	0.00	0.36	0.60	
20190924	133814.8	57.03	1.94	638.7	800.5	10.0	4.2	CENTRAL NORTH SEA	3	42	164	0.70	8.12	0.00	FELT ELGIN-FRANKLIN
20190926	001157.7	52.84	-2.62	358.2	327.2	7.4	1.9	HODNET, SHROPSHIRE		14	88	0.40	4.11	7.30	
20190928	182822.8	53.78	-2.97	336.4	432.5	2.0	-1.3	BLACKPOOL, LANCASHIRE		4	218	0.00	0.89	0.00	HYDROFRAC EVENT
20190928	193050.9	55.84	-5.40	187.3	666.3	14.9	0.7	TARBERT, ARGYLL & BUTE		7	151	0.60	6.89	7.90	
20190929	105343.0	55.83	-2.57	364.3	659.2	6.8	1.0	LONGFORMACUS, BORDERS		9	158	0.30	4.37	4.30	5KM WNW LONGFORMACUS
20190929	162311.9	54.66	-1.93	404.3	529.0	2.5	1.4	BUTTERKNOWLE, DURHAM		7	128	0.20	4.39	7.50	8KM WNW BUTTERKNOWLE
20190929	182957.0	54.76	-3.05	332.6	540.7	7.7	0.5	CALDBECK, CUMBRIA		9	92	0.30	2.56	3.50	
20191002	192206.6	52.80	-0.89	474.9	323.0	5.3	2.4	MELTON MOWBRAY, LEICS	4	13	114	0.30	3.58	3.90	FELT NE LEICS...
20191005	030915.3	55.24	-4.02	271.3	596.3	2.5	0.6	MONIAIVE, D & G		7	109	0.50	5.35	5.50	8KM NW MONIAIVE
20191005	101716.8	52.74	-2.38	374.1	315.9	7.5	1.6	NEWPORT, SHROPSHIRE		10	141	0.20	2.38	5.60	3KM SOUTH NEWPORT
20191005	153547.0	53.18	0.94	596.6	368.8	5.1	2.0	SOUTHERN NORTH SEA		11	218	0.60	2.57	3.00	
20191006	002646.5	53.79	-2.96	336.4	432.8	2.0	-0.6	BLACKPOOL, LANCASHIRE		11	91	0.10	0.67	0.90	HYDROFRAC EVENT
20191010	080325.1	52.32	-3.89	271.1	271.3	7.8	0.9	LLANAFAN, CEREDIGION		6	140	0.40	5.15	3.20	
20191012	133326.5	56.09	-5.19	201.6	693.5	7.7	1.6	BARNACARRY, ARGYLL/BUTE		8	117	0.30	3.83	7.00	
20191013	015728.9	54.53	-2.56	363.8	515.5	13.7	0.3	MAULDS MEABURN, CUMBRIA		6	102	0.20	2.83	4.40	
20191014	165148.6	52.57	-2.91	338.1	297.8	14.7	2.4	BISHOP'S CASTLE, SALOP	3	19	116	0.30	2.38	2.30	FELT SHREWSBURY...
20191015	183437.2	51.92	-0.71	488.6	225.2	9.1	1.2	SOULBURY, BUCKS		7	195	0.30	5.87	7.40	
20191016	194416.0	57.78	-3.68	300.2	877.5	2.7	0.8	MORAY FIRTH		6	140	0.40	5.06	7.00	12KM EAST BALINTORE
20191016	195929.1	52.53	-3.45	301.7	294.0	7.1	0.3	LLANWNOG, POWYS		6	89	0.10	1.30	2.90	
20191017	234114.4	56.00	-5.07	208.8	683.0	12.9	0.9	CLACHAIG, ARGYLL & BUTE		9	111	0.30	4.05	5.60	3KM WNW CLACHAIG
20191022	200556.7	53.07	-4.71	218.4	356.4	8.1	0.6	CAERNARFON BAY		9	99	0.20	2.69	3.50	20KM NW NEFYN
20191024	005355.0	50.27	-5.33	163.1	45.9	0.2	0.9	PORTREATH, CORNWALL		9	317	0.10	1.72	0.00	OFFSHORE LOCATION
20191027	041405.2	51.38	-2.54	362.6	164.9	6.2	1.2	PENSFORD, SOMERSET		7	262	0.30	6.42	4.70	
20191031	192516.4	51.16	-0.24	523.2	141.6	2.0	0.8	NEWDIGATE, SURREY		5	100	0.00	0.36	0.50	
20191105	060729.0	56.41	-5.67	173.3	730.1	2.4	0.7	MULL, ARGYLL & BUTE		4	227	0.10	2.91	1.40	
20191105	220541.1	51.99	-3.50	297.1	233.2	10.2	1.0	SENNYBRIDGE, POWYS		8	181	0.20	2.05	2.20	6KM NE SENNYBRIDGE
20191108	161206.6	53.75	-1.85	410.2	428.4	5.5	2.3	HALIFAX, WEST YORKSHIRE	2	20	95	0.20	2.25	3.60	FELT MIXENDEN

TABLE 1 : CATALOGUE OF EVENTS : 2019

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20191111	171353.2	51.79	-1.26	451.2	210.3	15.5	1.1	OXFORD, OXFORDSHIRE		7	179	0.20	2.58	3.10	
20191113	174054.4	56.66	-5.18	204.8	757.0	7.3	1.9	BALLACHULISH, HIGHLAND	3	11	133	0.40	4.49	9.20	FELT BALLACHULISH...
20191113	174718.0	56.67	-5.16	206.1	757.5	7.5	1.7	BALLACHULISH, HIGHLAND	3	8	131	0.40	5.39	2.80	FELT BALLACHULISH...
20191117	125812.9	53.20	-3.90	273.3	369.1	5.1	0.9	DOLGARROG, CONWY		8	108	0.10	2.64	6.80	4KM NW DOLGARROG
20191117	145609.2	53.54	-5.44	172.0	410.0	7.5	0.7	IRISH SEA		6	135	0.20	2.16	5.30	60KM NW HOLYHEAD
20191117	223153.6	56.41	-5.69	172.4	730.2	3.5	2.1	MULL, ARGYLL & BUTE	3	11	171	0.10	2.79	2.10	FELT MULL...
20191119	083848.8	52.19	-3.64	287.6	256.0	10.5	0.8	ABERGWEYSYN, POWYS		6	130	0.10	1.64	2.80	
20191121	010013.6	52.35	-3.17	320.6	272.7	12.3	1.2	LLANGUNLLO, POWYS		10	84	0.10	0.89	1.10	
20191121	140212.5	54.44	-3.80	283.3	506.2	11.5	1.1	IRISH SEA		9	129	0.20	1.91	3.60	18KM SW WHITEHAVEN
20191123	233438.5	49.61	-6.08	105.3	-24.6	4.8	0.8	CELTIC SEA		8	356	0.10	0.00	0.00	65KM SW PENZANCE
20191129	034219.6	56.10	-4.02	274.4	692.0	9.7	0.5	CAMBUSBARRON, STIRLING		6	136	0.20	2.47	6.30	
20191129	172145.2	51.85	-2.96	333.8	217.9	19.4	0.7	ABERGAVENNY, MON' SHIRE		6	224	0.10	2.77	1.20	
20191130	141901.6	54.26	-3.23	320.0	485.3	10.7	0.8	FOXFIELD, CUMBRIA		10	151	0.20	1.72	1.60	
20191201	042000.0							SONIC-LONDON							FELT LONDON...
20191202	181323.0							SONIC-SCARBOROUGH							FELT SCARBOROUGH
20191203	040719.3	56.85	-4.85	226.1	776.6	2.6	0.8	ROYBRIDGE, HIGHLAND		4	127	0.30	3.49	3.10	5KM SSW ROYBRIDGE
20191203	042152.9	56.85	-4.87	225.0	776.4	2.5	0.7	ROYBRIDGE, HIGHLAND		4	127	0.20	3.13	2.80	5KM SSW ROYBRIDGE
20191205	224918.0	51.12	-2.98	331.1	135.7	4.3	3.2	BRIDGWATER, SOMERSET	5	16	163	0.30	3.47	7.70	FELT SOMERSET...
20191206	160458.3	51.21	-3.08	324.8	146.5	11.4	1.4	STOLFORD, SOMERSET		7	212	0.20	3.36	4.30	
20191208	225930.5	52.97	4.23	818.3	360.0	3.0	2.9	SOUTHERN NORTH SEA		8	267	0.30	0.11	0.00	INDUCED EVENT
20191211	182131.2	54.53	-1.83	411.2	515.3	6.9	0.9	WHORLTON, CO DURHAM		9	93	0.20	1.80	2.10	
20191213	155452.6	55.65	-5.83	159.2	645.7	7.5	1.3	GIGHA, ARGYLL & BUTE		7	141	0.30	4.66	1.10	OFFSHORE LOCATION
20191214	030055.5	56.55	-5.70	172.6	746.3	6.9	1.3	MORVERN, HIGHLAND		5	212	0.40	0.98	5.50	
20191215	211952.9	53.64	-4.93	206.2	419.5	7.5	2.1	IRISH SEA		21	85	0.40	2.25	5.80	40KM NW CEMAES
20191216	062355.7	54.01	-3.27	316.5	457.8	13.0	1.6	IRISH SEA		19	64	0.30	2.20	3.80	10KM SW ROA ISLAND
20191218	035247.0	53.94	-1.77	415.1	449.1	14.8	1.7	ILKLEY, WEST YORKSHIRE		27	69	0.30	1.80	1.80	2KM WNW ILKLEY
20191218	202214.3	55.25	-6.12	138.3	602.9	4.2	1.5	FAIR HEAD, CO ANTRIM		10	124	0.50	4.47	6.40	OFFSHORE LOCATION
20191220	095344.2	53.63	-4.93	206.2	419.3	6.5	1.1	IRISH SEA		10	109	0.40	3.72	5.40	40KM NW CEMAES
20191222	092011.6	52.31	-3.23	316.2	269.0	8.4	0.8	DOLAU, POWYS		8	94	0.10	2.47	3.10	3KM NE DOLAU
20191223	074026.5	53.51	-2.45	370.1	401.2	11.3	0.7	ASTLEY, GTR MANCHESTER		6	143	0.10	1.53	2.90	
20191223	081821.9	53.51	-2.45	370.4	401.7	12.4	0.9	ASTLEY, GTR MANCHESTER		7	143	0.10	2.24	3.20	
20191223	234356.6	53.04	-0.20	520.7	350.4	7.9	1.5	SOUTH KYME, LINCS		10	132	0.20	1.89	4.00	
20191224	064708.8	52.92	-1.86	409.1	335.7	7.8	0.9	UTTOXETER, STAFFS		6	120	0.10	0.94	8.60	
20191225	130127.6	56.13	-4.00	275.8	694.8	8.0	0.8	CAMBUSBARRON, STIRLING		6	119	0.20	2.20	4.50	3KM NW CAMBUSBARRON
20191228	103942.3	57.09	-5.73	173.9	805.8	7.8	2.0	KNOYDART, HIGHLAND		9	163	0.40	7.98	5.40	2KM ENE AIROR
20191231	071542.7	54.16	-2.89	341.8	473.9	7.5	0.8	MORECAMBE BAY, LANCS		8	140	0.50	7.25	6.80	

TABLE 2 : PHASE DATA

January 1 2019										Time: 01:18 31.1 UTC				Magnitude: 1.6 ML			
Lat: 52.412				Lon: -3.139				Depth: 7.5 km				STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES					
Grid Ref: 322.54 kmE 279.99 kmN										RMS: 0.30 secs				WOL BZ 26.5 EP 23:44 11.75			
Locality: QUABBS, SHROPSHIRE														WOL BN 26.5 ES 23:44 15.44			
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0														WOL BE 26.5 IAML 23:44 16.28			
STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES														WOL BN 26.5 IAML 23:44 16.34			
HLMI HZ 21.2 IP C 01:18 35.32										0.03				SWN1 HZ 57.7 EP 23:44 16.75			
HLMI HE 21.2 ES 01:18 38.27										-0.09				SWN1 HN 57.7 ES 23:44 24.79			
HLMI HE 21.2 IAML 01:18 38.55										160 0.14				SWN1 HN 57.7 IAML 23:44 24.91			
HLMI HN 21.2 IAML 01:18 38.64										283 0.18				SWN1 HE 57.7 IAML 23:44 25.45			
MCH1 HZ 47.1 IP D 01:18 39.10										-0.16				STAN HN 61.7 ES 23:44 25.40			
MCH1 HE 47.1 ES 01:18 44.90										-0.34				STAN HN 61.7 IAML 23:44 25.74			
MCH1 HN 47.1 IAML 01:18 45.16										69 0.24				STAN HE 61.7 IAML 23:44 25.89			
MCH1 HE 47.1 IAML 01:18 45.17										34 0.16				RUSH HZ 62.1 EP 23:44 17.35			
FOEL HZ 53.3 IP D 01:18 40.38										0.10				RUSH HE 62.1 ES 23:44 25.50			
FOEL HN 53.3 ES 01:18 46.74										-0.25				RUSH HN 62.1 IAML 23:44 25.94			
FOEL HE 53.3 IAML 01:18 47.31										18 0.13				RUSH HE 62.1 IAML 23:44 26.23			
FOEL HN 53.3 IAML 01:18 47.46										32 0.16				STRD HZ 88.4 EP 23:44 21.43			
MONM HZ 67.7 IP D 01:18 42.53										0.09				STRD HE 88.4 ES 23:44 32.61			
MONM HN 67.7 ES 01:18 50.65										-0.09				STRD HN 88.4 IAML 23:44 34.06			
MONM HE 67.7 IAML 01:18 51.07										26 0.23				STRD HE 88.4 IAML 23:44 34.49			
MONM HN 67.7 IAML 01:18 51.11										20 0.23				BRAD CZ 133.0 EP 23:44 28.36			
OLDB HZ 92.8 EP 01:18 46.51										0.20				MONM HZ 133.0 EP 23:44 28.15			
STRD HZ 97.4 EP 01:18 47.11										0.06				MONM HN 133.0 IAML 23:44 45.89			
STRD HN 97.4 IAML 01:18 59.64										30 0.09				MONM HE 133.0 IAML 23:44 46.44			
STRD HE 97.4 IAML 01:18 59.71										23 0.14				CFW HZ 141.0 EP 23:44 28.97			
RSBS HZ 121.0 EP 01:18 50.77										0.01				CFW HE 141.0 IAML 23:44 46.96			
RSBS HN 121.0 IAML 01:19 07.78										21 0.19				CFW HN 141.0 IAML 23:44 47.36			
RSBS HE 121.0 IAML 01:19 07.88										21 0.11				MCH1 HZ 151.0 EP 23:44 30.88			
CFW HZ 129.0 EP 01:18 51.51										-0.43				MCH1 HE 151.0 ES 23:44 48.39			
WLF1 HZ 129.0 EP 01:18 51.86										-0.05				MCH1 HN 151.0 IAML 23:44 48.96			
WME EZ 135.0 IP D 01:18 52.93										0.23				MCH1 HE 151.0 IAML 23:44 49.92			
SWN1 HZ 136.0 EP 01:18 53.90										1.03				HLM1 HE 174.0 ES 23:44 54.16			
WPS HZ 143.0 EP 01:18 53.90										0.03				HLM1 HN 174.0 IAML 23:44 54.92			
LBWR HZ 146.0 EP 01:18 54.79										0.50				HLM1 HE 174.0 IAML 23:44 55.48			
														WACR HZ 176.0 EP 23:44 34.45			
January 2 2019										Time: 04:44 25.3 UTC				Magnitude: 0.9 ML			
Lat: 55.787				Lon: -5.762				Depth: 9.0 km				January 3 2019					
Grid Ref: 164.17 kmE 661.26 kmN										RMS: 0.30 secs				Time: 02:20 54.0 UTC			
Locality: SOUND OF JURA														Lat: 56.584			
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0														Lon: -5.924			
STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES														Depth: 8.4 km			
LAW E HZ 57.3 EP 04:44 34.76										-0.33				Grid Ref: 159.07 kmE 750.44 kmN			
LAW E HN 57.3 ES 04:44 41.97										-0.24				RMS: 0.40 secs			
LAW E HN 57.3 IAML 04:44 43.62										4 0.12				Locality: MORVERN, HIGHLAND			
LAW E HE 57.3 IAML 04:44 45.38										6 0.10				Velocity model: Lownet Xnear: 100.0 Xfar: 300.0			
PGB1 HZ 80.2 EP 04:44 39.09										0.44				Comment: FELT DRIMNIN...			
PGB1 HN 80.2 ES 04:44 48.32										-0.05				Intensity: 3			
PGB1 HN 80.2 IAML 04:44 49.26										6 0.19				STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES			
PGB1 HE 80.2 IAML 04:44 49.81										9 0.15				LAW E HZ 48.5 EP 02:21 02.12			
CLGH HZ 81.4 EP 04:44 38.68										-0.16				LAW E HE 48.5 ES 02:21 07.80			
CLGH HN 81.4 ES 04:44 48.68										-0.02				LAW E HE 48.5 IAML 02:21 08.02			
CLGH HN 81.4 IAML 04:44 50.30										6 0.10				LAW E HN 48.5 IAML 02:21 08.36			
CLGH HE 81.4 IAML 04:44 50.58										5 0.14				KPL HZ 85.7 EP 02:21 08.30			
GALL HZ 122.0 EP 04:44 45.41										0.34				KPL HE 85.7 ES 02:21 18.50			
GALL HN 122.0 IAML 04:45 00.54										4 0.29				KPL HN 85.7 IAML 02:21 21.99			
GALL HE 122.0 IAML 04:45 00.59										8 0.32				KPL HE 85.7 IAML 02:21 22.98			
NEWG HZ 122.0 EP 04:44 45.18										0.10				INVG HZ 117.0 EP 02:21 13.54			
NEWG HN 122.0 ES 04:44 58.92										-0.58				INVG HE 117.0 IAML 02:21 29.22			
NEWG HN 122.0 IAML 04:45 00.31										4 0.32				INVG HN 117.0 IAML 02:21 29.51			
NEWG HE 122.0 IAML 04:45 01.32										4 0.10				PGB1 HZ 124.0 EP 02:21 14.84			
INVG HZ 129.0 EP 04:44 46.49										0.49				PGB1 HN 124.0 ES 02:21 29.03			
INVG HN 129.0 IAML 04:45 03.05										2 0.44				PGB1 HN 124.0 IAML 02:21 30.86			
INVG HE 129.0 IAML 04:45 04.59										1 0.07				PGB1 HE 124.0 IAML 02:21 30.96			
January 2 2019										Time: 12:02 45.6 UTC				Magnitude: -0.4 ML			
Lat: 51.168				Lon: -0.255				Depth: 2.9 km				LEWI HZ 183.0 EP 02:21 21.70					
Grid Ref: 521.99 kmE 142.48 kmN										RMS: 0.10 secs				LEWI HN 183.0 IAML 02:21 45.73			
Locality: NEWDIGATE, SURREY														LEWI HE 183.0 IAML 02:21 45.78			
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0														EDI HZ 185.0 EP 02:21 22.52			
STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES														EDI HN 185.0 IAML 02:21 48.29			
STAN HZ 0.5 IP C 12:02 46.58										0.01				EDI HE 185.0 IAML 02:21 48.70			
STAN HE 0.5 ES 12:02 47.28										0.04				NEWG HZ 195.0 EP 02:21 23.57			
STAN HN 0.5 IAML 12:02 47.38										25 0.10				NEWG HE 195.0 IAML 02:21 50.47			
STAN HE 0.5 IAML 12:02 47.38										49 0.15				NEWG HN 195.0 IAML 02:21 50.80			
RUSH HZ 2.4 IP C 12:02 46.72										-0.03				MCD HZ 196.0 EP 02:21 23.55			
RUSH HE 2.4 ES 12:02 47.48										-0.07				MCD HE 196.0 ES 02:21 45.49			
RUSH HE 2.4 IAML 12:02 47.60										44 0.10				MCD HE 196.0 IAML 02:21 51.86			
RUSH HN 2.4 IAML 12:02 47.63										67 0.28				MCD HN 196.0 IAML 02:21 52.31			
HORS HZ 3.4 EP 12:02 46.89										-0.04				GALL HZ 206.0 EP 02:21 25.06			
HORS HE 3.4 ES 12:02 47.79										-0.07				GALL HN 206.0 IAML 02:21 52.68			
HORS HE 3.4 IAML 12:02 47.94										28 0.11				GALL HN 206.0 IAML 02:21 53.35			
HORS HN 3.4 IAML 12:02 47.94										36 0.11				DRUM HZ 213.0 EP 02:21 25.76			
GATW HZ 3.5 IP D 12:02 47.12										0.17				DRUM HN 213.0 IAML 02:21 55.46			
GATW HE 3.5 ES 12:02 47.87										-0.03				DRUM HE 213.0 IAML 02:21 57.18			
GATW HE 3.5 IAML 12:02 47.98										59 0.10				ESK HZ 221.0 EP 02:21 26.94			
GATW HN 3.5 IAML 12:02 47.99										40 0.10				ESK HN 221.0 IAML 02:21 56.00			
January 2 2019										Time: 23:44 07.1 UTC				Magnitude: 1.5 ML			
Lat: 51.492				Lon: -0.971				Depth: 8.2 km				January 6 2019					
Grid Ref: 471.43 kmE 177.56 kmN										RMS: 0.30 secs				Time: 18:07 44.2 UTC			
Locality: CAVERSHAM, READING														Lat: 56.653			
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0														Lon: -6.256			
Comment: FELT READING														Depth: 8.1 km			
														Grid Ref: 139.18 kmE 759.33 kmN			
														RMS: 0.30 secs			
														Intensity: 2			
														Locality: MULL, ARGYLL & BUTE			

TABLE 2 : PHASE DATA

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES														
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0 Comment: OFFSHORE LOCATION												HLM1	HZ	134.0	EP						00:42	44.05		0.27
LAWE	HZ	68.6	EP			18:07	55.18			-0.56														
LAWE	HN	68.6	IAML			18:08	06.07	10	0.11															
LAWE	HE	68.6	IAML			18:08	06.13	12	0.16															
KPL	HZ	84.7	EP			18:07	58.39			0.18														
KPL	HN	84.7	IAML			18:08	11.87	12	0.14															
KPL	HE	84.7	IAML			18:08	11.88	38	0.18															
INVG	HZ	138.0	EP			18:08	06.90			0.53														
INVG	HE	138.0	ES			18:08	22.21			-0.32														
INVG	HN	138.0	IAML			18:08	24.21	6	0.15															
INVG	HE	138.0	IAML			18:08	24.59	4	0.11															
PGB1	HZ	144.0	EP			18:08	07.70			0.48														
PGB1	HN	144.0	IAML			18:08	25.40	6	0.32															
PGB1	HE	144.0	IAML			18:08	25.98	9	0.22															
LEWI	HZ	170.0	EP			18:08	10.84			0.02														
CLGH	HZ	175.0	EP			18:08	11.16			-0.27														
CLGH	HN	175.0	IAML			18:08	34.18	7	0.19															
CLGH	HE	175.0	IAML			18:08	34.87	10	0.46															
LINV	HZ	178.0	EP			18:08	11.41			-0.36														
NEWG	HZ	213.0	EP			18:08	16.45			0.31														
GALL	HZ	221.0	EP			18:08	17.17			-0.02														
ESK	HZ	242.0	EP			18:08	19.78			0.02														
January 10 2019 Time: 01:13 53.0 UTC Magnitude: 0.8 ML Lat: 57.584 Lon: -5.377 Depth: 4.1 km Grid Ref: 198.15 kmE 859.88 kmN Locality: KINLOCHEWE, HIGHLAND												Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0												
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES														
KPL	HZ	31.9	EP			01:13	58.92			0.02														
KPL	HE	31.9	ES			01:14	02.72			-0.48														
KPL	HN	31.9	IAML			01:14	02.87	8	0.18															
KPL	HN	31.9	IAML			01:14	02.89	6	0.12															
LINV	HZ	63.6	EP			01:14	03.84			-0.12														
LINV	HN	63.6	ES			01:14	11.40			-0.55														
LINV	HE	63.6	IAML			01:14	11.63	4	0.28															
LINV	HN	63.6	IAML			01:14	11.71	2	0.06															
LEWI	HZ	108.0	EP			01:14	11.37			0.43														
MCD	HZ	127.0	EP			01:14	13.87			0.03														
BIGH	HZ	133.0	EP			01:14	14.99			0.27														
BIGH	HN	133.0	IAML			01:14	31.86	4	0.14															
BIGH	HE	133.0	IAML			01:14	31.86	6	0.22															
LAWE	HZ	147.0	EP			01:14	17.11			0.34														
LAWE	HE	147.0	IAML			01:14	35.97	6	0.28															
LAWE	HN	147.0	IAML			01:14	36.33	4	0.26															
INVG	HZ	152.0	EP			01:14	17.94			0.47														
INVG	HE	152.0	ES			01:14	34.92			-0.40														
INVG	HN	152.0	IAML			01:14	35.24	1	0.10															
INVG	HE	152.0	IAML			01:14	35.36	1	0.13															
January 11 2019 Time: 22:51 23.3 UTC Magnitude: 2.6 ML Lat: 53.733 Lon: 1.089 Depth: 6.2 km Grid Ref: 603.73 kmE 430.74 kmN Locality: SOUTHERN NORTH SEA												Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0 Comment: 80KM ESE GRIMSBY												
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES														
LMK	HZ	98.6	EP			22:51	39.84			0.24														
LMK	HE	98.6	ES			22:51	52.00			0.54														
LMK	HN	98.6	IAML			22:51	55.96	491	0.23															
LMK	HE	98.6	IAML			22:51	56.04	317	0.27															
WACR	HZ	116.0	EP			22:51	42.17			-0.18														
WACR	HN	116.0	ES			22:51	55.94			-0.28														
WACR	HE	116.0	IAML			22:51	58.41	61	0.35															
WACR	HN	116.0	IAML			22:51	58.72	68	0.20															
GDLE	HZ	146.0	EP			22:51	47.17			0.41														
GDLE	HN	146.0	ES			22:52	03.90			0.04														
GDLE	HE	146.0	ES			22:52	05.99																	
GDLE	HN	146.0	IAML			22:52	09.36	174	0.31															
GDLE	HE	146.0	IAML			22:52	09.39	94	0.31															
HPK	HZ	180.0	EP			22:51	51.54			0.13														
HPK	HE	180.0	ES			22:52	11.23			-0.66														
HPK	HE	180.0	IAML			22:52	15.80	91	0.20															
HPK	HN	180.0	IAML			22:52	18.28	85	0.26															
ELMS	HZ	183.0	EP			22:51	51.45			-0.21														
ELMS	HN	183.0	ES			22:52	13.11			0.78														
ELMS	HN	183.0	IAML			22:52	15.67	101	0.30															
ELMS	HE	183.0	IAML			22:52	16.69	94	0.28															
LBWR	HZ	190.0	EP			22:51	52.68			0.03														
LBWR	HN	190.0	IAML			22:52	18.67	73	0.22															
LBWR	HE	190.0	IAML			22:52	20.65	74	0.22															
CBW	HZ	195.0	EP			22:51	52.97			-0.21														
CBW	HN	195.0	IAML			22:52	17.38	38	0.34															
CBW	HE	195.0	IAML			22:52	18.34	26	0.20															
EDMD	HZ	233.0	EP			22:51	58.02			0.04														
FOEL	HZ	301.0	EP			22:52	06.52			0.00														
ESK	HZ	329.0	EP			22:52	10.15			0.14														
MCH1	HZ	336.0	EP			22:52	10.09			-0.80														
MCH1	HE	336.0	IAML			22:52	59.48	12	0.28															
MCH1	HN	336.0	IAML			22:53	00.96	12	0.26															
January 14 2019 Time: 17:58 12.1 UTC Magnitude: 0.7 ML Lat: 55.271 Lon: -3.515 Depth: 7.7 km Grid Ref: 303.76 kmE 598.48 kmN Locality: BEATTOCK, D & G												Velocity model: Lownet Xnear: 100.0 Xfar: 200.0												
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES														
ESK	HZ	20.3	IP		C	17:58	16.28			0.11														
ESK	HN	20.3	ES			17:58	18.77			-0.34														
ESK	HE	20.3	IAML			17:58	19.36	17	0.10															
ESK	HN	20.3	IAML			17:58	19.38	18	0.11															
NEWG	HZ	48.7	EP			17:58	20.75			0.20														
NEWG	HE	48.7	ES			17:58	26.00			-0.69														
NEWG	HE	48.7	IAML			17:58	20.91	5	0.16															
NEWG	HN	48.7	IAML			17:58	27.18	5	0.11															
KESW	HZ	80.4	EP			17:58	25.60			0.11														
KESW	HN	80.4	ES			17:58	34.93			-0.31														

TABLE 2 : PHASE DATA

NEWG	HZ	129.0	EP	02:20	40.95			0.26	LAWE	HE	86.8	IAML	07:17	05.96	6	0.14			
EDI	HZ	136.0	EP	02:20	42.21			0.50	LAWE	HN	86.8	IAML	07:17	06.89	4	0.20			
EDI	HN	136.0	IAML	02:21	03.68	8	0.28		DRUM	HZ	106.0	EP	07:16	54.41		-0.34			
EDI	HE	136.0	IAML	02:21	04.13	6	0.24		DRUM	HN	106.0	ES	07:17	07.77		0.06			
KPL	HZ	141.0	EP	02:20	42.81			0.50	DRUM	HN	106.0	IAML	07:17	10.35	11	0.18			
KPL	HN	141.0	IAML	02:21	04.52	12	0.30		DRUM	HE	106.0	IAML	07:17	11.04	6	0.10			
KPL	HE	141.0	IAML	02:21	04.55	9	0.38		MCD	HZ	122.0	EP	07:16	57.46		0.30			
GAL1	HZ	142.0	EP	02:20	42.40			-0.10	KPL	HZ	124.0	EP	07:16	57.79		0.34			
GAL1	HN	142.0	IAML	02:21	00.14	8	0.20		KPL	HN	124.0	ES	07:17	12.03		-0.35			
GAL1	HE	142.0	IAML	02:21	00.79	10	0.17		KPL	HN	124.0	IAML	07:17	13.69	4	0.13			
ESK	HZ	160.0	EP	02:20	45.00			-0.12	KPL	HE	124.0	IAML	07:17	13.69	4	0.22			
ESK	HN	160.0	IAML	02:21	04.90	8	0.44		ESK	HZ	154.0	EP	07:17	02.55		0.71			
ESK	HE	160.0	IAML	02:21	05.24	4	0.20		ESK	HE	154.0	IAML	07:17	23.43	4	0.30			
DRUM	HZ	199.0	EP	02:20	49.57			-0.44	ESK	HN	154.0	IAML	07:17	23.58	5	0.19			
DRUM	HE	199.0	IAML	02:21	18.73	6	0.26		January 26 2019 Time: 07:19 10.3 UTC Magnitude: 1.1 ML										
DRUM	HN	199.0	IAML	02:21	18.75	12	0.33		Lat: 55.019 Lon: -2.887 Depth: 7.8 km										
January 25 2019 Time: 20:00 12.9 UTC Magnitude: 1.0 ML									Grid Ref: 343.29 kmE 569.75 kmN										
Lat: 55.023 Lon: -2.879 Depth: 8.3 km									Locality: LONGTOWN,CUMBRIA										
Grid Ref: 343.81 kmE 570.19 kmN RMS: 0.10 secs									Velocity model: Borders Xnear: 150.0 Xfar: 300.0										
Locality: LONGTOWN,CUMBRIA									STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	ESK	HZ	38.8	EP	07:19	17.43		0.12	
ESK	HZ	38.8	IP	D	20:00	20.05			0.10		ESK	HN	38.8	ES	07:19	22.16		-0.14	
ESK	HN	38.8	ES		20:00	24.97			0.04		ESK	HE	38.8	IAML	07:19	22.71	12	0.26	
ESK	HE	38.8	IAML		20:00	25.43	9	0.30			ESK	HN	38.8	IAML	07:19	23.00	8	0.22	
ESK	HN	38.8	IAML		20:00	25.66	6	0.22			KESW	HZ	49.9	EP	07:19	19.10		-0.01	
KESW	HZ	50.4	EP		20:00	21.64			-0.20		KESW	HE	49.9	ES	07:19	25.24		-0.14	
KESW	HN	50.4	ES		20:00	28.37			0.20		KESW	HE	49.9	IAML	07:19	25.82	6	0.17	
KESW	HE	50.4	IAML		20:00	30.58	5	0.16			KESW	HN	49.9	IAML	07:19	29.41	9	0.22	
KESW	HN	50.4	IAML		20:00	30.79	5	0.20			EDMD	HE	62.9	ES	07:19	28.57		-0.31	
EDMD	HN	62.5	ES		20:00	31.30			-0.13		EDMD	HE	62.9	IAML	07:19	32.97	37	0.20	
EDMD	HE	62.5	IAML		20:00	35.62	26	0.24			EDMD	HN	62.9	IAML	07:19	33.17	33	0.16	
EDMD	HN	62.5	IAML		20:00	35.79	25	0.15			AQ12	HZ	65.4	EP	07:19	21.64		0.00	
AQ12	HZ	65.7	EP		20:00	24.18			-0.15		AQ12	HE	65.4	IAML	07:19	33.12	22	0.18	
AQ12	HE	65.7	IAML		20:00	35.67	22	0.08			AQ12	HN	65.4	IAML	07:19	33.64	14	0.11	
AQ12	HN	65.7	IAML		20:00	36.17	17	0.07			AP12	HZ	82.6	EP	07:19	24.34		-0.07	
AP12	HZ	83.2	EP		20:00	27.18			0.04		AS10	HN	85.5	ES	07:19	35.59		0.39	
AP12	HE	83.2	ES		20:00	37.08			-0.15		NEWG	HZ	86.5	EP	07:19	25.17		0.15	
AS10	HN	85.3	ES		20:00	38.09			0.29		NEWG	HN	86.5	ES	07:19	35.50		0.01	
NEWG	HZ	86.9	EP		20:00	27.83			0.09		NEWG	HN	86.5	IAML	07:19	36.19	4	0.23	
NEWG	HN	86.9	ES		20:00	38.27			0.02		NEWG	HE	86.5	IAML	07:19	39.29	4	0.11	
NEWG	HE	86.9	IAML		20:00	38.75	4	0.23			GAL1	HZ	118.0	EP	07:19	30.17		0.01	
NEWG	HN	86.9	IAML		20:00	40.77	4	0.16			GAL1	HE	118.0	IAML	07:19	45.49	4	0.36	
GAL1	HZ	119.0	EP		20:00	32.73			-0.16		GAL1	HN	118.0	IAML	07:19	45.59	10	0.24	
GAL1	HN	119.0	ES		20:00	47.20			0.14		January 27 2019 Time: 23:48 19.1 UTC Magnitude: 2.2 ML								
GAL1	HN	119.0	IAML		20:00	48.13	8	0.26			Lat: 53.201 Lon: -0.248 Depth: 27.0 km								
GAL1	HE	119.0	IAML		20:00	50.42	4	0.41			Grid Ref: 517.01 kmE 368.57 kmN								
January 26 2019 Time: 02:50 32.9 UTC Magnitude: 1.2 ML									Locality: BUCKNALL,LINCOLNSHIRE										
Lat: 53.080 Lon: -2.112 Depth: 14.2 km									Velocity model: Lownet Xnear: 125.0 Xfar: 250.0										
Grid Ref: 392.50 kmE 353.68 kmN RMS: 0.30 secs									STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
Locality: ENDON,STAFFORDSHIRE									LMK	HZ	28.9	EP			23:48	25.79			0.29
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LMK	HZ	28.9	ES				-0.29	
STNC	HZ	6.4	EP		02:50	36.06			-0.09		LMK	HE	28.9	IAML		23:48	31.17	1250	0.28
STNC	HN	6.4	ES		02:50	38.48			-0.03		LMK	HN	28.9	IAML		23:48	31.20	789	0.28
STNC	HN	6.4	IAML		02:50	38.64	105	0.14			WACR	HZ	79.3	EP		23:48	32.04		-0.16
STNC	HE	6.4	IAML		02:50	38.71	134	0.14			WACR	HN	79.3	IAML		23:48	42.96	53	0.17
LBWR	HZ	44.2	EP		02:50	41.13			0.22		WACR	HE	79.3	IAML		23:48	44.24	47	0.20
LBWR	HN	44.2	ES		02:50	46.75			0.02		CFW	HZ	87.9	IP	C	23:48	33.42		-0.02
LBWR	HN	44.2	IAML		02:50	47.10	12	0.24			CFW	HE	87.9	ES		23:48	43.79		-0.12
LBWR	HE	44.2	IAML		02:50	47.27	11	0.16			CFW	HN	87.9	IAML		23:48	44.28	58	0.22
AS02	HZ	53.5	EP		02:50	42.41			0.12		CFW	HE	87.9	IAML		23:48	44.28	42	0.11
AS02	HE	53.5	ES		02:50	48.92			-0.20		LBWR	HZ	101.0	EP		23:48	35.62		0.30
AS02	HN	53.5	IAML		02:50	49.34	15	0.15			LBWR	HE	101.0	ES		23:48	47.13		-0.03
AS02	HE	53.5	IAML		02:50	49.56	23	0.26			LBWR	HN	101.0	IAML		23:48	48.92	166	0.42
CFW	HZ	66.1	EP		02:50	44.26			0.09		LBWR	HE	101.0	IAML		23:48	49.45	149	0.24
CFW	HN	66.1	ES		02:50	52.09			-0.29		HPK	HZ	124.0	EP		23:48	38.92		0.55
CFW	HN	66.1	IAML		02:50	52.92	15	0.22			HPK	HE	124.0	ES		23:48	51.97		-0.48
CFW	HE	66.1	IAML		02:50	52.93	9	0.20			HPK	HN	124.0	IAML		23:48	55.49	91	0.48
AR01	HE	71.0	ES		02:50	53.66			0.05		HPK	HE	124.0	IAML		23:48	55.52	90	0.26
AR01	HN	71.0	IAML		02:50	54.05	10	0.20			BRAD	CZ	181.0	EP		23:48	45.22		-0.16
AR01	HE	71.0	IAML		02:50	54.17	8	0.20			HLM1	HZ	193.0	EP		23:48	47.10		0.08
FOEL	HZ	76.0	EP		02:50	45.62			-0.02		HLM1	HN	193.0	IAML		23:49	11.11	12	0.36
HLM1	HZ	81.1	EP		02:50	45.98			-0.39		HLM1	HE	193.0	IAML		23:49	11.72	10	0.34
HLM1	HN	81.1	ES		02:50	55.65			-0.53		MCH1	HZ	229.0	EP		23:48	51.46		-0.09
HLM1	HE	81.1	IAML		02:50	56.75	13	0.24			MCH1	HE	229.0	IAML		23:49	20.92	6	0.30
HLM1	HN	81.1	IAML		02:50	57.21	6	0.10			MCH1	HN	229.0	IAML		23:49	22.82	8	0.24
MCH1	HZ	135.0	EP		02:50	54.71			0.75		January 30 2019 Time: 11:53 15.9 UTC Magnitude: 1.0 ML								
MCH1	HN	135.0	ES		02:51	10.09			0.78		Lat: 52.015 Lon: -2.861 Depth: 8.3 km								
MCH1	HN	135.0	IAML		02:51	11.57	11	0.16			Grid Ref: 340.92 kmE 235.57 kmN								
MCH1	HE	135.0	IAML		02:51	11.61	12	0.22			Locality: KINGSTONE,HEREFORDSHIRE								
January 26 2019 Time: 07:16 37.0 UTC Magnitude: 1.0 ML									Velocity model: Lownet Xnear: 75.0 Xfar: 150.0										
Lat: 56.597 Lon: -4.130 Depth: 2.4 km									STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
Grid Ref: 269.24 kmE 747.03 kmN RMS: 0.30 secs									MCH1	HZ	9.6	IP	D		11:53	18.55			0.16
Locality: GLENLYON,PERTH/KINROSS									MCH1	HE	9.6	ES			11:53	20.08			-0.09
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	MCH1	HN	9.6	IAML		11:53	20.58	253	0.07
INVG	HZ	19.6	IP	C	07:16	40.93			0.08		MCH1	HE	9.6	IAML		11:53	20.60	320	0.08
INVG	HN	19.6	ES		07:16	43.51			-0.16		MONM	HZ	20.0	EP		11:53	19.82		-0.09
INVG	HN	19.6	IAML		07:16	43.84	9	0.20			MONM	HN	20.0	ES		11:53	22.80		-0.01
INVG	HE	19.6	IAML		07:16	44.16	10	0.11			MONM	HE	20.0	IAML		11:53	22.92	31	0.14
											MONM	HN	20.0	IAML		11:53	23.43	12	0.29
											HLM1	HZ	56.0	EP		11:53	25.79		0.24
											HLM1	HN	56.0	ES		11:53	32.36		-0.20

TABLE 2 : PHASE DATA

February 27 2019		Time: 19:00 17.5 UTC		Magnitude: -0.8 ML		Grid Ref: 522.28 kmE 141.82 kmN		RMS: 0.10 secs	
Lat: 51.164		Lon: -0.241		Depth: 2.3 km		Locality: NEWDIGATE,SURREY			
Grid Ref: 522.98 kmE 142.06 kmN		RMS: 0.10 secs		Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
Locality: NEWDIGATE,SURREY				STAT		CO		DIST	
Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0		PHAS		WT P	
HrMn		SECS		AMPL		PERI		RES	
STAT	CO	DIST	PHAS	WT P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	0.8	EP		19:00	18.31			-0.04
STAN	HE	0.8	ES		19:00	19.02			0.06
STAN	HN	0.8	IAML		19:00	19.12	14	0.08	
STAN	HN	0.8	IAML		19:00	19.15	35	0.14	
GATW	HZ	2.6	EP		19:00	18.77			0.14
GATW	HN	2.6	ES		19:00	19.53			0.09
GATW	HE	2.6	IAML		19:00	19.66	26	0.08	
GATW	HN	2.6	IAML		19:00	19.67	24	0.11	
RUSH	HZ	2.6	EP		19:00	18.51			-0.10
RUSH	HN	2.6	ES		19:00	19.35			-0.06
RUSH	HN	2.6	IAML		19:00	19.43	40	0.10	
RUSH	HE	2.6	IAML		19:00	19.53	26	0.18	
HORS	HZ	2.6	EP		19:00	18.54			-0.10
HORS	HE	2.6	ES		19:00	19.37			-0.09
HORS	HN	2.6	IAML		19:00	19.50	14	0.11	
HORS	HE	2.6	IAML		19:00	19.51	12	0.11	
BRDL	HZ	3.2	EP		19:00	18.73			-0.02
BRDL	HE	3.2	ES		19:00	19.77			0.12
BRDL	HE	3.2	IAML		19:00	19.93	13	0.10	
BRDL	HN	3.2	IAML		19:00	19.94	12	0.13	
February 28 2019		Time: 01:23 15.0 UTC		Magnitude: -1.4 ML		Grid Ref: 522.84 kmE 141.72 kmN		RMS: 0.10 secs	
Lat: 51.161		Lon: -0.251		Depth: 2.1 km		Locality: NEWDIGATE,SURREY			
Grid Ref: 522.29 kmE 141.71 kmN		RMS: 0.10 secs		Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
Locality: NEWDIGATE,SURREY				STAT		CO		DIST	
Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0		PHAS		WT P	
HrMn		SECS		AMPL		PERI		RES	
STAT	CO	DIST	PHAS	WT P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	0.9	EP		01:23	15.74			-0.08
STAN	HE	0.9	ES		01:23	16.43			0.03
STAN	HE	0.9	IAML		01:23	16.53	7	0.08	
STAN	HN	0.9	IAML		01:23	16.57	15	0.11	
RUSH	HZ	1.9	IP	C	01:23	15.93			-0.05
RUSH	HN	1.9	ES		01:23	16.71			0.04
RUSH	HN	1.9	IAML		01:23	16.83	12	0.10	
RUSH	HE	1.9	IAML		01:23	16.93	5	0.09	
GATW	HZ	2.8	EP		01:23	16.24			0.05
BRDL	HZ	3.1	EP		01:23	16.15			-0.10
BRDL	HN	3.1	ES		01:23	17.24			0.10
BRDL	HE	3.1	IAML		01:23	17.37	6	0.14	
BRDL	HN	3.1	IAML		01:23	17.38	7	0.17	
February 28 2019		Time: 03:16 43.9 UTC		Magnitude: -0.9 ML		Grid Ref: 522.76 kmE 142.16 kmN		RMS: 0.10 secs	
Lat: 51.165		Lon: -0.244		Depth: 2.6 km		Locality: NEWDIGATE,SURREY			
Grid Ref: 522.76 kmE 142.16 kmN		RMS: 0.10 secs		Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
Locality: NEWDIGATE,SURREY				STAT		CO		DIST	
Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0		PHAS		WT P	
HrMn		SECS		AMPL		PERI		RES	
STAT	CO	DIST	PHAS	WT P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	0.6	IP	D	03:16	44.74			-0.02
STAN	HN	0.6	ES		03:16	45.43			0.03
STAN	HE	0.6	IAML		03:16	45.55	12	0.07	
STAN	HN	0.6	IAML		03:16	45.59	34	0.18	
RUSH	HZ	2.6	IP	C	03:16	44.92			-0.07
RUSH	HN	2.6	ES		03:16	45.75			-0.05
RUSH	HN	2.6	IAML		03:16	45.84	22	0.10	
RUSH	HE	2.6	IAML		03:16	45.86	18	0.11	
HORS	HZ	2.7	EP		03:16	44.96			-0.07
HORS	HN	2.7	ES		03:16	45.82			-0.05
HORS	HN	2.7	IAML		03:16	45.94	9	0.16	
HORS	HE	2.7	IAML		03:16	45.98	9	0.14	
GATW	HZ	2.8	EP		03:16	45.19			0.15
BRDL	HZ	2.9	EP		03:16	45.14			0.07
February 28 2019		Time: 04:26 10.6 UTC		Magnitude: -0.8 ML		Grid Ref: 522.85 kmE 141.61 kmN		RMS: 0.10 secs	
Lat: 51.160		Lon: -0.243		Depth: 2.4 km		Locality: NEWDIGATE,SURREY			
Grid Ref: 522.85 kmE 141.61 kmN		RMS: 0.10 secs		Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
Locality: NEWDIGATE,SURREY				STAT		CO		DIST	
Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0		PHAS		WT P	
HrMn		SECS		AMPL		PERI		RES	
STAT	CO	DIST	PHAS	WT P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.2	IP	D	04:26	11.47			-0.03
STAN	HE	1.2	ES		04:26	12.18			0.02
STAN	HN	1.2	IAML		04:26	12.29	43	0.10	
STAN	HE	1.2	IAML		04:26	12.29	32	0.16	
RUSH	HZ	2.2	IP	C	04:26	11.57			-0.07
RUSH	HE	2.2	ES		04:26	12.34			-0.06
RUSH	HN	2.2	IAML		04:26	12.49	33	0.09	
RUSH	HE	2.2	IAML		04:26	12.49	23	0.07	
GATW	HZ	2.3	IP	D	04:26	11.87			0.21
HORS	HZ	3.0	EP		04:26	11.68			-0.11
HORS	HN	3.0	ES		04:26	12.61			-0.05
HORS	HN	3.0	IAML		04:26	12.75	6	0.11	
HORS	HE	3.0	IAML		04:26	12.78	8	0.14	
BRDL	HZ	3.5	EP		04:26	11.87			-0.03
BRDL	HE	3.5	ES		04:26	12.98			0.13
BRDL	HE	3.5	IAML		04:26	13.08	14	0.11	
BRDL	HN	3.5	IAML		04:26	13.09	12	0.13	
February 28 2019		Time: 04:48 50.1 UTC		Magnitude: -0.7 ML		Grid Ref: 522.71 kmE 141.72 kmN		RMS: 0.10 secs	
Lat: 51.162		Lon: -0.251		Depth: 2.1 km		Locality: NEWDIGATE,SURREY			
Grid Ref: 522.71 kmE 141.72 kmN		RMS: 0.10 secs		Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
Locality: NEWDIGATE,SURREY				STAT		CO		DIST	
Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0		PHAS		WT P	
HrMn		SECS		AMPL		PERI		RES	
STAT	CO	DIST	PHAS	WT P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.0	IP	D	07:07	50.09			-0.03
STAN	HE	1.0	ES		07:07	50.76			0.01
STAN	HN	1.0	IAML		07:07	50.92	218	0.10	
STAN	HE	1.0	IAML		07:07	50.99	142	0.16	
RUSH	HZ	2.2	IP	C	07:07	50.20			-0.07
RUSH	HE	2.2	ES		07:07	50.96			-0.06
RUSH	HN	2.2	IAML		07:07	51.08	180	0.10	
RUSH	HE	2.2	IAML		07:07	51.09	102	0.07	
GATW	HZ	2.5	EP		07:07	50.47			0.13

TABLE 2 : PHASE DATA

February 28 2019										Time: 16:52 06.5 UTC		Magnitude: 0.5 ML			
Lat: 51.160										Lon: -0.245		Depth: 2.3 km			
Grid Ref: 522.71 kmE 141.61 kmN										RMS: 0.10 secs					
Locality: NEWDIGATE,SURREY										Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES					
GATW	HE	2.5	ES			07:07	51.22								
GATW	HN	2.5	IAML			07:07	51.39	88	0.07						
GATW	HE	2.5	IAML			07:07	51.48	38	0.10						
HORS	HZ	3.0	EP			07:07	50.35			-0.11					
HORS	HE	3.0	ES			07:07	51.26			-0.07					
HORS	HN	3.0	IAML			07:07	51.33	37	0.12						
HORS	HE	3.0	IAML			07:07	51.41	31	0.13						
BRDL	HZ	3.3	EP			07:07	50.49			-0.03					
BRDL	HE	3.3	ES			07:07	51.60			0.15					
BRDL	HN	3.3	IAML			07:07	51.71	56	0.12						
BRDL	HE	3.3	IAML			07:07	51.71	70	0.11						
February 28 2019										Time: 09:33 28.7 UTC		Magnitude: -0.8 ML			
Lat: 51.163										Lon: -0.261		Depth: 2.3 km			
Grid Ref: 521.58 kmE 141.91 kmN										RMS: 0.00 secs					
Locality: NEWDIGATE,SURREY										Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES					
STAN	HZ	1.1	IP		C	09:33	29.55			-0.06					
STAN	HE	1.1	ES			09:33	30.27			0.03					
STAN	HN	1.1	IAML			09:33	30.34	39	0.20						
STAN	HE	1.1	IAML			09:33	30.44	31	0.19						
RUSH	HZ	1.8	EP			09:33	29.65			-0.05					
RUSH	HE	1.8	ES			09:33	30.43			0.04					
RUSH	HN	1.8	IAML			09:33	30.54	31	0.11						
RUSH	HE	1.8	IAML			09:33	30.57	21	0.11						
BRDL	HZ	2.8	EP			09:33	29.93			0.03					
GATW	HZ	3.5	EP			09:33	30.06			0.02					
February 28 2019										Time: 11:15 48.4 UTC		Magnitude: 0.1 ML			
Lat: 51.160										Lon: -0.264		Depth: 2.3 km			
Grid Ref: 521.38 kmE 141.57 kmN										RMS: 0.10 secs					
Locality: NEWDIGATE,SURREY										Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES					
RUSH	HZ	1.4	IP		C	11:15	49.21			-0.04					
RUSH	HE	1.4	ES			11:15	49.87			-0.02					
RUSH	HN	1.4	IAML			11:15	49.98	154	0.10						
RUSH	HE	1.4	IAML			11:15	50.07	82	0.19						
STAN	HZ	1.5	IP		C	11:15	49.23			-0.06					
STAN	HE	1.5	ES			11:15	49.97			0.00					
STAN	HE	1.5	IAML			11:15	50.05	263	0.10						
STAN	HN	1.5	IAML			11:15	50.11	144	0.08						
BRDL	HZ	3.1	EP			11:15	49.56			-0.02					
BRDL	HE	3.1	ES			11:15	50.59			0.11					
BRDL	HE	3.1	IAML			11:15	50.72	146	0.12						
BRDL	HN	3.1	IAML			11:15	50.72	88	0.11						
GATW	HZ	3.5	EP			11:15	49.77			0.13					
GATW	HE	3.5	ES			11:15	50.64			0.06					
GATW	HE	3.5	IAML			11:15	50.73	251	0.10						
GATW	HN	3.5	IAML			11:15	50.73	278	0.10						
HORS	HZ	4.2	EP			11:15	49.64			-0.15					
February 28 2019										Time: 13:02 11.6 UTC		Magnitude: -0.7 ML			
Lat: 51.159										Lon: -0.237		Depth: 2.1 km			
Grid Ref: 523.27 kmE 141.51 kmN										RMS: 0.00 secs					
Locality: NEWDIGATE,SURREY										Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES					
STAN	HZ	1.5	EP			13:02	12.48			0.00					
STAN	HE	1.5	ES			13:02	13.15			0.01					
STAN	HE	1.5	IAML			13:02	13.28	27	0.08						
STAN	HN	1.5	IAML			13:02	13.30	45	0.10						
RUSH	HZ	2.5	EP			13:02	12.66			0.00					
RUSH	HN	2.5	ES			13:02	13.45			0.01					
RUSH	HE	2.5	IAML			13:02	13.46	15	0.08						
RUSH	HN	2.5	IAML			13:02	13.62	45	0.09						
HORS	HZ	2.7	EP			13:02	12.73			0.01					
BRDL	HZ	3.8	EP			13:02	12.89			-0.04					
BRDL	HN	3.8	ES			13:02	13.94			0.02					
BRDL	HE	3.8	IAML			13:02	14.09	12	0.10						
BRDL	HN	3.8	IAML			13:02	14.09	18	0.11						
February 28 2019										Time: 16:51 59.0 UTC		Magnitude: -0.3 ML			
Lat: 51.160										Lon: -0.244		Depth: 2.3 km			
Grid Ref: 522.78 kmE 141.61 kmN										RMS: 0.10 secs					
Locality: NEWDIGATE,SURREY										Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES					
STAN	HZ	1.2	IP		D	16:51	59.84			-0.03					
STAN	HE	1.2	ES			16:52	00.53			0.01					
STAN	HN	1.2	IAML			16:52	00.67	132	0.10						
STAN	HE	1.2	IAML			16:52	00.69	82	0.07						
RUSH	HZ	2.1	IP		C	16:51	59.95			-0.05					
RUSH	HE	2.1	ES			16:52	00.72			-0.02					
RUSH	HN	2.1	IAML			16:52	00.84	77	0.10						
RUSH	HE	2.1	IAML			16:52	00.85	77	0.18						
GATW	HZ	2.3	EP			16:52	00.21			0.15					
HORS	HZ	3.0	EP			16:52	00.07			-0.13					
BRDL	HZ	3.5	EP			16:52	00.26			-0.03					
BRDL	HE	3.5	ES			16:52	01.35			0.11					
BRDL	HE	3.5	IAML			16:52	01.46	28	0.11						
BRDL	HN	3.5	IAML			16:52	01.55	34	0.18						
March 1 2019										Time: 00:00 00.1 UTC		Magnitude: -1.0 ML			
Lat: 51.162										Lon: -0.252		Depth: 2.0 km			
Grid Ref: 522.21 kmE 141.82 kmN										RMS: 0.10 secs					
Locality: NEWDIGATE,SURREY										Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES					
STAN	HZ	0.9	IP		C	00:00	00.85			-0.03					
STAN	HE	0.9	ES			00:00	01.50			0.04					
STAN	HE	0.9	IAML			00:00	01.59	18	0.10						
STAN	HN	0.9	IAML			00:00	01.60	24	0.17						
RUSH	HZ	2.0	IP		D	00:00	00.96			-0.07					
RUSH	HN	2.0	ES			00:00	01.70			-0.04					
RUSH	HN	2.0	IAML			00:00	01.79	24	0.10						
RUSH	HE	2.0	IAML			00:00	01.86	12	0.11						
GATW	HZ	2.9	EP			00:00	01.36			0.11					
GATW	HE	2.9	ES			00:00	02.16			0.06					
GATW	HE	2.9	IAML			00:00	02.27	20	0.10						
GATW	HN	2.9	IAML			00:00	02.32	17	0.10						
BRDL	HZ	3.0	EP			00:00	01.23			-0.05					
BRDL	HE	3.0	ES			00:00	02.27			0.11					
BRDL	HN	3.0	IAML			00:00	02.39	10	0.10						
BRDL	HE	3.0	IAML			00:00	02.44	9	0.10						
HORS	HZ	3.4	ES			00:00	02.14			-0.13					
HORS	HN	3.4	IAML			00:00	02.24	9	0.09						
HORS	HE	3.4	IAML			00:00	02.28	8	0.16						
March 1 2019										Time: 19:26 29.8 UTC		Magnitude: -1.0 ML			
Lat: 51.159										Lon: -0.238		Depth: 2.0 km			
Grid Ref: 523.20 kmE 141.51 kmN										RMS: 0.00 secs					
Locality: NEWDIGATE,SURREY										Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES					
STAN	HZ	1.4	EP			19:26	30.66			-0.01					
STAN	HE	1.4	ES			19:26	31.31			0.00					
STAN	HN	1.4	IAML			19:26	31.47	24	0.10						
STAN	HE	1.4	IAML			19:26	31.51	12	0.09						
RUSH	HZ	2.5	EP			19:26	30.84			-0.02					
RUSH	HN	2.5	ES			19:26	31.67			0.03					
RUSH	HE	2.5	IAML			19:26	31.79	7	0.06						
RUSH	HN	2.5	IAML			19:26	31.79	38	0.						

TABLE 2 : PHASE DATA

March 2 2019										Time: 18:48 17.8 UTC		Magnitude: 0.3 ML		BRDL	HZ	3.0	EP	22:31	34.23	-0.03	
Lat: 54.475										Lon: -3.020		Depth: 2.7 km		BRDL	HN	3.0	ES	22:31	35.24	0.10	
Grid Ref: 333.91 kmE 509.34 kmN										RMS: 0.10 secs				BRDL	HE	3.0	IAML	22:31	35.37	41 0.10	
Locality: GRASMERE,CUMBRIA														BRDL	HN	3.0	IAML	22:31	35.38	33 0.10	
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0														HORS	HN	3.3	ES	22:31	35.08	-0.17	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	HORS	HE	3.3	IAML	22:31	35.19	24 0.10				
KESW	HZ	13.8	EP			18:48	20.74			0.07	HORS	HN	3.3	IAML	22:31	35.19	36 0.16				
KESW	HE	13.8	ES			18:48	22.62			-0.14	March 4 2019										
KESW	HE	13.8	IAML			18:48	22.82	16	0.20		Time: 14:18 05.6 UTC		Magnitude: -0.2 ML								
KESW	HN	13.8	IAML			18:48	22.87	18	0.14		Lat: 51.164		Lon: -0.247		Depth: 2.3 km						
Grid Ref: 522.56 kmE 142.05 kmN										RMS: 0.10 secs				Locality: NEWDIGATE,SURREY							
Locality: NEWDIGATE,SURREY														Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0							
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
AQ12	HZ	17.9	EP			18:48	21.52			0.14	STAN	HZ	0.7	EP			14:18	06.41			-0.04
AQ12	HN	17.9	ES			18:48	23.87			-0.11	STAN	HE	0.7	ES			14:18	07.09			0.03
AQ12	HE	17.9	IAML			18:48	24.05	13	0.10		STAN	HN	0.7	IAML			14:18	07.21	125	0.18	
AQ12	HN	17.9	IAML			18:48	24.13	14	0.06		STAN	HE	0.7	IAML			14:18	07.25	101	0.30	
AP12	HZ	24.4	EP			18:48	22.55			0.10	RUSH	HZ	2.3	IP	C		14:18	06.59			-0.09
AP12	HN	24.4	ES			18:48	25.62			-0.21	RUSH	HE	2.3	ES			14:18	07.36			-0.08
AP12	HN	24.4	IAML			18:48	25.86	5	0.07		RUSH	HN	2.3	IAML			14:18	07.46	145	0.10	
AP12	HE	24.4	IAML			18:48	25.88	4	0.15		RUSH	HE	2.3	IAML			14:18	07.49	68	0.10	
SPK	EN	30.7	ES			18:48	27.63			-0.02	GATW	HZ	2.8	IP	D		14:18	06.94			0.16
IOMK	HE	103.0	ES			18:48	47.80			0.18	GATW	HE	2.8	ES			14:18	07.73			0.11
March 3 2019										Time: 02:33 18.4 UTC		Magnitude: 0.6 ML									
Lat: 51.164										Lon: -0.244		Depth: 2.1 km									
Grid Ref: 522.77 kmE 142.05 kmN										RMS: 0.10 secs											
Locality: NEWDIGATE,SURREY														Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0							
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	HORS	HZ	3.0	IP	C		14:18	06.72			-0.10
STAN	HZ	0.8	IP	D		02:33	19.16			-0.03	HORS	HE	3.0	ES			14:18	07.58			-0.11
STAN	HE	0.8	ES			02:33	19.79			0.02	HORS	HN	3.0	IAML			14:18	07.71	65	0.11	
STAN	HN	0.8	IAML			02:33	19.98	1147	0.11		HORS	HE	3.0	IAML			14:18	07.71	29	0.09	
STAN	HE	0.8	IAML			02:33	20.01	937	0.28		BRDL	HZ	3.0	EP			14:18	06.81			-0.02
RUSH	HZ	2.5	IP	C		02:33	19.35			-0.11	BRDL	HE	3.0	ES			14:18	07.86			0.15
RUSH	HN	2.5	ES			02:33	20.17			-0.07	BRDL	HE	3.0	IAML			14:18	07.96	76	0.10	
RUSH	HN	2.5	IAML			02:33	20.25	1266	0.10		BRDL	HN	3.0	IAML			14:18	07.97	70	0.11	
RUSH	HE	2.5	IAML			02:33	20.53	357	0.21		March 5 2019										
GATW	HZ	2.7	IP	D		02:33	19.67			0.15	Time: 11:04 30.4 UTC		Magnitude: -0.6 ML								
GATW	HE	2.7	ES			02:33	20.44			0.10	Lat: 51.163		Lon: -0.251		Depth: 2.1 km						
GATW	HE	2.7	IAML			02:33	20.55	458	0.09		Grid Ref: 522.28 kmE 141.93 kmN		RMS: 0.10 secs								
GATW	HN	2.7	IAML			02:33	20.58	204	0.08		Locality: NEWDIGATE,SURREY										
HORS	HZ	2.8	IP	C		02:33	19.45			-0.10	Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
HORS	HN	2.8	ES			02:33	20.29			-0.10	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HORS	HN	2.8	IAML			02:33	20.37	511	0.10		STAN	HZ	0.8	IP	C		11:04	31.20			-0.03
HORS	HE	2.8	IAML			02:33	20.41	282	0.06		STAN	HE	0.8	ES			11:04	31.86			0.04
BRDL	HZ	3.1	IP	D		02:33	19.57			-0.04	STAN	HN	0.8	IAML			11:04	31.97	35	0.07	
BRDL	HN	3.1	ES			02:33	20.66			0.16	STAN	HE	0.8	IAML			11:04	32.00	32	0.06	
BRDL	HE	3.1	IAML			02:33	20.74	618	0.11		RUSH	HZ	2.1	IP	C		11:04	31.33			-0.08
BRDL	HN	3.1	IAML			02:33	20.74	554	0.11		RUSH	HE	2.1	ES			11:04	32.07			-0.06
March 3 2019										Time: 04:48 13.9 UTC		Magnitude: -0.6 ML									
Lat: 51.163										Lon: -0.247		Depth: 2.1 km									
Grid Ref: 522.56 kmE 141.94 kmN										RMS: 0.10 secs											
Locality: NEWDIGATE,SURREY														Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0							
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	GATW	HZ	2.9	EP			11:04	31.75			0.15
STAN	HZ	0.8	IP	C		04:48	14.63			-0.04	GATW	HE	2.9	ES			11:04	32.56			0.10
STAN	HE	0.8	ES			04:48	15.29			0.03	GATW	HE	2.9	IAML			11:04	32.68	33	0.15	
STAN	HN	0.8	IAML			04:48	15.48	36	0.08		GATW	HN	2.9	IAML			11:04	32.80	15	0.14	
STAN	HE	0.8	IAML			04:48	15.49	37	0.13		BRDL	HZ	3.0	EP			11:04	31.58			-0.03
RUSH	HZ	2.2	IP	C		04:48	14.79			-0.09	BRDL	HE	3.0	ES			11:04	32.62			0.14
RUSH	HE	2.2	ES			04:48	15.57			-0.05	BRDL	HE	3.0	IAML			11:04	32.74	41	0.10	
RUSH	HN	2.2	IAML			04:48	15.66	66	0.10		BRDL	HN	3.0	IAML			11:04	32.79	36	0.10	
RUSH	HE	2.2	IAML			04:48	15.69	36	0.10		HORS	HZ	3.3	EP			11:04	31.55			-0.12
GATW	HZ	2.8	EP			04:48	15.16			0.16	HORS	HE	3.3	ES			11:04	32.48			-0.10
GATW	HE	2.8	ES			04:48	15.89			0.06	HORS	HN	3.3	IAML			11:04	32.54	26	0.11	
GATW	HE	2.8	IAML			04:48	16.08				HORS	HE	3.3	IAML			11:04	32.60	35	0.27	
GATW	HN	2.8	IAML			04:48	16.08	18	0.08		March 5 2019										
HORS	HZ	3.0	EP			04:48	14.96			-0.10	Time: 12:16 45.0 UTC		Magnitude: -0.4 ML								
HORS	HN	3.0	ES			04:48	15.86			-0.08	Lat: 51.162		Lon: -0.251		Depth: 2.0 km						
HORS	HE	3.0	IAML			04:48	15.92	24	0.14		Grid Ref: 522.28 kmE 141.82 kmN		RMS: 0.10 secs								
HORS	HN	3.0	IAML			04:48	15.96	41	0.09		Locality: NEWDIGATE,SURREY										
BRDL	HZ	3.1	EP			04:48	15.03			-0.04	Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
BRDL	HE	3.1	ES			04:48	16.08			0.13	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BRDL	HN	3.1	IAML			04:48	16.19	40	0.11		STAN	HZ	0.9	IP	C		12:16	45.73			-0.03
BRDL	HE	3.1	IAML			04:48	16.19	46	0.10		STAN	HE	0.9	ES			12:16	46.37			0.03
March 3 2019										Time: 22:31 33.1 UTC		Magnitude: -0.5 ML									
Lat: 51.163										Lon: -0.252		Depth: 2.0 km									
Grid Ref: 522.21 kmE 141.93 kmN										RMS: 0.10 secs											
Locality: NEWDIGATE,SURREY														Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0							
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAN	HE	0.9	IAML			12:16	46.52	89	0.12	
STAN	HZ	0.8	EP			22:31	33.83			-0.03	STAN	HN	0.9	IAML			12:16	46.58	63	0.08	
STAN	HE	0.8	ES			22:31	34.49			0.05	RUSH	HZ	2.0	IP	C		12:16	45.84			-0.09
STAN	HN	0.8	IAML			22:31	34.62	35	0.08		RUSH	HE	2.0	ES			12:16	46.56			-0.07
STAN	HE	0.8	IAML			22:31	34.62	55	0.13		RUSH	HN	2.0	IAML			12:16	46.68	100	0.10	
RUSH	HZ	2.0	EP			22:31	33.95			-0.09	RUSH	HE	2.0	IAML			12:16	46.70	53	0.08	
RUSH	HN	2.0	ES																		

TABLE 2 : PHASE DATA

Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0											STAT	HE	0.8	ES			02:39	42.63		0.01	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	HE	0.8	IAML			02:39	42.81	334	0.40	
STAN	HZ	0.8	IP		C	19:03	09.43			-0.06	STAN	HN	0.8	IAML			02:39	42.83	692	0.19	
STAN	HE	0.8	ES			19:03	10.10			0.03	RUSH	HZ	2.6	IP		C	02:39	42.18		-0.10	
STAN	HN	0.8	IAML			19:03	10.21	11	0.08		RUSH	HN	2.6	ES			02:39	43.00		-0.08	
STAN	HE	0.8	IAML			19:03	10.26	18	0.12		RUSH	HN	2.6	IAML			02:39	43.11	557	0.10	
GATW	HE	2.6	ES			19:03	10.67			0.04	RUSH	HE	2.6	IAML			02:39	43.13	334	0.13	
GATW	HE	2.6	IAML			19:03	10.96	12	0.08		GATW	HZ	2.6	IP		D	02:39	42.46		0.15	
GATW	HN	2.6	IAML			19:03	11.03	11	0.13		GATW	HE	2.6	ES			02:39	43.22		0.09	
HORS	HZ	2.9	EP			19:03	09.82			-0.04	GATW	HN	2.6	IAML			02:39	43.30	203	0.11	
HORS	HN	2.9	ES			19:03	10.73			0.02	GATW	HE	2.6	IAML			02:39	43.40	145	0.13	
HORS	HE	2.9	IAML			19:03	10.79	8	0.11		HORS	HZ	2.7	IP		C	02:39	42.22		-0.10	
HORS	HN	2.9	IAML			19:03	10.87	15	0.20		HORS	HE	2.7	ES			02:39	43.06		-0.08	
BRDL	HZ	3.1	EP			19:03	09.85			-0.07	HORS	HN	2.7	IAML			02:39	43.13	176	0.11	
BRDL	HN	3.1	ES			19:03	10.89			0.08	HORS	HE	2.7	IAML			02:39	43.16	149	0.14	
BRDL	HE	3.1	IAML			19:03	11.01	14	0.10		BRDL	HZ	3.1	IP		D	02:39	42.37		-0.03	
BRDL	HN	3.1	IAML			19:03	11.02	18	0.13		BRDL	HE	3.1	ES			02:39	43.45		0.15	
March 6 2019 Time: 18:18 55.7 UTC Magnitude: -0.7 ML											March 8 2019 Time: 02:40 30.4 UTC Magnitude: -0.1 ML										
Lat: 51.159 Lon: -0.239 Depth: 2.0 km											Lat: 51.165 Lon: -0.241 Depth: 2.1 km										
Grid Ref: 523.13 kmE 141.50 kmN RMS: 0.00 secs											Grid Ref: 522.97 kmE 142.17 kmN RMS: 0.10 secs										
Locality: NEWDIGATE, SURREY											Locality: NEWDIGATE, SURREY										
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0											Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.4	IP		D	18:18	56.53			-0.02	STAN	HZ	0.8	IP		D	02:40	31.22			-0.01
STAN	HE	1.4	ES			18:18	57.18			-0.01	STAN	HE	0.8	ES			02:40	31.84			0.02
STAN	HE	1.4	IAML			18:18	57.35	20	0.08		STAN	HE	0.8	IAML			02:40	32.03	100	0.09	
STAN	HN	1.4	IAML			18:18	57.38	58	0.13		STAN	HN	0.8	IAML			02:40	32.06	222	0.18	
RUSH	HZ	2.4	EP			18:18	56.70			-0.04	HORS	HZ	2.6	IP		C	02:40	31.44			-0.09
RUSH	HE	2.4	ES			18:18	57.54			0.03	HORS	HN	2.6	ES			02:40	32.24			-0.09
RUSH	HN	2.4	IAML			18:18	57.65	53	0.10		HORS	HN	2.6	IAML			02:40	32.35	76	0.10	
RUSH	HE	2.4	IAML			18:18	57.71	20	0.10		HORS	HE	2.6	IAML			02:40	32.36	62	0.14	
HORS	HZ	2.8	EP			18:18	56.85			0.02	GATW	HZ	2.6	IP		D	02:40	31.69			0.15
HORS	HE	2.8	ES			18:18	57.66			-0.01	GATW	HE	2.6	ES			02:40	32.45			0.09
HORS	HN	2.8	IAML			18:18	57.71	16	0.08		GATW	HN	2.6	IAML			02:40	32.52	89	0.10	
HORS	HE	2.8	IAML			18:18	57.73	19	0.10		GATW	HE	2.6	IAML			02:40	32.56	60	0.08	
BRDL	HZ	3.7	EP			18:18	57.05			0.02	RUSH	HZ	2.7	IP		C	02:40	31.41			-0.11
BRDL	HE	3.7	ES			18:18	58.02			0.01	RUSH	HN	2.7	ES			02:40	32.25			-0.08
BRDL	HN	3.7	IAML			18:18	58.09	22	0.13		RUSH	HN	2.7	IAML			02:40	32.34	211	0.10	
BRDL	HE	3.7	IAML			18:18	58.10	24	0.11		RUSH	HE	2.7	IAML			02:40	32.36	137	0.13	
March 7 2019 Time: 05:53 38.1 UTC Magnitude: -0.8 ML											March 8 2019 Time: 03:01 42.3 UTC Magnitude: -0.8 ML										
Lat: 51.163 Lon: -0.247 Depth: 2.2 km											Lat: 51.161 Lon: -0.255 Depth: 2.0 km										
Grid Ref: 522.56 kmE 141.94 kmN RMS: 0.10 secs											Grid Ref: 522.01 kmE 141.70 kmN RMS: 0.10 secs										
Locality: NEWDIGATE, SURREY											Locality: NEWDIGATE, SURREY										
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0											Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	0.7	EP			05:53	38.81			-0.07	STAN	HZ	1.0	IP		C	03:01	43.06			-0.04
STAN	HN	0.7	ES			05:53	39.52			0.05	STAN	HE	1.0	ES			03:01	43.70			0.01
STAN	HN	0.7	IAML			05:53	39.64	29	0.17		STAN	HE	1.0	IAML			03:01	43.80	23	0.10	
STAN	HE	0.7	IAML			05:53	39.67	20	0.11		STAN	HN	1.0	IAML			03:01	43.84	38	0.11	
RUSH	HZ	2.3	IP		C	05:53	38.99			-0.10	RUSH	HZ	1.8	EP			03:01	43.13			-0.07
RUSH	HE	2.3	ES			05:53	39.76			-0.07	RUSH	HE	1.8	ES			03:01	43.83			-0.04
RUSH	HN	2.3	IAML			05:53	39.87	38	0.10		RUSH	HN	1.8	IAML			03:01	43.94	36	0.10	
RUSH	HE	2.3	IAML			05:53	39.89	23	0.11		RUSH	HE	1.8	IAML			03:01	43.96	21	0.10	
GATW	HZ	2.8	EP			05:53	39.36			0.16	GATW	HZ	3.0	IP		D	03:01	43.62			0.14
GATW	HE	2.8	ES			05:53	40.14			0.10	GATW	HN	3.0	ES			03:01	44.43			0.07
GATW	HE	2.8	IAML			05:53	40.26	30	0.13		GATW	HE	3.0	IAML			03:01	44.51	28	0.10	
GATW	HN	2.8	IAML			05:53	40.30	19	0.17		GATW	HN	3.0	IAML			03:01	44.51	22	0.10	
HORS	HZ	3.0	EP			05:53	39.16			-0.10	BRDL	HZ	3.0	EP			03:01	43.47			-0.02
HORS	HN	3.0	ES			05:53	40.01			-0.12	BRDL	HE	3.0	ES			03:01	44.49			0.12
HORS	HE	3.0	IAML			05:53	40.13	18	0.08		BRDL	HE	3.0	IAML			03:01	44.60	23	0.12	
HORS	HE	3.0	IAML			05:53	40.18	18	0.20		BRDL	HN	3.0	IAML			03:01	44.65	18	0.10	
BRDL	HN	3.0	ES			05:53	40.28			0.14	HORS	HN	3.6	ES			03:01	44.42			-0.15
BRDL	HE	3.0	IAML			05:53	40.38	24	0.10		HORS	HE	3.6	IAML			03:01	44.49	13	0.11	
BRDL	HN	3.0	IAML			05:53	40.44	18	0.11		HORS	HN	3.6	IAML			03:01	44.53	17	0.10	
March 7 2019 Time: 07:17 06.8 UTC Magnitude: -0.6 ML											March 8 2019 Time: 04:27 12.6 UTC Magnitude: -1.2 ML										
Lat: 51.162 Lon: -0.250 Depth: 2.3 km											Lat: 51.163 Lon: -0.247 Depth: 2.2 km										
Grid Ref: 522.35 kmE 141.82 kmN RMS: 0.10 secs											Grid Ref: 522.56 kmE 141.94 kmN RMS: 0.10 secs										
Locality: NEWDIGATE, SURREY											Locality: NEWDIGATE, SURREY										
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0											Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	0.9	EP			07:17	07.52			-0.10	STAN	HZ	0.8	IP		D	04:27	13.41			-0.06
STAN	HN	0.9	ES			07:17	08.27			0.04	STAN	HE	0.8	ES			04:27	14.09			0.02
STAN	HE	0.9	IAML			07:17	08.34	17	0.07		STAN	HE	0.8	IAML			04:27	14.17	15	0.18	
STAN	HN	0.9	IAML			07:17	08.37	92	0.19		STAN	HN	0.8	IAML			04:27	14.18	22	0.11	
RUSH	HZ	2.0	IP		C	07:17	07.71			-0.06	RUSH	HZ	2.3	IP		C	04:27	13.60			-0.07
RUSH	HN	2.0	ES			07:17	08.54			0.05	RUSH	HN	2.3	ES			04:27	14.40			-0.03
RUSH	HN	2.0	IAML			07:17	08.64	68	0.10		RUSH	HN	2.3	IAML			04:27	14.51	15	0.10	
RUSH	HE	2.0	IAML			07:17	08.70	34	0.11		RUSH	HE	2.3	IAML			04:27	14.54	4	0.09	
GATW	HZ	2.8	EP			07:17	07.99			0.05	GATW	HZ	2.7	EP			04:27	13.89			0.11
BRDL	HZ	3.1	EP			07:17	07.95			-0.05	GATW	HE	2.7	ES							

TABLE 2 : PHASE DATA

<p>BRDL HE 3.1 IAML 04:27 15.02 6 0.14</p> <p>BRDL HN 3.1 IAML 04:27 15.02 6 0.12</p> <p>March 9 2019 Time: 11:25 42.2 UTC Magnitude: -0.7 ML Lat: 51.167 Lon: -0.270 Depth: 2.5 km Grid Ref: 520.94 kmE 142.34 kmN RMS: 0.10 secs Locality: NEWDIGATE,SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>STAN</td><td>HZ</td><td>1.5</td><td>EP</td><td></td><td></td><td>11:25</td><td>43.13</td><td></td><td></td><td>0.02</td></tr> <tr><td>STAN</td><td>HN</td><td>1.5</td><td>ES</td><td></td><td></td><td>11:25</td><td>43.81</td><td></td><td></td><td>0.01</td></tr> <tr><td>STAN</td><td>HN</td><td>1.5</td><td>IAML</td><td></td><td></td><td>11:25</td><td>43.90</td><td>22</td><td>0.09</td><td></td></tr> <tr><td>STAN</td><td>HE</td><td>1.5</td><td>IAML</td><td></td><td></td><td>11:25</td><td>43.91</td><td>22</td><td>0.08</td><td></td></tr> <tr><td>RUSH</td><td>HZ</td><td>2.1</td><td>IP</td><td></td><td>C</td><td>11:25</td><td>43.17</td><td></td><td></td><td>-0.01</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.1</td><td>ES</td><td></td><td></td><td>11:25</td><td>43.89</td><td></td><td></td><td>-0.03</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.1</td><td>IAML</td><td></td><td></td><td>11:25</td><td>43.96</td><td>50</td><td>0.10</td><td></td></tr> <tr><td>RUSH</td><td>HE</td><td>2.1</td><td>IAML</td><td></td><td></td><td>11:25</td><td>44.01</td><td>30</td><td>0.21</td><td></td></tr> <tr><td>GATW</td><td>HZ</td><td>4.2</td><td>EP</td><td></td><td></td><td>11:25</td><td>43.70</td><td></td><td></td><td>0.13</td></tr> <tr><td>GATW</td><td>HE</td><td>4.2</td><td>ES</td><td></td><td></td><td>11:25</td><td>44.55</td><td></td><td></td><td>-0.05</td></tr> <tr><td>GATW</td><td>HE</td><td>4.2</td><td>IAML</td><td></td><td></td><td>11:25</td><td>44.66</td><td>17</td><td>0.08</td><td></td></tr> <tr><td>GATW</td><td>HN</td><td>4.2</td><td>IAML</td><td></td><td></td><td>11:25</td><td>44.69</td><td>13</td><td>0.12</td><td></td></tr> <tr><td>HORS</td><td>HZ</td><td>4.4</td><td>EP</td><td></td><td></td><td>11:25</td><td>43.53</td><td></td><td></td><td>-0.07</td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAN	HZ	1.5	EP			11:25	43.13			0.02	STAN	HN	1.5	ES			11:25	43.81			0.01	STAN	HN	1.5	IAML			11:25	43.90	22	0.09		STAN	HE	1.5	IAML			11:25	43.91	22	0.08		RUSH	HZ	2.1	IP		C	11:25	43.17			-0.01	RUSH	HN	2.1	ES			11:25	43.89			-0.03	RUSH	HN	2.1	IAML			11:25	43.96	50	0.10		RUSH	HE	2.1	IAML			11:25	44.01	30	0.21		GATW	HZ	4.2	EP			11:25	43.70			0.13	GATW	HE	4.2	ES			11:25	44.55			-0.05	GATW	HE	4.2	IAML			11:25	44.66	17	0.08		GATW	HN	4.2	IAML			11:25	44.69	13	0.12		HORS	HZ	4.4	EP			11:25	43.53			-0.07	<p>HORS HN 3.2 IAML 01:00 59.86 119 0.15</p> <p>HORS HE 3.2 IAML 01:00 59.91 62 0.09</p> <p>March 14 2019 Time: 14:30 59.7 UTC Magnitude: 2.4 ML Lat: 52.085 Lon: -2.898 Depth: 23.4 km Grid Ref: 338.48 kmE 243.39 kmN RMS: 0.30 secs Locality: BYFORD,HEREFORDSHIRE Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>MCH1</td><td>HZ</td><td>11.9</td><td>IP</td><td></td><td>C</td><td>14:31</td><td>04.17</td><td></td><td></td><td>0.19</td></tr> <tr><td>MCH1</td><td>HE</td><td>11.9</td><td>ES</td><td></td><td></td><td>14:31</td><td>07.31</td><td></td><td></td><td>0.21</td></tr> <tr><td>MCH1</td><td>HN</td><td>11.9</td><td>IAML</td><td></td><td></td><td>14:31</td><td>07.74</td><td>1955</td><td>0.10</td><td></td></tr> <tr><td>MCH1</td><td>HE</td><td>11.9</td><td>IAML</td><td></td><td></td><td>14:31</td><td>07.78</td><td>1331</td><td>0.15</td><td></td></tr> <tr><td>MONM</td><td>HZ</td><td>28.1</td><td>IP</td><td></td><td>D</td><td>14:31</td><td>05.80</td><td></td><td></td><td>0.17</td></tr> <tr><td>MONM</td><td>HE</td><td>28.1</td><td>ES</td><td></td><td></td><td>14:31</td><td>09.36</td><td></td><td></td><td>-0.57</td></tr> <tr><td>MONM</td><td>HE</td><td>28.1</td><td>IAML</td><td></td><td></td><td>14:31</td><td>10.53</td><td>292</td><td>0.12</td><td></td></tr> <tr><td>MONM</td><td>HN</td><td>28.1</td><td>IAML</td><td></td><td></td><td>14:31</td><td>10.62</td><td>458</td><td>0.12</td><td></td></tr> <tr><td>HLM1</td><td>HZ</td><td>48.3</td><td>EP</td><td></td><td></td><td>14:31</td><td>08.24</td><td></td><td></td><td>-0.15</td></tr> <tr><td>HLM1</td><td>HN</td><td>48.3</td><td>ES</td><td></td><td></td><td>14:31</td><td>14.46</td><td></td><td></td><td>-0.22</td></tr> <tr><td>HLM1</td><td>HN</td><td>48.3</td><td>IAML</td><td></td><td></td><td>14:31</td><td>14.78</td><td>156</td><td>0.16</td><td></td></tr> <tr><td>HLM1</td><td>HE</td><td>48.3</td><td>IAML</td><td></td><td></td><td>14:31</td><td>14.80</td><td>263</td><td>0.10</td><td></td></tr> <tr><td>OLDB</td><td>HZ</td><td>52.9</td><td>IP</td><td></td><td>D</td><td>14:31</td><td>08.97</td><td></td><td></td><td>-0.04</td></tr> <tr><td>OLDB</td><td>HN</td><td>52.9</td><td>ES</td><td></td><td></td><td>14:31</td><td>15.60</td><td></td><td></td><td>-0.15</td></tr> <tr><td>OLDB</td><td>HN</td><td>52.9</td><td>IAML</td><td></td><td></td><td>14:31</td><td>16.53</td><td>239</td><td>0.40</td><td></td></tr> <tr><td>OLDB</td><td>HE</td><td>52.9</td><td>IAML</td><td></td><td></td><td>14:31</td><td>16.85</td><td>157</td><td>0.32</td><td></td></tr> <tr><td>STRD</td><td>HZ</td><td>61.2</td><td>IP</td><td></td><td>D</td><td>14:31</td><td>10.19</td><td></td><td></td><td>-0.04</td></tr> <tr><td>STRD</td><td>HN</td><td>61.2</td><td>ES</td><td></td><td></td><td>14:31</td><td>18.06</td><td></td><td></td><td>0.21</td></tr> <tr><td>STRD</td><td>HN</td><td>61.2</td><td>IAML</td><td></td><td></td><td>14:31</td><td>18.53</td><td>304</td><td>0.15</td><td></td></tr> <tr><td>STRD</td><td>HE</td><td>61.2</td><td>IAML</td><td></td><td></td><td>14:31</td><td>18.59</td><td>280</td><td>0.13</td><td></td></tr> <tr><td>FOEL</td><td>HZ</td><td>91.9</td><td>IP</td><td></td><td>D</td><td>14:31</td><td>14.80</td><td></td><td></td><td>-0.01</td></tr> <tr><td>FOEL</td><td>HN</td><td>91.9</td><td>ES</td><td></td><td></td><td>14:31</td><td>25.93</td><td></td><td></td><td>0.21</td></tr> <tr><td>FOEL</td><td>HN</td><td>91.9</td><td>IAML</td><td></td><td></td><td>14:31</td><td>26.80</td><td>97</td><td>0.21</td><td></td></tr> <tr><td>FOEL</td><td>HE</td><td>91.9</td><td>IAML</td><td></td><td></td><td>14:31</td><td>28.87</td><td>83</td><td>0.38</td><td></td></tr> <tr><td>SWN1</td><td>HZ</td><td>98.9</td><td>EP</td><td></td><td></td><td>14:31</td><td>16.33</td><td></td><td></td><td>0.50</td></tr> <tr><td>RSBS</td><td>HZ</td><td>128.0</td><td>EP</td><td></td><td></td><td>14:31</td><td>19.62</td><td></td><td></td><td>-0.29</td></tr> <tr><td>RSBS</td><td>HE</td><td>128.0</td><td>ES</td><td></td><td></td><td>14:31</td><td>34.53</td><td></td><td></td><td>0.04</td></tr> <tr><td>RSBS</td><td>HN</td><td>128.0</td><td>IAML</td><td></td><td></td><td>14:31</td><td>35.89</td><td>102</td><td>0.10</td><td></td></tr> <tr><td>RSBS</td><td>HE</td><td>128.0</td><td>IAML</td><td></td><td></td><td>14:31</td><td>36.32</td><td>120</td><td>0.26</td><td></td></tr> <tr><td>CWF</td><td>HZ</td><td>130.0</td><td>EP</td><td></td><td></td><td>14:31</td><td>19.94</td><td></td><td></td><td>-0.31</td></tr> <tr><td>CWF</td><td>HE</td><td>130.0</td><td>IAML</td><td></td><td></td><td>14:31</td><td>35.31</td><td>42</td><td>0.16</td><td></td></tr> <tr><td>CWF</td><td>HN</td><td>130.0</td><td>IAML</td><td></td><td></td><td>14:31</td><td>35.79</td><td>39</td><td>0.11</td><td></td></tr> <tr><td>HTL</td><td>HZ</td><td>164.0</td><td>EP</td><td></td><td></td><td>14:31</td><td>24.81</td><td></td><td></td><td>0.41</td></tr> <tr><td>LBWR</td><td>HZ</td><td>167.0</td><td>EP</td><td></td><td></td><td>14:31</td><td>24.93</td><td></td><td></td><td>0.14</td></tr> <tr><td>LBWR</td><td>HN</td><td>167.0</td><td>IAML</td><td></td><td></td><td>14:31</td><td>46.54</td><td>117</td><td>0.28</td><td></td></tr> <tr><td>LBWR</td><td>HE</td><td>167.0</td><td>IAML</td><td></td><td></td><td>14:31</td><td>46.99</td><td>102</td><td>0.26</td><td></td></tr> <tr><td>WLF1</td><td>HN</td><td>168.0</td><td>IAML</td><td></td><td></td><td>14:31</td><td>45.05</td><td>36</td><td>0.28</td><td></td></tr> <tr><td>WLF1</td><td>HE</td><td>168.0</td><td>IAML</td><td></td><td></td><td>14:31</td><td>46.40</td><td>41</td><td>0.22</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	MCH1	HZ	11.9	IP		C	14:31	04.17			0.19	MCH1	HE	11.9	ES			14:31	07.31			0.21	MCH1	HN	11.9	IAML			14:31	07.74	1955	0.10		MCH1	HE	11.9	IAML			14:31	07.78	1331	0.15		MONM	HZ	28.1	IP		D	14:31	05.80			0.17	MONM	HE	28.1	ES			14:31	09.36			-0.57	MONM	HE	28.1	IAML			14:31	10.53	292	0.12		MONM	HN	28.1	IAML			14:31	10.62	458	0.12		HLM1	HZ	48.3	EP			14:31	08.24			-0.15	HLM1	HN	48.3	ES			14:31	14.46			-0.22	HLM1	HN	48.3	IAML			14:31	14.78	156	0.16		HLM1	HE	48.3	IAML			14:31	14.80	263	0.10		OLDB	HZ	52.9	IP		D	14:31	08.97			-0.04	OLDB	HN	52.9	ES			14:31	15.60			-0.15	OLDB	HN	52.9	IAML			14:31	16.53	239	0.40		OLDB	HE	52.9	IAML			14:31	16.85	157	0.32		STRD	HZ	61.2	IP		D	14:31	10.19			-0.04	STRD	HN	61.2	ES			14:31	18.06			0.21	STRD	HN	61.2	IAML			14:31	18.53	304	0.15		STRD	HE	61.2	IAML			14:31	18.59	280	0.13		FOEL	HZ	91.9	IP		D	14:31	14.80			-0.01	FOEL	HN	91.9	ES			14:31	25.93			0.21	FOEL	HN	91.9	IAML			14:31	26.80	97	0.21		FOEL	HE	91.9	IAML			14:31	28.87	83	0.38		SWN1	HZ	98.9	EP			14:31	16.33			0.50	RSBS	HZ	128.0	EP			14:31	19.62			-0.29	RSBS	HE	128.0	ES			14:31	34.53			0.04	RSBS	HN	128.0	IAML			14:31	35.89	102	0.10		RSBS	HE	128.0	IAML			14:31	36.32	120	0.26		CWF	HZ	130.0	EP			14:31	19.94			-0.31	CWF	HE	130.0	IAML			14:31	35.31	42	0.16		CWF	HN	130.0	IAML			14:31	35.79	39	0.11		HTL	HZ	164.0	EP			14:31	24.81			0.41	LBWR	HZ	167.0	EP			14:31	24.93			0.14	LBWR	HN	167.0	IAML			14:31	46.54	117	0.28		LBWR	HE	167.0	IAML			14:31	46.99	102	0.26		WLF1	HN	168.0	IAML			14:31	45.05	36	0.28		WLF1	HE	168.0	IAML			14:31	46.40	41	0.22	
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<p>March 10 2019 Time: 06:51 21.1 UTC Magnitude: -0.3 ML Lat: 51.162 Lon: -0.254 Depth: 2.0 km Grid Ref: 522.07 kmE 141.81 kmN RMS: 0.10 secs Locality: NEWDIGATE,SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>STAN</td><td>HZ</td><td>0.9</td><td>IP</td><td></td><td>C</td><td>06:51</td><td>21.90</td><td></td><td></td><td>-0.02</td></tr> <tr><td>STAN</td><td>HE</td><td>0.9</td><td>ES</td><td></td><td></td><td>06:51</td><td>22.55</td><td></td><td></td><td>0.04</td></tr> <tr><td>STAN</td><td>HN</td><td>0.9</td><td>IAML</td><td></td><td></td><td>06:51</td><td>22.67</td><td>133</td><td>0.12</td><td></td></tr> <tr><td>STAN</td><td>HE</td><td>0.9</td><td>IAML</td><td></td><td></td><td>06:51</td><td>22.69</td><td>93</td><td>0.16</td><td></td></tr> <tr><td>RUSH</td><td>HZ</td><td>1.9</td><td>EP</td><td></td><td></td><td>06:51</td><td>21.97</td><td></td><td></td><td>-0.09</td></tr> <tr><td>RUSH</td><td>HN</td><td>1.9</td><td>ES</td><td></td><td></td><td>06:51</td><td>22.71</td><td></td><td></td><td>-0.04</td></tr> <tr><td>RUSH</td><td>HN</td><td>1.9</td><td>IAML</td><td></td><td></td><td>06:51</td><td>22.77</td><td>140</td><td>0.10</td><td></td></tr> <tr><td>RUSH</td><td>HE</td><td>1.9</td><td>IAML</td><td></td><td></td><td>06:51</td><td>22.80</td><td>48</td><td>0.07</td><td></td></tr> <tr><td>BRDL</td><td>HZ</td><td>3.0</td><td>EP</td><td></td><td></td><td>06:51</td><td>22.28</td><td></td><td></td><td>-0.03</td></tr> <tr><td>BRDL</td><td>HE</td><td>3.0</td><td>ES</td><td></td><td></td><td>06:51</td><td>23.30</td><td></td><td></td><td>0.11</td></tr> <tr><td>BRDL</td><td>HE</td><td>3.0</td><td>IAML</td><td></td><td></td><td>06:51</td><td>23.43</td><td>77</td><td>0.11</td><td></td></tr> <tr><td>BRDL</td><td>HN</td><td>3.0</td><td>IAML</td><td></td><td></td><td>06:51</td><td>23.44</td><td>62</td><td>0.10</td><td></td></tr> <tr><td>GATW</td><td>HZ</td><td>3.0</td><td>IP</td><td></td><td>D</td><td>06:51</td><td>22.46</td><td></td><td></td><td>0.15</td></tr> <tr><td>GATW</td><td>HE</td><td>3.0</td><td>ES</td><td></td><td></td><td>06:51</td><td>23.26</td><td></td><td></td><td>0.08</td></tr> <tr><td>GATW</td><td>HN</td><td>3.0</td><td>IAML</td><td></td><td></td><td>06:51</td><td>23.34</td><td>66</td><td>0.10</td><td></td></tr> <tr><td>GATW</td><td>HE</td><td>3.0</td><td>IAML</td><td></td><td></td><td>06:51</td><td>23.35</td><td>101</td><td>0.10</td><td></td></tr> <tr><td>HORS</td><td>HZ</td><td>3.5</td><td>EP</td><td></td><td></td><td>06:51</td><td>22.36</td><td></td><td></td><td>-0.05</td></tr> <tr><td>HORS</td><td>HE</td><td>3.5</td><td>ES</td><td></td><td></td><td>06:51</td><td>23.21</td><td></td><td></td><td>-0.14</td></tr> <tr><td>HORS</td><td>HE</td><td>3.5</td><td>IAML</td><td></td><td></td><td>06:51</td><td>23.32</td><td>39</td><td>0.10</td><td></td></tr> <tr><td>HORS</td><td>HN</td><td>3.5</td><td>IAML</td><td></td><td></td><td>06:51</td><td>23.32</td><td>61</td><td>0.12</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAN	HZ	0.9	IP		C	06:51	21.90			-0.02	STAN	HE	0.9	ES			06:51	22.55			0.04	STAN	HN	0.9	IAML			06:51	22.67	133	0.12		STAN	HE	0.9	IAML			06:51	22.69	93	0.16		RUSH	HZ	1.9	EP			06:51	21.97			-0.09	RUSH	HN	1.9	ES			06:51	22.71			-0.04	RUSH	HN	1.9	IAML			06:51	22.77	140	0.10		RUSH	HE	1.9	IAML			06:51	22.80	48	0.07		BRDL	HZ	3.0	EP			06:51	22.28			-0.03	BRDL	HE	3.0	ES			06:51	23.30			0.11	BRDL	HE	3.0	IAML			06:51	23.43	77	0.11		BRDL	HN	3.0	IAML			06:51	23.44	62	0.10		GATW	HZ	3.0	IP		D	06:51	22.46			0.15	GATW	HE	3.0	ES			06:51	23.26			0.08	GATW	HN	3.0	IAML			06:51	23.34	66	0.10		GATW	HE	3.0	IAML			06:51	23.35	101	0.10		HORS	HZ	3.5	EP			06:51	22.36			-0.05	HORS	HE	3.5	ES			06:51	23.21			-0.14	HORS	HE	3.5	IAML			06:51	23.32	39	0.10		HORS	HN	3.5	IAML			06:51	23.32	61	0.12		<p>March 15 2019 Time: 05:39 47.8 UTC Magnitude: 1.0 ML Lat: 53.659 Lon: -2.206 Depth: 11.2 km Grid Ref: 386.39 kmE 418.10 kmN RMS: 0.00 secs Locality: WHITWORTH,LANCASHIRE Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>AR01</td><td>HZ</td><td>10.4</td><td>IP</td><td></td><td>C</td><td>05:39</td><td>50.61</td><td></td><td></td><td>0.04</td></tr> <tr><td>AR01</td><td>HE</td><td>10.4</td><td>ES</td><td></td><td></td><td>05:39</td><td>52.60</td><td></td><td></td><td>-0.02</td></tr> <tr><td>AR01</td><td>HN</td><td>10.4</td><td>IAML</td><td></td><td></td><td>05:39</td><td>53.10</td><td>68</td><td>0.16</td><td></td></tr> <tr><td>AR01</td><td>HE</td><td>10.4</td><td>IAML</td><td></td><td></td><td>05:39</td><td>53.10</td><td>127</td><td>0.11</td><td></td></tr> <tr><td>AS02</td><td>HZ</td><td>18.7</td><td>EP</td><td></td><td></td><td>05:39</td><td>51.60</td><td></td><td></td><td>-0.08</td></tr> <tr><td>AS02</td><td>HE</td><td>18.7</td><td>ES</td><td></td><td></td><td>05:39</td><td>54.58</td><td></td><td></td><td>0.04</td></tr> <tr><td>LBWR</td><td>HZ</td><td>42.9</td><td>EP</td><td></td><td></td><td>05:39</td><td>55.40</td><td></td><td></td><td>0.05</td></tr> <tr><td>LBWR</td><td>HE</td><td>42.9</td><td>ES</td><td></td><td></td><td>05:40</td><td>00.87</td><td></td><td></td><td>-0.02</td></tr> <tr><td>LBWR</td><td>HE</td><td>42.9</td><td>IAML</td><td></td><td></td><td>05:40</td><td>01.04</td><td>11</td><td>0.10</td><td></td></tr> <tr><td>LBWR</td><td>HN</td><td>42.9</td><td>IAML</td><td></td><td></td><td>05:40</td><td>01.71</td><td>9</td><td>0.21</td><td></td></tr> <tr><td>KESW</td><td>HN</td><td>119.0</td><td>ES</td><td></td><td></td><td>05:40</td><td>20.97</td><td></td><td></td><td>0.03</td></tr> <tr><td>KESW</td><td>HZ</td><td>119.0</td><td>EP</td><td></td><td></td><td>05:40</td><td>06.90</td><td></td><td></td><td>-0.04</td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	AR01	HZ	10.4	IP		C	05:39	50.61			0.04	AR01	HE	10.4	ES			05:39	52.60			-0.02	AR01	HN	10.4	IAML			05:39	53.10	68	0.16		AR01	HE	10.4	IAML			05:39	53.10	127	0.11		AS02	HZ	18.7	EP			05:39	51.60			-0.08	AS02	HE	18.7	ES			05:39	54.58			0.04	LBWR	HZ	42.9	EP			05:39	55.40			0.05	LBWR	HE	42.9	ES			05:40	00.87			-0.02	LBWR	HE	42.9	IAML			05:40	01.04	11	0.10		LBWR	HN	42.9	IAML			05:40	01.71	9	0.21		KESW	HN	119.0	ES			05:40	20.97			0.03	KESW	HZ	119.0	EP			05:40	06.90			-0.04																																																																																																																																																																																																																	
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<p>March 13 2019 Time: 18:59 44.9 UTC Magnitude: 0.8 ML Lat: 50.407 Lon: -4.641 Depth: 6.2 km Grid Ref: 212.36 kmE 59.75 kmN RMS: 0.40 secs Locality: LOSTWITHIEL,CORNWALL Velocity model: Lownet Xnear: 50.0 Xfar: 100.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>SBD</td><td>BZ</td><td>17.8</td><td>IP</td><td></td><td>D</td><td>18:59</td><td>48.57</td><td></td><td></td><td>0.11</td></tr> <tr><td>SBD</td><td>BN</td><td>17.8</td><td>ES</td><td></td><td></td><td>18:59</td><td>50.78</td><td></td><td></td><td>-0.31</td></tr> <tr><td>SBD</td><td>BN</td><td>17.8</td><td>IAML</td><td></td><td></td><td>18:59</td><td>50.93</td><td>46</td><td>0.07</td><td></td></tr> <tr><td>SBD</td><td>BE</td><td>17.8</td><td>IAML</td><td></td><td></td><td>18:59</td><td>50.95</td><td>97</td><td>0.11</td><td></td></tr> <tr><td>CCA1</td><td>HZ</td><td>48.5</td><td>EP</td><td></td><td></td><td>18:59</td><td>53.58</td><td></td><td></td><td>0.24</td></tr> <tr><td>CCA1</td><td>HE</td><td>48.5</td><td>ES</td><td></td><td></td><td>18:59</td><td>59.26</td><td></td><td></td><td>-0.28</td></tr> <tr><td>CCA1</td><td>HE</td><td>48.5</td><td>IAML</td><td></td><td></td><td>18:59</td><td>59.51</td><td>4</td><td>0.18</td><td></td></tr> <tr><td>CCA1</td><td>HN</td><td>48.5</td><td>IAML</td><td></td><td></td><td>18:59</td><td>59.81</td><td>6</td><td>0.09</td><td></td></tr> <tr><td>DYA</td><td>HZ</td><td>50.6</td><td>EP</td><td></td><td></td><td>18:59</td><td>53.92</td><td></td><td></td><td>0.23</td></tr> <tr><td>DYA</td><td>HE</td><td>50.6</td><td>ES</td><td></td><td></td><td>18:59</td><td>59.79</td><td></td><td></td><td>-0.34</td></tr> <tr><td>DYA</td><td>HN</td><td>50.6</td><td>IAML</td><td></td><td></td><td>18:59</td><td>59.99</td><td>6</td><td>0.10</td><td></td></tr> <tr><td>DYA</td><td>HE</td><td>50.6</td><td>IAML</td><td></td><td></td><td>19:00</td><td>00.06</td><td>6</td><td>0.10</td><td></td></tr> <tr><td>HTL</td><td>HZ</td><td>66.2</td><td>EP</td><td></td><td></td><td>18:59</td><td>56.85</td><td></td><td></td><td>0.78</td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	SBD	BZ	17.8	IP		D	18:59	48.57			0.11	SBD	BN	17.8	ES			18:59	50.78			-0.31	SBD	BN	17.8	IAML			18:59	50.93	46	0.07		SBD	BE	17.8	IAML			18:59	50.95	97	0.11		CCA1	HZ	48.5	EP			18:59	53.58			0.24	CCA1	HE	48.5	ES			18:59	59.26			-0.28	CCA1	HE	48.5	IAML			18:59	59.51	4	0.18		CCA1	HN	48.5	IAML			18:59	59.81	6	0.09		DYA	HZ	50.6	EP			18:59	53.92			0.23	DYA	HE	50.6	ES			18:59	59.79			-0.34	DYA	HN	50.6	IAML			18:59	59.99	6	0.10		DYA	HE	50.6	IAML			19:00	00.06	6	0.10		HTL	HZ	66.2	EP			18:59	56.85			0.78	<p>March 16 2019 Time: 10:11 31.9 UTC Magnitude: 1.8 ML Lat: 55.794 Lon: -6.353 Depth: 7.5 km Grid Ref: 127.19 kmE 664.21 kmN RMS: 0.40 secs Locality: ISLAY,ARGYLL & BUTE Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0 Comment: FELT ISLAY Intensity: 2</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>LAWE</td><td>HZ</td><td>78.9</td><td>IP</td><td></td><td>D</td><td>10:11</td><td>44.83</td><td></td><td></td><td>-0.14</td></tr> <tr><td>LAWE</td><td>HE</td><td>78.9</td><td>ES</td><td></td><td></td><td>10:11</td><td>54.74</td><td></td><td></td><td>0.21</td></tr> <tr><td>LAWE</td><td>HN</td><td>78.9</td><td>IAML</td><td></td><td></td><td>10:11</td><td>57.83</td><td>43</td><td>0.15</td><td></td></tr> <tr><td>LAWE</td><td>HE</td><td>78.9</td><td>IAML</td><td></td><td></td><td>10:11</td><td>57.92</td><td>79</td><td>0.14</td><td></td></tr> <tr><td>CLGH</td><td>HZ</td><td>80.7</td><td>EP</td><td></td><td></td><td>10:11</td><td>45.62</td><td></td><td></td><td>0.35</td></tr> <tr><td>CLGH</td><td>HE</td><td>80.7</td><td>ES</td><td></td><td></td><td>10:11</td><td>54.52</td><td></td><td></td><td>-0.53</td></tr> <tr><td>CLGH</td><td>HE</td><td>80.7</td><td>IAML</td><td></td><td></td><td>10:11</td><td>56.85</td><td>90</td><td>0.16</td><td></td></tr> <tr><td>CLGH</td><td>HN</td><td>80.7</td><td>IAML</td><td></td><td></td><td>10:11</td><td>57.27</td><td>111</td><td>0.18</td><td></td></tr> <tr><td>PGB1</td><td>HZ</td><td>117.0</td><td>EP</td><td></td><td></td><td>10:11</td><td>51.02</td><td></td><td></td><td>0.10</td></tr> <tr><td>PGB1</td><td>HE</td><td>117.0</td><td>ES</td><td></td><td></td><td>10:12</td><td>04.79</td><td></td><td></td><td>-0.05</td></tr> <tr><td>PGB1</td><td>HN</td><td>117.0</td><td>IAML</td><td></td><td></td><td>10:12</td><td>07.83</td><td>44</td><td>0.21</td><td></td></tr> <tr><td>PGB1</td><td>HE</td><td>117.0</td><td>IAML</td><td></td><td></td><td>10:12</td><td>07.95</td><td>54</td><td>0.22</td><td></td></tr> <tr><td>GAL1</td><td>HZ</td><td>147.0</td><td>EP</td><td></td><td></td><td>10:11</td><td>55.88</td><td></td><td></td><td>0.68</td></tr> <tr><td>GAL1</td><td>HN</td><td>147.0</td><td>IAML</td><td></td><td></td><td>10:12</td><td>13.96</td><td>12</td><td>0.40</td><td></td></tr> <tr><td>GAL1</td><td>HE</td><td>147.0</td><td>IAML</td><td></td><td></td><td>10:12</td><td>14.08</td><td>12</td><td>0.30</td><td></td></tr> <tr><td>INVG</td><td>HZ</td><td>160.0</td><td>EP</td><td></td><td></td><td>10:11</td><td>56.48</td><td></td><td></td><td>-0.65</td></tr> <tr><td>INVG</td><td>HE</td><td>160.0</td><td>IAML</td><td></td><td></td><td>10:12</td><td>18.84</td><td>7</td><td>0.11</td><td></td></tr> <tr><td>INVG</td><td>HN</td><td>160.0</td><td>IAML</td><td></td><td></td><td>10:12</td><td>18.95</td><td>5</td><td>0.08</td><td></td></tr> <tr><td>KPL</td><td>HZ</td><td>177.0</td><td>EP</td><td></td><td></td><td>10:11</td><td>59.37</td><td></td><td></td><td>0.02</td></tr> <tr><td>KPL</td><td>HE</td><td>177.0</td><td>IAML</td><td></td><td></td><td>10:12</td><td>21.96</td><td>8</td><td>0.31</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LAWE	HZ	78.9	IP		D	10:11	44.83			-0.14	LAWE	HE	78.9	ES			10:11	54.74			0.21	LAWE	HN	78.9	IAML			10:11	57.83	43	0.15		LAWE	HE	78.9	IAML			10:11	57.92	79	0.14		CLGH	HZ	80.7	EP			10:11	45.62			0.35	CLGH	HE	80.7	ES			10:11	54.52			-0.53	CLGH	HE	80.7	IAML			10:11	56.85	90	0.16		CLGH	HN	80.7	IAML			10:11	57.27	111	0.18		PGB1	HZ	117.0	EP			10:11	51.02			0.10	PGB1	HE	117.0	ES			10:12	04.79			-0.05	PGB1	HN	117.0	IAML			10:12	07.83	44	0.21		PGB1	HE	117.0	IAML			10:12	07.95	54	0.22		GAL1	HZ	147.0	EP			10:11	55.88			0.68	GAL1	HN	147.0	IAML			10:12	13.96	12	0.40		GAL1	HE	147.0	IAML			10:12	14.08	12	0.30		INVG	HZ	160.0	EP			10:11	56.48			-0.65	INVG	HE	160.0	IAML			10:12	18.84	7	0.11		INVG	HN	160.0	IAML			10:12	18.95	5	0.08		KPL	HZ	177.0	EP			10:11	59.37			0.02	KPL	HE	177.0	IAML			10:12	21.96	8	0.31																																																																																																																																																																																																							
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<p>March 14 2019 Time: 01:00 57.8 UTC Magnitude: 0.0 ML Lat: 51.163 Lon: -0.250 Depth: 2.1 km Grid Ref: 522.35 kmE 141.93 kmN RMS: 0.10 secs Locality: NEWDIGATE,SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>STAN</td><td>HZ</td><td>0.7</td><td>IP</td><td></td><td>C</td><td>01:00</td><td>58.52</td><td></td><td></td><td>-0.04</td></tr> <tr><td>STAN</td><td>HE</td><td>0.7</td><td>ES</td><td></td><td></td><td>01:00</td><td>59.18</td><td></td><td></td><td>0.03</td></tr> <tr><td>STAN</td><td>HN</td><td>0.7</td><td>IAML</td><td></td><td></td><td>01:00</td><td>59.30</td><td>106</td><td>0.06</td><td></td></tr> <tr><td>STAN</td><td>HE</td><td>0.7</td><td>IAML</td><td></td><td></td><td>01:00</td><td>59.30</td><td>188</td><td>0.15</td><td></td></tr> <tr><td>RUSH</td><td>HZ</td><td>2.1</td><td>IP</td><td></td><td>C</td><td>01:00</td><td>58.66</td><td></td><td></td><td>-0.09</td></tr> <tr><td>RUSH</td><td>HE</td><td>2.1</td><td>ES</td><td></td><td></td><td>01:00</td><td>59.42</td><td></td><td></td><td>-0.06</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.1</td><td>IAML</td><td></td><td></td><td>01:00</td><td>59.50</td><td>218</td><td>0.12</td><td></td></tr> <tr><td>RUSH</td><td>HE</td><td>2.1</td><td>IAML</td><td></td><td></td><td>01:00</td><td>59.52</td><td>122</td><td>0.06</td><td></td></tr> <tr><td>GATW</td><td>HZ</td><td>2.9</td><td>IP</td><td></td><td>D</td><td>01:00</td><td>59.08</td><td></td><td></td><td>0.16</td></tr> <tr><td>GATW</td><td>HE</td><td>2.9</td><td>ES</td><td></td><td></td><td>01:00</td><td>59.86</td><td></td><td></td><td>0.10</td></tr> <tr><td>GATW</td><td>HN</td><td>2.9</td><td>IAML</td><td></td><td></td><td>01:00</td><td>59.95</td><td>73</td><td>0.23</td><td></td></tr> <tr><td>GATW</td><td>HE</td><td>2.9</td><td>IAML</td><td></td><td></td><td>01:00</td><td>60.00</td><td>154</td><td>0.13</td><td></td></tr> <tr><td>BRDL</td><td>HZ</td><td>3.0</td><td>EP</td><td></td><td></td><td>01:00</td><td>58.93</td><td></td><td></td><td>-</td></tr></tbody></table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAN	HZ	0.7	IP		C	01:00	58.52			-0.04	STAN	HE	0.7	ES			01:00	59.18			0.03	STAN	HN	0.7	IAML			01:00	59.30	106	0.06		STAN	HE	0.7	IAML			01:00	59.30	188	0.15		RUSH	HZ	2.1	IP		C	01:00	58.66			-0.09	RUSH	HE	2.1	ES			01:00	59.42			-0.06	RUSH	HN	2.1	IAML			01:00	59.50	218	0.12		RUSH	HE	2.1	IAML			01:00	59.52	122	0.06		GATW	HZ	2.9	IP		D	01:00	59.08			0.16	GATW	HE	2.9	ES			01:00	59.86			0.10	GATW	HN	2.9	IAML			01:00	59.95	73	0.23		GATW	HE	2.9	IAML			01:00	60.00	154	0.13		BRDL	HZ	3.0	EP			01:00	58.93			-																																																																																																																																																																																																																																																																																																																																																																																																																																														
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TABLE 2 : PHASE DATA

<p>KPL HN 177.0 IAML 10:12 24.78 5 0.16</p> <p>March 16 2019 Time: 10:47 23.9 UTC Magnitude: 1.1 ML Lat: 55.802 Lon: -6.390 Depth: 6.2 km Grid Ref: 124.93 kmE 665.24 kmN RMS: 0.70 secs Locality: ISLAY, ARGYLL & BUTE Velocity model: Lownet Xnear: 100.0 Xfar: 200.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>LAW</td><td>E</td><td>80.1</td><td>IP</td><td>D</td><td></td><td>10:47</td><td>36.87</td><td></td><td></td><td>-0.39</td></tr> <tr><td>LAW</td><td>E</td><td>80.1</td><td>ES</td><td></td><td></td><td>10:47</td><td>46.79</td><td></td><td></td><td>-0.23</td></tr> <tr><td>LAW</td><td>E</td><td>80.1</td><td>IAML</td><td></td><td></td><td>10:47</td><td>50.00</td><td>12</td><td>0.13</td><td></td></tr> <tr><td>LAW</td><td>H</td><td>80.1</td><td>IAML</td><td></td><td></td><td>10:47</td><td>51.00</td><td>8</td><td>0.23</td><td></td></tr> <tr><td>CLG</td><td>H</td><td>82.0</td><td>EP</td><td></td><td></td><td>10:47</td><td>38.53</td><td></td><td></td><td>0.96</td></tr> <tr><td>CLG</td><td>H</td><td>82.0</td><td>ES</td><td></td><td></td><td>10:47</td><td>46.85</td><td></td><td></td><td>-0.71</td></tr> <tr><td>CLG</td><td>H</td><td>82.0</td><td>IAML</td><td></td><td></td><td>10:47</td><td>48.96</td><td>12</td><td>0.14</td><td></td></tr> <tr><td>CLG</td><td>H</td><td>82.0</td><td>IAML</td><td></td><td></td><td>10:47</td><td>49.40</td><td>19</td><td>0.17</td><td></td></tr> <tr><td>PGB</td><td>H</td><td>120.0</td><td>EP</td><td></td><td></td><td>10:47</td><td>43.82</td><td></td><td></td><td>0.44</td></tr> <tr><td>PGB</td><td>H</td><td>120.0</td><td>ES</td><td></td><td></td><td>10:47</td><td>57.45</td><td></td><td></td><td>-0.17</td></tr> <tr><td>PGB</td><td>H</td><td>120.0</td><td>IAML</td><td></td><td></td><td>10:47</td><td>58.41</td><td>8</td><td>0.16</td><td></td></tr> <tr><td>PGB</td><td>H</td><td>120.0</td><td>IAML</td><td></td><td></td><td>10:47</td><td>58.62</td><td>9</td><td>0.15</td><td></td></tr> <tr><td>GAL</td><td>H</td><td>149.0</td><td>EP</td><td></td><td></td><td>10:47</td><td>46.79</td><td></td><td></td><td>-0.86</td></tr> <tr><td>GAL</td><td>H</td><td>149.0</td><td>ES</td><td></td><td></td><td>10:48</td><td>05.48</td><td></td><td></td><td>0.48</td></tr> <tr><td>GAL</td><td>H</td><td>149.0</td><td>IAML</td><td></td><td></td><td>10:48</td><td>06.12</td><td>3</td><td>0.30</td><td></td></tr> <tr><td>GAL</td><td>H</td><td>149.0</td><td>IAML</td><td></td><td></td><td>10:48</td><td>07.40</td><td>2</td><td>0.18</td><td></td></tr> <tr><td>INV</td><td>H</td><td>162.0</td><td>EP</td><td></td><td></td><td>10:47</td><td>50.11</td><td></td><td></td><td>0.61</td></tr> <tr><td>INV</td><td>H</td><td>162.0</td><td>ES</td><td></td><td></td><td>10:48</td><td>09.71</td><td></td><td></td><td>1.51</td></tr> <tr><td>INV</td><td>H</td><td>162.0</td><td>IAML</td><td></td><td></td><td>10:48</td><td>10.86</td><td>1</td><td>0.12</td><td></td></tr> <tr><td>INV</td><td>H</td><td>162.0</td><td>IAML</td><td></td><td></td><td>10:48</td><td>10.97</td><td>1</td><td>0.11</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LAW	E	80.1	IP	D		10:47	36.87			-0.39	LAW	E	80.1	ES			10:47	46.79			-0.23	LAW	E	80.1	IAML			10:47	50.00	12	0.13		LAW	H	80.1	IAML			10:47	51.00	8	0.23		CLG	H	82.0	EP			10:47	38.53			0.96	CLG	H	82.0	ES			10:47	46.85			-0.71	CLG	H	82.0	IAML			10:47	48.96	12	0.14		CLG	H	82.0	IAML			10:47	49.40	19	0.17		PGB	H	120.0	EP			10:47	43.82			0.44	PGB	H	120.0	ES			10:47	57.45			-0.17	PGB	H	120.0	IAML			10:47	58.41	8	0.16		PGB	H	120.0	IAML			10:47	58.62	9	0.15		GAL	H	149.0	EP			10:47	46.79			-0.86	GAL	H	149.0	ES			10:48	05.48			0.48	GAL	H	149.0	IAML			10:48	06.12	3	0.30		GAL	H	149.0	IAML			10:48	07.40	2	0.18		INV	H	162.0	EP			10:47	50.11			0.61	INV	H	162.0	ES			10:48	09.71			1.51	INV	H	162.0	IAML			10:48	10.86	1	0.12		INV	H	162.0	IAML			10:48	10.97	1	0.11		<p>PGB1 HN 122.0 IAML 11:47 18.46 7 0.37 PGB1 HE 122.0 IAML 11:47 18.99 9 0.28 INVG HZ 165.0 EP 11:47 10.42 0.67 INVG HN 165.0 ES 11:47 30.10 1.40 INVG HE 165.0 IAML 11:47 31.86 1 0.22 INVG HN 165.0 IAML 11:47 32.14 1 0.20</p> <p>March 21 2019 Time: 02:40 08.8 UTC Magnitude: -1.4 ML Lat: 51.162 Lon: -0.252 Depth: 2.0 km Grid Ref: 522.21 kmE 141.82 kmN RMS: 0.10 secs Locality: NEWDIGATE, SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>STAN</td><td>HZ</td><td>0.9</td><td>EP</td><td></td><td></td><td>02:40</td><td>09.56</td><td></td><td></td><td>-0.08</td></tr> <tr><td>STAN</td><td>HE</td><td>0.9</td><td>ES</td><td></td><td></td><td>02:40</td><td>10.26</td><td></td><td></td><td>0.04</td></tr> <tr><td>STAN</td><td>HN</td><td>0.9</td><td>IAML</td><td></td><td></td><td>02:40</td><td>10.38</td><td>12</td><td>0.11</td><td></td></tr> <tr><td>STAN</td><td>HE</td><td>0.9</td><td>IAML</td><td></td><td></td><td>02:40</td><td>10.42</td><td>6</td><td>0.07</td><td></td></tr> <tr><td>RUSH</td><td>HZ</td><td>1.9</td><td>IP</td><td>C</td><td></td><td>02:40</td><td>09.75</td><td></td><td></td><td>-0.04</td></tr> <tr><td>RUSH</td><td>HE</td><td>1.9</td><td>ES</td><td></td><td></td><td>02:40</td><td>10.52</td><td></td><td></td><td>0.04</td></tr> <tr><td>RUSH</td><td>HN</td><td>1.9</td><td>IAML</td><td></td><td></td><td>02:40</td><td>10.69</td><td>15</td><td>0.09</td><td></td></tr> <tr><td>RUSH</td><td>HE</td><td>1.9</td><td>IAML</td><td></td><td></td><td>02:40</td><td>10.81</td><td>3</td><td>0.12</td><td></td></tr> <tr><td>GATW</td><td>HZ</td><td>2.9</td><td>EP</td><td></td><td></td><td>02:40</td><td>10.08</td><td></td><td></td><td>0.06</td></tr> <tr><td>GATW</td><td>HE</td><td>2.9</td><td>ES</td><td></td><td></td><td>02:40</td><td>10.86</td><td></td><td></td><td>-0.01</td></tr> <tr><td>GATW</td><td>HN</td><td>2.9</td><td>IAML</td><td></td><td></td><td>02:40</td><td>10.93</td><td>5</td><td>0.14</td><td></td></tr> <tr><td>GATW</td><td>HE</td><td>2.9</td><td>IAML</td><td></td><td></td><td>02:40</td><td>11.01</td><td>4</td><td>0.10</td><td></td></tr> <tr><td>BRDL</td><td>HZ</td><td>3.1</td><td>EP</td><td></td><td></td><td>02:40</td><td>09.97</td><td></td><td></td><td>-0.09</td></tr> <tr><td>BRDL</td><td>HE</td><td>3.1</td><td>ES</td><td></td><td></td><td>02:40</td><td>11.03</td><td></td><td></td><td>0.09</td></tr> <tr><td>BRDL</td><td>HE</td><td>3.1</td><td>IAML</td><td></td><td></td><td>02:40</td><td>11.17</td><td>5</td><td>0.12</td><td></td></tr> <tr><td>BRDL</td><td>HN</td><td>3.1</td><td>IAML</td><td></td><td></td><td>02:40</td><td>11.18</td><td>6</td><td>0.12</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAN	HZ	0.9	EP			02:40	09.56			-0.08	STAN	HE	0.9	ES			02:40	10.26			0.04	STAN	HN	0.9	IAML			02:40	10.38	12	0.11		STAN	HE	0.9	IAML			02:40	10.42	6	0.07		RUSH	HZ	1.9	IP	C		02:40	09.75			-0.04	RUSH	HE	1.9	ES			02:40	10.52			0.04	RUSH	HN	1.9	IAML			02:40	10.69	15	0.09		RUSH	HE	1.9	IAML			02:40	10.81	3	0.12		GATW	HZ	2.9	EP			02:40	10.08			0.06	GATW	HE	2.9	ES			02:40	10.86			-0.01	GATW	HN	2.9	IAML			02:40	10.93	5	0.14		GATW	HE	2.9	IAML			02:40	11.01	4	0.10		BRDL	HZ	3.1	EP			02:40	09.97			-0.09	BRDL	HE	3.1	ES			02:40	11.03			0.09	BRDL	HE	3.1	IAML			02:40	11.17	5	0.12		BRDL	HN	3.1	IAML			02:40	11.18	6	0.12	
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<p>March 16 2019 Time: 18:42 48.2 UTC Magnitude: -0.4 ML Lat: 51.163 Lon: -0.251 Depth: 2.1 km Grid Ref: 522.28 kmE 141.93 kmN RMS: 0.10 secs Locality: NEWDIGATE, SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>STAN</td><td>HZ</td><td>0.8</td><td>EP</td><td></td><td></td><td>18:42</td><td>49.00</td><td></td><td></td><td>-0.05</td></tr> <tr><td>STAN</td><td>HE</td><td>0.8</td><td>ES</td><td></td><td></td><td>18:42</td><td>49.69</td><td></td><td></td><td>0.05</td></tr> <tr><td>STAN</td><td>HE</td><td>0.8</td><td>IAML</td><td></td><td></td><td>18:42</td><td>49.79</td><td>57</td><td>0.14</td><td></td></tr> <tr><td>STAN</td><td>HN</td><td>0.8</td><td>IAML</td><td></td><td></td><td>18:42</td><td>49.86</td><td>50</td><td>0.08</td><td></td></tr> <tr><td>RUSH</td><td>HZ</td><td>2.1</td><td>IP</td><td>C</td><td></td><td>18:42</td><td>49.14</td><td></td><td></td><td>-0.09</td></tr> <tr><td>RUSH</td><td>HE</td><td>2.1</td><td>ES</td><td></td><td></td><td>18:42</td><td>49.89</td><td></td><td></td><td>-0.06</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.1</td><td>IAML</td><td></td><td></td><td>18:42</td><td>49.98</td><td>70</td><td>0.10</td><td></td></tr> <tr><td>RUSH</td><td>HE</td><td>2.1</td><td>IAML</td><td></td><td></td><td>18:42</td><td>50.01</td><td>68</td><td>0.10</td><td></td></tr> <tr><td>GATW</td><td>HZ</td><td>2.9</td><td>IP</td><td>D</td><td></td><td>18:42</td><td>49.57</td><td></td><td></td><td>0.16</td></tr> <tr><td>GATW</td><td>HE</td><td>2.9</td><td>ES</td><td></td><td></td><td>18:42</td><td>50.37</td><td></td><td></td><td>0.11</td></tr> <tr><td>GATW</td><td>HE</td><td>2.9</td><td>IAML</td><td></td><td></td><td>18:42</td><td>50.51</td><td>55</td><td>0.13</td><td></td></tr> <tr><td>GATW</td><td>HN</td><td>2.9</td><td>IAML</td><td></td><td></td><td>18:42</td><td>50.57</td><td>41</td><td>0.11</td><td></td></tr> <tr><td>BRDL</td><td>HZ</td><td>3.0</td><td>EP</td><td></td><td></td><td>18:42</td><td>49.42</td><td></td><td></td><td>-0.02</td></tr> <tr><td>BRDL</td><td>HE</td><td>3.0</td><td>ES</td><td></td><td></td><td>18:42</td><td>50.46</td><td></td><td></td><td>0.15</td></tr> <tr><td>BRDL</td><td>HE</td><td>3.0</td><td>IAML</td><td></td><td></td><td>18:42</td><td>50.56</td><td>68</td><td>0.10</td><td></td></tr> <tr><td>BRDL</td><td>HN</td><td>3.0</td><td>IAML</td><td></td><td></td><td>18:42</td><td>50.56</td><td>68</td><td>0.10</td><td></td></tr> <tr><td>HORS</td><td>HZ</td><td>3.2</td><td>EP</td><td></td><td></td><td>18:42</td><td>49.38</td><td></td><td></td><td>-0.11</td></tr> <tr><td>HORS</td><td>HN</td><td>3.2</td><td>ES</td><td></td><td></td><td>18:42</td><td>50.27</td><td></td><td></td><td>-0.12</td></tr> <tr><td>HORS</td><td>HN</td><td>3.2</td><td>IAML</td><td></td><td></td><td>18:42</td><td>50.36</td><td>44</td><td>0.10</td><td></td></tr> <tr><td>HORS</td><td>HE</td><td>3.2</td><td>IAML</td><td></td><td></td><td>18:42</td><td>50.40</td><td>21</td><td>0.09</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAN	HZ	0.8	EP			18:42	49.00			-0.05	STAN	HE	0.8	ES			18:42	49.69			0.05	STAN	HE	0.8	IAML			18:42	49.79	57	0.14		STAN	HN	0.8	IAML			18:42	49.86	50	0.08		RUSH	HZ	2.1	IP	C		18:42	49.14			-0.09	RUSH	HE	2.1	ES			18:42	49.89			-0.06	RUSH	HN	2.1	IAML			18:42	49.98	70	0.10		RUSH	HE	2.1	IAML			18:42	50.01	68	0.10		GATW	HZ	2.9	IP	D		18:42	49.57			0.16	GATW	HE	2.9	ES			18:42	50.37			0.11	GATW	HE	2.9	IAML			18:42	50.51	55	0.13		GATW	HN	2.9	IAML			18:42	50.57	41	0.11		BRDL	HZ	3.0	EP			18:42	49.42			-0.02	BRDL	HE	3.0	ES			18:42	50.46			0.15	BRDL	HE	3.0	IAML			18:42	50.56	68	0.10		BRDL	HN	3.0	IAML			18:42	50.56	68	0.10		HORS	HZ	3.2	EP			18:42	49.38			-0.11	HORS	HN	3.2	ES			18:42	50.27			-0.12	HORS	HN	3.2	IAML			18:42	50.36	44	0.10		HORS	HE	3.2	IAML			18:42	50.40	21	0.09		<p>March 21 2019 Time: 13:08 46.8 UTC Magnitude: -0.6 ML Lat: 51.162 Lon: -0.246 Depth: 2.1 km Grid Ref: 522.63 kmE 141.83 kmN RMS: 0.10 secs Locality: NEWDIGATE, SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>STAN</td><td>HZ</td><td>0.9</td><td>IP</td><td>D</td><td></td><td>13:08</td><td>47.54</td><td></td><td></td><td>-0.03</td></tr> <tr><td>STAN</td><td>HN</td><td>0.9</td><td>ES</td><td></td><td></td><td>13:08</td><td>48.19</td><td></td><td></td><td>0.03</td></tr> <tr><td>STAN</td><td>HE</td><td>0.9</td><td>IAML</td><td></td><td></td><td>13:08</td><td>48.38</td><td>25</td><td>0.10</td><td></td></tr> <tr><td>STAN</td><td>HN</td><td>0.9</td><td>IAML</td><td></td><td></td><td>13:08</td><td>48.39</td><td>64</td><td>0.10</td><td></td></tr> <tr><td>RUSH</td><td>HZ</td><td>2.2</td><td>IP</td><td>C</td><td></td><td>13:08</td><td>47.73</td><td></td><td></td><td>-0.05</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.2</td><td>ES</td><td></td><td></td><td>13:08</td><td>48.51</td><td></td><td></td><td>-0.02</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.2</td><td>IAML</td><td></td><td></td><td>13:08</td><td>48.61</td><td>66</td><td>0.10</td><td></td></tr> <tr><td>RUSH</td><td>HE</td><td>2.2</td><td>IAML</td><td></td><td></td><td>13:08</td><td>48.72</td><td>21</td><td>0.07</td><td></td></tr> <tr><td>GATW</td><td>HZ</td><td>2.6</td><td>EP</td><td></td><td></td><td>13:08</td><td>48.03</td><td></td><td></td><td>0.15</td></tr> <tr><td>HORS</td><td>HZ</td><td>3.0</td><td>EP</td><td></td><td></td><td>13:08</td><td>47.84</td><td></td><td></td><td>-0.12</td></tr> <tr><td>BRDL</td><td>HZ</td><td>3.2</td><td>EP</td><td></td><td></td><td>13:08</td><td>47.95</td><td></td><td></td><td>-0.05</td></tr> <tr><td>BRDL</td><td>HE</td><td>3.2</td><td>ES</td><td></td><td></td><td>13:08</td><td>48.99</td><td></td><td></td><td>0.09</td></tr> <tr><td>BRDL</td><td>HN</td><td>3.2</td><td>IAML</td><td></td><td></td><td>13:08</td><td>49.10</td><td>36</td><td>0.11</td><td></td></tr> <tr><td>BRDL</td><td>HE</td><td>3.2</td><td>IAML</td><td></td><td></td><td>13:08</td><td>49.20</td><td>31</td><td>0.10</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAN	HZ	0.9	IP	D		13:08	47.54			-0.03	STAN	HN	0.9	ES			13:08	48.19			0.03	STAN	HE	0.9	IAML			13:08	48.38	25	0.10		STAN	HN	0.9	IAML			13:08	48.39	64	0.10		RUSH	HZ	2.2	IP	C		13:08	47.73			-0.05	RUSH	HN	2.2	ES			13:08	48.51			-0.02	RUSH	HN	2.2	IAML			13:08	48.61	66	0.10		RUSH	HE	2.2	IAML			13:08	48.72	21	0.07		GATW	HZ	2.6	EP			13:08	48.03			0.15	HORS	HZ	3.0	EP			13:08	47.84			-0.12	BRDL	HZ	3.2	EP			13:08	47.95			-0.05	BRDL	HE	3.2	ES			13:08	48.99			0.09	BRDL	HN	3.2	IAML			13:08	49.10	36	0.11		BRDL	HE	3.2	IAML			13:08	49.20	31	0.10																							
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<p>March 17 2019 Time: 01:53 45.8 UTC Magnitude: -1.1 ML Lat: 51.163 Lon: -0.248 Depth: 2.1 km Grid Ref: 522.49 kmE 141.93 kmN RMS: 0.10 secs Locality: NEWDIGATE, SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>STAN</td><td>HZ</td><td>0.8</td><td>IP</td><td>D</td><td></td><td>01:53</td><td>46.51</td><td></td><td></td><td>-0.05</td></tr> <tr><td>STAN</td><td>HE</td><td>0.8</td><td>ES</td><td></td><td></td><td>01:53</td><td>47.16</td><td></td><td></td><td>0.02</td></tr> <tr><td>STAN</td><td>HN</td><td>0.8</td><td>IAML</td><td></td><td></td><td>01:53</td><td>47.27</td><td>33</td><td>0.10</td><td></td></tr> <tr><td>STAN</td><td>HE</td><td>0.8</td><td>IAML</td><td></td><td></td><td>01:53</td><td>47.29</td><td>14</td><td>0.09</td><td></td></tr> <tr><td>RUSH</td><td>HZ</td><td>2.2</td><td>IP</td><td>C</td><td></td><td>01:53</td><td>46.70</td><td></td><td></td><td>-0.08</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.2</td><td>ES</td><td></td><td></td><td>01:53</td><td>47.48</td><td></td><td></td><td>-0.03</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.2</td><td>IAML</td><td></td><td></td><td>01:53</td><td>47.64</td><td>27</td><td>0.23</td><td></td></tr> <tr><td>RUSH</td><td>HE</td><td>2.2</td><td>IAML</td><td></td><td></td><td>01:53</td><td>47.66</td><td>7</td><td>0.08</td><td></td></tr> <tr><td>GATW</td><td>HZ</td><td>2.8</td><td>IP</td><td></td><td></td><td>01:53</td><td>47.03</td><td></td><td></td><td>0.11</td></tr> <tr><td>GATW</td><td>HE</td><td>2.8</td><td>ES</td><td></td><td></td><td>01:53</td><td>47.85</td><td></td><td></td><td>0.09</td></tr> <tr><td>GATW</td><td>HE</td><td>2.8</td><td>IAML</td><td></td><td></td><td>01:53</td><td>47.91</td><td>4</td><td>0.07</td><td></td></tr> <tr><td>GATW</td><td>HN</td><td>2.8</td><td>IAML</td><td></td><td></td><td>01:53</td><td>47.94</td><td>5</td><td>0.07</td><td></td></tr> <tr><td>BRDL</td><td>HZ</td><td>3.0</td><td>EP</td><td></td><td></td><td>01:53</td><td>46.96</td><td></td><td></td><td>-0.02</td></tr> <tr><td>BRDL</td><td>HN</td><td>3.0</td><td>ES</td><td></td><td></td><td>01:53</td><td>48.00</td><td></td><td></td><td>0.14</td></tr> <tr><td>BRDL</td><td>HE</td><td>3.0</td><td>IAML</td><td></td><td></td><td>01:53</td><td>48.14</td><td>14</td><td>0.10</td><td></td></tr> <tr><td>BRDL</td><td>HN</td><td>3.0</td><td>IAML</td><td></td><td></td><td>01:53</td><td>48.15</td><td>10</td><td>0.13</td><td></td></tr> <tr><td>HORS</td><td>HZ</td><td>3.1</td><td>EP</td><td></td><td></td><td>01:53</td><td>46.81</td><td></td><td></td><td>-0.18</td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAN	HZ	0.8	IP	D		01:53	46.51			-0.05	STAN	HE	0.8	ES			01:53	47.16			0.02	STAN	HN	0.8	IAML			01:53	47.27	33	0.10		STAN	HE	0.8	IAML			01:53	47.29	14	0.09		RUSH	HZ	2.2	IP	C		01:53	46.70			-0.08	RUSH	HN	2.2	ES			01:53	47.48			-0.03	RUSH	HN	2.2	IAML			01:53	47.64	27	0.23		RUSH	HE	2.2	IAML			01:53	47.66	7	0.08		GATW	HZ	2.8	IP			01:53	47.03			0.11	GATW	HE	2.8	ES			01:53	47.85			0.09	GATW	HE	2.8	IAML			01:53	47.91	4	0.07		GATW	HN	2.8	IAML			01:53	47.94	5	0.07		BRDL	HZ	3.0	EP			01:53	46.96			-0.02	BRDL	HN	3.0	ES			01:53	48.00			0.14	BRDL	HE	3.0	IAML			01:53	48.14	14	0.10		BRDL	HN	3.0	IAML			01:53	48.15	10	0.13		HORS	HZ	3.1	EP			01:53	46.81			-0.18	<p>March 22 2019 Time: 12:51 25.5 UTC Magnitude: 0.8 ML Lat: 55.786 Lon: -6.368 Depth: 7.5 km Grid Ref: 126.20 kmE 663.38 kmN RMS: 0.40 secs Locality: ISLAY, ARGYLL & BUTE Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>CLGH</td><td>HZ</td><td>79.9</td><td>EP</td><td></td><td></td><td>12:51</td><td>39.12</td><td></td><td></td><td>0.38</td></tr> <tr><td>CLGH</td><td>HE</td><td>79.9</td><td>ES</td><td></td><td></td><td>12:51</td><td>48.11</td><td></td><td></td><td>-0.33</td></tr> <tr><td>CLGH</td><td>HE</td><td>79.9</td><td>IAML</td><td></td><td></td><td>12:51</td><td>50.17</td><td>8</td><td>0.16</td><td></td></tr> <tr><td>CLGH</td><td>HN</td><td>79.9</td><td>IAML</td><td></td><td></td><td>12:51</td><td>50.57</td><td>9</td><td>0.22</td><td></td></tr> <tr><td>LAW</td><td>E</td><td>80.2</td><td>EP</td><td></td><td></td><td>12:51</td><td>38.16</td><td></td><td></td><td>-0.60</td></tr> <tr><td>LAW</td><td>E</td><td>80.2</td><td>ES</td><td></td><td></td><td>12:51</td><td>48.41</td><td></td><td></td><td>-0.07</td></tr> <tr><td>LAW</td><td>H</td><td>80.2</td><td>IAML</td><td></td><td></td><td>12:51</td><td>50.66</td><td>3</td><td>0.26</td><td></td></tr> <tr><td>LAW</td><td>E</td><td>80.2</td><td>IAML</td><td></td><td></td><td>12:51</td><td>51.27</td><td>5</td><td>0.12</td><td></td></tr> <tr><td>PGB</td><td>H</td><td>118.0</td><td>ES</td><td></td><td></td><td>12:51</td><td>58.71</td><td></td><td></td><td>0.03</td></tr> <tr><td>INV</td><td>HZ</td><td>161.0</td><td>EP</td><td></td><td></td><td>12:51</td><td>51.42</td><td></td><td></td><td>0.52</td></tr> <tr><td>INV</td><td>HE</td><td>161.0</td><td>ES</td><td></td><td></td><td>12:52</td><td>09.54</td><td></td><td></td><td>0.07</td></tr> <tr><td>INV</td><td>HN</td><td>161.0</td><td>IAML</td><td></td><td></td><td>12:52</td><td>12.71</td><td>1</td><td>0.29</td><td></td></tr> <tr><td>INV</td><td>HE</td><td>161.0</td><td>IAML</td><td></td><td></td><td>12:52</td><td>12.87</td><td>1</td><td>0.17</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	CLGH	HZ	79.9	EP			12:51	39.12			0.38	CLGH	HE	79.9	ES			12:51	48.11			-0.33	CLGH	HE	79.9	IAML			12:51	50.17	8	0.16		CLGH	HN	79.9	IAML			12:51	50.57	9	0.22		LAW	E	80.2	EP			12:51	38.16			-0.60	LAW	E	80.2	ES			12:51	48.41			-0.07	LAW	H	80.2	IAML			12:51	50.66	3	0.26		LAW	E	80.2	IAML			12:51	51.27	5	0.12		PGB	H	118.0	ES			12:51	58.71			0.03	INV	HZ	161.0	EP			12:51	51.42			0.52	INV	HE	161.0	ES			12:52	09.54			0.07	INV	HN	161.0	IAML			12:52	12.71	1	0.29		INV	HE	161.0	IAML			12:52	12.87	1	0.17																																																																			
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<p>March 17 2019 Time: 11:46 43.8 UTC Magnitude: 1.0 ML Lat: 55.788 Lon: -6.435 Depth: 7.5 km Grid Ref: 122.02 kmE 663.87 kmN RMS: 0.50 secs Locality: ISLAY, ARGYLL & BUTE Velocity model: Lownet Xnear: 100.0 Xfar: 200.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>CLGH</td><td>HN</td><td>81.1</td><td>ES</td><td></td><td></td><td>11:47</td><td>07.18</td><td></td><td></td><td>0.10</td></tr> <tr><td>CLGH</td><td>HE</td><td>81.1</td><td>IAML</td><td></td><td></td><td>11:47</td><td>09.32</td><td>8</td><td>0.16</td><td></td></tr> <tr><td>CLGH</td><td>HN</td><td>81.1</td><td>IAML</td><td></td><td></td><td>11:47</td><td>09.71</td><td>8</td><td>0.10</td><td></td></tr> <tr><td>LAW</td><td>HZ</td><td>83.3</td><td>EP</td><td></td><td></td><td>11:46</td><td>57.21</td><td></td><td></td><td>-0.36</td></tr> <tr><td>LAW</td><td>HE</td><td>83.3</td><td>ES</td><td></td><td></td><td>11:47</td><td>07.86</td><td></td><td></td><td>0.23</td></tr> <tr><td>LAW</td><td>HN</td><td>83.3</td><td>IAML</td><td></td><td></td><td>11:47</td><td>10.24</td><td>4</td><td>0.15</td><td></td></tr> <tr><td>LAW</td><td>HE</td><td>83.3</td><td>IAML</td><td></td><td></td><td>11:47</td><td>10.39</td><td>8</td><td>0.13</td><td></td></tr> <tr><td>PGB</td><td>H</td><td>122.0</td><td>ES</td><td></td><td></td><td>11:47</td><td>17.77</td><td></td><td></td><td>-0.37</td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	CLGH	HN	81.1	ES			11:47	07.18			0.10	CLGH	HE	81.1	IAML			11:47	09.32	8	0.16		CLGH	HN	81.1	IAML			11:47	09.71	8	0.10		LAW	HZ	83.3	EP			11:46	57.21			-0.36	LAW	HE	83.3	ES			11:47	07.86			0.23	LAW	HN	83.3	IAML			11:47	10.24	4	0.15		LAW	HE	83.3	IAML			11:47	10.39	8	0.13		PGB	H	122.0	ES			11:47	17.77			-0.37	<p>March 22 2019 Time: 14:02 45.0 UTC Magnitude: -0.4 ML Lat: 51.164 Lon: -0.241 Depth: 2.2 km Grid Ref: 522.98 kmE 142.06 kmN RMS: 0.10 secs Locality: NEWDIGATE, SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>STAN</td><td>HZ</td><td>0.9</td><td>IP</td><td>D</td><td></td><td>14:02</td><td>45.79</td><td></td><td></td><td>0.00</td></tr> <tr><td>STAN</td><td>HN</td><td>0.9</td><td>ES</td><td></td><td></td><td>14:02</td><td>46.42</td><td></td><td></td><td>0.02</td></tr> <tr><td>STAN</td><td>HE</td><td>0.9</td><td>IAML</td><td></td><td></td><td>14:02</td><td>46.56</td><td>89</td><td>0.10</td><td></td></tr> <tr><td>STAN</td><td>HN</td><td>0.9</td><td>IAML</td><td></td><td></td><td>14:02</td><td>46.64</td><td>159</td><td>0.19</td><td></td></tr> <tr><td>GATW</td><td>HZ</td><td>2.6</td><td>IP</td><td>D</td><td></td><td>14:02</td><td>46.27</td><td></td><td></td><td>0.20</td></tr> <tr><td>GATW</td><td>HE</td><td>2.6</td><td>IAML</td><td></td><td></td><td>14:02</td><td>47.16</td><td>30</td><td>0.14</td><td></td></tr> <tr><td>GATW</td><td>HN</td><td>2.6</td><td>IAML</td><td></td><td></td><td>14:02</td><td>47.17</td><td>57</td><td>0.14</td><td></td></tr> <tr><td>RUSH</td><td>HZ</td><td>2.6</td><td>IP</td><td>C</td><td></td><td>14:02</td><td>45.98</td><td></td><td></td><td>-0.08</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.6</td><td>ES</td><td></td><td></td><td>14:02</td><td>46.79</td><td></td><td></td><td>-0.07</td></tr> <tr><td>RUSH</td><td>HN</td><td>2.6</td><td>IAML</td><td></td><td></td><td>14:02</td><td>46.90</td><td>108</td><td>0.10</td><td></td></tr> <tr><td>RUSH</td><td>HE</td><td>2.6</td><td>IAML</td><td></td><td></td><td>14:02</td><td>46.93</td><td>86</td><td>0.12</td><td></td></tr> <tr><td>HORS</td><td>HZ</td><td>2.6</td><td>EP</td><td></td><td></td><td>14:02</td><td>46.03</td><td></td><td></td><td>-0.05</td></tr> <tr><td>HORS</td><td>HE</td><td>2.6</td><td>ES</td><td></td><td></td><td>14:02</td><td>46.82</td><td></td><td></td><td>-0.08</td></tr> <tr><td>HORS</td><td>HN</td><td>2.6</td><td>IAML</td><td></td><td></td><td>14:02</td><td>46.99</td><td>32</td><td>0.09</td><td></td></tr> <tr><td>HORS</td><td>HE</td><td>2.6</td><td>IAML</td><td></td><td></td><td>14:02</td><td>47.09</td><td>36</td><td>0.12</td><td></td></tr> <tr><td>BRDL</td><td>HZ</td><td>3.2</td><td>IP</td><td>D</td><td></td><td>14:02</td><td>46.18</td><td></td><td></td><td>-0.02</td></tr> <tr><td>BRDL</td><td>HE</td><td>3.2</td><td>ES</td><td></td><td></td><td>14:02</td><td>47.19</td><td></td><td></td><td>0.09</td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAN	HZ	0.9	IP	D		14:02	45.79			0.00	STAN	HN	0.9	ES			14:02	46.42			0.02	STAN	HE	0.9	IAML			14:02	46.56	89	0.10		STAN	HN	0.9	IAML			14:02	46.64	159	0.19		GATW	HZ	2.6	IP	D		14:02	46.27			0.20	GATW	HE	2.6	IAML			14:02	47.16	30	0.14		GATW	HN	2.6	IAML			14:02	47.17	57	0.14		RUSH	HZ	2.6	IP	C		14:02	45.98			-0.08	RUSH	HN	2.6	ES			14:02	46.79			-0.07	RUSH	HN	2.6	IAML			14:02	46.90	108	0.10		RUSH	HE	2.6	IAML			14:02	46.93	86	0.12		HORS	HZ	2.6	EP			14:02	46.03			-0.05	HORS	HE	2.6	ES			14:02	46.82			-0.08	HORS	HN	2.6	IAML			14:02	46.99	32	0.09		HORS	HE	2.6	IAML			14:02	47.09	36	0.12		BRDL	HZ	3.2	IP	D		14:02	46.18			-0.02	BRDL	HE	3.2	ES			14:02	47.19			0.09																																																																																																																									
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BRDL	HZ	3.2	IP	D		14:02	46.18			-0.02																																																																																																																																																																																																																																																																																																																																																																																																																									
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TABLE 2 : PHASE DATA

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
IOMK	HN	77.2	ES			11:21	09.08			-0.23
IOMK	HE	77.2	IAML			11:21	10.72	25	0.30	
IOMK	HN	77.2	IAML			11:21	10.95	41	0.12	
AS07	HZ	94.1	IP	C		11:21	02.45			-0.11
AS07	HN	94.1	IAML			11:21	13.71	73	0.19	
AS07	HE	94.1	IAML			11:21	15.28	61	0.20	
AS10	HE	106.0	EP			11:21	04.93			0.56
AS10	HN	106.0	ES			11:21	17.58			0.52
AS10	HN	106.0	IAML			11:21	18.76	81	0.24	
AS10	HE	106.0	IAML			11:21	19.73	131	0.20	
NEWG	HZ	111.0	IP	D		11:21	05.40			0.31
NEWG	HN	111.0	ES			11:21	18.95			0.64
NEWG	HE	111.0	IAML			11:21	19.43	26	0.10	
NEWG	HN	111.0	IAML			11:21	19.44	23	0.15	
EDMD	HZ	112.0	EP			11:21	05.51			0.22
EDMD	HN	112.0	ES			11:21	18.35			-0.31
EDMD	HE	112.0	IAML			11:21	19.54	117	0.15	
EDMD	HN	112.0	IAML			11:21	19.87	129	0.19	
WME	EZ	113.0	EP			11:21	05.00			-0.41
ESK	HZ	119.0	EP			11:21	06.46			0.06
ESK	HE	119.0	ES			11:21	20.67			0.10
ESK	HE	119.0	IAML			11:21	21.48	48	0.15	
ESK	HN	119.0	IAML			11:21	22.02	31	0.10	
AS02	HZ	120.0	EP			11:21	07.00			0.42
AS02	HE	120.0	IAML			11:21	21.20	65	0.22	
AS02	HN	120.0	IAML			11:21	21.90	53	0.14	
HPK	HZ	120.0	EP			11:21	07.05			0.58
HPK	HN	120.0	IAML			11:21	22.04	107	0.36	
HPK	HE	120.0	IAML			11:21	22.23	68	0.18	
WPS	HZ	120.0	EP			11:21	05.96			-0.53
WPS	HE	120.0	IAML			11:21	22.18	32	0.27	
WPS	HN	120.0	IAML			11:21	22.75	41	0.16	
WLF1	HZ	126.0	EP			11:21	06.71			-0.75
WLF1	HE	126.0	IAML			11:21	23.58	87	0.32	
WLF1	HN	126.0	IAML			11:21	24.39	54	0.20	
AT10	HZ	144.0	EP			11:21	11.00			0.93
AT10	HN	144.0	IAML			11:21	29.63	49	0.28	
AT10	HE	144.0	IAML			11:21	30.39	38	0.26	
LBWR	HZ	144.0	EP			11:21	10.54			0.42
LBWR	HN	144.0	IAML			11:21	29.09	58	0.26	
LBWR	HE	144.0	IAML			11:21	28.40	70	0.26	
FOEL	HZ	152.0	EP			11:21	10.88			-0.35
INVG	HZ	246.0	EP			11:21	23.06			-0.13
<p>April 13 2019 Time: 18:40 45.2 UTC Magnitude: -0.8 ML Lat: 51.160 Lon: -0.243 Depth: 2.1 km Grid Ref: 522.85 kmE 141.61 kmN RMS: 0.00 secs Locality: NEWDIGATE,SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p>										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.2	EP			18:40	45.95			-0.06
STAN	HE	1.2	ES			18:40	46.67			0.03
STAN	HN	1.2	IAML			18:40	46.80	13	0.08	
STAN	HE	1.2	IAML			18:40	46.84	19	0.12	
RUSH	HZ	2.2	EP			18:40	46.15			-0.02
RUSH	HN	2.2	ES			18:40	46.91			0.00
RUSH	HE	2.2	IAML			18:40	46.97	24	0.09	
RUSH	HN	2.2	IAML			18:40	47.06	50	0.08	
GATW	HE	2.3	ES			18:40	47.01			0.04
HORS	HZ	3.0	EP			18:40	46.34			-0.01
HORS	HN	3.0	ES			18:40	47.20			-0.02
BRDL	HZ	3.5	EP			18:40	46.43			-0.02
BRDL	HN	3.5	ES			18:40	47.46			0.06
BRDL	HE	3.5	IAML			18:40	47.54	23	0.10	
BRDL	HN	3.5	IAML			18:40	47.60	27	0.12	
<p>April 15 2019 Time: 12:25 26.7 UTC Magnitude: -0.4 ML Lat: 51.158 Lon: -0.241 Depth: 2.3 km Grid Ref: 522.99 kmE 141.39 kmN RMS: 0.00 secs Locality: NEWDIGATE,SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p>										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.4	EP			12:25	27.68			0.04
STAN	HE	1.4	ES			12:25	28.28			-0.02
STAN	HN	1.4	IAML			12:25	28.39	75	0.08	
STAN	HE	1.4	IAML			12:25	28.42	41	0.08	
RUSH	HZ	2.3	IP	C		12:25	27.77			0.00
RUSH	HN	2.3	ES			12:25	28.52			0.00
RUSH	HE	2.3	IAML			12:25	28.59	32	0.10	
RUSH	HN	2.3	IAML			12:25	28.68	100	0.08	
HORS	HZ	2.9	EP			12:25	27.93			0.01
HORS	HN	2.9	ES			12:25	28.78			-0.01
HORS	HE	2.9	IAML			12:25	28.90	30	0.09	
HORS	HN	2.9	IAML			12:25	28.90	42	0.08	
BRDL	HZ	3.7	EP			12:25	28.01			-0.06
BRDL	HE	3.7	ES			12:25	29.08			0.03
BRDL	HN	3.7	IAML			12:25	29.15	61	0.12	
BRDL	HE	3.7	IAML			12:25	29.20	53	0.20	
<p>April 22 2019 Time: 17:16 55.5 UTC Magnitude: 0.4 ML Lat: 51.160 Lon: -0.240 Depth: 2.3 km Grid Ref: 523.06 kmE 141.61 kmN RMS: 0.00 secs Locality: NEWDIGATE,SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p>										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.2	IP	C		17:16	56.34			-0.01
STAN	HE	1.2	ES			17:16	57.01			0.01
<p>April 15 2019 Time: 23:54 50.9 UTC Magnitude: -0.3 ML Lat: 51.160 Lon: -0.237 Depth: 2.1 km Grid Ref: 523.27 kmE 141.62 kmN RMS: 0.00 secs Locality: NEWDIGATE,SURREY Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0</p>										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.2	IP	C		17:16	56.34			-0.01
STAN	HE	1.2	ES			17:16	57.01			0.01

TABLE 2 : PHASE DATA

<p>STAN HE 1.2 IAML 17:16 57.18 219 0.13 STAN HN 1.2 IAML 17:16 57.24 206 0.08 GATW HZ 2.2 IP D 17:16 56.51 0.01 GATW HE 2.2 ES 17:16 57.26 0.00 GATW HE 2.2 IAML 17:16 57.38 462 0.10 GATW HN 2.2 IAML 17:16 57.42 250 0.31 RUSH HZ 2.4 IP C 17:16 56.50 -0.02 RUSH HE 2.4 ES 17:16 57.30 0.01 RUSH HN 2.4 IAML 17:16 57.40 398 0.11 RUSH HE 2.4 IAML 17:16 57.41 424 0.10 HORS HZ 2.8 EP 17:16 56.60 -0.02 HORS HE 2.8 ES 17:16 57.49 0.02 HORS HN 2.8 IAML 17:16 57.57 251 0.11 HORS HE 2.8 IAML 17:16 57.58 264 0.12 BRDL HZ 3.6 EP 17:16 56.73 -0.04 BRDL HE 3.6 ES 17:16 57.77 0.04 BRDL HE 3.6 IAML 17:16 57.88 241 0.11 BRDL HN 3.6 IAML 17:16 57.89 226 0.12</p>	<p>Grid Ref: 440.31 kmE 433.61 kmN Locality: GARFORTH, WEST YORKSHIRE Velocity model: Lownet Xnear: 100.0 Xfar: 200.0</p>	<p>RMS: 0.20 secs</p>	
<p>April 22 2019 Time: 18:46 34.2 UTC Magnitude: 0.9 ML Lat: 56.616 Lon: -6.199 Depth: 3.4 km Grid Ref: 142.41 kmE 755.00 kmN Locality: MULL, ARGYLL & BUTE Velocity model: Lownet Xnear: 100.0 Xfar: 200.0</p>	<p>STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES LAWE HZ 63.3 EP 18:46 45.19 0.05 LAWE HE 63.3 ES 18:46 52.88 -0.26 LAWE HN 63.3 IAML 18:46 53.71 4 0.22 LAWE HE 63.3 IAML 18:46 54.16 4 0.18 KPL HZ 87.1 EP 18:46 48.82 0.00 KPL HE 87.1 ES 18:46 59.37 -0.13 KPL HN 87.1 IAML 18:47 02.47 5 0.36 KPL HE 87.1 IAML 18:47 02.51 8 0.26 INVG HZ 134.0 EP 18:46 56.47 0.33 INVG HN 134.0 ES 18:47 12.58 0.41 INVG HN 134.0 IAML 18:47 14.54 2 0.11 INVG HE 134.0 IAML 18:47 14.82 2 0.06 LEWI HZ 175.0 EP 18:47 02.25 0.35 LINV HE 181.0 IAML 18:47 25.56 2 0.30 LINV HN 181.0 IAML 18:47 26.02 1 0.24</p>	<p>AR05 HZ 46.7 EP 05:26 15.80 -0.09 AR05 HN 46.7 ES 05:26 21.51 -0.48 AR05 HE 46.7 IAML 05:26 22.72 13 0.10 AR05 HN 46.7 IAML 05:26 22.83 18 0.26 AS02 HZ 47.9 EP 05:26 16.07 -0.01 AS02 HE 47.9 ES 05:26 22.14 -0.18 AS02 HE 47.9 IAML 05:26 22.27 6 0.20 AS02 HN 47.9 IAML 05:26 22.54 6 0.10 LBWR HZ 49.4 EP 05:26 16.45 0.13 LBWR HE 49.4 ES 05:26 22.74 0.00 LBWR HE 49.4 IAML 05:26 22.97 32 0.14 LBWR HN 49.4 IAML 05:26 23.91 13 0.17 AU08 HZ 59.9 EP 05:26 17.96 0.04 AU08 HE 59.9 ES 05:26 25.77 0.26 AU08 HE 59.9 IAML 05:26 26.50 3 0.20 AU08 HN 59.9 IAML 05:26 27.39 4 0.25 AS07 HZ 62.3 EP 05:26 18.00 -0.33 AT10 HZ 65.2 EP 05:26 18.84 0.07 AT10 HN 65.2 IAML 05:26 27.23 10 0.18 AT10 HE 65.2 IAML 05:26 27.56 15 0.16 GDLE HE 78.9 ES 05:26 30.71 0.10 GDLE HN 78.9 IAML 05:26 32.70 16 0.26 GDLE HE 78.9 IAML 05:26 33.26 11 0.15 AR09 HZ 83.9 EP 05:26 21.83 0.14 AQ12 HZ 114.0 EP 05:26 26.60 0.24 AQ12 HE 114.0 IAML 05:26 40.88 3 0.18 AQ12 HN 114.0 IAML 05:26 41.56 3 0.07 EDMD HZ 121.0 EP 05:26 27.61 0.26 AP12 HN 136.0 ES 05:26 46.08 0.38 AP12 HN 136.0 IAML 05:26 46.75 3 0.34 AP12 HE 136.0 IAML 05:26 47.45 2 0.50 KESW HZ 143.0 EP 05:26 31.12 0.53</p>	
<p>April 25 2019 Time: 10:15 15.8 UTC Magnitude: 1.5 ML Lat: 51.080 Lon: -3.014 Depth: 6.0 km Grid Ref: 328.98 kmE 131.73 kmN Locality: NORTH NEWTON, SOMERSET Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0</p>	<p>STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES MONM HZ 85.7 EP 10:15 30.23 0.17 MONM HE 85.7 ES 10:15 40.48 0.01 MONM HE 85.7 IAML 10:15 40.67 24 0.28 MONM HN 85.7 IAML 10:15 40.81 16 0.20 DYA HZ 96.5 EP 10:15 31.86 0.10 DYA HN 96.5 IAML 10:15 45.28 9 0.18 DYA HE 96.5 IAML 10:15 45.94 11 0.16 STRD HZ 97.5 EP 10:15 31.52 -0.37 STRD HN 97.5 IAML 10:15 45.31 15 0.16 STRD HE 97.5 IAML 10:15 47.09 14 0.12 MCH1 HZ 102.0 EP 10:15 32.70 0.09 MCH1 HE 102.0 ES 10:15 44.90 0.02 MCH1 HN 102.0 IAML 10:15 45.12 42 0.30 MCH1 HE 102.0 IAML 10:15 45.55 23 0.10 HTL HZ 104.0 EP 10:15 33.03 0.22 HTL HE 104.0 ES 10:15 45.15 -0.08 HTL HE 104.0 IAML 10:15 47.25 15 0.41 HTL HN 104.0 IAML 10:15 48.45 15 0.36 RSBS HE 154.0 ES 10:15 58.10 -0.26 RSBS HN 154.0 IAML 10:16 00.01 6 0.17 RSBS HE 154.0 IAML 10:16 00.88 7 0.10 HLM1 HZ 160.0 EP 10:15 41.01 -0.25 HLM1 HE 160.0 ES 10:16 00.21 0.35 HLM1 HE 160.0 IAML 10:16 01.21 9 0.13 HLM1 HN 160.0 IAML 10:16 01.93 8 0.16</p>	<p>April 29 2019 Time: 20:18 24.6 UTC Magnitude: 1.8 ML Lat: 54.588 Lon: -7.968 Depth: 16.5 km Grid Ref: 14.60 kmE 537.82 kmN Locality: COUNTY DONEGAL, IRELAND Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0 Comment: FELT CO DONEGAL... Intensity: 3</p>	
<p>April 25 2019 Time: 22:17 48.5 UTC Magnitude: 0.6 ML Lat: 50.985 Lon: -4.149 Depth: 5.1 km Grid Ref: 249.18 kmE 122.88 kmN Locality: BIDEFORD, DEVON Velocity model: Lownet Xnear: 100.0 Xfar: 200.0</p>	<p>STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES HTL HZ 23.6 EP 22:17 53.16 0.15 HTL HE 23.6 ES 22:17 56.25 -0.05 HTL HE 23.6 IAML 22:17 56.39 9 0.11 HTL HN 23.6 IAML 22:17 56.91 10 0.21 DYA HZ 63.0 EP 22:17 59.23 -0.10 DYA HN 63.0 ES 22:18 07.33 0.09 DYA HN 63.0 IAML 22:18 07.85 4 0.09 DYA HE 63.0 IAML 22:18 09.54 4 0.07 CCA1 HZ 117.0 EP 22:18 07.45 -0.25 CCA1 HE 117.0 ES 22:18 21.81 0.09 MONM HZ 133.0 EP 22:18 10.16 0.02 MCH1 HZ 138.0 EP 22:18 10.84 0.01</p>	<p>IGLA BZ 159.0 IP D 20:18 48.94 0.21 IGLA BE 159.0 ES 20:19 06.12 -0.25 IGLA HN 159.0 IAML 20:19 08.99 14 0.12 IGLA HE 159.0 IAML 20:19 09.36 16 0.06 DSB BE 182.0 EP 20:18 52.10 0.48 DSB BN 182.0 ES 20:19 11.71 0.33 DSB HN 182.0 IAML 20:19 15.10 7 0.21 DSB HE 182.0 IAML 20:19 15.50 8 0.45 GAL1 HZ 212.0 EP 20:18 54.96 -0.40 GAL1 HN 212.0 IAML 20:19 24.25 8 0.28 GAL1 HE 212.0 IAML 20:19 29.89 4 0.22 IOMK HZ 224.0 EP 20:18 57.04 0.21 LAWE HZ 247.0 EP 20:18 59.56 -0.19 LAWE HN 247.0 IAML 20:19 39.02 5 0.22 LAWE HE 247.0 IAML 20:19 42.56 5 0.33 WLF1 HZ 275.0 EP 20:19 03.36 0.10 WLF1 HE 275.0 IAML 20:19 33.32 3 0.49 WLF1 HN 275.0 IAML 20:19 33.48 4 0.44 KESW HZ 314.0 EP 20:19 08.10 -0.07 INVG HZ 322.0 EP 20:19 08.72 -0.35</p>	
<p>April 29 2019 Time: 05:26 07.5 UTC Magnitude: 1.0 ML Lat: 53.797 Lon: -1.388 Depth: 4.3 km</p>	<p>April 30 2019 Time: 18:22 58.2 UTC Magnitude: -0.6 ML Lat: 51.160 Lon: -0.244 Depth: 2.0 km Grid Ref: 522.78 kmE 141.61 kmN RMS: 0.00 secs</p>	<p></p>	

TABLE 2 : PHASE DATA

Locality: NEWDIGATE,SURREY										HMNX	HZ	52.0	EP			00:19	29.59		0.34		
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										BRAD	CZ	103.0	EP			00:19	38.32		1.19		
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	SWN1	HZ	115.0	EP		00:19	40.45		1.22		
STAN	HZ	1.2	EP			18:22	59.00			0.00	ELMS	HZ	134.0	EP		00:19	43.53		1.54		
RUSH	HZ	2.2	IP		C	18:22	59.15			-0.01	STRD	HZ	150.0	EP		00:19	45.87		1.60		
RUSH	HN	2.2	ES			18:22	59.90			0.00	WACR	HZ	184.0	EP		00:19	50.75		1.92		
RUSH	HN	2.2	IAML			18:23	00.02	78	0.10		CFW	HZ	190.0	EP		00:19	50.76		1.09		
RUSH	HE	2.2	IAML			18:23	00.12	20	0.14		MCH1	HZ	213.0	EP		00:19	53.09		0.64		
GATW	HE	2.3	ES			18:23	00.00			0.01	HLM1	HZ	236.0	EP		00:19	56.05		0.52		
GATW	HN	2.3	IAML			18:23	00.11	18	0.07		May 4 2019 Time: 00:46 29.2 UTC Magnitude: -1.2 ML										
GATW	HE	2.3	IAML			18:23	00.13	42	0.12		Lat: 51.160 Lon: -0.241 Depth: 2.3 km										
HORS	HZ	3.0	EP			18:22	59.36			-0.01	Grid Ref: 522.99 kmE 141.61 kmN										
HORS	HE	3.0	ES			18:23	00.24			0.00	Locality: NEWDIGATE,SURREY										
HORS	HE	3.0	IAML			18:23	00.36	17	0.09		Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
HORS	HN	3.0	IAML			18:23	00.36	27	0.12		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BRDL	HZ	3.5	EP			18:22	59.43			-0.03	STAN	HZ	1.2	EP			00:46	30.00			-0.04
BRDL	HE	3.5	ES			18:23	00.45			0.04	STAN	HE	1.2	ES			00:46	30.69			0.01
BRDL	HN	3.5	IAML			18:23	00.55	39	0.11		STAN	HN	1.2	IAML			00:46	30.82	10	0.10	
BRDL	HE	3.5	IAML			18:23	00.55	35	0.10		STAN	HE	1.2	IAML			00:46	30.85	7	0.11	
May 2 2019 Time: 11:39 10.6 UTC Magnitude: 1.0 ML										GATW	HZ	2.2	EP			00:46	30.17			-0.02	
Lat: 57.026 Lon: -5.822 Depth: 6.8 km										GATW	HE	2.2	ES			00:46	30.99			0.03	
Grid Ref: 168.08 kmE 799.24 kmN										GATW	HE	2.2	IAML			00:46	31.09	8	0.09		
Locality: MALLAIG,HIGHLAND										GATW	HN	2.2	IAML			00:46	31.20	5	0.10		
Velocity model: Lownet Xnear: 100.0 Xfar: 300.0										RUSH	HZ	2.3	IP		C	00:46	30.18			-0.01	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	RUSH	HE	2.3	ES			00:46	30.97			0.01
KPL	HZ	36.4	EP			11:39	16.80			-0.29	RUSH	HN	2.3	IAML			00:46	31.04	16	0.10	
KPL	HE	36.4	ES			11:39	21.36			-0.50	RUSH	HE	2.3	IAML			00:46	31.11	7	0.11	
KPL	HE	36.4	IAML			11:39	21.63	18	0.18		BRDL	HZ	3.5	EP			00:46	30.45			-0.01
KPL	HN	36.4	IAML			11:39	21.77	10	0.20		BRDL	HE	3.5	ES			00:46	31.45			0.03
LAWE	HZ	89.1	EP			11:39	25.40			0.11	BRDL	HE	3.5	IAML			00:46	31.60	8	0.08	
LAWE	HE	89.1	ES			11:39	35.56			-0.48	BRDL	HN	3.5	IAML			00:46	31.61	8	0.11	
LAWE	HE	89.1	IAML			11:39	40.33	10	0.23		May 4 2019 Time: 02:03 07.9 UTC Magnitude: 0.2 ML										
LAWE	HN	89.1	IAML			11:39	40.99	8	0.15		Lat: 51.159 Lon: -0.245 Depth: 2.1 km										
INVG	HZ	128.0	EP			11:39	31.56			0.31	Grid Ref: 522.71 kmE 141.49 kmN										
INVG	HN	128.0	ES			11:39	46.65			0.29	Locality: NEWDIGATE,SURREY										
INVG	HN	128.0	IAML			11:39	47.79	1	0.15		Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
INVG	HE	128.0	IAML			11:39	48.29	1	0.10		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LINV	HZ	130.0	EP			11:39	32.42			0.82	STAN	HZ	1.2	IP		C	02:03	08.81			0.01
LINV	HE	130.0	IAML			11:39	48.53	6	0.20		STAN	HN	1.2	ES			02:03	09.43			0.00
LINV	HN	130.0	IAML			11:39	48.72	2	0.24		STAN	HN	1.2	IAML			02:03	09.59	238	0.06	
LEWI	HZ	139.0	EP			11:39	32.97			0.02	STAN	HE	1.2	IAML			02:03	09.60	364	0.15	
LEWI	HE	139.0	ES			11:39	49.49			0.20	RUSH	HZ	2.1	IP		C	02:03	08.94			0.00
LEWI	HN	139.0	IAML			11:39	50.20	3	0.21		RUSH	HE	2.1	ES			02:03	09.66			0.00
LEWI	HE	139.0	IAML			11:39	50.93	5	0.31		RUSH	HE	2.1	IAML			02:03	09.76	139	0.10	
May 3 2019 Time: 05:14 24.4 UTC Magnitude: -0.8 ML										RUSH	HN	2.1	IAML			02:03	09.79	437	0.12		
Lat: 51.159 Lon: -0.244 Depth: 2.0 km										GATW	HZ	2.3	IP		D	02:03	09.02			0.01	
Grid Ref: 522.78 kmE 141.50 kmN										GATW	HE	2.3	ES			02:03	09.77			-0.01	
Locality: NEWDIGATE,SURREY										GATW	HN	2.3	IAML			02:03	09.93	132	0.06		
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										GATW	HE	2.3	IAML			02:03	09.94	318	0.13		
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	HORS	HZ	3.1	IP		C	02:03	09.17			0.00
STAN	HZ	1.2	EP			05:14	25.23			-0.02	HORS	HN	3.1	ES			02:03	10.06			0.00
STAN	HE	1.2	ES			05:14	25.88			0.01	HORS	HE	3.1	IAML			02:03	10.15	133	0.10	
STAN	HN	1.2	IAML			05:14	26.06	18	0.05		HORS	HN	3.1	IAML			02:03	10.15	227	0.10	
STAN	HE	1.2	IAML			05:14	26.07	21	0.12		BRDL	HZ	3.5	IP		D	02:03	09.21			-0.04
RUSH	HZ	2.1	EP			05:14	25.39			-0.02	BRDL	HE	3.5	ES			02:03	10.21			0.02
RUSH	HE	2.1	ES			05:14	26.15			0.01	BRDL	HE	3.5	IAML			02:03	10.35	286	0.10	
RUSH	HE	2.1	IAML			05:14	26.27	20	0.10		BRDL	HN	3.5	IAML			02:03	10.36	259	0.10	
RUSH	HN	2.1	IAML			05:14	26.29	45	0.09		May 4 2019 Time: 17:59 21.1 UTC Magnitude: -0.6 ML										
GATW	HE	2.3	ES			05:14	26.23			0.01	Lat: 51.159 Lon: -0.241 Depth: 2.5 km										
GATW	HE	2.3	IAML			05:14	26.29	29	0.10		Grid Ref: 522.99 kmE 141.50 kmN										
GATW	HN	2.3	IAML			05:14	26.41	10	0.08		Locality: NEWDIGATE,SURREY										
BRDL	HE	3.5	ES			05:14	26.68			0.01	Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
BRDL	HE	3.5	IAML			05:14	26.79	22	0.10		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BRDL	HN	3.5	IAML			05:14	26.79	24	0.10		STAN	HZ	1.2	EP			17:59	22.03			-0.04
May 4 2019 Time: 00:19 19.5 UTC Magnitude: 2.5 ML										STAN	HZ	1.2	EP			17:59	22.65			0.00	
Lat: 51.160 Lon: -0.242 Depth: 2.4 km										GATW	HZ	2.2	EP			17:59	22.20			0.00	
Grid Ref: 522.92 kmE 141.61 kmN										GATW	HE	2.2	ES			17:59	23.00			0.03	
Locality: NEWDIGATE,SURREY										RUSH	HZ	2.3	EP			17:59	22.19			-0.01	
Velocity model: Surrey Xnear: 10.0 Xfar: 50.0										RUSH	HN	2.3	ES			17:59	22.98			0.01	
Comment: FELT SURREY... Intensity: 4										RUSH	HN	2.3	IAML			17:59	23.07	37	0.10		
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	RUSH	HE	2.3	IAML			17:59	23.13	19	0.10	
STAN	HZ	1.2	IP		C	00:19	20.33			-0.03	BRDL	HZ	3.6	EP			17:59	22.42			-0.04
STAN	HE	1.2	ES			00:19	21.02			0.01	BRDL	HE	3.6	ES			17:59	23.47			0.06
STAN	HE	1.2	IAML			00:19	21.13	52073	0.14		BRDL	HN	3.6	IAML			17:59	23.63	18	0.09	
STAN	HN	1.2	IAML			00:19	21.15	44984	0.15		BRDL	HE	3.6	IAML			17:59	23.63	22	0.10	
RUSH	HZ	2.3	IP		C	00:19	20.49			-0.01	May 4 2019 Time: 20:21 22.1 UTC Magnitude: -0.7 ML										
RUSH	HN	2.3	ES			00:19	21.26			0.00	Lat: 51.157 Lon: -0.247 Depth: 2.2 km										
RUSH	HN	2.3	IAML			00:19	21.36	85581	0.11		Grid Ref: 522.58 kmE 141.27 kmN										
RUSH	HE	2.3	IAML			00:19	21.37	31713	0.11		Locality: NEWDIGATE,SURREY										
GATW	HZ	2.3	IP		D	00:19	20.54			0.02	Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
GATW	HE	2.3	ES			00:19	21.31			0.01	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
GATW	HE	2.3	IAML			00:19	21.47	53286	0.13		STAN	HZ	1.4	IP		C	20:21	22.98			

TABLE 2 : PHASE DATA

										May 10 2019	Time: 12:10 36.5 UTC	Magnitude: -0.4 ML									
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	Lat: 51.158	Lon: -0.244	Depth: 2.3 km								
STAN	HZ	1.2	IP			04:05	36.33			-0.01	Grid Ref: 522.78 kmE 141.38 kmN		RMS: 0.00 secs								
STAN	HN	1.2	ES			04:05	36.98			0.01	Locality: NEWDIGATE,SURREY										
STAN	HN	1.2	IAML			04:05	37.14	95	0.17		Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
STAN	HE	1.2	IAML			04:05	37.17	49	0.10												
GATW	HZ	2.2	IP	D		04:05	36.52			0.03	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
GATW	HE	2.2	ES			04:05	37.24			0.00	STAN	HZ	1.4	IP		C	12:10	37.40			-0.02
GATW	HE	2.2	IAML			04:05	37.42	62	0.13		STAN	HE	1.4	ES			12:10	38.09			0.01
GATW	HN	2.2	IAML			04:05	37.48	31	0.10		STAN	HE	1.4	IAML			12:10	38.23	58	0.15	
RUSH	HZ	2.4	IP		C	04:05	36.50			-0.01	STAN	HN	1.4	IAML			12:10	38.32	42	0.14	
RUSH	HN	2.4	ES			04:05	37.26			-0.01	RUSH	HZ	2.1	IP		C	12:10	37.51			0.00
RUSH	HN	2.4	IAML			04:05	37.37	116	0.10		RUSH	HE	2.1	ES			12:10	38.24			0.00
RUSH	HE	2.4	IAML			04:05	37.40	62	0.10		RUSH	HN	2.1	IAML			12:10	38.38	92	0.12	
HORS	HZ	2.8	IP		C	04:05	36.63			0.00	RUSH	HE	2.1	IAML			12:10	38.40	46	0.07	
HORS	HE	2.8	ES			04:05	37.46			-0.01	GATW	HZ	2.2	EP			12:10	37.53			-0.02
HORS	HN	2.8	IAML			04:05	37.59	40	0.10		GATW	HE	2.2	ES			12:10	38.32			0.01
HORS	HE	2.8	IAML			04:05	37.60	23	0.10		GATW	HN	2.2	IAML			12:10	38.51	49	0.07	
BRDL	HZ	3.6	IP	D		04:05	36.73			-0.05	GATW	HE	2.2	IAML			12:10	38.52	45	0.16	
BRDL	HE	3.6	ES			04:05	37.77			0.04	BRDL	HE	3.6	ES			12:10	38.80			0.01
BRDL	HE	3.6	IAML			04:05	37.88	59	0.10		BRDL	HE	3.6	IAML			12:10	38.93	47	0.11	
BRDL	HN	3.6	IAML			04:05	37.89	56	0.10		BRDL	HN	3.6	IAML			12:10	38.93	45	0.12	
										May 7 2019	Time: 04:21 13.6 UTC	Magnitude: -0.9 ML									
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	Lat: 51.161	Lon: -0.237	Depth: 2.0 km								
STAN	HZ	1.3	IP	D		04:21	14.51			0.02	Grid Ref: 523.26 kmE 141.73 kmN		RMS: 0.00 secs								
STAN	HE	1.3	ES			04:21	15.11			-0.01	Locality: NEWDIGATE,SURREY										
STAN	HN	1.3	IAML			04:21	15.37	38	0.17		Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
STAN	HE	1.3	IAML			04:21	15.39	24	0.19		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
GATW	HZ	2.1	IP	D		04:21	14.64			0.00	STAN	HZ	1.0	IP		C	12:49	43.35			-0.01
GATW	HE	2.1	ES			04:21	15.38			0.01	HORS	HN	1.0	ES			12:49	43.98			0.01
GATW	HN	2.1	IAML			04:21	15.51	9	0.07		HORS	HE	1.0	IAML			12:49	44.08	69	0.10	
GATW	HE	2.1	IAML			04:21	15.53	16	0.21		HORS	HN	1.0	IAML			12:49	44.09	71	0.06	
RUSH	HZ	2.6	IP		C	04:21	14.70			-0.02	GATW	HZ	2.5	EP			12:49	43.63			-0.01
RUSH	HN	2.6	ES			04:21	15.53			0.01	GATW	HN	2.5	ES			12:49	44.46			0.02
RUSH	HN	2.6	IAML			04:21	15.63	32	0.10		GATW	HE	2.5	IAML			12:49	44.51	169	0.10	
RUSH	HE	2.6	IAML			04:21	15.64	27	0.12		GATW	HN	2.5	IAML			12:49	44.54	105	0.08	
BRDL	HZ	3.6	EP			04:21	14.93			-0.03	STAN	HZ	2.6	EP			12:49	43.61			-0.04
BRDL	HE	3.6	ES			04:21	15.95			0.02	STAN	HE	2.6	ES			12:49	44.47			0.00
BRDL	HN	3.6	IAML			04:21	16.08	13	0.12		STAN	HE	2.6	IAML			12:49	44.63	104	0.13	
BRDL	HE	3.6	IAML			04:21	16.08	14	0.11		STAN	HN	2.6	IAML			12:49	44.67	167	0.27	
										May 9 2019	Time: 09:46 43.0 UTC	Magnitude: 0.5 ML									
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	Lat: 51.159	Lon: -0.244	Depth: 2.1 km								
STAN	HZ	1.2	IP	C		09:46	43.81			-0.01	Grid Ref: 522.78 kmE 141.50 kmN		RMS: 0.00 secs								
STAN	HN	1.2	ES			09:46	44.46			0.01	Locality: NEWDIGATE,SURREY										
STAN	HE	1.2	IAML			09:46	44.60	504	0.16		Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
STAN	HN	1.2	IAML			09:46	44.60	386	0.07		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
RUSH	HZ	2.1	IP	C		09:46	43.96			0.00	STAN	HZ	1.2	IP	D		05:05	01.75			-0.01
RUSH	HE	2.1	ES			09:46	44.67			-0.02	STAN	HN	1.2	ES			05:05	02.41			0.00
RUSH	HN	2.1	IAML			09:46	44.79	622	0.10		STAN	HN	1.2	IAML			05:05	02.56	227	0.17	
RUSH	HE	2.1	IAML			09:46	44.82	590	0.10		STAN	HE	1.2	IAML			05:05	02.59	135	0.29	
GATW	HZ	2.3	EP			09:46	44.03			0.01	GATW	HZ	2.2	IP	D		05:05	01.94			0.02
GATW	HE	2.3	ES			09:46	44.81			0.02	GATW	HE	2.2	ES			05:05	02.70			0.02
GATW	HN	2.3	IAML			09:46	44.95	257	0.06		GATW	HN	2.2	IAML			05:05	02.82	73	0.16	
GATW	HE	2.3	IAML			09:46	44.97	516	0.14		GATW	HE	2.2	IAML			05:05	02.84	122	0.13	
HORS	HZ	3.1	IP	C		09:46	44.18			0.01	RUSH	HZ	2.4	IP		C	05:05	01.93			-0.01
HORS	HE	3.1	ES			09:46	45.02			-0.03	RUSH	HE	2.4	ES			05:05	02.69			-0.02
HORS	HN	3.1	IAML			09:46	45.16	388	0.10		RUSH	HN	2.4	IAML			05:05	02.80	263	0.10	
HORS	HE	3.1	IAML			09:46	45.22	224	0.09		RUSH	HE	2.4	IAML			05:05	02.84	102	0.10	
BRDL	HZ	3.5	IP	D		09:46	44.23			-0.03	HORS	HZ	2.8	EP			05:05	02.05			0.02
BRDL	HE	3.5	ES			09:46	45.25			0.04	HORS	HE	2.8	ES			05:05	02.84			-0.04
BRDL	HE	3.5	IAML			09:46	45.36	572	0.10		HORS	HN	2.8	IAML			05:05	03.00	92	0.10	
BRDL	HN	3.5	IAML			09:46	45.38	527	0.10		HORS	HE	2.8	IAML			05:05	03.01	46	0.10	
										May 11 2019	Time: 05:05 00.9 UTC	Magnitude: 0.0 ML									
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	Lat: 51.160	Lon: -0.240	Depth: 2.3 km								
YLL	EZ	5.9	EP			12:41	53.68			0.03	Grid Ref: 523.06 kmE 141.61 kmN		RMS: 0.00 secs								
YLL	EZ	5.9	ES			12:41	55.74			-0.03	Locality: NEWDIGATE,SURREY										
WLF1	HZ	25.7	EP			12:41	55.65			-0.03	Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
WLF1	HN	25.7	ES			12:41	59.21			0.04	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WLF1	HN	25.7	IAML			12:41	59.30	14	0.08		STAN	HZ	1.2	IP	D		05:05	38.37			0.02
WLF1	HE	25.7	IAML			12:41	59.99	5	0.11		STAN	HE	1.2	ES			05:05	38.95			-0.01
WPS	HZ	38.9	EP			12:41	57.56			0.01	STAN	HN	1.2	IAML			05:05	39.18	876	0.17	
WPS	HE	38.9	ES			12:42	02.30			-0.01	STAN	HE	1.2	IAML			05:05	39.21	513	0.29	
WPS	HE	38.9	IAML			12:42	02.66	2	0.08		GATW	HZ	2.3	IP	D		05:05	38.56			0.01
WPS	HN	38.9	IAML			12:42	03.15	3	0.17		GATW	HE	2.3	ES			05:05	39.32			0.01
LLW	BZ	44.1	EP			12:41	58.29			-0.04	GATW	HN	2.3	IAML			05:05	39.44	304	0.15	
LLW	BE	44.1	ES			12:42	03.65			0.03	GATW	HE	2.3	IAML			05:05	39.46	421	0.12	
LLW	BN	44.1	IAML			12:42	04.36	3	0.25		RUSH	HZ	2.4	IP		C	05:05	38.54			-0.01
LLW	BE	44.1	IAML			12:42	05.01	3	0.25		RUSH	HN	2.4	ES			05:05	39.31			-0.01
										May 11 2019	Time: 05:05 37.5 UTC	Magnitude: 0.5 ML									
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	Lat: 51.161	Lon: -0.241	Depth: 2.0 km								
YLL	EZ	5.9	EP			12:41	53.68			0.03	Grid Ref: 522.98 kmE 141.72 kmN		RMS: 0.00 secs								
YLL	EZ	5.9	ES			12:41	55.74			-0.03	Locality: NEWDIGATE,SURREY										
WLF1	HZ	25.7	EP			12:41	55.65			-0.03	Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
WLF1	HN	25.7	ES			12:41	59.21			0.04	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WLF1	HN	25.7	IAML			12:41	59.30	14	0.08		STAN	HZ	1.2	IP	D		05:05	38.37			0.02
WLF1	HE	25.7	IAML			12:41	59.99	5	0.11		STAN	HE	1.2	ES			05:05	38.95			-0.01
WPS	HZ	38.9	EP			12:41															

TABLE 2 : PHASE DATA

Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
 Comment: 20KM WEST COLONSAY

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LAWE	HZ	73.5	EP			08:57	02.51			0.01
LAWE	HE	73.5	ES			08:57	11.57			0.01
LAWE	HN	73.5	IAML			08:57	13.42	3	0.12	
LAWE	HE	73.5	IAML			08:57	14.86	4	0.22	
CLGH	HE	118.0	ES			08:57	23.68			0.01
CLGH	HN	118.0	IAML			08:57	25.18	5	0.16	
CLGH	HE	118.0	IAML			08:57	25.60	6	0.16	
KPL	HZ	147.0	EP			08:57	13.66			0.04
KPL	HE	147.0	IAML			08:57	32.78	4	0.34	
KPL	HN	147.0	IAML			08:57	33.52	3	0.27	
INVG	HZ	159.0	EP			08:57	15.33			-0.12
INVG	HE	159.0	IAML			08:57	36.77	1	0.24	
INVG	HN	159.0	IAML			08:57	37.03	2	0.18	
GALL	HZ	181.0	EP			08:57	18.12			-0.26
GALL	HE	181.0	IAML			08:57	42.44	3	0.14	
GALL	HN	181.0	IAML			08:57	43.74	3	0.46	
NEWG	HZ	184.0	EP			08:57	18.55			-0.13
NEWG	HN	184.0	IAML			08:57	42.28	2	0.17	
NEWG	HE	184.0	IAML			08:57	42.99	2	0.22	

June 3 2019 Time: 22:26 02.7 UTC Magnitude: -1.2 ML
 Lat: 51.156 Lon: -0.238 Depth: 2.3 km
 Grid Ref: 523.21 kmE 141.17 kmN RMS: 0.00 secs
 Locality: NEWDIGATE, SURREY

Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.8	IP		C	22:26	03.68			0.01
STAN	HE	1.8	ES			22:26	04.37			-0.01
STAN	HE	1.8	IAML			22:26	04.46	9	0.13	
STAN	HN	1.8	IAML			22:26	04.52	6	0.08	
RUSH	HZ	2.3	IP		C	22:26	03.78			0.03
RUSH	HN	2.3	ES			22:26	04.49			-0.02
RUSH	HN	2.3	IAML			22:26	04.64	11	0.08	
RUSH	HE	2.3	IAML			22:26	04.75	11	0.29	
BRDL	HZ	4.1	EP			22:26	04.06			-0.05
BRDL	HE	4.1	ES			22:26	05.16			0.03

June 4 2019 Time: 23:39 40.6 UTC Magnitude: 1.2 ML
 Lat: 53.533 Lon: -1.221 Depth: 12.2 km
 Grid Ref: 451.63 kmE 404.35 kmN RMS: 0.30 secs
 Locality: DONCASTER, S YORKSHIRE

Velocity model: Lownet Xnear: 75.0 Xfar: 150.0
 Comment: 5KM WNW DONCASTER

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LBWR	HZ	36.5	EP			23:39	47.27			0.05
LBWR	HN	36.5	ES			23:39	52.52			0.45
LBWR	HN	36.5	IAML			23:39	52.81	21	0.09	
LBWR	HE	36.5	IAML			23:39	53.27	26	0.10	
AU05	HN	43.0	ES			23:39	53.80			0.13
AS02	HZ	50.7	EP			23:39	49.28			-0.11
AS02	HE	50.7	ES			23:39	55.62			-0.19
AS02	HE	50.7	IAML			23:39	55.93	7	0.12	
AS02	HN	50.7	IAML			23:39	56.08	10	0.16	
HPK	HZ	54.2	EP			23:39	49.88			-0.04
HPK	HE	54.2	ES			23:39	56.68			-0.05
HPK	HE	54.2	IAML			23:39	57.83	21	0.22	
HPK	HN	54.2	IAML			23:39	59.35	23	0.10	
AU07	HZ	66.7	EP			23:39	51.98			0.17
AU07	HE	66.7	ES			23:40	00.05			0.04
AU07	HE	66.7	IAML			23:40	01.25	28	0.28	
AU07	HN	66.7	IAML			23:40	02.89	25	0.42	
AR05	HZ	73.2	EP			23:39	52.84			-0.01
AR05	HE	73.2	ES			23:40	01.56			-0.24
AR05	HE	73.2	IAML			23:40	02.76	10	0.36	
AR05	HN	73.2	IAML			23:40	03.49	20	0.22	
AU08	HZ	75.4	EP			23:39	53.32			0.15
AU08	HN	75.4	IAML			23:40	03.05	6	0.17	
AU08	HE	75.4	IAML			23:40	04.18	7	0.14	
AR01	HN	76.7	ES			23:40	02.45			-0.29
AR01	HE	76.7	IAML			23:40	03.72	7	0.19	
AR01	HN	76.7	IAML			23:40	04.69	7	0.22	
STNC	HZ	82.0	EP			23:39	54.38			0.17
STNC	HE	82.0	ES			23:40	05.01			0.85
STNC	HN	82.0	IAML			23:40	05.17	10	0.15	
STNC	HE	82.0	IAML			23:40	05.88	9	0.16	
CWF	HZ	88.6	EP			23:39	54.80			-0.43
CWF	HN	88.6	ES			23:40	05.20			-0.72
CWF	HN	88.6	IAML			23:40	05.70	4	0.12	
CWF	HE	88.6	IAML			23:40	06.21	7	0.22	
AS07	HZ	93.0	EP			23:39	55.83			-0.11
AS07	HE	93.0	ES			23:40	06.88			-0.27
AS07	HE	93.0	IAML			23:40	07.73	10	0.22	
AS07	HN	93.0	IAML			23:40	07.77	15	0.22	
GDLE	HZ	102.0	EP			23:39	57.03			-0.29
GDLE	HE	102.0	ES			23:40	10.05			0.51
GDLE	HE	102.0	IAML			23:40	10.55	12	0.44	
GDLE	HN	102.0	IAML			23:40	10.89	17	0.26	

June 5 2019 Time: 08:00 33.9 UTC Magnitude: 0.8 ML
 Lat: 55.794 Lon: -3.158 Depth: 5.1 km
 Grid Ref: 327.40 kmE 656.24 kmN RMS: 0.20 secs

Locality: PENICUIK, MIDLOTHIAN
 Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
 Comment: 5KM SE PENICUIK

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
EDI	HZ	14.6	IP		C	08:00	36.88			0.01
EDI	HN	14.6	ES			08:00	38.99			-0.07
EDI	HE	14.6	IAML			08:00	39.12	62	0.14	
EDI	HN	14.6	IAML			08:00	39.17	34	0.14	
ESK	HZ	53.2	EP			08:00	43.30			0.13
ESK	HE	53.2	ES			08:00	49.65			-0.32
ESK	HE	53.2	IAML			08:00	49.76	4	0.22	
ESK	HN	53.2	IAML			08:00	50.10	2	0.12	
INVG	HZ	89.5	EP			08:00	48.81			0.00
NEWG	HE	101.0	ES			08:01	03.10			0.26
NEWG	HE	101.0	IAML			08:01	05.06	4	0.22	
NEWG	HN	101.0	IAML			08:01	05.67	6	0.15	
DRUM	HN	131.0	ES			08:01	11.06			0.22
DRUM	HE	131.0	IAML			08:01	11.71	3	0.14	
DRUM	HN	131.0	IAML			08:01	11.74	3	0.13	
GALL	HZ	143.0	EP			08:00	57.02			0.17
GALL	HN	143.0	IAML			08:01	15.49	2	0.27	
GALL	HE	143.0	IAML			08:01	15.56	2	0.18	
LAWE	HE	149.0	ES			08:01	14.55			-0.64
LAWE	HE	149.0	IAML			08:01	14.84	1	0.19	
LAWE	HN	149.0	IAML			08:01	16.51	2	0.18	

June 8 2019 Time: 06:11 53.8 UTC Magnitude: 1.6 ML
 Lat: 56.084 Lon: -3.942 Depth: 7.5 km
 Grid Ref: 279.16 kmE 689.60 kmN RMS: 0.30 secs
 Locality: BANNOCKBURN, STIRLING

Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
INVG	HZ	38.8	EP			06:12	01.00			0.26
INVG	HN	38.8	ES			06:12	05.38			-0.41
INVG	HN	38.8	IAML			06:12	06.37	29	0.11	
INVG	HE	38.8	IAML			06:12	06.38	42	0.11	
PGB1	HZ	45.4	IP		C	06:12	01.78			0.03
PGB1	HN	45.4	ES			06:12	07.23			-0.31
PGB1	HN	45.4	IAML			06:12	07.51	126	0.17	
PGB1	HE	45.4	IAML			06:12	10.30	102	0.30	
EDI	HZ	50.3	EP			06:12	02.44			-0.07
EDI	HE	50.3	ES			06:12	08.59			-0.25
EDI	HE	50.3	IAML			06:12	09.60	26	0.23	
EDI	HN	50.3	IAML			06:12	11.00	28	0.19	
LAWE	HZ	92.6	IP		D	06:12	09.47			0.41
LAWE	HN	92.6	ES			06:12	19.99			-0.18
LAWE	HN	92.6	IAML			06:12	21.20	46	0.18	
LAWE	HE	92.6	IAML			06:12	23.13	48	0.15	
ESK	HZ	97.2	EP			06:12	09.85			0.06
NEWG	HZ	109.0	EP			06:12	11.66			0.04
DRUM	HZ	129.0	EP			06:12	14.95			0.35
GALL	HZ	144.0	EP			06:12	17.46			0.69
KPL	HZ	175.0	EP			06:12	21.89			0.90
CLGH	HZ	176.0	EP			06:12	20.84			-0.41
CLGH	HN	176.0	IAML			06:12	43.33	10	0.24	
CLGH	HE	176.0	IAML			06:12	45.29	12	0.16	
LINV	HZ	242.0	EP			06:12	29.94			0.52

June 8 2019 Time: 20:41 49.8 UTC Magnitude: 0.4 ML
 Lat: 56.079 Lon: -3.954 Depth: 8.1 km
 Grid Ref: 278.40 kmE 689.07 kmN RMS: 0.20 secs
 Locality: BANNOCKBURN, STIRLING

Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
INVG	HZ	39.2	EP			20:41	56.89			0.07
INVG	HE	39.2	ES			20:42	01.91			0.00
INVG	HE	39.2	IAML			20:42	02.08	3	0.20	
INVG	HN	39.2	IAML			20:42	02.71	1	0.30	
PGB1	HZ	44.5	EP			20:41	57.62			-0.01
PGB1	HN	44.5	ES			20:42	03.10			-0.22
PGB1	HN	44.5	IAML			20:42	03.26	7	0.16	
PGB1	HE	44.5	IAML			20:42	03.71	3	0.12	
LAWE	HZ	92.0	EP			20:42	05.15			0.17
LAWE	HE	92.0	ES			20:42	15.88			-0.15
LAWE	HN	92.0	IAML			20:42	17.05	2	0.22	
LAWE	HE	92.0	IAML			20:42	18.91	3	0.14	
ESK	HZ	97.1	EP			20:42	05.84			0.05
ESK	HE	97.1	ES			20:42	17.12			-0.30
ESK	HN	97.1	IAML			20:42	19.14	1		

TABLE 2 : PHASE DATA

LLW	BN	70.1	ES	23:33	26.07			0.00		LRW	HZ	179.0	EP	23:23	00.12				0.20
WME	EZ	70.7	EP	23:33	17.81			0.23		LRW	HE	179.0	IAML	23:23	21.84	99	0.30		
WLF1	HZ	78.4	EP	23:33	18.82			0.06		LRW	HN	179.0	IAML	23:23	22.03	123	0.32		
WLF1	HN	78.4	ES	23:33	27.93			-0.33		BER	HZ	249.0	EP	23:23	08.38				-0.23
WLF1	HN	78.4	IAML	23:33	30.89	2	0.08			BER	HN	249.0	ES	23:23	33.54				0.00
WLF1	HE	78.4	IAML	23:33	31.11	2	0.22			BER	HE	249.0	IAML	23:23	33.75	18	0.18		
WPS	HZ	83.7	EP	23:33	19.85			0.28		BER	HN	249.0	IAML	23:23	33.91	34	0.18		
WPS	HE	83.7	ES	23:33	29.43			-0.23		BIGH	HZ	323.0	EP	23:23	17.82				-0.04
WPS	HE	83.7	IAML	23:33	31.83	2	0.02			BIGH	HE	323.0	IAML	23:24	05.37	19	0.30		
WPS	HN	83.7	IAML	23:33	32.01	2	0.08			BIGH	HN	323.0	IAML	23:24	07.58	17	0.18		
LBWR	HZ	101.0	EP	23:33	22.40			0.11		FOO	HZ	325.0	EP	23:23	18.23				0.17
HLMI	HE	104.0	ES	23:33	34.99			-0.20		FOO	HE	325.0	IAML	23:23	51.07	8	0.30		
HLMI	HE	104.0	IAML	23:33	37.41	1	0.22			FOO	HN	325.0	IAML	23:23	51.21	9	0.20		
HLMI	HN	104.0	IAML	23:33	37.74	1	0.12			MCD	HE	335.0	EP	23:23	20.23				0.91
MCH1	HN	160.0	ES	23:33	50.10			0.74		MCD	HE	335.0	IAML	23:24	10.37	20	0.59		
MCH1	HE	160.0	IAML	23:33	50.84	2	0.52			MCD	HN	335.0	IAML	23:24	11.35	21	0.34		
MCH1	HN	160.0	IAML	23:33	51.25	3	0.24			DRUM	HZ	352.0	EP	23:23	21.72				0.29
										DRUM	HN	352.0	IAML	23:24	14.44	24	0.26		
										DRUM	HE	352.0	IAML	23:24	18.42	27	0.34		

June 22 2019 Time: 14:51 56.7 UTC Magnitude: 1.8 ML
 Lat: 55.506 Lon: -1.278 Depth: 10.0 km
 Grid Ref: 445.60 kmE 623.82 kmN RMS: 0.40 secs
 Locality: CENTRAL NORTH SEA
 Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0
 Comment: 25KM NE AMBLE

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES										
EDMD	HZ	86.9	EP			14:52	10.94			-0.05		KPL	HZ	470.0	EP	23:23	36.14			-0.01
EDMD	HE	86.9	ES			14:52	21.46			0.02		KPL	HN	470.0	IAML	23:24	23.29	5	0.20	
EDMD	HE	86.9	IAML			14:52	22.48	54	0.10			KPL	HE	470.0	IAML	23:24	26.63	8	0.24	
EDMD	HN	86.9	IAML			14:52	22.76	18	0.13			ESK	HZ	523.0	EP	23:23	42.60			-0.10
TORA	EE	87.6	ES	9		14:52	23.16			1.51		ESK	HN	523.0	IAML	23:24	37.29	6	0.26	
TORB	EN	87.7	ES	9		14:52	23.13			1.45		ESK	HE	523.0	IAML	23:24	37.53	5	0.42	
ESY	EZ	95.6	ES			14:52	24.30			0.40		LAWE	HZ	529.0	EP	23:23	42.87			-0.58
AS10	HZ	112.0	EP			14:52	14.23			-0.65		LAWE	HE	529.0	IAML	23:24	36.53	12	0.18	
AS10	HE	112.0	ES			14:52	28.25			0.07		LAWE	HN	529.0	IAML	23:24	37.70	13	0.30	
AS10	HN	112.0	IAML			14:52	28.82	118	0.22			EDMD	HZ	537.0	EP	23:23	44.01			-0.34
AS10	HE	112.0	IAML			14:52	29.15	69	0.36			EDMD	HN	537.0	IAML	23:24	39.07	10	0.16	
GDLE	HZ	124.0	EP			14:52	16.97			0.30		EDMD	HE	537.0	IAML	23:24	39.11	9	0.16	
GDLE	HE	124.0	ES			14:52	31.53			0.27		AT10	HZ	569.0	EP	23:23	48.53			0.10
ESK	HZ	124.0	EP			14:52	15.72			-0.89		AU15	HZ	579.0	EP	23:23	49.91			0.22
ESK	HE	124.0	ES			14:52	31.52			0.35		AU14	EZ	582.0	EP	23:23	50.12			0.18
ESK	HN	124.0	IAML			14:52	32.03	11	0.30											
ESK	HE	124.0	IAML			14:52	32.65	4	0.12											
GDLE	HE	124.0	IAML			14:52	32.27	33	0.20											
GDLE	HN	124.0	IAML			14:52	32.65	26	0.24											
AT10	HZ	127.0	EP			14:52	17.21			0.18										
AT10	HE	127.0	IAML			14:52	32.69	18	0.23											
AT10	HN	127.0	IAML			14:52	33.03	20	0.16											

June 25 2019 Time: 05:21 07.4 UTC Magnitude: 0.8 ML
 Lat: 56.292 Lon: -5.093 Depth: 7.7 km
 Grid Ref: 208.61 kmE 715.35 kmN RMS: 0.20 secs
 Locality: INVERARAY, ARGYLL/BUTE
 Velocity model: Lownet Xnear: 100.0 Xfar: 200.0
 Comment: 7KM NORTH INVERARAY

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES										
LAWE	HZ	19.3	IP		C	05:21	11.35			0.07		KPL	HZ	33.7	EP	00:17	50.79			0.06
LAWE	HE	19.3	ES			05:21	13.98			-0.12		KPL	HE	33.7	ES	00:17	54.72			-0.53
LAWE	HN	19.3	IAML			05:21	14.19	59	0.10			KPL	HE	33.7	IAML	00:17	55.16	2	0.13	
LAWE	HE	19.3	IAML			05:21	14.20	48	0.08			KPL	HN	33.7	IAML	00:17	55.27	1	0.12	
INVG	HZ	66.5	EP			05:21	18.93			0.30		LINV	HZ	60.4	EP	00:17	55.21			0.09
INVG	HN	66.5	ES			05:21	26.57			-0.25		LINV	HE	60.4	ES	00:18	02.28			-0.55
INVG	HN	66.5	IAML			05:21	30.27	4	0.08			LINV	HE	60.4	IAML	00:18	02.49	3	0.17	
INVG	HE	66.5	IAML			05:21	30.32	3	0.12			LINV	HN	60.4	IAML	00:18	03.40	2	0.17	
KPL	HZ	121.0	EP			05:21	27.11			0.01		LEWI	HZ	102.0	EP	00:18	01.56			-0.03
KPL	HE	121.0	IAML			05:21	42.67	2	0.20			LEWI	HN	102.0	ES	00:18	14.32			0.30
KPL	HN	121.0	IAML			05:21	43.45	1	0.21			LEWI	HE	102.0	IAML	00:18	15.53	1	0.12	
												LEWI	HN	102.0	IAML	00:18	16.01	2	0.32	
												BIGH	HE	133.0	EP	00:18	07.35			0.94
												BIGH	HN	133.0	ES	00:18	22.26			-0.11
												BIGH	HN	133.0	IAML	00:18	24.48	2	0.24	
												BIGH	HE	133.0	IAML	00:18	26.85	4	0.42	
												LAWE	HZ	152.0	EP	00:18	09.11			0.03
												LAWE	HE	152.0	ES	00:18	27.80			0.82
												LAWE	HE	152.0	IAML	00:18	29.37	3	0.27	
												LAWE	HN	152.0	IAML	00:18	29.82	2	0.12	
												INVG	HN	158.0	ES	00:18	29.30			0.62
												INVG	HN	158.0	IAML	00:18	31.08	1	0.06	
												INVG	HE	158.0	IAML	00:18	31.45	1	0.19	

June 28 2019 Time: 13:48 09.0 UTC Magnitude: -0.1 ML
 Lat: 51.157 Lon: -0.254 Depth: 2.5 km
 Grid Ref: 522.09 kmE 141.26 kmN RMS: 0.00 secs
 Locality: NEWDIGATE, SURREY
 Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES										
RUSH	HZ	1.4	IP		C	13:48	09.94			-0.02										
RUSH	HE	1.4	ES			13:48	10.64			0.01										
RUSH	HN	1.4	IAML			13:48	10.71	151	0.10											
RUSH	HE	1.4	IAML			13:48	10.74	47	0.07											
STAN	HZ	1.5	IP		C	13:48	09.97			-0.02										
STAN	HE	1.5	ES			13:48	10.68			-0.01										
STAN	HE	1.5	IAML			13:48	10.81	83	0.13											
STAN	HN	1.5	IAML			13:48	10.81	207	0.13											
GAT2	HZ	2.4	EP			13:48	10.16			0.02										
BRDL	HZ	3.6	EP			13:48	10.33			-0.02										
BRDL	HE	3.6	ES			13:48	11.33			0.03										
BRDL	HE	3.6	IAML			13:48	11.46	111	0.11											
BRDL	HN	3.6	IAML			13:48	11.47	51	0.12											

June 30 2019 Time: 23:22 34.5 UTC Magnitude: 2.7 ML
 Lat: 59.268 Lon: 1.493 Depth: 13.9 km
 Grid Ref: 599.04 kmE 1047.56 kmN RMS: 0.40 secs
 Locality: NORTHERN NORTH SEA
 Velocity model: North Sea Xnear: 500.0 Xfar: 1000.0
 Comment: 180KM SE LERWICK

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES										
												KPL	HZ	113.0	EP	22:16	30.04			0.45
												KPL	HE	113.0	ES	22:16	42.83			-0.15
												KPL	HE	113.0	IAML	22:16	44.74	44	0.	

TABLE 2 : PHASE DATA

July 6 2019										Time: 01:03 41.8 UTC		Magnitude: -1.1 ML		HLM1	HN	37.6	ES	09:36	48.37		0.03			
Lat: 51.161		Lon: -0.239		Depth: 2.0 km		RMS: 0.00 secs				HLM1	HN	37.6	IAML	09:36	49.21	13	0.13							
Grid Ref: 523.12 kmE		141.73 kmN								HLM1	HE	37.6	IAML	09:36	49.35	12	0.26							
Locality: NEWDIGATE, SURREY										MONM	HZ	42.4	EP	09:36	43.83				-0.18					
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										MONM	HE	42.4	ES	09:36	49.49				-0.03					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	MONM	HE	42.4	IAML	09:36	49.70	27	0.20						
STAN	HZ	1.2	EP			01:03	42.59			-0.01	MONM	HN	42.4	IAML	09:36	49.98	24	0.26						
STAN	HE	1.2	ES			01:03	43.23			0.01	STRD	HZ	75.7	EP	09:36	48.83			-0.30					
STAN	HE	1.2	IAML			01:03	43.41	10	0.10		STRD	HN	75.7	ES	09:36	58.28			-0.09					
STAN	HN	1.2	IAML			01:03	43.44	29	0.14		STRD	HE	75.7	IAML	09:36	58.53	53	0.18						
GAT2	HZ	2.0	EP			01:03	42.72			-0.02	STRD	HE	75.7	IAML	09:36	59.05	35	0.22						
GAT2	HN	2.0	ES			01:03	43.50			0.04	FOEL	HZ	78.3	EP	09:36	49.60			0.02					
GAT2	HN	2.0	IAML			01:03	43.70	24	0.20		FOEL	HN	78.3	ES	09:36	59.03			-0.11					
GAT2	HE	2.0	IAML			01:03	43.93	10	0.17		FOEL	HN	78.3	IAML	09:36	59.30	5	0.19						
RUSH	HZ	2.5	EP			01:03	42.79			-0.03	FOEL	HE	78.3	IAML	09:37	00.36	4	0.12						
RUSH	HN	2.5	ES			01:03	43.61			0.02	CWF	HZ	132.0	EP	09:36	57.47			0.13					
RUSH	HN	2.5	IAML			01:03	43.70	20	0.11		CWF	HN	132.0	ES	09:37	12.74			0.17					
RUSH	HE	2.5	IAML			01:03	43.80	8	0.12		July 11 2019													
BRDL	HZ	3.5	EP			01:03	42.99			-0.07	Time: 10:53 57.9 UTC		Magnitude: 2.4 ML											
BRDL	HN	3.5	ES			01:03	44.09			0.07	Lat: 54.002		Lon: -3.192		Depth: 3.3 km									
BRDL	HN	3.5	IAML			01:03	44.23	8	0.14		Grid Ref: 321.88 kmE		456.90 kmN		RMS: 0.20 secs									
BRDL	HE	3.5	IAML			01:03	44.75	9	0.24		Locality: IRISH SEA													
										Velocity model: Lownet Xnear: 100.0 Xfar: 200.0														
										Comment: 14KM NW FLEETWOOD														
July 6 2019										Time: 03:57 15.4 UTC		Magnitude: -0.3 ML		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
Lat: 51.160		Lon: -0.238		Depth: 2.2 km		RMS: 0.00 secs				AQ09	HZ	22.9	IP	C		10:54	02.13			-0.08				
Grid Ref: 523.20 kmE		141.62 kmN								AQ09	HN	22.9	ES		10:54	05.49				0.10				
Locality: NEWDIGATE, SURREY										AQ09	HN	22.9	IAML		10:54	05.73	4212	0.28						
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										AQ09	HE	22.9	IAML		10:54	11.32	2478	0.30						
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	AQ05	HZ	25.5	IP	D	10:54	02.64			-0.01				
STAN	HZ	1.3	IP			03:57	16.27			-0.01	AQ05	HN	25.5	ES		10:54	06.29			0.14				
STAN	HE	1.3	ES			03:57	16.93			-0.01	AQ05	HN	25.5	IAML		10:54	06.61	4013	0.16					
STAN	HE	1.3	IAML			03:57	17.10	74	0.09		AQ05	HE	25.5	IAML		10:54	06.62	3570	0.22					
STAN	HN	1.3	IAML			03:57	17.12	164	0.20		AQ06	HZ	27.0	EP		10:54	02.79			-0.11				
GAT2	HZ	1.9	IP		D	03:57	16.39			0.02	AQ06	HN	27.0	IAML		10:54	10.26	2264	0.40					
GAT2	HE	1.9	ES			03:57	17.09			0.01	AQ06	HE	27.0	IAML		10:54	11.45	2020	0.20					
GAT2	HE	1.9	IAML			03:57	17.27	105	0.10		AQ04	HZ	29.1	EP		10:54	03.23			-0.02				
GAT2	HN	1.9	IAML			03:57	17.27	172	0.09		AQ04	HN	29.1	ES		10:54	07.27			0.08				
RUSH	HZ	2.5	IP		C	03:57	16.47			0.00	AQ04	HE	29.1	IAML		10:54	07.63	3744	0.17					
RUSH	HE	2.5	ES			03:57	17.27			0.00	AQ04	HN	29.1	IAML		10:54	07.68	4141	0.21					
RUSH	HN	2.5	IAML			03:57	17.39	136	0.10		AQ03	HZ	33.5	EP		10:54	03.90			-0.11				
RUSH	HE	2.5	IAML			03:57	17.40	49	0.13		AQ03	HE	33.5	IAML		10:54	10.18	1935	0.30					
HORS	HZ	2.6	EP			03:57	16.50			-0.02	AQ03	HN	33.5	IAML		10:54	12.54	1492	0.19					
HORS	HE	2.6	ES			03:57	17.35			0.01	AP12	HZ	34.6	IP	D	10:54	04.22			-0.01				
HORS	HE	2.6	IAML			03:57	17.47	30	0.15		AP12	HE	34.6	ES		10:54	08.96			0.08				
HORS	HN	2.6	IAML			03:57	17.51	35	0.14		AP12	HE	34.6	IAML		10:54	09.18	206	0.20					
BRDL	HZ	3.6	IP		D	03:57	16.66			-0.06	AP12	HN	34.6	IAML		10:54	11.11	80	0.26					
BRDL	HN	3.6	ES			03:57	17.75			0.06	AR07	HZ	48.1	IP	C	10:54	06.03			-0.45				
BRDL	HN	3.6	IAML			03:57	17.83	45	0.12		AR07	HN	48.1	IAML		10:54	13.97	277	0.14					
BRDL	HE	3.6	IAML			03:57	17.89	48	0.23		AR07	HE	48.1	IAML		10:54	16.84	196	0.26					
July 9 2019										Time: 22:52 13.3 UTC		Magnitude: 0.6 ML		AQ12	HZ	56.3	EP		10:54	07.52			-0.26	
Lat: 56.136		Lon: -4.199		Depth: 10.4 km		RMS: 0.40 secs					AQ12	HN	56.3	IAML		10:54	15.28	107	0.16					
Grid Ref: 263.36 kmE		695.87 kmN									AQ12	HE	56.3	IAML		10:54	15.92	108	0.34					
Locality: KIPPEN, STIRLING										KESW	HZ	65.5	EP		10:54	09.08				-0.12				
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										KESW	HE	65.5	ES		10:54	17.36				-0.13				
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	KESW	HE	65.5	IAML		10:54	18.13	125	0.58					
INVG	HZ	33.8	EP			22:52	19.47			-0.01	KESW	HN	65.5	IAML		10:54	18.41	110	0.56					
INVG	HE	33.8	ES			22:52	23.64			-0.34	IOMK	HZ	94.3	EP		10:54	13.99			0.34				
INVG	HN	33.8	IAML			22:52	19.64	1	0.12		IOMK	HE	94.3	IAML		10:54	27.13	31	0.22					
INVG	HE	33.8	IAML			22:52	23.91	2	0.15		IOMK	HN	94.3	IAML		10:54	27.54	27	0.20					
PGB1	HZ	40.3	EP			22:52	20.38			-0.07	WIM	EZ	98.3	EP		10:54	14.57			0.26				
PGB1	HE	40.3	ES			22:52	25.46			-0.20	WME	EZ	99.6	EP		10:54	14.08			-0.37				
PGB1	HE	40.3	IAML			22:52	25.89	7	0.23		HPK	HZ	103.0	EP		10:54	15.10			0.11				
PGB1	HN	40.3	IAML			22:52	26.09	8	0.25		HPK	HE	103.0	IAML		10:54	30.73	118	0.24					
EDI	HZ	67.4	EP			22:52	24.86			0.23	HPK	HN	103.0	IAML		10:54	30.75	156	0.30					
LAWE	HZ	75.7	EP			22:52	26.43			0.51	WPS	HZ	109.0	EP		10:54	15.69			-0.23				
LAWE	HN	75.7	ES			22:52	34.88			-0.26	WPS	HE	109.0	IAML		10:54	34.19	36	0.35					
LAWE	HN	75.7	IAML			22:52	38.29	3	0.12		WPS	HN	109.0	IAML		10:54	34.49	34	0.22					
LAWE	HE	75.7	IAML			22:52	38.55	7	0.25		WLF1	HE	112.0	IAML		10:54	31.38	79	0.38					
ESK	HZ	111.0	EP			22:52	31.83			0.51	WLF1	HN	112.0	IAML		10:54	34.29	43	0.24					
ESK	HE	111.0	ES			22:52	44.04			-0.44	LBWR	HZ	118.0	EP		10:54	17.67			0.37				
ESK	HE	111.0	IAML			22:52	46.78	2	0.19		LBWR	HN	118.0	ES		10:54	31.75			0.25				
ESK	HN	111.0	IAML			22:52	47.23	3	0.19		LBWR	HE	118.0	IAML		10:54	34.85	227	0.28					
NEWG	HZ	113.0	EP			22:52	31.89			0.18	LBWR	HE	118.0	IAML		10:54	37.56	97	0.30					
NEWG	HN	113.0	ES			22:52	44.68			-0.47	EDMD	HZ	122.0	EP		10:54	18.23			0.33				
NEWG	HE	113.0	IAML			22:52	47.09	3	0.11		EDMD	HE	122.0	IAML		10:54	34.85	160	0.26					
NEWG	HN	113.0	IAML			22:52	47.28	2	0.12		EDMD	HN	122.0	IAML		10:54	35							

TABLE 2 : PHASE DATA

July 13 2019										Time: 22:25 08.9 UTC			Magnitude: 0.7 ML								
Lat: 57.429										Lon: -5.413			Depth: 3.8 km								
Grid Ref: 195.13 kmE 842.75 kmN										RMS: 0.10 secs											
Locality: STRATHCARRON, HIGHLAND																					
Velocity model: Lownet										Xnear: 100.0			Xfar: 200.0								
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	AS02	HN	36.1	ES	00:04	21.50			0.02		
KPL	HZ	17.5	IP		C	22:25	12.53			0.15	AS02	HN	36.1	IAML	00:04	21.90	117	0.24			
KPL	HE	17.5	ES			22:25	14.70			-0.19	AS02	HE	36.1	IAML	00:04	21.92	58	0.08			
KPL	HE	17.5	IAML			22:25	14.97	17	0.20		LBWR	HZ	47.2	EP	00:04	18.23			-0.17		
KPL	HN	17.5	IAML			22:25	15.06	21	0.23		LBWR	HE	47.2	ES	00:04	24.41			-0.03		
LINV	HZ	81.0	EP			22:25	22.54			-0.07	AS07	HZ	50.5	IP	D 00:04	18.78			-0.14		
LEWI	HZ	118.0	EP			22:25	28.51			0.17	AS07	HE	50.5	ES	00:04	24.80			-0.53		
LEWI	HE	118.0	ES			22:25	42.50			0.00	AS07	HE	50.5	IAML	00:04	25.64	16	0.25			
LEWI	HN	118.0	IAML			22:25	44.64	2	0.45		AS07	HN	50.5	IAML	00:04	27.52	18	0.09			
LEWI	HE	118.0	IAML			22:25	45.38	1	0.20		AU05	HZ	53.5	EP	00:04	19.10			-0.20		
MCD	HZ	131.0	EP			22:25	30.39			0.05	AR07	HZ	54.3	EP	00:04	19.52			0.05		
MCD	HE	131.0	IAML			22:25	47.00	7	0.34		AR07	HE	54.3	ES	00:04	26.36			0.06		
MCD	HN	131.0	IAML			22:25	48.30	4	0.26		AR07	HN	54.3	IAML	00:04	27.51	67	0.31			
INVG	HZ	139.0	EP			22:25	31.72			0.15	AR07	HE	54.3	IAML	00:04	27.56	88	0.24			
INVG	HE	139.0	ES			22:25	48.04			-0.06	AU11	HZ	64.4	EP	00:04	20.96			-0.03		
INVG	HN	139.0	IAML			22:25	50.30	1	0.43		AU11	HN	64.4	ES	00:04	29.19			0.28		
INVG	HE	139.0	IAML			22:25	50.69	1	0.34		AU11	HE	64.4	IAML	00:04	30.35	22	0.28			
BIGH	HZ	148.0	EP			22:25	32.69			-0.12	AU11	HE	64.4	IAML	00:04	31.54	40	0.28			
BIGH	HN	148.0	ES			22:25	50.12			-0.12	AQ07	HE	64.6	ES	00:04	29.22			0.22		
BIGH	HN	148.0	IAML			22:25	52.20	2	0.20		AT10	HZ	69.2	EP	00:04	21.78			0.00		
BIGH	HE	148.0	IAML			22:25	52.46	2	0.21		AT10	HN	69.2	ES	00:04	30.23			-0.06		
July 14 2019										Time: 03:57 42.6 UTC			Magnitude: 0.8 ML								
Lat: 52.191										Lon: -3.035			Depth: 16.1 km								
Grid Ref: 329.26 kmE 255.30 kmN										RMS: 0.10 secs											
Locality: KINGTON, HEREFORDSHIRE																					
Velocity model: Lownet										Xnear: 500.0			Xfar: 1000.0								
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	AU08	HZ	74.9	EP	00:04	22.00			0.16		
MCH1	HZ	21.7	IP		C	03:57	47.25			0.00	AU08	HN	74.9	IAML	00:04	22.79			0.15		
MCH1	HE	21.7	ES			03:57	50.86			0.20	AU08	HN	74.9	IAML	00:04	33.51	15	0.16			
MCH1	HN	21.7	IAML			03:57	50.92	21	0.10		AU20	HZ	78.4	EP	00:04	23.33			0.16		
MCH1	HE	21.7	IAML			03:57	50.95	45	0.10		AU20	HE	78.4	IAML	00:04	33.80	28	0.14			
HLM1	HZ	37.9	EP			03:57	49.60			0.00	AU20	HN	78.4	IAML	00:04	34.57	55	0.40			
HLM1	HN	37.9	ES			03:57	54.58			-0.14	AS10	HZ	81.5	EP	00:04	23.75			0.09		
HLM1	HE	37.9	IAML			03:57	55.70	5	0.32		AS10	HN	81.5	ES	00:04	33.42			-0.12		
HLM1	HN	37.9	IAML			03:57	55.92	5	0.10		AS10	HN	81.5	IAML	00:04	33.95	38	0.22			
MONM	HZ	42.2	EP			03:57	50.01			-0.17	AS10	HE	81.5	IAML	00:04	34.78	30	0.24			
MONM	HE	42.2	ES			03:57	55.71			-0.02	GDLE	HZ	87.4	EP	00:04	24.63			0.05		
MONM	HE	42.2	IAML			03:57	56.00	10	0.17		GDLE	HN	87.4	ES	00:04	34.80			-0.33		
MONM	HN	42.2	IAML			03:57	56.21	9	0.26		GDLE	HE	87.4	IAML	00:04	36.44	40	0.26			
STRD	HZ	75.7	EP			03:57	55.11			-0.15	GDLE	HN	87.4	IAML	00:04	37.55	28	0.20			
STRD	HN	75.7	ES			03:58	04.51			-0.01	AV06	HZ	87.4	EP	00:04	24.80			0.23		
FOEL	HZ	78.5	EP			03:57	55.84			0.12	STNC	HZ	88.7	EP	00:04	24.28			-0.51		
FOEL	HN	78.5	ES			03:58	05.32			0.01	STNC	HE	88.7	IAML	00:04	38.49	15	0.29			
FOEL	HN	78.5	IAML			03:58	05.90	4	0.38		STNC	HN	88.7	IAML	00:04	38.84	16	0.13			
FOEL	HE	78.5	IAML			03:58	07.66	3	0.39		AP12	HZ	117.0	EP	00:04	29.00			0.07		
RSBS	HZ	120.0	EP			03:58	01.61			-0.03	AP12	HN	117.0	IAML	00:04	42.95	12	0.18			
RSBS	HN	120.0	ES			03:58	15.52			-0.02	AP12	HE	117.0	IAML	00:04	44.02	7	0.23			
RSBS	HN	120.0	IAML			03:58	17.16	2	0.15		CFW	HZ	124.0	EP	00:04	29.67			-0.21		
RSBS	HE	120.0	IAML			03:58	17.55	2	0.06		CFW	HN	124.0	IAML	00:04	44.72	8	0.18			
CWF	HZ	132.0	EP			03:58	03.58			0.23	CFW	HE	124.0	IAML	00:04	45.10	7	0.22			
CWF	HE	132.0	IAML			03:58	19.81	2	0.10		KESW	HZ	126.0	EP	00:04	29.60			-0.62		
CWF	HN	132.0	IAML			03:58	20.44	2	0.09		KESW	HN	126.0	IAML	00:04	47.09	7	0.15			
July 20 2019										Time: 22:02 26.0 UTC			Magnitude: -0.7 ML								
Lat: 51.159										Lon: -0.250			Depth: 2.1 km								
Grid Ref: 522.36 kmE 141.49 kmN										RMS: 0.00 secs											
Locality: NEWDIGATE, SURREY																					
Velocity model: Surrey										Xnear: 500.0			Xfar: 1000.0								
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.2	IP		C	22:02	26.89			-0.01	ESK	HZ	22.1	IP		C	20:17	54.02			-0.01
STAN	HE	1.2	ES			22:02	27.52			0.00	ESK	HE	22.1	ES			20:17	56.80			-0.34
STAN	HN	1.2	IAML			22:02	27.68	28	0.20		ESK	HN	22.1	IAML			20:17	57.13	54	0.10	
STAN	HE	1.2	IAML			22:02	27.69	29	0.16		ESK	HE	22.1	IAML			20:17	57.14	61	0.07	
RUSH	HZ	1.8	IP		C	22:02	26.95			-0.02	NEWG	HZ	58.0	EP			20:17	59.98			0.02
RUSH	HE	1.8	ES			22:02	27.65			0.01	NEWG	HE	58.0	ES			20:18	07.19			-0.22
RUSH	HE	1.8	IAML			22:02	27.72	40	0.10		NEWG	HN	58.0	IAML			20:18	08.79	10	0.08	
RUSH	HN	1.8	IAML			22:02	27.73	66	0.10		NEWG	HE	58.0	IAML			20:18	09.00	7	0.05	
GAT2	HZ	2.3	IP		D	22:02	27.10			0.00	PGB1	HZ	75.6	IP		C	20:18	02.69			-0.01
BRDL	HE	3.4	ES			22:02	28.28			0.01	PGB1	HN	75.6	ES			20:18	11.84			-0.30
BRDL	HE	3.4	IAML			22:02	28.42	28	0.11		PGB1	HE	75.6	IAML			20:18	14.51	26	0.23	
BRDL	HN	3.4	IAML			22:02	28.44	23	0.11		PGB1	HN	75.6	IAML			20:18	14.52	30	0.26	
HORS	HN	3.4	ES			22:02	28.28			0.01	KESW	HZ	96.6	IP		C	20:18	06.37			0.40
HORS	HE	3.4	IAML			22:02	28.41	6	0.09		KESW	HE	96.6	IAML			20:18	19.06	6	0.41	
HORS	HN	3.4	IAML			22:02	28.41	14	0.10		KESW	HN	96.6	IAML			20:18	20.03	5	0.33	
July 27 2019										Time: 00:04 10.1 UTC			Magnitude: 1.6 ML								
Lat: 53.825										Lon: -1.684			Depth: 12.0 km								
Grid Ref: 420.80 kmE 436.60 kmN										RMS: 0.20 secs											
Locality: CALVERLEY, W YORKSHIRE																					
Velocity model: Lownet										Xnear: 75.0			Xfar: 150.0								
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS							

TABLE 2 : PHASE DATA

GAT2	HE	2.1	ES	03:35	27.32				0.03	INVG	HZ	722.0	EP	19:56	34.86				-0.38	
GAT2	HN	2.1	IAML	03:35	27.42	33	0.10			INVG	HN	722.0	IAML	19:57	47.58	5	0.24			
GAT2	HE	2.1	IAML	03:35	27.43	75	0.07			INVG	HE	722.0	IAML	19:57	48.28	4	0.56			
RUSH	HZ	2.4	IP	03:35	26.59				-0.03											
RUSH	HN	2.4	ES	03:35	27.41				0.02	August 6 2019 Time: 02:32 00.9 UTC Magnitude: -0.5 ML										
RUSH	HN	2.4	IAML	03:35	27.47	125	0.10			Lat: 51.157 Lon: -0.239		Depth: 2.2 km								
RUSH	HE	2.4	IAML	03:35	27.58	30	0.14			Grid Ref: 523.14 kmE 141.28 kmN		RMS: 0.00 secs								
HORS	HZ	2.8	EP	03:35	26.70				-0.01	Locality: NEWDIGATE,SURREY										
HORS	HE	2.8	ES	03:35	27.55				0.00	Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										
HORS	HN	2.8	IAML	03:35	27.64	40	0.10			STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HORS	HE	2.8	IAML	03:35	27.64	24	0.10			STAN	HZ	1.5	IP	D	02:32	01.87				0.01
BRDL	HZ	3.5	EP	03:35	26.81				-0.05	STAN	HE	1.5	ES		02:32	02.53				-0.01
BRDL	HE	3.5	ES	03:35	27.86				0.05	STAN	HN	1.5	IAML		02:32	02.69	62	0.10		
BRDL	HN	3.5	IAML	03:35	27.98	49	0.10			STAN	HE	1.5	IAML		02:32	02.77	39	0.17		
BRDL	HE	3.5	IAML	03:35	27.98	57	0.10			GAT2	HZ	1.7	IP	D	02:32	01.91				0.02
										GAT2	HE	1.7	ES		02:32	02.58				0.00
										GAT2	HE	1.7	IAML		02:32	02.69	65	0.10		
										GAT2	HN	1.7	IAML		02:32	02.70	68	0.11		
										RUSH	HZ	2.3	IP	C	02:32	01.96				-0.01
										RUSH	HE	2.3	ES		02:32	02.73				0.01
										RUSH	HE	2.3	IAML		02:32	02.83	33	0.10		
										RUSH	HN	2.3	IAML		02:32	02.84	62	0.10		
										HORS	HZ	2.9	EP		02:32	02.12				0.00
										BRDL	HZ	3.8	EP		02:32	02.26				-0.05
										BRDL	HN	3.8	ES		02:32	03.34				0.04
										BRDL	HN	3.8	IAML		02:32	03.48	15	0.13		
										BRDL	HE	3.8	IAML		02:32	03.53	18	0.11		
										August 8 2019 Time: 00:25 00.3 UTC Magnitude: 1.0 ML										
										Lat: 54.443 Lon: -1.946		Depth: 11.1 km								
										Grid Ref: 403.50 kmE 505.30 kmN		RMS: 0.40 secs								
										Locality: LANGTHWAITE,N YORKSHIRE										
										Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										
										STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
										AS10	HZ	14.2	EP		00:25	04.01				0.49
										AS10	HE	14.2	ES		00:25	05.81				-0.10
										AS10	HN	14.2	IAML		00:25	05.94	54	0.16		
										AS10	HE	14.2	IAML		00:25	06.01	129	0.22		
										AR10	HZ	32.6	EP		00:25	06.58				0.30
										AR10	HN	32.6	ES		00:25	10.25				-0.43
										AR10	HE	32.6	IAML		00:25	10.75	15	0.18		
										AR10	HN	32.6	IAML		00:25	11.47	15	0.18		
										AT12	HZ	35.5	EP		00:25	06.95				0.29
										AT12	HE	35.5	ES		00:25	10.79				-0.54
										AT12	HE	35.5	IAML		00:25	11.03	14	0.21		
										AT12	HN	35.5	IAML		00:25	11.10	13	0.23		
										August 8 2019 Time: 16:52 05.3 UTC Magnitude: 2.4 ML										
										Lat: 50.076 Lon: -5.248		Depth: 6.4 km								
										Grid Ref: 167.64 kmE 24.67 kmN		RMS: 0.20 secs								
										Locality: HELSTON,CORNWALL										
										Velocity model: Cornwall Xnear: 100.0 Xfar: 200.0										
										Comment: FELT HELSTON... Intensity: 4										
										STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
										GEL05	CZ	12.4	IP	C	16:52	07.66				-0.06
										GEL05	CN	12.4	ES		16:52	09.57				-0.04
										GEL05	CE	12.4	IAML		16:52	09.64	3933	0.10		
										GEL05	CN	12.4	IAML		16:52	09.69	1189	0.14		
										CCA1	HZ	12.4	IP	C	16:52	07.65				-0.06
										CCA1	HE	12.4	ES		16:52	09.59				-0.01
										CCA1	HN	12.4	IAML		16:52	09.69	866	0.08		
										CCA1	HE	12.4	IAML		16:52	09.68	3416	0.08		
										GEL01	CZ	13.5	IP	C	16:52	07.85				-0.02
										GEL01	CE	13.5	ES		16:52	09.91				0.03
										GEL01	CE	13.5	IAML		16:52	09.96	1158	0.10		
										GEL01	CN	13.5	IAML		16:52	10.01	766	0.16		
										GW05	HZ	14.3	EP		16:52	07.97				-0.04
										GW05	HE	14.3	ES		16:52	10.12				-0.01
										GW05	HE	14.3	IAML		16:52	10.18	3008	0.10		
										GW05	HN	14.3	IAML		16:52	10.81	2240	0.26		
										GW06	HZ	14.4	EP		16:52	08.01				-0.01
										GW06	HE	14.4	IAML		16:52	10.24	1140	0.16		
										GW06	HN	14.4	IAML		16:52	10.42	627	0.35		
										GEL02	CZ	15.5	IP	C	16:52	08.20				0.01
										GEL02	CN	15.5	ES		16:52	10.48				0.03
										GEL02	CE	15.5	IAML		16:52	10.55	858	0.16		
										GEL02	CN	15.5	IAML		16:52	10.59	585	0.06		
										GW03	HZ	15.7	EP		16:52	08.19				-0.04
										GW03	HE	15.7	ES		16:52	10.46				-0.06
										GW03	HE	15.7	IAML		16:52	10.57	2375	0.35		
										GW03	HN	15.7	IAML		16:52	10.58	1206	0.22		
										GW08	HE	16.9	ES		16:52	10.99				0.15
										GW10	HZ	16.9	EP		16:52	08.46				0.04
										GW10	HE	16.9	ES		16:52	10.93				0.09
										GW10	HN	16.9	IAML		16:52	11.06	1268	0.10		
										GW10	HE	16.9	IAML		16:52	11.08	1251	0.16		
										GW08	HZ	16.9	EP		16:52	08.47				0.06
										GW08	HN	16.9	IAML		16:52	11.09	1553	0.10		
										GW08	HE	16.9	IAML		16:52	11.10	1751	0.20		
										GEL06	CE	17.3	IP	C	16:52	08.44				-0.04
										GEL06	CN	17.3	ES		16:52	10.88				-0.08
										GEL06	CE	17.3	IAML		16:52	11.02	3565	0.14		
										GEL06	CN	17.3	IAML		16:52	11.27	1167	0.18		
										GEL07	CZ	18.0	IP	D	16:52	08.62				0.03

TABLE 2 : PHASE DATA

GEL07	CN	18.0	ES		16:52	11.18			0.02	BRDL	HN	3.5	IAML		00:46	51.69	6	0.11			
GEL03	CZ	18.8	IP	C	16:52	08.77			0.05												
GEL03	CN	18.8	ES		16:52	11.40			0.02												
GEL03	CN	18.8	IAML		16:52	11.64	1011	0.13		August 14 2019				Time: 02:52	36.5	UTC		Magnitude: 0.3	ML		
GEL03	CE	18.8	IAML		16:52	11.64	631	0.07		Lat: 54.233				Lon: -3.218				Depth: 8.1	km		
GW02	HZ	19.7	EP		16:52	08.94			0.05	Grid Ref: 320.62				kmE	482.62	kmN		RMS: 0.10	secs		
GW02	HE	19.7	ES		16:52	11.69			0.01	Locality: MILLOM, CUMBRIA											
GW02	HE	19.7	IAML		16:52	11.82	584	0.42		Velocity model: Lownet				Xnear: 100.0				Xfar: 200.0			
GW02	HN	19.7	IAML		16:52	11.87	528	0.10		Comment: 4KM NE MILLOM											
GEL08	CZ	19.7	IP	C	16:52	08.91			0.03	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	
GEL08	CN	19.7	ES		16:52	11.69			0.03	AP12	HZ	9.2	EP			02:52	38.93			0.08	
GEL04	CZ	20.1	IP	C	16:52	08.97			0.03	AP12	HN	9.2	ES			02:52	40.53			-0.05	
GEL04	CN	20.1	ES		16:52	11.73			-0.05	AP12	HE	9.2	IAML			02:52	40.62	8	0.10		
GEL04	CE	20.1	IAML		16:52	11.89	964	0.11		AP12	HN	9.2	IAML			02:52	40.68	6	0.10		
GEL04	CN	20.1	IAML		16:52	11.94	1009	0.18		AQ12	HZ	37.9	EP			02:52	43.10			-0.17	
SBD	BZ	67.6	EP		16:52	16.71			-0.36	AQ12	HE	37.9	ES			02:52	48.33			0.11	
SBD	BN	67.6	IAML		16:52	26.43	87	0.07		AQ12	HN	37.9	IAML			02:52	49.17	4	0.07		
SBD	BE	67.6	IAML		16:52	30.34	99	0.09		AQ12	HZ	37.9	IAML			02:52	49.32	4	0.10		
DYA	HZ	102.0	EP		16:52	22.21			-0.14	KESW	HN	40.3	EP			02:52	43.66			0.04	
DYA	HE	102.0	IAML		16:52	36.63	158	0.24		KESW	HE	40.3	ES			02:52	48.80			-0.03	
DYA	HN	102.0	IAML		16:52	36.67	235	0.20		AR09	HZ	50.7	EP			02:52	45.34			0.07	
HTL	HZ	116.0	EP		16:52	25.03			0.75	AR09	HE	50.7	ES			02:52	51.65			-0.04	
HTL	HE	116.0	ES		16:52	38.65			-0.28	AR09	HE	50.7	IAML			02:52	52.51	6	0.07		
HTL	HE	116.0	IAML		16:52	39.81	84	0.24		AR09	HN	50.7	IAML			02:52	52.64	6	0.05		
HTL	HN	116.0	IAML		16:52	41.04	54	0.15		AR07	HZ	56.2	EP			02:52	46.07			-0.01	
RSBS	HZ	212.0	EP		16:52	36.85			0.04												
MCH1	HZ	266.0	EP		16:52	43.87			0.33	August 14 2019				Time: 07:36	11.1	UTC		Magnitude: 1.3	ML		
										Lat: 55.839				Lon: -5.863				Depth: 7.4	km		
										Grid Ref: 158.16				kmE	667.39	kmN		RMS: 0.50	secs		
										Locality: SOUND OF JURRA											
										Velocity model: Lownet				Xnear: 100.0				Xfar: 200.0			
August 9 2019					Time: 04:35	02.1	UTC		Magnitude: 0.3	ML											
					Lat: 55.916		Lon: -4.010		Depth: 12.2	km											
					Grid Ref: 274.39		kmE	671.03	kmN												
					Locality: ANNATHILL, N LANARKSHIRE				RMS: 0.10	secs											
					Velocity model: Lownet		Xnear: 500.0		Xfar: 1000.0												
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
PGB1	HZ	31.9	EP			04:35	08.06			0.01	LAW	HZ	55.1	EP			07:36	20.37			-0.13
PGB1	HE	31.9	ES			04:35	12.39			0.03	LAW	HE	55.1	ES			07:36	26.91			-0.47
PGB1	HE	31.9	IAML			04:35	13.13	8	0.14		LAW	HN	55.1	IAML			07:36	29.47	8	0.14	
PGB1	HN	31.9	IAML			04:35	13.20	3	0.12		LAW	HE	55.1	IAML			07:36	29.89	11	0.26	
EDI	HZ	51.4	EP			04:35	11.14			0.11	CLGH	HZ	85.6	EP			07:36	24.77			-0.49
INVG	HZ	56.9	EP			04:35	11.92			0.02	CLGH	HN	85.6	ES			07:36	35.19			-0.41
INVG	HE	56.9	ES			04:35	18.90			-0.13	CLGH	HN	85.6	IAML			07:36	38.63	13	0.18	
NEWG	HZ	90.0	EP			04:35	17.01			0.02	CLGH	HE	85.6	IAML			07:36	38.78	12	0.20	
NEWG	HE	90.0	ES			04:35	27.72			-0.12	PGB1	HZ	86.5	EP			07:36	25.90			0.51
NEWG	HE	90.0	IAML			04:35	27.80	1	0.34		PGB1	HN	86.5	IAML			07:36	38.63	23	0.30	
NEWG	HN	90.0	IAML			04:35	28.21	1	0.30		PGB1	HE	86.5	IAML			07:36	38.64	35	0.26	
LAW	HN	94.5	ES			04:35	29.10			0.06	GALL	HZ	131.0	EP			07:36	32.87			0.74
LAW	HN	94.5	IAML			04:35	29.16	2	0.16		GALL	HN	131.0	ES			07:36	47.12			-0.37
LAW	HE	94.5	IAML			04:35	29.20	1	0.13		GALL	HN	131.0	IAML			07:36	49.54	6	0.16	
											GALL	HE	131.0	IAML			07:36	50.47	10	0.22	
											NEWG	HZ	131.0	EP			07:36	32.36			0.20
											INVG	HZ	131.0	EP			07:36	32.81			0.64
											INVG	HE	131.0	IAML			07:36	49.95	6	0.18	
											INVG	HN	131.0	IAML			07:36	49.96	6	0.26	
August 12 2019					Time: 00:46	46.6	UTC		Magnitude: -0.7	ML											
					Lat: 51.160		Lon: -0.241		Depth: 2.1	km											
					Grid Ref: 522.99		kmE	141.61	kmN												
					Locality: NEWDIGATE, SURREY				RMS: 0.00	secs											
					Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0												
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.2	IP			00:46	47.50			0.00	STAN	HZ	1.2	IP			00:46	47.50			0.00
STAN	HE	1.2	ES			00:46	48.12			0.00	STAN	HN	1.2	IAML			00:46	48.25	58	0.11	
STAN	HN	1.2	IAML			00:46	48.25			0.00	STAN	HE	1.2	IAML			00:46	48.42	30	0.19	
STAN	HE	1.2	IAML			00:46	48.42			0.00	GAT2	HZ	2.0	IP			00:46	47.64			-0.01
GAT2	HZ	2.0	IP			00:46	47.64			-0.01	GAT2	HE	2.0	ES			00:46	48.41			0.04
GAT2	HE	2.0	ES			00:46	48.41			0.04	GAT2	HN	2.0	IAML			00:46	48.49	28	0.10	
GAT2	HN	2.0	IAML			00:46	48.49			0.00	GAT2	HE	2.0	IAML			00:46	48.61	24	0.08	
RUSH	HZ	2.3	IP			00:46	47.67			-0.02	RUSH	HZ	2.3	IP			00:46	47.67			-0.02
RUSH	HE	2.3	ES			00:46	48.45			0.00	RUSH	HE	2.3	ES			00:46	48.45			0.00
RUSH	HN	2.3	IAML			00:46	48.56	50	0.10		RUSH	HN	2.3	IAML			00:46	48.56	50	0.10	
RUSH	HE	2.3	IAML			00:46	48.64	11	0.12		RUSH	HE	2.3	IAML			00:46	48.64	11	0.12	
HORS	HZ	2.8	EP			00:46	47.79			-0.03	HORS	HZ	2.8	EP			00:46	47.79			-0.03
BRDL	HZ	3.5	EP			00:46	47.90			-0.06	BRDL	HZ	3.5	EP			00:46	47.90			-0.06
BRDL	HN	3.5	ES			00:46	48.98			0.07	BRDL	HN	3.5	ES			00:46	48.98			0.07
BRDL	HE	3.5	IAML			00:46	49.06	24	0.10		BRDL	HE	3.5	IAML			00:46	49.06	24	0.10	
BRDL	HN	3.5	IAML			00:46	49.07	20	0.11		BRDL	HN	3.5	IAML			00:46	49.07	20	0.11	
August 12 2019					Time: 00:46	49.2	UTC		Magnitude: -1.4	ML											
					Lat: 51.160		Lon: -0.241		Depth: 2.1	km											
					Grid Ref: 522.99		kmE	141.61	kmN												
					Locality: NEWDIGATE, SURREY				RMS: 0.00	secs											
					Velocity model: Surrey		Xnear: 500.0		Xfar: 1000.0												
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.2	IP			00:46	50.07			-0.03	STAN	HE	1.2	ES			00:46	50.74			0.02
STAN	HE	1.2	ES			00:46	50.74			0.02	STAN	HE	1.2	IAML			00:46	50.85	4	0.08	
STAN	HN	1.2	IAML			00:46	50.88	13	0.10		STAN										

TABLE 2 : PHASE DATA

CWF HZ 78.9 IP C 01:01 30.09	-0.20	BRDL HE 3.6 IAML	20:19 15.68 139 0.10
CWF HN 78.9 IAML 01:01 40.24	16 0.11	BRDL HN 3.6 IAML	20:19 15.69 133 0.11
CWF HE 78.9 IAML 01:01 41.12	13 0.16		
MCH1 HZ 119.0 EP 01:01 36.81	0.30	September 4 2019 Time: 04:59 37.2 UTC Magnitude: 0.8 ML	
MCH1 HN 119.0 ES 01:01 50.87	0.18	Lat: 51.889 Lon: -2.563 Depth: 13.0 km	
MCH1 HN 119.0 IAML 01:01 52.40	22 0.18	Grid Ref: 361.26 kmE 221.36 kmN RMS: 0.20 secs	
MCH1 HE 119.0 IAML 01:01 53.60	19 0.28	Locality: ROSS-ON-WYE,HEREF	
MONM HZ 132.0 EP 01:01 39.32	0.84	Velocity model: Lownet Xnear: 75.0 Xfar: 150.0	
WLF1 HZ 138.0 IP D 01:01 39.15	-0.08	STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES	
WPS HZ 147.0 EP 01:01 40.71	0.09	MONM HZ 17.5 IP C 04:59 41.09	0.09
SWN1 HZ 170.0 EP 01:01 45.76	1.85	MONM HE 17.5 ES 04:59 44.07	0.26
KESW HZ 183.0 EP 01:01 44.27	-1.19	MONM HE 17.5 IAML 04:59 44.18	26 0.09
NEWG HZ 264.0 EP 01:01 54.06	-1.57	MONM HN 17.5 IAML 04:59 44.22	30 0.09
		OLDB HZ 25.4 EP 04:59 41.99	-0.10
August 30 2019 Time: 10:30 17.9 UTC Magnitude: 1.6 ML		OLDB HN 25.4 ES 04:59 45.62	-0.08
Lat: 57.076 Lon: -5.704 Depth: 7.5 km		OLDB HN 25.4 IAML 04:59 46.38	15 0.12
Grid Ref: 175.53 kmE 804.40 kmN RMS: 0.30 secs		OLDB HE 25.4 IAML 04:59 46.42	40 0.35
Locality: KNOYDART,HIGHLAND		STRD HZ 30.4 EP 04:59 42.90	0.04
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0		STRD HE 30.4 ES 04:59 47.01	-0.02
STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES		STRD HN 30.4 IAML 04:59 47.40	16 0.19
KPL HZ 29.5 EP 10:30 23.48	0.14	STRD HE 30.4 IAML 04:59 47.56	15 0.16
KPL HE 29.5 ES 10:30 27.04	-0.25	MCH1 HZ 32.2 IP D 04:59 43.11	-0.03
KPL HN 29.5 IAML 10:30 27.31	56 0.16	MCH1 HE 32.2 ES 04:59 47.23	-0.29
KPL HE 29.5 IAML 10:30 27.38	155 0.18	MCH1 HE 32.2 IAML 04:59 47.70	8 0.22
LAWE HZ 92.7 IP C 10:30 33.52	0.35	MCH1 HN 32.2 IAML 04:59 47.79	11 0.24
LAWE HE 92.7 ES 10:30 43.99	-0.31	FOEL HZ 119.0 EP 04:59 57.16	0.84
LAWE HN 92.7 IAML 10:30 47.21	57 0.10		
LAWE HE 92.7 IAML 10:30 47.37	39 0.16	September 5 2019 Time: 15:39 01.3 UTC Magnitude: 1.5 ML	
LINV HZ 123.0 EP 10:30 37.84	-0.02	Lat: 53.033 Lon: -4.105 Depth: 14.9 km	
INVG HZ 125.0 EP 10:30 38.32	0.19	Grid Ref: 258.86 kmE 350.52 kmN RMS: 0.20 secs	
INVG HN 125.0 ES 10:30 52.83	-0.04	Locality: BEDDGELERT,GWYNEDD	
INVG HN 125.0 IAML 10:30 53.67	6 0.14	Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0	
INVG HE 125.0 IAML 10:30 54.07	6 0.10	Comment: FELT CARMEL...	Intensity: 3
LEWI HZ 138.0 EP 10:30 39.95	-0.07	STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES	
LEWI HN 138.0 ES 10:30 56.15	0.00	YLL EZ 12.7 EP 15:39 04.88	0.18
LEWI HE 138.0 IAML 10:30 56.75	10 0.13	WLF1 HZ 34.6 EP 15:39 07.77	0.04
LEWI HN 138.0 IAML 10:30 59.01	8 0.17	WLF1 HE 34.6 ES 15:39 12.16	-0.18
BIGH HZ 191.0 EP 10:30 48.50	1.43	WLF1 HN 34.6 IAML 15:39 12.29	59 0.18
BIGH HN 191.0 ES 10:31 10.12	1.77	WLF1 HE 34.6 IAML 15:39 12.29	102 0.13
BIGH HE 191.0 IAML 10:31 11.24	5 0.12	LLW BZ 35.9 EP 15:39 08.02	0.07
BIGH HN 191.0 IAML 10:31 12.90	4 0.19	LLW BE 35.9 ES 15:39 12.49	-0.22
		LLW BE 35.9 IAML 15:39 12.93	76 0.28
September 2 2019 Time: 05:13 04.9 UTC Magnitude: 1.1 ML		LLW HN 35.9 IAML 15:39 12.95	34 0.23
Lat: 51.160 Lon: -0.237 Depth: 2.0 km		WME EZ 42.6 EP 15:39 09.15	0.15
Grid Ref: 523.27 kmE 141.62 kmN RMS: 0.00 secs		WPS HZ 48.7 EP 15:39 09.98	0.06
Locality: NEWDIGATE,SURREY		WPS HE 48.7 ES 15:39 15.88	-0.21
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0		WPS HE 48.7 IAML 15:39 16.08	26 0.18
Comment: FELT NEWDIGATE Intensity: 2		WPS HN 48.7 IAML 15:39 16.40	25 0.15
STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES		FOEL HZ 62.8 EP 15:39 12.31	0.21
STAN HZ 1.4 IP D 05:13 05.76	0.03	FOEL HE 62.8 ES 15:39 19.69	-0.15
STAN HN 1.4 ES 05:13 06.34	-0.02	FOEL HN 62.8 IAML 15:39 20.07	28 0.24
STAN HE 1.4 IAML 05:13 06.57	1301 0.08	FOEL HE 62.8 IAML 15:39 20.44	28 0.27
STAN HN 1.4 IAML 05:13 06.61	3747 0.18	LPW HZ 102.0 EP 15:39 17.79	-0.20
GAT2 HZ 1.9 IP D 05:13 05.84	0.03	LPW HN 102.0 IAML 15:39 33.66	20 0.12
GAT2 HN 1.9 ES 05:13 06.49	-0.02	LPW HE 102.0 IAML 15:39 33.88	18 0.14
GAT2 HE 1.9 IAML 05:13 06.74	2824 0.19	MCH1 HZ 138.0 EP 15:39 23.85	0.55
GAT2 HN 1.9 IAML 05:13 06.75	2988 0.06	MCH1 HE 138.0 IAML 15:39 41.75	14 0.34
RUSH HZ 2.6 IP C 05:13 05.94	0.00	MCH1 HN 138.0 IAML 15:39 41.76	24 0.30
RUSH HE 2.6 ES 05:13 06.75	0.01	IOMK HZ 140.0 EP 15:39 23.85	0.17
RUSH HN 2.6 IAML 05:13 06.92	3057 0.09	IOMK HN 140.0 IAML 15:39 41.90	4 0.19
RUSH HE 2.6 IAML 05:13 06.96	1398 0.14	IOMK HE 140.0 IAML 15:39 42.18	5 0.16
HORS HZ 2.6 IP C 05:13 05.97	0.00		
HORS HN 2.6 ES 05:13 06.80	0.01	September 6 2019 Time: 07:09 45.5 UTC Magnitude: 1.0 ML	
HORS HE 2.6 IAML 05:13 06.90	997 0.11	Lat: 51.161 Lon: -0.237 Depth: 2.0 km	
HORS HN 2.6 IAML 05:13 06.91	877 0.15	Grid Ref: 523.26 kmE 141.73 kmN RMS: 0.00 secs	
BRDL HZ 3.7 IP D 05:13 06.14	-0.06	Locality: NEWDIGATE,SURREY	
BRDL HE 3.7 ES 05:13 07.21	0.03	Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0	
BRDL HE 3.7 IAML 05:13 07.32	1089 0.11	STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES	
BRDL HN 3.7 IAML 05:13 07.32	1106 0.12	STAN HZ 1.3 IP D 07:09 46.43	0.03
		STAN HE 1.3 ES 07:09 47.01	-0.01
September 3 2019 Time: 20:19 13.2 UTC Magnitude: 0.2 ML		STAN HE 1.3 IAML 07:09 47.25	980 0.09
Lat: 51.161 Lon: -0.237 Depth: 2.0 km		STAN HN 1.3 IAML 07:09 47.28	2494 0.19
Grid Ref: 523.26 kmE 141.73 kmN RMS: 0.00 secs		GAT2 HZ 2.0 IP D 07:09 46.52	0.00
Locality: NEWDIGATE,SURREY		GAT2 HE 2.0 ES 07:09 47.26	0.02
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0		GAT2 HN 2.0 IAML 07:09 47.38	2348 0.10
STAT CO DIST PHAS WT P HrMn SECS AMPL PERI RES		GAT2 HE 2.0 IAML 07:09 47.40	2847 0.19
STAN HZ 1.3 IP D 20:19 14.06	-0.01	HORS HZ 2.5 IP C 07:09 46.64	-0.01
STAN HE 1.3 ES 20:19 14.70	0.00	HORS HE 2.5 ES 07:09 47.45	0.00
STAN HE 1.3 IAML 20:19 14.87	160 0.08	HORS HN 2.5 IAML 07:09 47.55	1021 0.11
STAN HN 1.3 IAML 20:19 14.90	357 0.12	HORS HE 2.5 IAML 07:09 47.57	847 0.14
GAT2 HZ 1.9 IP D 20:19 14.15	-0.03	RUSH HZ 2.6 IP C 07:09 46.63	-0.02
GAT2 HE 1.9 ES 20:19 14.93	0.04	RUSH HN 2.6 ES 07:09 47.46	0.00
GAT2 HN 1.9 IAML 20:19 15.05	332 0.07	RUSH HN 2.6 IAML 07:09 47.57	2234 0.10
GAT2 HE 1.9 IAML 20:19 15.13	401 0.18	RUSH HE 2.6 IAML 07:09 47.58	1494 0.14
HORS HZ 2.6 IP C 20:19 14.30	-0.01	BRDL HZ 3.6 IP D 07:09 46.80	-0.07
HORS HN 2.6 ES 20:19 15.13	0.01	BRDL HE 3.6 ES 07:09 47.90	0.06
HORS HN 2.6 IAML 20:19 15.25	145 0.11	BRDL HN 3.6 IAML 07:09 48.00	849 0.13
HORS HE 2.6 IAML 20:19 15.28	110 0.15	BRDL HE 3.6 IAML 07:09 48.01	875 0.11
RUSH HZ 2.6 IP C 20:19 14.27	-0.03		
RUSH HN 2.6 ES 20:19 15.12	0.02	September 9 2019 Time: 20:36 00.7 UTC Magnitude: 0.8 ML	
RUSH HN 2.6 IAML 20:19 15.23	384 0.09	Lat: 53.023 Lon: -4.118 Depth: 7.5 km	
RUSH HE 2.6 IAML 20:19 15.27	223 0.14	Grid Ref: 257.96 kmE 349.43 kmN RMS: 0.30 secs	
BRDL HZ 3.6 EP 20:19 14.47	-0.06	Locality: BEDDGELERT,GWYNEDD	
BRDL HE 3.6 ES 20:19 15.56	0.06	Velocity model: Lownet Xnear: 100.0 Xfar: 200.0	

TABLE 2 : PHASE DATA

September 16 2019 Time: 12:43 00.9 UTC Magnitude: 1.2 ML										KESW	HZ	417.0	EP						13:39	10.14		-0.97										
Lat: 53.487		Lon: -2.126		Depth: 7.8 km		RMS: 0.40 secs				PGB1	HZ	419.0	EP							13:39	10.92		-0.40									
Grid Ref: 391.64 kmE 398.96 kmN										BER	HZ	422.0	EP									13:39	12.20		0.49							
Locality: ASHTON-U-LYNE,GTR MAN										BER	HE	422.0	ES											13:39	53.70		0.45					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										BER	HN	422.0	IAML														13:40	00.15	49	0.41		
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	BER	HE	422.0	IAML							13:40	22.41	70	0.74								
AS02	HZ	11.9	IP		C	12:43	03.58			-0.04	LMK	HZ	423.0	EP	4						13:39	08.26			-3.63							
AS02	HE	11.9	ES			12:43	05.51			-0.13	NEWG	HZ	439.0	EP							13:39	13.15			-0.69							
AS02	HE	11.9	IAML			12:43	05.98	150	0.12		LINV	HZ	444.0	EP							13:39	13.53			-0.92							
AS02	HN	11.9	IAML			12:43	05.98	120	0.10		LAWH	HZ	458.0	EP							13:39	15.43			-0.75							
LBWR	HZ	28.3	EP			12:43	06.26			0.09	KPL	HZ	460.0	EP							13:39	15.52			-0.89							
LBWR	HE	28.3	ES			12:43	09.87			-0.17	LBWR	HZ	466.0	EP							13:39	16.84			-0.44							
LBWR	HN	28.3	IAML			12:43	11.08	65	0.18		GALL	HZ	480.0	EP							13:39	18.08			-0.84							
LBWR	HE	28.3	IAML			12:43	11.09	60	0.10		WACR	HZ	487.0	EP							13:39	20.08			0.29							
AR07	HZ	60.7	EP			12:43	11.22			0.05	IOMK	HZ	512.0	EP							13:39	21.59			-1.37							
AR07	HN	60.7	ES			12:43	18.59			-0.09	STNC	HZ	512.0	EP							13:39	23.22			0.27							
AR07	HE	60.7	IAML			12:43	19.05	17	0.12		CFW	HZ	521.0	EP							13:39	23.44			-0.63							
AR07	HN	60.7	IAML			12:43	20.93	12	0.12		LEWI	HZ	540.0	EP							13:39	25.60			-0.86							
HPK	HZ	62.0	EP			12:43	12.37			1.01	CLGH	HZ	546.0	EP							13:39	26.43			-0.69							
HPK	HE	62.0	ES			12:43	18.41			-0.61	FOEL	HZ	566.0	EP							13:39	28.70			-0.98							
HPK	HN	62.0	IAML			12:43	19.30	21	0.18		WPS	HZ	575.0	EP							13:39	29.00			-1.73							
HPK	HE	62.0	IAML			12:43	21.16	11	0.21		WFL1	HZ	580.0	EP							13:39	29.48			-1.83							
FOEL	HZ	97.9	EP			12:43	16.99			0.02	STRD	HZ	643.0	EP							13:39	39.08			-0.06							
FOEL	HN	97.9	ES			12:43	28.36			-0.36	MCH1	HZ	645.0	EP							13:39	38.98			-0.44							
FOEL	HE	97.9	IAML			12:43	31.60	8	0.29		MONM	HZ	654.0	EP							13:39	40.33			-0.28							
FOEL	HN	97.9	IAML			12:43	31.85	8	0.16		UCC	HZ	712.0	EP							13:39	48.38			0.64							
HLM1	HZ	119.0	EP			12:43	20.68			0.42	MOL	HZ	692.0	EP							13:39	45.60			0.32							
HLM1	HN	119.0	ES			12:43	34.36			-0.06	ILTH	HZ	620.0	EP							13:39	34.93			-1.34							
HLM1	HE	119.0	IAML			12:43	36.51	5	0.22		IDGL	HZ	627.0	EP							13:39	35.82			-1.39							
HLM1	HN	119.0	IAML			12:43	37.06	4	0.16		UCC	HE	712.0	EP							13:39	48.51			0.77							
September 21 2019 Time: 14:43 45.2 UTC Magnitude: 0.6 ML										September 26 2019 Time: 00:11 57.7 UTC Magnitude: 1.9 ML																						
Lat: 51.160		Lon: -0.237		Depth: 2.2 km		RMS: 0.00 secs				Lat: 52.840		Lon: -2.620		Depth: 7.4 km		RMS: 0.40 secs				Grid Ref: 523.27 kmE 141.62 kmN		Grid Ref: 358.24 kmE 327.16 kmN		Locality: NEWDIGATE,SURREY		Locality: HODNET,SHROPSHIRE						
Velocity model: Surrey Xnear: 500.0 Xfar: 1000.0										Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																						
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STAN	HZ	1.3	IP		D	14:43	46.03			-0.03	FOEL	HZ	39.4	EP			00:12	04.92			0.12	FOEL	HZ	39.4	EP			00:12	09.49			-0.46
STAN	HE	1.3	ES			14:43	46.73			0.01	FOEL	HN	39.4	ES			00:12	11.37	157	0.32		FOEL	HN	39.4	IAML			00:12	11.42	106	0.40	
STAN	HN	1.3	IAML			14:43	46.84	1257	0.12		FOEL	HE	39.4	IAML			00:12	11.42	106	0.40		HLM1	HZ	39.9	IP		C	00:12	04.70			-0.17
STAN	HE	1.3	IAML			14:43	46.95	632	0.17		FOEL	HE	39.4	IAML			00:12	12.28				HLM1	HN	39.9	ES			00:12	09.67			-0.40
GAT2	HZ	1.9	IP		D	14:43	46.13			-0.02	HLM1	HN	39.9	IP		C	00:12	11.08	74	0.07		HLM1	HN	39.9	ES			00:12	11.08			0.19
GAT2	HN	1.9	ES			14:43	46.93			0.06	HLM1	HE	39.9	IAML			00:12	12.28				LBWR	HZ	86.6	EP			00:12	22.25			-0.31
GAT2	HN	1.9	IAML			14:43	47.00	1427	0.08		HLM1	HE	39.9	IAML			00:12	22.25				LBWR	HE	86.6	IAML			00:12	24.52	46	0.23	
GAT2	HE	1.9	IAML			14:43	47.09	586	0.14		HLM1	HN	39.9	IAML			00:12	24.52				LBWR	HN	86.6	ES			00:12	28.36	36	0.28	
HORS	HZ	2.6	IP		C	14:43	46.28			-0.01	LBWR	HE	86.6	EP			00:12	26.79	35	0.11		LBWR	HN	86.6	ES			00:12	28.36			0.13
HORS	HN	2.6	ES			14:43	47.10			0.00	LBWR	HN	86.6	ES			00:12	26.79	35	0.11		LBWR	HN	86.6	ES			00:12	28.36			-0.52
HORS	HN	2.6	IAML			14:43	47.22	409	0.10		CFW	HZ	89.2	EP			00:12	25.52	47	0.12		CFW	HN	89.2	ES			00:12	22.70			0.13
HORS	HE	2.6	IAML			14:43	47.27	184	0.18		CFW	HN	89.2	ES			00:12	25.52	47	0.12		CFW	HN	89.2	IAML			00:12	25.52	47	0.12	
RUSH	HZ	2.6	IP		C	14:43	46.23			-0.04	CFW	HE	89.2	IAML			00:12	26.79	35	0.11		CFW	HN	89.2	IAML			00:12	26.79			0.07
RUSH	HN	2.6	ES			14:43	47.08			0.01	CFW	HE	89.2	IAML			00:12	13.78				MCH1	HZ	97.2	EP			00:12	13.78			-0.12
RUSH	HN	2.6	IAML			14:43	47.18	1148	0.09		MCH1	HN	97.2	ES			00:12	25.25				MCH1	HN	97.2	ES			00:12	25.25			0.07
RUSH	HE	2.6	IAML			14:43	47.31	321	0.09		MCH1	HN	97.2	ES			00:12	25.25				MCH1	HN	97.2	IAML			00:12	25.59	58	0.32	
BRDL	HE	3.6	IP		D	14:43	46.43			-0.06	MCH1	HE	97.2	IAML			00:12	27.07	58	0.20		MCH1	HE	97.2	IAML			00:12	27.07			0.50
BRDL	HE	3.6	ES			14:43	47.55			0.09	MONM	HZ	112.0	EP			00:12	16.50				MONM	HZ	112.0	EP			00:12	16.50			0.47
BRDL	HN	3.6	IAML			14:43	47.65	465	0.09		STRD	HZ	122.0	EP			00:12	18.09				STRD	HZ	122.0	EP			00:12	18.09			0.16
BRDL	HN	3.6	IAML			14:43	47.65	405	0.10		WFL1	HZ	129.0	EP			00:12	18.73				WFL1	HZ	129.0	EP			00:12	18.73			0.29
September 24 2019 Time: 13:38 14.8 UTC Magnitude: 4.2 ML										September 28 2019 Time: 19:30 50.9 UTC Magnitude: 0.7 ML																						
Lat: 57.034		Lon: 1.935		Depth: 10.0 km		RMS: 0.70 secs				Lat: 55.843		Lon: -5.397		Depth: 14.9 km		RMS: 0.60 secs				Grid Ref: 638.73 kmE 800.52 kmN		Grid Ref: 187.35 kmE 666.30 kmN		Locality: CENTRAL NORTH SEA		Locality: TARBERT,ARGYLL & BUTE						
Velocity model: North Sea Xnear: 400.0 Xfar: 600.0										Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																						
Comment: FELT ELGIN-FRANKLIN Intensity: 3																																
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES											

TABLE 2 : PHASE DATA

<p>GAL1 HN 117.0 IAML 19:31 26.46 2 0.14 ESK HZ 150.0 EP 19:31 15.87 1.58 ESK HE 150.0 IAML 19:31 34.33 1 0.16 ESK HN 150.0 IAML 19:31 34.83 1 0.22</p> <p>September 29 2019 Time: 10:53 43.0 UTC Magnitude: 1.0 ML Lat: 55.825 Lon: -2.570 Depth: 6.8 km Grid Ref: 364.29 kmE 659.23 kmN RMS: 0.30 secs Locality: LONGFORMACUS, BORDERS Velocity model: Lownet Xnear: 100.0 Xfar: 200.0 Comment: 5KM WNW LONGFORMACUS</p> <table border="0" style="width: 100%; font-family: monospace;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>ESY</td><td>EZ</td><td>10.7</td><td>EP</td><td></td><td></td><td>10:53</td><td>45.51</td><td></td><td></td><td>0.02</td></tr> <tr><td>EDI</td><td>HZ</td><td>40.2</td><td>EP</td><td></td><td></td><td>10:53</td><td>49.84</td><td></td><td></td><td>-0.28</td></tr> <tr><td>EDI</td><td>HN</td><td>40.2</td><td>ES</td><td></td><td></td><td>10:53</td><td>55.17</td><td></td><td></td><td>-0.16</td></tr> <tr><td>EDI</td><td>HN</td><td>40.2</td><td>IAML</td><td></td><td></td><td>10:53</td><td>55.75</td><td>13</td><td>0.26</td><td></td></tr> <tr><td>EDI</td><td>HE</td><td>40.2</td><td>IAML</td><td></td><td></td><td>10:53</td><td>56.44</td><td>4</td><td>0.17</td><td></td></tr> <tr><td>ESK</td><td>HZ</td><td>69.3</td><td>EP</td><td></td><td></td><td>10:53</td><td>54.40</td><td></td><td></td><td>-0.27</td></tr> <tr><td>ESK</td><td>HN</td><td>69.3</td><td>ES</td><td></td><td></td><td>10:54</td><td>02.75</td><td></td><td></td><td>-0.45</td></tr> <tr><td>ESK</td><td>HE</td><td>69.3</td><td>IAML</td><td></td><td></td><td>10:54</td><td>03.85</td><td>6</td><td>0.16</td><td></td></tr> <tr><td>ESK</td><td>HN</td><td>69.3</td><td>IAML</td><td></td><td></td><td>10:54</td><td>04.52</td><td>6</td><td>0.16</td><td></td></tr> <tr><td>INVG</td><td>HZ</td><td>114.0</td><td>EP</td><td></td><td></td><td>10:54</td><td>01.62</td><td></td><td></td><td>0.09</td></tr> <tr><td>INVG</td><td>HN</td><td>114.0</td><td>ES</td><td></td><td></td><td>10:54</td><td>15.07</td><td></td><td></td><td>-0.01</td></tr> <tr><td>INVG</td><td>HE</td><td>114.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>15.37</td><td>2</td><td>0.29</td><td></td></tr> <tr><td>INVG</td><td>HN</td><td>114.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>15.45</td><td>2</td><td>0.27</td><td></td></tr> <tr><td>EDMD</td><td>HE</td><td>117.0</td><td>ES</td><td></td><td></td><td>10:54</td><td>16.26</td><td></td><td></td><td>0.32</td></tr> <tr><td>EDMD</td><td>HN</td><td>117.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>17.73</td><td>6</td><td>0.23</td><td></td></tr> <tr><td>EDMD</td><td>HE</td><td>117.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>18.13</td><td>5</td><td>0.14</td><td></td></tr> <tr><td>PGB1</td><td>HZ</td><td>120.0</td><td>EP</td><td></td><td></td><td>10:54</td><td>03.06</td><td></td><td></td><td>0.56</td></tr> <tr><td>PGB1</td><td>HN</td><td>120.0</td><td>ES</td><td></td><td></td><td>10:54</td><td>17.32</td><td></td><td></td><td>0.56</td></tr> <tr><td>PGB1</td><td>HN</td><td>120.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>17.72</td><td>9</td><td>0.23</td><td></td></tr> <tr><td>PGB1</td><td>HE</td><td>120.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>17.97</td><td>8</td><td>0.28</td><td></td></tr> <tr><td>DRUM</td><td>HZ</td><td>121.0</td><td>EP</td><td></td><td></td><td>10:54</td><td>02.90</td><td></td><td></td><td>0.19</td></tr> <tr><td>DRUM</td><td>HE</td><td>121.0</td><td>ES</td><td></td><td></td><td>10:54</td><td>16.81</td><td></td><td></td><td>-0.30</td></tr> <tr><td>DRUM</td><td>HE</td><td>121.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>17.44</td><td>8</td><td>0.25</td><td></td></tr> <tr><td>DRUM</td><td>HN</td><td>121.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>18.35</td><td>7</td><td>0.12</td><td></td></tr> <tr><td>NEWG</td><td>HZ</td><td>131.0</td><td>EP</td><td></td><td></td><td>10:54</td><td>04.36</td><td></td><td></td><td>0.20</td></tr> <tr><td>NEWG</td><td>HN</td><td>131.0</td><td>ES</td><td></td><td></td><td>10:54</td><td>19.94</td><td></td><td></td><td>0.31</td></tr> <tr><td>NEWG</td><td>HE</td><td>131.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>21.47</td><td>4</td><td>0.09</td><td></td></tr> <tr><td>NEWG</td><td>HN</td><td>131.0</td><td>IAML</td><td></td><td></td><td>10:54</td><td>21.48</td><td>4</td><td>0.21</td><td></td></tr> <tr><td>GAL1</td><td>HE</td><td>173.0</td><td>EP</td><td></td><td></td><td>10:54</td><td>09.67</td><td></td><td></td><td>-0.32</td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	ESY	EZ	10.7	EP			10:53	45.51			0.02	EDI	HZ	40.2	EP			10:53	49.84			-0.28	EDI	HN	40.2	ES			10:53	55.17			-0.16	EDI	HN	40.2	IAML			10:53	55.75	13	0.26		EDI	HE	40.2	IAML			10:53	56.44	4	0.17		ESK	HZ	69.3	EP			10:53	54.40			-0.27	ESK	HN	69.3	ES			10:54	02.75			-0.45	ESK	HE	69.3	IAML			10:54	03.85	6	0.16		ESK	HN	69.3	IAML			10:54	04.52	6	0.16		INVG	HZ	114.0	EP			10:54	01.62			0.09	INVG	HN	114.0	ES			10:54	15.07			-0.01	INVG	HE	114.0	IAML			10:54	15.37	2	0.29		INVG	HN	114.0	IAML			10:54	15.45	2	0.27		EDMD	HE	117.0	ES			10:54	16.26			0.32	EDMD	HN	117.0	IAML			10:54	17.73	6	0.23		EDMD	HE	117.0	IAML			10:54	18.13	5	0.14		PGB1	HZ	120.0	EP			10:54	03.06			0.56	PGB1	HN	120.0	ES			10:54	17.32			0.56	PGB1	HN	120.0	IAML			10:54	17.72	9	0.23		PGB1	HE	120.0	IAML			10:54	17.97	8	0.28		DRUM	HZ	121.0	EP			10:54	02.90			0.19	DRUM	HE	121.0	ES			10:54	16.81			-0.30	DRUM	HE	121.0	IAML			10:54	17.44	8	0.25		DRUM	HN	121.0	IAML			10:54	18.35	7	0.12		NEWG	HZ	131.0	EP			10:54	04.36			0.20	NEWG	HN	131.0	ES			10:54	19.94			0.31	NEWG	HE	131.0	IAML			10:54	21.47	4	0.09		NEWG	HN	131.0	IAML			10:54	21.48	4	0.21		GAL1	HE	173.0	EP			10:54	09.67			-0.32	<p>NEWG HZ 85.8 EP 18:30 11.28 0.09 NEWG HN 85.8 ES 18:30 21.33 -0.21 NEWG HE 85.8 IAML 18:30 23.16 2 0.20 NEWG HN 85.8 IAML 18:30 23.34 2 0.15 AS07 HZ 91.1 EP 18:30 12.54 0.47 GAL1 HN 108.0 ES 18:30 27.68 0.28 GAL1 HE 108.0 IAML 18:30 28.06 1 0.18 GAL1 HN 108.0 IAML 18:30 28.56 2 0.26 IOMK HZ 113.0 EP 18:30 15.77 0.38 IOMK HN 113.0 ES 18:30 29.28 0.48</p> <p>October 2 2019 Time: 19:22 06.6 UTC Magnitude: 2.4 ML Lat: 52.799 Lon: -0.889 Depth: 5.3 km Grid Ref: 474.90 kmE 323.00 kmN RMS: 0.30 secs Locality: MELTON MOWBRAY, LEICS Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0 Comment: FELT NE LEICS... Intensity: 4</p> <table border="0" style="width: 100%; font-family: monospace;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>CFW</td><td>HZ</td><td>29.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>12.08</td><td></td><td></td><td>0.04</td></tr> <tr><td>CFW</td><td>HE</td><td>29.0</td><td>ES</td><td></td><td></td><td>19:22</td><td>15.91</td><td></td><td></td><td>-0.10</td></tr> <tr><td>CFW</td><td>HE</td><td>29.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>16.32</td><td>391</td><td>0.10</td><td></td></tr> <tr><td>CFW</td><td>HN</td><td>29.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>16.47</td><td>366</td><td>0.12</td><td></td></tr> <tr><td>LMK</td><td>HZ</td><td>82.4</td><td>EP</td><td>9</td><td></td><td>19:22</td><td>16.54</td><td></td><td></td><td>-3.84</td></tr> <tr><td>LMK</td><td>HE</td><td>82.4</td><td>ES</td><td></td><td></td><td>19:22</td><td>26.33</td><td></td><td></td><td>-0.28</td></tr> <tr><td>LMK</td><td>HE</td><td>82.4</td><td>IAML</td><td></td><td></td><td>19:22</td><td>26.89</td><td>214</td><td>0.40</td><td></td></tr> <tr><td>LMK</td><td>HN</td><td>82.4</td><td>IAML</td><td></td><td></td><td>19:22</td><td>29.44</td><td>178</td><td>0.50</td><td></td></tr> <tr><td>LBWR</td><td>HZ</td><td>87.4</td><td>EP</td><td></td><td></td><td>19:22</td><td>21.22</td><td></td><td></td><td>0.02</td></tr> <tr><td>LBWR</td><td>HN</td><td>87.4</td><td>ES</td><td></td><td></td><td>19:22</td><td>31.87</td><td></td><td></td><td>0.01</td></tr> <tr><td>LBWR</td><td>HE</td><td>87.4</td><td>IAML</td><td></td><td></td><td>19:22</td><td>33.35</td><td>67</td><td>0.11</td><td></td></tr> <tr><td>LBWR</td><td>HN</td><td>87.4</td><td>IAML</td><td></td><td></td><td>19:22</td><td>33.61</td><td>104</td><td>0.45</td><td></td></tr> <tr><td>STNC</td><td>HZ</td><td>94.3</td><td>EP</td><td></td><td></td><td>19:22</td><td>22.76</td><td></td><td></td><td>0.51</td></tr> <tr><td>STNC</td><td>HN</td><td>94.3</td><td>ES</td><td></td><td></td><td>19:22</td><td>32.99</td><td></td><td></td><td>-0.70</td></tr> <tr><td>WACR</td><td>HZ</td><td>103.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>22.88</td><td></td><td></td><td>-0.65</td></tr> <tr><td>WACR</td><td>HN</td><td>103.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>36.29</td><td>137</td><td>0.10</td><td></td></tr> <tr><td>WACR</td><td>HE</td><td>103.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>36.95</td><td>126</td><td>0.14</td><td></td></tr> <tr><td>HLM1</td><td>HZ</td><td>138.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>28.90</td><td></td><td></td><td>-0.08</td></tr> <tr><td>HLM1</td><td>HE</td><td>138.0</td><td>ES</td><td></td><td></td><td>19:22</td><td>45.01</td><td></td><td></td><td>-0.32</td></tr> <tr><td>HLM1</td><td>HE</td><td>138.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>46.96</td><td>69</td><td>0.20</td><td></td></tr> <tr><td>HLM1</td><td>HN</td><td>138.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>47.44</td><td>61</td><td>0.16</td><td></td></tr> <tr><td>HPK</td><td>HZ</td><td>138.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>29.33</td><td></td><td></td><td>0.43</td></tr> <tr><td>HPK</td><td>HE</td><td>138.0</td><td>ES</td><td></td><td></td><td>19:22</td><td>45.32</td><td></td><td></td><td>0.14</td></tr> <tr><td>HPK</td><td>HE</td><td>138.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>46.26</td><td>78</td><td>0.32</td><td></td></tr> <tr><td>HPK</td><td>HN</td><td>138.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>46.83</td><td>99</td><td>0.28</td><td></td></tr> <tr><td>STRD</td><td>HZ</td><td>143.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>29.57</td><td></td><td></td><td>-0.06</td></tr> <tr><td>STRD</td><td>HN</td><td>143.0</td><td>ES</td><td></td><td></td><td>19:22</td><td>46.75</td><td></td><td></td><td>0.30</td></tr> <tr><td>STRD</td><td>HN</td><td>143.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>49.04</td><td>215</td><td>0.16</td><td></td></tr> <tr><td>STRD</td><td>HE</td><td>143.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>49.13</td><td>146</td><td>0.18</td><td></td></tr> <tr><td>ELMS</td><td>HZ</td><td>150.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>30.78</td><td></td><td></td><td>0.21</td></tr> <tr><td>ELMS</td><td>HE</td><td>150.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>49.51</td><td>129</td><td>0.24</td><td></td></tr> <tr><td>ELMS</td><td>HN</td><td>150.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>49.94</td><td>130</td><td>0.20</td><td></td></tr> <tr><td>FOEL</td><td>HZ</td><td>156.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>31.99</td><td></td><td></td><td>0.48</td></tr> <tr><td>FOEL</td><td>HN</td><td>156.0</td><td>ES</td><td></td><td></td><td>19:22</td><td>49.71</td><td></td><td></td><td>0.00</td></tr> <tr><td>FOEL</td><td>HE</td><td>156.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>51.89</td><td>37</td><td>0.30</td><td></td></tr> <tr><td>FOEL</td><td>HN</td><td>156.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>51.99</td><td>55</td><td>0.35</td><td></td></tr> <tr><td>MCH1</td><td>HZ</td><td>169.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>33.42</td><td></td><td></td><td>0.10</td></tr> <tr><td>MCH1</td><td>HN</td><td>169.0</td><td>ES</td><td></td><td></td><td>19:22</td><td>52.95</td><td></td><td></td><td>0.11</td></tr> <tr><td>MCH1</td><td>HE</td><td>169.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>53.83</td><td>43</td><td>0.15</td><td></td></tr> <tr><td>MCH1</td><td>HN</td><td>169.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>54.42</td><td>46</td><td>0.12</td><td></td></tr> <tr><td>MONM</td><td>HZ</td><td>169.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>33.37</td><td></td><td></td><td>0.11</td></tr> <tr><td>MONM</td><td>HE</td><td>169.0</td><td>ES</td><td></td><td></td><td>19:22</td><td>52.86</td><td></td><td></td><td>0.13</td></tr> <tr><td>MONM</td><td>HE</td><td>169.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>54.43</td><td>55</td><td>0.24</td><td></td></tr> <tr><td>MONM</td><td>HN</td><td>169.0</td><td>IAML</td><td></td><td></td><td>19:22</td><td>54.83</td><td>82</td><td>0.20</td><td></td></tr> <tr><td>RSBS</td><td>HZ</td><td>279.0</td><td>EP</td><td></td><td></td><td>19:22</td><td>46.40</td><td></td><td></td><td>-0.68</td></tr> <tr><td>RSBS</td><td>HE</td><td>279.0</td><td>IAML</td><td></td><td></td><td>19:23</td><td>27.47</td><td>8</td><td>0.23</td><td></td></tr> <tr><td>RSBS</td><td>HN</td><td>279.0</td><td>IAML</td><td></td><td></td><td>19:23</td><td>30.75</td><td>6</td><td>0.36</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	CFW	HZ	29.0	EP			19:22	12.08			0.04	CFW	HE	29.0	ES			19:22	15.91			-0.10	CFW	HE	29.0	IAML			19:22	16.32	391	0.10		CFW	HN	29.0	IAML			19:22	16.47	366	0.12		LMK	HZ	82.4	EP	9		19:22	16.54			-3.84	LMK	HE	82.4	ES			19:22	26.33			-0.28	LMK	HE	82.4	IAML			19:22	26.89	214	0.40		LMK	HN	82.4	IAML			19:22	29.44	178	0.50		LBWR	HZ	87.4	EP			19:22	21.22			0.02	LBWR	HN	87.4	ES			19:22	31.87			0.01	LBWR	HE	87.4	IAML			19:22	33.35	67	0.11		LBWR	HN	87.4	IAML			19:22	33.61	104	0.45		STNC	HZ	94.3	EP			19:22	22.76			0.51	STNC	HN	94.3	ES			19:22	32.99			-0.70	WACR	HZ	103.0	EP			19:22	22.88			-0.65	WACR	HN	103.0	IAML			19:22	36.29	137	0.10		WACR	HE	103.0	IAML			19:22	36.95	126	0.14		HLM1	HZ	138.0	EP			19:22	28.90			-0.08	HLM1	HE	138.0	ES			19:22	45.01			-0.32	HLM1	HE	138.0	IAML			19:22	46.96	69	0.20		HLM1	HN	138.0	IAML			19:22	47.44	61	0.16		HPK	HZ	138.0	EP			19:22	29.33			0.43	HPK	HE	138.0	ES			19:22	45.32			0.14	HPK	HE	138.0	IAML			19:22	46.26	78	0.32		HPK	HN	138.0	IAML			19:22	46.83	99	0.28		STRD	HZ	143.0	EP			19:22	29.57			-0.06	STRD	HN	143.0	ES			19:22	46.75			0.30	STRD	HN	143.0	IAML			19:22	49.04	215	0.16		STRD	HE	143.0	IAML			19:22	49.13	146	0.18		ELMS	HZ	150.0	EP			19:22	30.78			0.21	ELMS	HE	150.0	IAML			19:22	49.51	129	0.24		ELMS	HN	150.0	IAML			19:22	49.94	130	0.20		FOEL	HZ	156.0	EP			19:22	31.99			0.48	FOEL	HN	156.0	ES			19:22	49.71			0.00	FOEL	HE	156.0	IAML			19:22	51.89	37	0.30		FOEL	HN	156.0	IAML			19:22	51.99	55	0.35		MCH1	HZ	169.0	EP			19:22	33.42			0.10	MCH1	HN	169.0	ES			19:22	52.95			0.11	MCH1	HE	169.0	IAML			19:22	53.83	43	0.15		MCH1	HN	169.0	IAML			19:22	54.42	46	0.12		MONM	HZ	169.0	EP			19:22	33.37			0.11	MONM	HE	169.0	ES			19:22	52.86			0.13	MONM	HE	169.0	IAML			19:22	54.43	55	0.24		MONM	HN	169.0	IAML			19:22	54.83	82	0.20		RSBS	HZ	279.0	EP			19:22	46.40			-0.68	RSBS	HE	279.0	IAML			19:23	27.47	8	0.23		RSBS	HN	279.0	IAML			19:23	30.75	6	0.36	
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<p>September 29 2019 Time: 16:23 11.9 UTC Magnitude: 1.4 ML Lat: 54.656 Lon: -1.933 Depth: 2.5 km Grid Ref: 404.32 kmE 529.00 kmN RMS: 0.20 secs Locality: BUTTERKNOWLE, CO DURHAM Velocity model: Lownet Xnear: 100.0 Xfar: 200.0 Comment: 8KM WNW BUTTERKNOWLE</p> <table border="0" style="width: 100%; font-family: monospace;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>EDMD</td><td>HZ</td><td>19.6</td><td>EP</td><td></td><td></td><td>16:23</td><td>15.70</td><td></td><td></td><td>0.01</td></tr> <tr><td>EDMD</td><td>HE</td><td>19.6</td><td>ES</td><td></td><td></td><td>16:23</td><td>18.27</td><td></td><td></td><td>-0.19</td></tr> <tr><td>EDMD</td><td>HE</td><td>19.6</td><td>IAML</td><td></td><td></td><td>16:23</td><td>18.35</td><td>393</td><td>0.10</td><td></td></tr> <tr><td>EDMD</td><td>HN</td><td>19.6</td><td>IAML</td><td></td><td></td><td>16:23</td><td>18.46</td><td>179</td><td>0.14</td><td></td></tr> <tr><td>AQ12</td><td>HZ</td><td>58.3</td><td>EP</td><td></td><td></td><td>16:23</td><td>21.85</td><td></td><td></td><td>-0.36</td></tr> <tr><td>AT10</td><td>HZ</td><td>58.4</td><td>EP</td><td></td><td></td><td>16:23</td><td>22.10</td><td></td><td></td><td>-0.11</td></tr> <tr><td>AR05</td><td>HZ</td><td>74.2</td><td>EP</td><td></td><td></td><td>16:23</td><td>24.88</td><td></td><td></td><td>0.24</td></tr> <tr><td>AR05</td><td>HE</td><td>74.2</td><td>IAML</td><td></td><td></td><td>16:23</td><td>34.28</td><td>7</td><td>0.36</td><td></td></tr> <tr><td>AR05</td><td>HN</td><td>74.2</td><td>IAML</td><td></td><td></td><td>16:23</td><td>36.54</td><td>18</td><td>0.34</td><td></td></tr> <tr><td>KESW</td><td>HZ</td><td>76.1</td><td>EP</td><td></td><td></td><td>16:23</td><td>25.05</td><td></td><td></td><td>0.12</td></tr> <tr><td>KESW</td><td>HN</td><td>76.1</td><td>ES</td><td></td><td></td><td>16:23</td><td>34.27</td><td></td><td></td><td>-0.18</td></tr> <tr><td>KESW</td><td>HN</td><td>76.1</td><td>IAML</td><td></td><td></td><td>16:23</td><td>36.49</td><td>7</td><td>0.14</td><td></td></tr> <tr><td>KESW</td><td>HE</td><td>76.1</td><td>IAML</td><td></td><td></td><td>16:23</td><td>36.66</td><td>9</td><td>0.28</td><td></td></tr> <tr><td>ESK</td><td>HZ</td><td>110.0</td><td>EP</td><td></td><td></td><td>16:23</td><td>30.57</td><td></td><td></td><td>0.42</td></tr> <tr><td>ESK</td><td>HN</td><td>110.0</td><td>ES</td><td></td><td></td><td>16:23</td><td>43.54</td><td></td><td></td><td>0.06</td></tr> <tr><td>ESK</td><td>HE</td><td>110.0</td><td>IAML</td><td></td><td></td><td>16:23</td><td>44.09</td><td>9</td><td>0.20</td><td></td></tr> <tr><td>ESK</td><td>HN</td><td>110.0</td><td>IAML</td><td></td><td></td><td>16:23</td><td>44.49</td><td>13</td><td>0.24</td><td></td></tr> <tr><td>NEWG</td><td>HZ</td><td>156.0</td><td>EP</td><td></td><td></td><td>16:23</td><td>37.48</td><td></td><td></td><td>0.45</td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	EDMD	HZ	19.6	EP			16:23	15.70			0.01	EDMD	HE	19.6	ES			16:23	18.27			-0.19	EDMD	HE	19.6	IAML			16:23	18.35	393	0.10		EDMD	HN	19.6	IAML			16:23	18.46	179	0.14		AQ12	HZ	58.3	EP			16:23	21.85			-0.36	AT10	HZ	58.4	EP			16:23	22.10			-0.11	AR05	HZ	74.2	EP			16:23	24.88			0.24	AR05	HE	74.2	IAML			16:23	34.28	7	0.36		AR05	HN	74.2	IAML			16:23	36.54	18	0.34		KESW	HZ	76.1	EP			16:23	25.05			0.12	KESW	HN	76.1	ES			16:23	34.27			-0.18	KESW	HN	76.1	IAML			16:23	36.49	7	0.14		KESW	HE	76.1	IAML			16:23	36.66	9	0.28		ESK	HZ	110.0	EP			16:23	30.57			0.42	ESK	HN	110.0	ES			16:23	43.54			0.06	ESK	HE	110.0	IAML			16:23	44.09	9	0.20		ESK	HN	110.0	IAML			16:23	44.49	13	0.24		NEWG	HZ	156.0	EP			16:23	37.48			0.45	<p>October 5 2019 Time: 03:09 15.3 UTC Magnitude: 0.6 ML Lat: 55.244 Lon: -4.024 Depth: 2.5 km Grid Ref: 271.34 kmE 596.30 kmN RMS: 0.50 secs Locality: MONIAIVE, D & G Velocity model: Lownet Xnear: 100.0 Xfar: 200.0 Comment: 8KM NW MONIAIVE</p> <table border="0" style="width: 100%; font-family: monospace;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>NEWG</td><td>HZ</td><td>19.3</td><td>IP</td><td></td><td>C</td><td>03:09</td><td>18.94</td><td></td><td></td><td>-0.07</td></tr> <tr><td>NEWG</td><td>HE</td><td>19.3</td><td>ES</td><td></td><td></td><td>03:09</td><td>21.31</td><td></td><td></td><td>-0.45</td></tr> <tr><td>NEWG</td><td>HE</td><td>19.3</td><td>IAML</td><td></td><td></td><td>03:09</td><td>21.99</td><td>10</td><td>0.08</td><td></td></tr> <tr><td>NEWG</td><td>HN</td><td>19.3</td><td>IAML</td><td></td><td></td><td>03:09</td><td>22.20</td><td>47</td><td>0.07</td><td></td></tr> <tr><td>ESK</td><td>HZ</td><td>52.6</td><td>IP</td><td></td><td>C</td><td>03:09</td><td>24.19</td><td></td><td></td><td>-0.46</td></tr> <tr><td>ESK</td><td>HN</td><td>52.6</td><td>ES</td><td></td><td></td><td>03:09</td><td>30.62</td><td></td><td></td><td>-0.90</td></tr> <tr><td>ESK</td><td>HN</td><td>52.6</td><td>IAML</td><td></td><td></td><td>03:09</td><td>31.40</td><td>3</td><td>0.18</td><td></td></tr> <tr><td>ESK</td><td>HE</td><td>52.6</td><td>IAML</td><td></td><td></td><td>03:09</td><td>35.46</td><td>3</td><td>0.10</td><td></td></tr> <tr><td>GAL1</td><td>HZ</td><td>60.8</td><td>EP</td><td></td><td></td><td>03:09</td><td>25.89</td><td></td><td></td><td>0.00</td></tr> <tr><td>GAL1</td><td>HN</td><td>60.8</td><td>ES</td><td></td><td></td><td>03:09</td><td>33.46</td><td></td><td></td><td>-0.19</td></tr> <tr><td>GAL1</td><td>HE</td><td>60.8</td><td>IAML</td><td></td><td></td><td>03:09</td><td>37.81</td><td>2</td><td>0.11</td><td></td></tr> <tr><td>GAL1</td><td>HN</td><td>60.8</td><td>IAML</td><td></td><td></td><td>03:09</td><td>38.07</td><td>2</td><td>0.11</td><td></td></tr> <tr><td>PGB1</td><td>HE</td><td>69.5</td><td>ES</td><td></td><td></td><td>03:09</td><td>36.42</td><td></td><td></td><td>0.41</td></tr> <tr><td>PGB1</td><td>HE</td><td>69.5</td><td>IAML</td><td></td><td></td><td>03:09</td><td>40.71</td><td>4</td><td>0.10</td><td></td></tr> <tr><td>PGB1</td><td>HN</td><td>69.5</td><td>IAML</td><td></td><td></td><td>03:09</td><td>40.76</td><td>5</td><td>0.12</td><td></td></tr> <tr><td>KESW</td><td>HZ</td><td>93.8</td><td>EP</td><td></td><td></td><td>03:09</td><td>31.71</td><td></td><td></td><td>0.67</td></tr> <tr><td>KESW</td><td>HE</td><td>93.8</td><td>ES</td><td></td><td></td><td>03:09</td><td>43.10</td><td></td><td></td><td>0.54</td></tr> <tr><td>IOMK</td><td>HZ</td><td>115.0</td><td>EP</td><td></td><td></td><td>03:09</td><td>34.75</td><td></td><td></td><td>0.46</td></tr> <tr><td>IOMK</td><td>HN</td><td>115.0</td><td>ES</td><td></td><td></td><td>03:09</td><td>47.83</td><td></td><td></td><td>-0.36</td></tr> <tr><td>IOMK</td><td>HN</td><td>115.0</td><td>IAML</td><td></td><td></td><td>03:09</td><td>50.08</td><td>1</td><td>0.09</td><td></td></tr> <tr><td>IOMK</td><td>HE</td><td>115.0</td><td>IAML</td><td></td><td></td><td>03:09</td><td>50.34</td><td>1</td><td>0.10</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	NEWG	HZ	19.3	IP		C	03:09	18.94			-0.07	NEWG	HE	19.3	ES			03:09	21.31			-0.45	NEWG	HE	19.3	IAML			03:09	21.99	10	0.08		NEWG	HN	19.3	IAML			03:09	22.20	47	0.07		ESK	HZ	52.6	IP		C	03:09	24.19			-0.46	ESK	HN	52.6	ES			03:09	30.62			-0.90	ESK	HN	52.6	IAML			03:09	31.40	3	0.18		ESK	HE	52.6	IAML			03:09	35.46	3	0.10		GAL1	HZ	60.8	EP			03:09	25.89			0.00	GAL1	HN	60.8	ES			03:09	33.46			-0.19	GAL1	HE	60.8	IAML			03:09	37.81	2	0.11		GAL1	HN	60.8	IAML			03:09	38.07	2	0.11		PGB1	HE	69.5	ES			03:09	36.42			0.41	PGB1	HE	69.5	IAML			03:09	40.71	4	0.10		PGB1	HN	69.5	IAML			03:09	40.76	5	0.12		KESW	HZ	93.8	EP			03:09	31.71			0.67	KESW	HE	93.8	ES			03:09	43.10			0.54	IOMK	HZ	115.0	EP			03:09	34.75			0.46	IOMK	HN	115.0	ES			03:09	47.83			-0.36	IOMK	HN	115.0	IAML			03:09	50.08	1	0.09		IOMK	HE	115.0	IAML			03:09	50.34	1	0.10																																																																																																																																																																																																																																																																																																																																																																																																																								
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PGB1	HE	69.5	ES			03:09	36.42			0.41																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
PGB1	HE	69.5	IAML			03:09	40.71	4	0.10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
PGB1	HN	69.5	IAML			03:09	40.76	5	0.12																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
KESW	HZ	93.8	EP			03:09	31.71			0.67																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
KESW	HE	93.8	ES			03:09	43.10			0.54																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
IOMK	HZ	115.0	EP			03:09	34.75			0.46																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
IOMK	HN	115.0	ES			03:09	47.83			-0.36																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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<p>September 29 2019 Time: 18:29 57.0 UTC Magnitude: 0.5 ML Lat: 54.757 Lon: -3.047 Depth: 7.7 km Grid Ref: 332.63 kmE 540.74 kmN RMS: 0.30 secs Locality: CALDBECK, CUMBRIA Velocity model: Lownet Xnear: 100.0 Xfar: 200.0</p> <table border="0" style="width: 100%; font-family: monospace;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>KESW</td><td>HZ</td><td>19.1</td><td>EP</td><td></td><td></td><td>18:30</td><td>00.75</td><td></td><td></td><td>-0.13</td></tr> <tr><td>KESW</td><td>HE</td><td>19.1</td><td>ES</td><td></td><td></td><td>18:30</td><td>03.60</td><td></td><td></td><td>-0.09</td></tr> <tr><td>KESW</td><td>HN</td><td>19.1</td><td>IAML</td><td></td><td></td><td>18:30</td><td>03.82</td><td>4</td><td>0.14</td><td></td></tr> <tr><td>KESW</td><td>HE</td><td>19.1</td><td>IAML</td><td></td><td></td><td>18:30</td><td>03.90</td><td>9</td><td>0.14</td><td></td></tr> <tr><td>AQ12</td><td>HZ</td><td>40.4</td><td>EP</td><td></td><td></td><td>18:30</td><td>04.03</td><td></td><td></td><td>-0.18</td></tr> <tr><td>AQ12</td><td>HN</td><td>40.4</td><td>ES</td><td></td><td></td><td>18:30</td><td>09.27</td><td></td><td></td><td>-0.18</td></tr> <tr><td>AQ12</td><td>HN</td><td>40.4</td><td>IAML</td><td></td><td></td><td>18:30</td><td>09.68</td><td>4</td><td>0.08</td><td></td></tr> <tr><td>AQ12</td><td>HE</td><td>40.4</td><td>IAML</td><td></td><td></td><td>18:30</td><td>09.82</td><td>5</td><td>0.10</td><td></td></tr> <tr><td>AP12</td><td>HZ</td><td>51.7</td><td>EP</td><td></td><td></td><td>18:30</td><td>05.81</td><td></td><td></td><td>-0.12</td></tr> <tr><td>AP12</td><td>HE</td><td>51.7</td><td>ES</td><td></td><td></td><td>18:30</td><td>12.00</td><td></td><td></td><td>-0.42</td></tr> <tr><td>AP12</td><td>HE</td><td>51.7</td><td>IAML</td><td></td><td></td><td>18:30</td><td>12.52</td><td>4</td><td>0.23</td><td></td></tr> <tr><td>AP12</td><td>HN</td><td>51.7</td><td>IAML</td><td></td><td></td><td>18:30</td><td>12.66</td><td>4</td><td>0.10</td><td></td></tr> <tr><td>ESK</td><td>HZ</td><td>63.1</td><td>EP</td><td></td><td></td><td>18:30</td><td>07.65</td><td></td><td></td><td>-0.05</td></tr> <tr><td>ESK</td><td>HN</td><td>63.1</td><td>ES</td><td></td><td></td><td>18:30</td><td>15.05</td><td></td><td></td><td>-0.45</td></tr> <tr><td>ESK</td><td>HE</td><td>63.1</td><td>IAML</td><td></td><td></td><td>18:30</td><td>15.44</td><td>1</td><td>0.21</td><td></td></tr> <tr><td>ESK</td><</tr></tbody></table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	KESW	HZ	19.1	EP			18:30	00.75			-0.13	KESW	HE	19.1	ES			18:30	03.60			-0.09	KESW	HN	19.1	IAML			18:30	03.82	4	0.14		KESW	HE	19.1	IAML			18:30	03.90	9	0.14		AQ12	HZ	40.4	EP			18:30	04.03			-0.18	AQ12	HN	40.4	ES			18:30	09.27			-0.18	AQ12	HN	40.4	IAML			18:30	09.68	4	0.08		AQ12	HE	40.4	IAML			18:30	09.82	5	0.10		AP12	HZ	51.7	EP			18:30	05.81			-0.12	AP12	HE	51.7	ES			18:30	12.00			-0.42	AP12	HE	51.7	IAML			18:30	12.52	4	0.23		AP12	HN	51.7	IAML			18:30	12.66	4	0.10		ESK	HZ	63.1	EP			18:30	07.65			-0.05	ESK	HN	63.1	ES			18:30	15.05			-0.45	ESK	HE	63.1	IAML			18:30	15.44	1	0.21		ESK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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TABLE 2 : PHASE DATA

EDI	HN	165.0	IAML		22:32	41.17		27	0.44		AQ12	HZ	68.0	EP		14:02	24.08		0.12		
EDI	HE	165.0	IAML		22:32	43.00		17	0.21		AQ12	HN	68.0	ES		14:02	32.09		-0.25		
NEWG	HZ	170.0	EP		22:32	18.82				-1.85	AQ12	HN	68.0	IAML		14:02	33.21	24	0.07		
GALI	HZ	182.0	EP		22:32	20.43				-1.76	AQ12	HE	68.0	IAML		14:02	33.71	19	0.10		
LINV	HZ	196.0	EP		22:32	22.30				-1.55	GALI	HE	75.7	EP		14:02	25.36		0.27		
ESK	HZ	197.0	EP		22:32	23.00				-1.09	GALI	HN	75.7	ES		14:02	33.91		-0.39		
MCD	HZ	197.0	EP		22:32	22.39				-1.71	GALI	HE	75.7	IAML		14:02	34.27	8	0.12		
											GALI	HN	75.7	IAML		14:02	34.28	14	0.16		
November 19 2019 Time: 08:38 48.8 UTC Magnitude: 0.8 ML											NEWG	HZ	80.5	EP		14:02	26.05		0.21		
Lat: 52.190 Lon: -3.644 Depth: 10.5 km											NEWG	HE	80.5	ES		14:02	35.63		0.03		
Grid Ref: 287.63 kmE 255.96 kmN RMS: 0.10 secs											NEWG	HN	80.5	IAML		14:02	36.86	3	0.12		
Locality: ABERGWESYN, POWYS											NEWG	HE	80.5	IAML		14:02	37.10	6	0.14		
Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0											ESK	HZ	105.0	EP		14:02	29.62		-0.01		
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	ESK	HE	105.0	ES		14:02	41.97		-0.17		
LPW	HZ	30.2	EP			08:38	54.43			0.12	ESK	HE	105.0	IAML		14:02	42.31	16	0.20		
LPW	HE	30.2	ES			08:38	58.30			0.05	ESK	HN	105.0	IAML		14:02	42.61	9	0.18		
LPW	HE	30.2	IAML			08:38	58.42	11	0.14		AS07	HZ	123.0	EP		14:02	32.70		0.49		
LPW	HN	30.2	IAML			08:38	58.59	8	0.18		AS07	HN	123.0	ES		14:02	46.38		-0.23		
MCH1	HZ	49.2	EP			08:38	57.34			-0.04	November 23 2019 Time: 23:34 38.5 UTC Magnitude: 0.8 ML										
MCH1	HN	49.2	ES			08:39	03.56			0.02	Lat: 49.606 Lon: -6.080 Depth: 4.8 km										
MCH1	HE	49.2	IAML			08:39	03.68	44	0.10		Grid Ref: 105.28 kmE -24.64 kmN RMS: 0.10 secs										
MCH1	HN	49.2	IAML			08:39	03.73	29	0.10		Locality: CELTIC SEA										
HLM1	HZ	63.6	EP			08:38	59.71			-0.05	Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
HLM1	HN	63.6	ES			08:39	07.96			0.33	Comment: 65KM SW PENZANCE										
HLM1	HE	63.6	IAML			08:39	08.53	2	0.10		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HLM1	HN	63.6	IAML			08:39	09.03	3	0.10		CCA1	HZ	89.0	EP			23:34	53.26			-0.08
MONM	HZ	69.6	EP			08:39	00.64			-0.09	CCA1	HN	89.0	ES			23:35	04.19			0.00
MONM	HE	69.6	ES			08:39	09.17			-0.13	CCA1	HN	89.0	IAML			23:35	04.30	2	0.13	
MONM	HE	69.6	IAML			08:39	09.51	10	0.26		CCA1	HE	89.0	IAML			23:35	06.23	5	0.11	
MONM	HN	69.6	IAML			08:39	09.54	14	0.32		GEL05	CZ	89.1	EP			23:34	53.19			-0.15
LLW	BN	73.4	ES			08:39	10.08			-0.28	GEL01	CZ	91.6	EP			23:34	53.72			-0.01
LLW	BN	73.4	IAML			08:39	10.65	1	0.10		GEL01	CN	91.6	ES			23:35	04.76			-0.11
LLW	BE	73.4	IAML			08:39	10.65	2	0.30		GEL06	CZ	92.4	EP			23:34	53.84			-0.02
FOEL	HZ	83.5	EP			08:39	03.08			0.09	GEL02	CZ	93.8	EP			23:34	54.10			0.04
FOEL	HN	83.5	ES			08:39	13.18			-0.01	GEL02	CE	93.8	ES			23:35	05.55			0.11
FOEL	HN	83.5	IAML			08:39	14.39	2	0.26		GEL07	CZ	95.5	EP			23:34	54.36			0.05
FOEL	HE	83.5	IAML			08:39	17.66	3	0.33		GEL04	CZ	96.5	EP			23:34	54.57			0.09
											GEL03	CZ	96.8	EP			23:34	54.59			0.08
November 21 2019 Time: 01:00 13.6 UTC Magnitude: 1.2 ML											November 29 2019 Time: 03:42 19.6 UTC Magnitude: 0.5 ML										
Lat: 52.346 Lon: -3.165 Depth: 12.3 km											Lat: 56.103 Lon: -4.021 Depth: 9.5 km										
Grid Ref: 320.65 kmE 272.67 kmN RMS: 0.10 secs											Grid Ref: 274.31 kmE 691.86 kmN RMS: 0.20 secs										
Locality: LLANGUNLLO, POWYS											Locality: CAMBUSBARRON, STIRLING										
Velocity model: Mid Wales Xnear: 150.0 Xfar: 300.0											Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HLM1	HZ	27.2	EP			01:00	18.88			0.13	GGERF	CZ	31.8	EP			03:42	25.43			0.01
HLM1	HN	27.2	ES			01:00	22.56			0.10	GGERF	CN	31.8	ES			03:42	29.53			-0.12
HLM1	HN	27.2	IAML			01:00	22.91	64	0.13		INVG	HZ	36.1	EP			03:42	26.12			-0.02
HLM1	HE	27.2	IAML			01:00	22.96	66	0.12		INVG	HE	36.1	ES			03:42	30.73			-0.15
MCH1	HZ	40.4	IP		C	01:00	20.82			0.01	INVG	HE	36.1	IAML			03:42	31.08	3	0.15	
MCH1	HN	40.4	ES			01:00	25.93			-0.06	INVG	HN	36.1	IAML			03:42	31.49	4	0.36	
MCH1	HE	40.4	IAML			01:00	26.05	37	0.12		PGB1	HZ	43.5	EP			03:42	27.33			0.07
MCH1	HN	40.4	IAML			01:00	26.07	50	0.13		PGB1	HN	43.5	ES			03:42	32.90			0.07
FOEL	HZ	60.5	EP			01:00	24.06			-0.03	PGB1	HE	43.5	IAML			03:42	33.05	10	0.16	
FOEL	HN	60.5	ES			01:00	31.62			-0.01	PGB1	HN	43.5	IAML			03:42	33.23	9	0.34	
FOEL	HN	60.5	IAML			01:00	31.77	26	0.18		EDI	HZ	55.7	EP			03:42	29.49			0.35
FOEL	HE	60.5	IAML			01:00	31.88	11	0.17		EDI	HN	55.7	ES			03:42	36.11			0.03
MONM	HZ	61.6	EP			01:00	24.23			0.00	EDI	HN	55.7	IAML			03:42	36.61	4	0.20	
MONM	HN	61.6	ES			01:00	31.74			-0.13	EDI	HE	55.7	IAML			03:42	37.05	2	0.11	
MONM	HE	61.6	IAML			01:00	31.90	12	0.22		ESK	HN	101.0	ES			03:42	48.05			-0.35
MONM	HN	61.6	IAML			01:00	32.09	10	0.36		ESK	HN	101.0	IAML			03:42	49.23	1	0.11	
LLW	BN	65.4	ES			01:00	32.90			-0.07	ESK	HE	101.0	IAML			03:42	51.40	2	0.29	
LPW	HZ	66.9	EP			01:00	25.12			0.03	NEWG	HZ	111.0	EP			03:42	37.89			0.25
LPW	HE	66.9	ES			01:00	33.40			0.04	NEWG	HE	111.0	ES			03:42	50.70			-0.09
LPW	HE	66.9	IAML			01:00	33.96	12	0.11		NEWG	HE	111.0	IAML			03:42	53.06	3	0.18	
LPW	HN	66.9	IAML			01:00	34.12	9	0.12		NEWG	HN	111.0	IAML			03:42	53.44	2	0.11	
STRD	HE	93.5	ES			01:00	40.48			0.16	DRUM	HE	131.0	ES			03:42	55.74			-0.07
RSBS	HZ	117.0	EP			01:00	32.73			0.11	November 29 2019 Time: 17:21 45.2 UTC Magnitude: 0.7 ML										
RSBS	HE	117.0	IAML			01:00	48.17	18	0.07		Lat: 51.855 Lon: -2.961 Depth: 19.4 km										
RSBS	HN	117.0	IAML			01:00	49.41	12	0.10		Grid Ref: 333.82 kmE 217.86 kmN RMS: 0.10 secs										
CWF	HZ	133.0	EP			01:00	34.91			-0.22	Locality: ABERGAVENNY, MON'SHIRE										
CWF	HN	133.0	IAML			01:00	50.90	11	0.10		Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0										
CWF	HE	133.0	IAML			01:00	51.36	8	0.14		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WLF1	HZ	134.0	EP			01:00	35.12			-0.06	MONM	HZ	10.9	EP			17:21	48.97			0.05
											MONM	HE	10.9	ES			17:21	51.64			0.04
November 21 2019 Time: 14:02 12.5 UTC Magnitude: 1.1 ML											MONM	HE	10.9	IAML			17:21	52.18	18	0.14	
Lat: 54.438 Lon: -3.800 Depth: 11.5 km											MONM	HN	10.9	IAML			17:21	52.25	19	0.10	
Grid Ref: 283.27 kmE 506.24 kmN RMS: 0.20 secs											MCH1	HZ	16.0	EP			17:21	49.44			0.03
Locality: IRISH SEA											MCH1	HN	16.0	ES			17:21	52.35			-0.09
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0											MCH1	HN	16.0	IAML			17:21	52.80	25	0.10	
Comment: 18KM SW WHITEHAVEN											MCH1	HE	16.0	IAML			17:21	52.86	11	0.10	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	OLDB	HZ	35.7	EP			17:21	51.89			-0.02
AP12	HZ	37.5	EP			14:02	19.25			0.03	STRD	HZ	55.8	EP			17:21	54.84			-0.03
AP12	HE	37.5	ES			14:02	23.90			-0.24	STRD	HE	55.8	ES			17:22	01.84			0.01
AP12	HE	37.5	IAML			14:02	24.09	23	0.22		STRD	HN	55.8	IAML			17:22	02.32	8	0.18	
AP12	HN	37.5	IAML			14:02	24.15	19	0.11		STRD	HE	55.8	IAML			17:22	02.51	6	0.19	
KESW	HZ	48.0	EP			14:02	21.06			0.21	HLM1	HZ	74.0	EP			17:21	57.51			-0.11
KESW	HN	48.0	ES			14:02	27.04			0.07	HLM1	HN	74.0	ES			17:22	06.50			-0.05
KESW	HN	48.0	IAML			14:02	27.84	7	0.10		HLM1	HE	74.0	IAML			17:22	06.72	4	0.20	
KESW	HE	48.0	IAML			14:02	28.29	6	0.11		HLM1	HN	74.0	IAML			1				

TABLE 2 : PHASE DATA

November 30 2019		Time: 14:19 01.6 UTC		Magnitude: 0.8 ML		OLDB HN 67.7 ES		22:49 37.70		-0.31	
Lat: 54.257		Lon: -3.228		Depth: 10.7 km		OLDB HE 67.7 IAML		22:49 42.99		2470 0.40	
Grid Ref: 320.01 kmE 485.31 kmN				RMS: 0.20 secs		OLDB HN 67.7 IAML		22:49 43.06		1991 0.34	
Locality: FOXFIELD,CUMBRIA						MONM HZ 81.4 EP		22:49 31.87		0.14	
Velocity model: Borders		Xnear: 50.0 Xfar: 100.0				MONM HN 81.4 ES		22:49 41.97		0.23	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	
AP12	HZ	6.4	IP		D	14:19	04.15			0.15	
AP12	HE	6.4	ES			14:19	05.63			-0.06	
AP12	HE	6.4	IAML			14:19	05.76	57	0.10		
AP12	HN	6.4	IAML			14:19	05.84	32	0.16		
SPK	EN	26.2	ES			14:19	10.23			-0.05	
SPK	EN	26.2	IAML			14:19	10.32	38	0.10		
SPK	EE	26.2	IAML			14:19	10.45	14	0.11		
AQ12	HZ	36.9	EP			14:19	08.35			-0.08	
AQ12	HN	36.9	ES			14:19	13.21			-0.06	
AQ12	HN	36.9	IAML			14:19	14.31	15	0.10		
AQ12	HE	36.9	IAML			14:19	14.44	19	0.06		
KESW	HZ	37.8	EP			14:19	08.71			0.15	
KESW	HN	37.8	ES			14:19	13.49			0.01	
KESW	HN	37.8	IAML			14:19	13.59	5	0.12		
KESW	HE	37.8	IAML			14:19	13.75	5	0.13		
AR07	HN	58.1	ES			14:19	19.07			0.04	
AR07	HN	58.1	IAML			14:19	19.53	11	0.24		
AR07	HE	58.1	IAML			14:19	20.12	6	0.09		
AS07	HZ	84.1	EP			14:19	16.16			0.11	
AS07	HE	84.1	ES			14:19	25.90			-0.38	
AS07	HE	84.1	IAML			14:19	29.23	5	0.18		
AS07	HN	84.1	IAML			14:19	29.31	6	0.06		
IOMK	HZ	87.2	EP			14:19	16.47			-0.05	
IOMK	HN	87.2	ES			14:19	26.32			-0.76	
IOMK	HN	87.2	IAML			14:19	27.51	3	0.48		
IOMK	HE	87.2	IAML			14:19	27.89	1	0.14		
EDMD	HZ	104.0	EP			14:19	19.40			0.22	
EDMD	HN	104.0	ES			14:19	31.59			-0.06	
EDMD	HN	104.0	IAML			14:19	33.12	9	0.32		
EDMD	HE	104.0	IAML			14:19	33.69	9	0.10		
NEWG	HZ	116.0	EP			14:19	20.87			-0.11	
NEWG	HE	116.0	IAML			14:19	35.40	2	0.36		
NEWG	HN	116.0	IAML			14:19	35.90	1	0.22		
ESK	HZ	118.0	EP			14:19	21.80			0.44	
ESK	HN	118.0	ES			14:19	35.42			0.05	
ESK	HE	118.0	IAML			14:19	37.00	2	0.24		
ESK	HN	118.0	IAML			14:19	37.85	2	0.18		

December 3 2019		Time: 04:07 19.3 UTC		Magnitude: 0.8 ML		WLF1 HZ 260.0 EP		22:49 56.13		-0.13	
Lat: 56.848		Lon: -4.852		Depth: 2.6 km		WLF1 HE 260.0 IAML		22:50 29.58		75 0.21	
Grid Ref: 226.09 kmE 776.56 kmN				RMS: 0.30 secs		WLF1 HN 260.0 IAML		22:50 30.43		62 0.32	
Locality: ROYBRIDGE,HIGHLAND						LBWR HZ 268.0 EP		22:49 57.70		0.37	
Velocity model: Lownet		Xnear: 100.0 Xfar: 200.0				LBWR HE 268.0 IAML		22:50 32.50		160 0.32	
Comment: 5KM SSW ROYBRIDGE						LBWR HN 268.0 IAML		22:50 32.72		118 0.42	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	
INVG	HZ	68.2	EP			04:07	31.25			0.02	
INVG	HN	68.2	ES			04:07	39.63			-0.32	
INVG	HE	68.2	IAML			04:07	44.35	3	0.14		
INVG	HN	68.2	IAML			04:07	44.86	4	0.14		
KPL	HZ	73.2	EP			04:07	31.86			-0.09	
KPL	HE	73.2	ES			04:07	41.13			-0.07	
KPL	HN	73.2	IAML			04:07	45.28	4	0.10		
KPL	HE	73.2	IAML			04:07	45.42	5	0.12		
LAWE	HZ	73.6	EP			04:07	32.31			0.27	
LAWE	HE	73.6	ES			04:07	41.33			-0.02	
LAWE	HN	73.6	IAML			04:07	45.03	10	0.15		
LAWE	HE	73.6	IAML			04:07	46.52	9	0.14		
DRUM	HE	144.0	ES			04:08	00.85			0.71	

December 3 2019		Time: 04:21 52.9 UTC		Magnitude: 0.7 ML		MCH1 HN 87.5 ES		16:05 23.10		-0.26	
Lat: 56.846		Lon: -4.869		Depth: 2.5 km		MCH1 HN 87.5 IAML		16:05 23.20		16 0.18	
Grid Ref: 225.04 kmE 776.38 kmN				RMS: 0.20 secs		MCH1 HE 87.5 IAML		16:05 23.28		22 0.10	
Locality: ROYBRIDGE,HIGHLAND						STRD HN 89.3 ES		16:05 23.60		-0.22	
Velocity model: Lownet		Xnear: 100.0 Xfar: 200.0				STRD HE 89.3 IAML		16:05 25.31		12 0.18	
Comment: 5KM SSW ROYBRIDGE						STRD HN 89.3 IAML		16:05 26.05		16 0.46	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	
INVG	HZ	68.8	EP			04:22	04.72			-0.09	
INVG	HN	68.8	ES			04:22	13.28			-0.23	
INVG	HE	68.8	IAML			04:22	17.84	2	0.09		
INVG	HN	68.8	IAML			04:22	18.31	2	0.16		
KPL	HZ	72.6	EP			04:22	05.38			0.04	
KPL	HN	72.6	ES			04:22	14.27			-0.16	
KPL	HE	72.6	IAML			04:22	18.83	3	0.10		
KPL	HN	72.6	IAML			04:22	18.86	2	0.08		
LAWE	HZ	72.9	EP			04:22	05.64			0.22	
LAWE	HN	72.9	ES			04:22	14.58			0.02	
LAWE	HN	72.9	IAML			04:22	18.56	8	0.15		
LAWE	HE	72.9	IAML			04:22	18.60	7	0.20		
DRUM	HN	145.0	ES			04:22	34.47			0.70	

December 5 2019		Time: 22:49 18.0 UTC		Magnitude: 3.2 ML		AT12 HZ 25.0 EP		18:21 35.86		-0.11	
Lat: 51.116		Lon: -2.984		Depth: 4.3 km		AT12 HN 25.0 ES		18:21 39.78		0.32	
Grid Ref: 331.13 kmE 135.71 kmN				RMS: 0.30 secs		AT12 HE 25.0 IAML		18:21 39.95		36 0.23	
Locality: BRIDGWATER,SOMERSET						AT12 HN 25.0 IAML		18:21 39.98		30 0.14	
Velocity model: Lownet		Xnear: 100.0 Xfar: 200.0									
Comment: FELT SOMERSET...				Intensity: 5							
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	
OLDB	HZ	67.7	EP			22:49	29.58			0.01	

December 6 2019		Time: 16:04 58.3 UTC		Magnitude: 1.4 ML		WLF1 HZ 260.0 EP		22:49 56.13		-0.13	
Lat: 51.212		Lon: -3.077		Depth: 11.4 km		WLF1 HE 260.0 IAML		22:50 29.58		75 0.21	
Grid Ref: 324.78 kmE 146.47 kmN				RMS: 0.20 secs		WLF1 HN 260.0 IAML		22:50 30.43		62 0.32	
Locality: STOLFORD,SOMERSET						LBWR HZ 268.0 EP		22:49 57.70		0.37	
Velocity model: Lownet		Xnear: 100.0 Xfar: 200.0				LBWR HE 268.0 IAML		22:50 32.50		160 0.32	
Comment: 5KM SSW STOLFORD						LBWR HN 268.0 IAML		22:50 32.72		118 0.42	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	
OLDB	HZ	61.9	EP			16:05	08.78			-0.01	
MONM	HZ	72.3	EP			16:05	10.61			0.19	
MONM	HN	72.3	ES			16:05	19.51			0.25	
MONM	HN	72.3	IAML			16:05	19.58	18	0.14		
MONM	HE	72.3	IAML			16:05	20.44	15	0.13		
MCH1	HZ	87.5	EP			16:05	12.83			0.03	
MCH1	HN	87.5	ES			16:05	23.10			-0.26	
MCH1	HN	87.5	IAML			16:05	23.20	16	0.18		
MCH1	HE	87.5	IAML			16:05	23.28	22	0.10		
STRD	HN	89.3	ES			16:05	23.60			-0.22	
STRD	HE	89.3	IAML			16:05	25.31	12	0.18		
STRD	HN	89.3	IAML			16:05	26.05	16	0.46		
HTL	HZ	102.0	EP			16:05	14.89			-0.04	
HTL	HE	102.0	ES			16:05	27.13			0.08	
HTL	HN	102.0	IAML			16:05	28.78	14	0.32		
HTL	HE	102.0	IAML			16:05	29.10	9	0.29		
RSBS	HZ	142.0	EP			16:05	20.70			-0.07	
RSBS	HN	142.0	ES			16:05	36.88			-0.27	
RSBS	HN	142.0	IAML			16:05	37.88	13	0.14		
RSBS	HE	142.0	IAML			16:05	38.36	11	0.14		
HLM1	HZ	146.0	EP			16:05	21.43			0.05	
HLM1	HN	146.0	ES			16:05	38.48			0.27	
HLM1	HN	146.0	IAML			16:05	39.92	6	0.26		
HLM1	HE	146.0	IAML			16:05	40.13				

TABLE 2 : PHASE DATA

MONM	HZ	60.1	EP	09:20	21.90				-0.01	LBWR	HN	110.0	IAML	23:44	28.90			11	0.14		
MONM	HE	60.1	ES	09:20	29.43				0.10	LBWR	HE	110.0	IAML	23:44	30.20			12	0.10		
MONM	HE	60.1	IAML	09:20	29.59	4	0.16			AU08	HZ	125.0	EP	23:44	16.81				0.03		
MONM	HN	60.1	IAML	09:20	29.97	3	0.13			ELMS	HZ	132.0	EP	23:44	17.88				0.03		
FOEL	HZ	64.3	EP	09:20	22.96				0.34	ELMS	HE	132.0	ES	23:44	33.35				-0.01		
FOEL	HN	64.3	ES	09:20	30.38				-0.17	ELMS	HN	132.0	IAML	23:44	35.87			17	0.24		
FOEL	HE	64.3	IAML	09:20	31.06	5	0.20			ELMS	HE	132.0	IAML	23:44	34.83			17	0.22		
FOEL	HN	64.3	IAML	09:20	31.17	8	0.23			AS02	HZ	132.0	EP	23:44	18.25				0.37		
STRD	HZ	94.4	EP	09:20	27.47				-0.05	HPK	HN	139.0	ES	23:44	34.78				-0.38		
RSBS	HZ	111.0	EP	09:20	29.96				-0.10	HPK	HE	139.0	IAML	23:44	36.79			14	0.24		
RSBS	HN	111.0	IAML	09:20	45.42	5	0.28			HPK	HN	139.0	IAML	23:44	36.85			13	0.14		
RSBS	HE	111.0	IAML	09:20	45.49	3	0.12			AU20	HZ	145.0	EP	23:44	19.83				0.18		
WLF1	HZ	134.0	EP	09:20	33.43				-0.07												
WLF1	HN	134.0	IAML	09:20	50.35	5	0.32														
WLF1	HE	134.0	IAML	09:20	50.37	6	0.33														
CWF	HZ	139.0	EP	09:20	34.38				0.19												
CWF	HN	139.0	IAML	09:20	51.93	1	0.19														
CWF	HE	139.0	IAML	09:20	52.33	1	0.09														
December 23 2019										Time: 07:40 26.5 UTC			Magnitude: 0.7 ML								
Lat: 53.506				Lon: -2.451				Depth: 11.3 km				RMS: 0.10 secs									
Grid Ref: 370.09 kmE 401.16 kmN																					
Locality: ASTLEY,GTR MANCHESTER																					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
AR01	HN	22.9	ES			07:40	34.37			0.00	STNC	HN	30.0	ES			06:47	18.34			-0.03
AR01	HE	22.9	IAML			07:40	34.56	13	0.20		STNC	HN	30.0	IAML			06:47	18.62	21	0.13	
AR01	HN	22.9	IAML			07:40	34.61	12	0.13		STNC	HE	30.0	IAML			06:47	19.00	22	0.23	
AS02	HZ	31.3	EP			07:40	32.32			0.00	CWF	HZ	42.5	EP			06:47	16.38			0.11
AS02	HN	31.3	ES			07:40	36.42			-0.14	CWF	HN	42.5	ES			06:47	21.63			-0.09
AS02	HN	31.3	IAML			07:40	36.60	14	0.17		CWF	HE	42.5	IAML			06:47	22.29	4	0.08	
AS02	HE	31.3	IAML			07:40	36.77	12	0.20		CWF	HN	42.5	IAML			06:47	22.47	4	0.10	
LBWR	HN	49.6	ES			07:40	41.58			0.13	LBWR	HZ	54.6	EP			06:47	18.34			0.16
LBWR	HN	49.6	IAML			07:40	41.75	4	0.19		LBWR	HE	54.6	ES			06:47	24.90			-0.12
LBWR	HE	49.6	IAML			07:40	42.16	7	0.13		LBWR	HE	54.6	IAML			06:47	25.40	10	0.14	
AR07	HN	54.5	ES			07:40	42.74			0.02	LBWR	HN	54.6	IAML			06:47	25.41	7	0.09	
AR07	HN	54.5	IAML			07:40	43.05	10	0.09		HLM1	HZ	81.8	EP			06:47	22.41			-0.01
AR07	HE	54.5	IAML			07:40	43.59	8	0.17		HLM1	HN	81.8	ES			06:47	32.29			-0.06
FOEL	HZ	84.9	EP			07:40	40.61			-0.01	HLM1	HE	81.8	IAML			06:47	32.75	3	0.32	
HLM1	HZ	114.0	EP			07:40	45.05			0.10	HLM1	HN	81.8	IAML			06:47	35.10	3	0.14	
HLM1	HN	114.0	ES			07:40	58.30			-0.10	FOEL	HE	89.9	ES			06:47	34.57			0.04
December 25 2019										Time: 13:01 27.6 UTC			Magnitude: 0.8 ML								
Lat: 56.130				Lon: -3.998				Depth: 8.0 km				RMS: 0.20 secs									
Grid Ref: 275.83 kmE 694.82 kmN																					
Locality: CAMBUSBARRON,STIRLING																					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																					
Comment: 3KM NW CAMBUSBARRON																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
INVG	HZ	33.2	EP			13:01	33.73			0.04	INVG	HN	33.2	ES			13:01	38.00			-0.10
INVG	HN	33.2	IAML			13:01	38.17	3	0.12		INVG	HN	33.2	IAML			13:01	38.17	3	0.12	
INVG	HE	33.2	IAML			13:01	38.18	3	0.14		INVG	HE	33.2	IAML			13:01	38.18	3	0.14	
PGB1	HZ	46.7	EP			13:01	35.71			-0.05	PGB1	HZ	46.7	EP			13:01	35.71			-0.05
PGB1	HE	46.7	ES			13:01	41.65			-0.04	PGB1	HE	46.7	ES			13:01	41.65			-0.04
PGB1	HN	46.7	IAML			13:01	42.55	46	0.14		PGB1	HN	46.7	IAML			13:01	42.57	39	0.32	
EDI	HN	55.6	ES			13:01	44.05			0.00	EDI	HN	55.6	ES			13:01	44.05			0.00
EDI	HE	55.6	IAML			13:01	44.39	3	0.24		EDI	HE	55.6	IAML			13:01	44.39	3	0.24	
EDI	HN	55.6	IAML			13:01	45.14	5	0.18		EDI	HN	55.6	IAML			13:01	45.14	5	0.18	
LAWE	HZ	88.1	EP			13:01	42.47			0.29	LAWE	HZ	88.1	EP			13:01	42.47			0.29
LAWE	HN	88.1	ES			13:01	52.56			-0.23	LAWE	HN	88.1	ES			13:01	52.56			-0.23
LAWE	HN	88.1	IAML			13:01	53.22	4	0.16		LAWE	HN	88.1	IAML			13:01	53.22	4	0.16	
LAWE	HE	88.1	IAML			13:01	55.67	5	0.18		LAWE	HE	88.1	IAML			13:01	55.67	5	0.18	
ESK	HN	103.0	ES			13:01	56.73			-0.19	ESK	HN	103.0	ES			13:01	56.73			-0.19
ESK	HN	103.0	IAML			13:01	57.51	2	0.23		ESK	HN	103.0	IAML			13:01	57.51	2	0.23	
ESK	HE	103.0	IAML			13:01	59.86	3	0.10		ESK	HE	103.0	IAML			13:01	59.86	3	0.10	
NEWG	HZ	114.0	EP			13:01	46.38			0.23	NEWG	HZ	114.0	EP			13:01	46.38			0.23
NEWG	HN	114.0	ES			13:01	59.77			0.12	NEWG	HN	114.0	ES			13:01	59.77			0.12
NEWG	HE	114.0	IAML			13:02	00.13	2	0.19		NEWG	HE	114.0	IAML			13:02	00.13	2	0.19	
NEWG	HN	114.0	IAML			13:02	01.70	4	0.26		NEWG	HN	114.0	IAML			13:02	01.70	4	0.26	
December 28 2019										Time: 10:39 42.3 UTC			Magnitude: 2.0 ML								
Lat: 57.088				Lon: -5.732				Depth: 7.8 km				RMS: 0.40 secs									
Grid Ref: 173.91 kmE 805.83 kmN																					
Locality: KNOYDART,HIGHLAND																					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																					
Comment: 2KM ENE AIROR																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	28.4	IP			10:39	47.76			0.20	KPL	HZ	28.4	IP			10:39	47.76			0.20
KPL	HN	28.4	ES			10:39	51.05			-0.34	KPL	HN	28.4	ES			10:39	51.05			-0.34
KPL	HE	28.4	IAML			10:39	51.88	222	0.40		KPL	HE	28.4	IAML			10:39	51.88	222	0.40	
KPL	HN	28.4	IAML			10:39	51.89	100	0.22		KPL	HN	28.4	IAML			10:39	51.89	100	0.22	
LAWE	HZ	94.4	IP			10:39	58.02			0.19	LAWE	HZ	94.4	IP			10:39	58.02			0.19
LAWE	HE	94.4	ES			10:40	08.60			-0.54	LAWE	HE	94.4	ES			10:40	08.60			-0.54
LAWE	HE	94.4	IAML			10:40	12.58	92	0.12		LAWE	HE	94.4	IAML			10:40	12.58	92	0.12	
LAWE	HN	94.4	IAML			10:40	13.15	101	0.14		LAWE	HN	94.4	IAML			10:40	13.15	101	0.14	
INVG	HZ	127.0	EP			10:40	03.21			0.40	INVG	HZ	127.0	EP			10:40	03.21			0.40
INVG	HN	127.0	ES			10:40	17.90			0.13	INVG	HN	127.0	ES			10:40	17.90			0.13
INVG	HN	127.0	IAML			10:40	18.70	24	0.13		INVG	HN	127.0	IAML			10:40	18.70	24	0.13	
INVG	HE	127.0	IAML			10:40	18.88	29	0.24		INVG	HE	127.0	IAML			10:40	18.88	29	0.24	
LEWI	HZ	136.0	EP			10:40	04.30			0.18	LEWI	HZ	136.0	EP			10:40	04.30			0.18
LEWI	HN	136.0	ES			10:40	20.05			0.02	LEWI	HN	136.0	ES			10:40	20.05			0.02
LEWI	HE	136.0	IAML			10:40	20.96	60	0.10		LEWI	HE	136.0	IAML			10:40	20.96	60	0.10	
LEWI	HN	136.0	IAML			10:40	21.64	33	0.13		LEWI	HN	136.0	IAML			10:40	21.64	33	0.13	
PGB1	HZ	162.0	EP			10:40	08.57			0.79	PGB1	HZ	162.0	EP			10:40	08.57			0.79
BIGH	HZ	190.0	EP			10:40	12.65			1.23	BIGH	HZ	190.0	EP			10:40	12.65			1.23

TABLE 2 : PHASE DATA

DRUM	HZ	198.0	EP		10:40	14.66			2.23	
NEWG	HZ	238.0	EP		10:40	17.64			0.19	
ESK	HZ	252.0	EP		10:40	19.25			0.09	
December 31 2019		Time: 07:15 42.7 UTC		Magnitude: 0.8 ML						
Lat: 54.157		Lon: -2.891		Depth: 7.5 km						
Grid Ref: 341.82 kmE		473.85 kmN		RMS: 0.50 secs						
Locality: MORECAMBE BAY, LANCs										
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KESW	HZ	50.0	EP			07:15	50.98			-0.37
AS07	HZ	63.1	EP			07:15	52.94			-0.47
AS07	HN	63.1	ES			07:16	00.61			-0.61
AS07	HN	63.1	IAML			07:16	01.64	8	0.08	
AS07	HE	63.1	IAML			07:16	01.82	4	0.16	
EDMD	HZ	96.2	EP			07:15	59.26			0.80
IOMK	HZ	110.0	EP			07:16	00.67			0.05
IOMK	HN	110.0	ES			07:16	13.32			-0.39
IOMK	HE	110.0	IAML			07:16	14.56	2	0.12	
IOMK	HN	110.0	IAML			07:16	14.59	1	0.14	
LBWR	HZ	114.0	EP			07:16	01.64			0.36
ESK	HZ	131.0	EP			07:16	03.72			-0.04
NEWG	HZ	137.0	EP			07:16	05.40			0.68
NEWG	HN	137.0	ES			07:16	20.79			0.00
NEWG	HE	137.0	IAML			07:16	21.47	3	0.28	
NEWG	HN	137.0	IAML			07:16	21.59	3	0.27	
GDLE	HZ	138.0	EP			07:16	05.96			1.11

TABLE 3

GEOGRAPHIC COORDINATES OF SEISMOGRAPH STATIONS, 2019

Code	Name	Lat	Lon	E (km)	N (km)	Ht (m)	Comp
AP12	ULPHA	54.3100	-3.2670	317.66	491.23	220	BB
AQ01	HOSCAR	53.6068	-2.7944	347.53	412.54	24	BB
AQ02	BANKS	53.6905	-2.8967	340.88	421.94	17	BB
AQ03	WARTON	53.7595	-2.8866	341.65	429.61	23	BB
AQ04	BALLAM	53.7760	-2.9690	336.24	431.51	11	BB
AQ05	STAINING	53.8140	-2.9680	336.62	435.74	11	BB
AQ06	THISTLETON	53.8250	-2.9110	340.13	436.91	28	BB
AQ07	GOOSNARGH	53.8420	-2.6660	356.28	438.62	90	BB
AQ09	RAWCLIFFE	53.8846	-2.9048	340.62	443.54	7	BB
AQ10	GARSTANG	53.9150	-2.8270	345.78	446.86	22	BB
AQ12	SELSIDE	54.4370	-2.7520	351.32	504.88	389	BB
AR01	HASLINGDEN	53.7022	-2.3450	377.32	422.92	256	BB
AR05	SKIPTON	53.9910	-2.0190	398.85	454.99	259	BB
AR07	SLAIDBURN	53.9960	-2.4590	370.01	455.65	233	BB
AR09	INGLETON	54.2260	-2.4410	371.35	481.23	481	BB
AR10	KELD	54.4264	-2.2169	386.03	503.46	440	BB
AS02	UPPERMILL	53.5542	-1.9856	401.05	406.40	287	BB
AS03	WAINSTALLS	53.7674	-1.9563	402.98	430.12	376	BB
AS07	CARLTON	54.2540	-1.9380	404.14	484.26	411	BB
AS10	WINSTON	54.5520	-1.8320	410.96	517.43	156	BB
AT08	MYTON-ON-SWALE	54.0985	-1.3110	445.16	467.18	19	BB
AT10	SNILESWORTH	54.3700	-1.1760	453.63	497.48	333	BB
AT12	BISHOPTON	54.5770	-1.4480	435.78	520.34	62	BB
AU05	LAYTHAM	53.8599	-0.8741	474.15	441.00	3	BB
AU07	BIRKDALE	54.1120	-0.9590	468.15	468.96	102	BB
AU08	SOUTH WOLD	54.1238	-0.6613	487.59	470.60	175	BB
AU09	BARTON-LE-STREET	54.1460	-0.8910	472.54	472.81	103	BB
AU10	KIRBY MISPERTON 1	54.1960	-0.8180	477.21	478.45	20	BB
AU11	EAST NESS	54.1974	-0.9325	469.74	478.49	34	BB
AU13	KIRBY MISPERTON 2	54.1993	-0.7941	478.77	478.84	25	BB
AU14	KIRBY MISPERTON 3	54.2030	-0.8320	476.29	479.21	23	BB
AU15	NORMANBY	54.2285	-0.8794	473.15	482.00	60	BB
AU16	KIRBY MISPERTON 4	54.2385	-0.8125	477.49	483.18	21	BB
AU18	THORNTON DALE	54.2482	-0.7095	484.18	484.38	83	BB
AU20	PICKERING	54.2940	-0.7870	479.05	489.39	151	BB
AV06	GANTON	54.1630	-0.4820	499.21	475.20	173	BB
BIGH	UPPER BIGHOUSE	58.4932	-3.9102	288.75	957.69	70	BBSMR
BRAD	BRADWELL	51.7395	0.9045	600.63	208.53	11	BBSM
BRDL	BROAD LANE	51.1880	-0.2650	521.35	144.63	74	BB
CCA1	CARNMENELLIS	50.1866	-5.2277	169.62	36.90	210	BBSMR
CLGH	CUSHENDALL	55.0828	-6.1106	137.76	584.21	239	BBR
CWF	CHARWOOD FST	52.7385	-1.3076	446.74	315.91	203	BBSMR
DRUM	DRUMTOCHTY	56.9123	-2.4865	370.48	780.23	208	BBSMR
DYA	YADSWORTHY	50.4353	-3.9310	262.88	61.34	292	BBR
EDI	EDINBURGH	55.9233	-3.1875	325.80	670.66	125	BBR
EDMD	EDMUNDBYERS	54.8312	-1.9636	402.43	548.48	337	BBSMR
ELMS	ELMSETT	52.0934	0.9895	604.88	248.11	75	BBSMR
ELSH	ELHAM	51.1482	1.1345	619.32	143.44	126	BBSMR
ESK	ESKDALEMUIR	55.3165	-3.2052	323.52	603.16	261	BBR
ESY	STONEYPATH	55.9175	-2.6141	361.62	669.55	337	1R
FOEL	FOEL WYLFA	52.8898	-3.2012	319.27	333.15	449	BBSMR
GAL1	GALLOWAY	54.8664	-4.7114	226.02	555.78	117	BBR
GATW	GATWICK	51.1440	-0.2210	524.54	139.81	63	BB
GAT2	GATWICK	51.1440	-0.2210	524.54	139.81	63	BB
GDLE	GLAISDALE	54.4218	-0.8157	476.94	503.57	228	BBSMR
GVIE	GLENDOE VIEW	57.1010	-4.5590	245.04	804.04	663	BB
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
HORS	HORSE HILL	51.1760	-0.2090	525.29	143.39	68	BB

TABLE 3

GEOGRAPHIC COORDINATES OF SEISMOGRAPH STATIONS, 2019

Code	Name	Lat	Lon	E (km)	N (km)	Ht (m)	Comp
HPK	HAVERAH PARK	53.9581	-1.6241	424.66	451.42	233	BBSMR
HTL	HARTLAND	50.9943	-4.4849	225.64	124.66	86	BBSMR
INVG	INVERGELDIE	56.4273	-4.0452	273.96	727.99	279	BBSMR
IOMK	KIRK MICHAEL	54.2605	-4.5662	232.95	488.02	188	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
JRS	MAISON ST LOUIS	49.1922	-2.0922			56	3R
JSA	ST AUBINS	49.1878	-2.1717			39	BBR
JVM	VALLE DE LA MARE	49.2169	-2.2067			64	1R
KESW	KESWICK	54.5886	-3.1048	328.70	522.05	282	BBSMR
KPL	PLOCKTON	57.3391	-5.6527	180.21	833.50	13	BBSMR
LAWE	LOCH AWE	56.2601	-5.3990	189.58	712.71	137	BBSMR
LBWR	LADYBOWER	53.4016	-1.7248	418.40	389.45	353	BBSMR
LEWI	LEWIS	58.1446	-6.8696	113.57	927.65	69	BBR
LINV	LOCHINVER	58.1470	-5.1970	211.94	922.03	57	BBR
LMK	MARKET RASEN	53.4573	-0.3274	511.15	396.92	133	BBSMR
LRW	LERWICK	60.1360	-1.1779	445.66	1139.27	98	BBSMR
MCD	COLEBURN DISTIL	57.5828	-3.2541	325.02	855.42	293	BBR
MCH1	MICHAELCHURCH	51.9974	-2.9983	331.47	233.74	219	BBSMR
MONM	MONMOUTH	51.8396	-2.8054	344.61	215.98	145	BBR
NEWG	NEW GALLOWAY	55.1173	-4.2299	257.88	582.59	151	BBR
OLDB	OLDBURY	51.6609	-2.5514	361.95	195.94	6	BBSMR
PGB1	GLENIFFERBRAES	55.8115	-4.4837	244.38	660.37	199	BBR
RSBS	ROSEBUSH	51.9530	-4.7448	211.48	231.84	278	BBR
RUSH	RUSS HILL	51.1480	-0.2680	521.24	140.17	99	BB
SOFL	SORNFELLI	62.0689	-6.9658			721	BBR
SPK	SELLA PARK	54.4183	-3.4913	303.24	503.58	50	SM
STAN	STAN HILL	51.1690	-0.2490	522.52	142.54	87	BB
STNC	STOKE	53.0913	-2.2062	354.95	386.19	234	BBR
STRD	STROUD	51.7763	-2.1643	388.77	208.64	200	BBR
SWN1	SWINDON	51.5137	-1.8007	413.83	179.49	192	BBSMR
TORA	TORNESS A	55.9692	-2.4037	374.80	675.20	5	SM
TORB	TORNESS B	55.9673	-2.4085	374.50	674.99	5	SM
THP	THORPE	54.4183	-3.4913	303.24	503.58	50	SM
WACR	WEST ACRE	52.7247	0.6267	577.48	317.35	66	BBSMR
WIM	ISLE OF MAN	54.1475	-4.6738	225.39	475.73	386	1R
WLF1	LLYNFAES	53.2894	-4.3966	240.27	379.65	58	BBSMR
WME	MYNDD EILIAN	53.3969	-4.3032	246.88	391.40	129	1R
WPS	CAMAES, ANGLESEY	53.4004	-4.4986	233.98	392.19	16	BBSMR
YLL	LLANBERIS	53.1402	-4.1704	254.84	362.57	159	1R
YRC	RHOSCOLYN	53.2508	-4.5753	228.21	375.77	22	1R

Component Codes:

- 1 Single vertical seismometer
- 3 Orthogonal set of 3 seismometers
- SM Strong motion seismometers
- BB Broadband Instruments
- 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	

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
Blackpool	0.00	1.80	1.72
	0.60	3.00	
	1.00	4.00	
	2.52	4.60	
	7.55	6.45	
	18.87	7.00	
	34.15	8.00	
Surrey	0.00	2.20	1.73
	0.20	2.40	
	0.40	2.60	
	0.70	2.70	
	1.20	3.10	
	1.50	3.60	
	1.80	4.70	
	2.10	5.00	
	2.40	5.50	
	7.60	6.40	
	18.90	7.00	
	34.20	8.00	

Appendix 1 Key to Catalogue 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 East.
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, 3, 4, 5 etc. describes the maximum EMS intensity produced by the event.
Comments	Additional comments about the event e.g.: C/F, see below under comments abbreviations.

The following abbreviations are extracted from the output of the location program HYPOCENTER (Leinart and Havskov, 1995)

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 and Comments abbreviations

Carmarths	Carmarthenshire
D & G	Dumfries & Galloway
NPT	Neath Port Talbot
N Yorks(hire)	North Yorkshire
Leics	Leicestershire
S Yorkshire	South Yorkshire
W Yorkshire	West Yorkshire
Bucks	Buckinghamshire
N Lanarkshire	North Lanarkshire
W Midlands	West Midlands
Heref	Herefordshire
Gtr Man(chester)	Greater Manchester
Co Durham	County Durham
Salop	Shropshire
Mon'shire	Monmouthshire
Co Antrim	County Antrim
Lincs	Lincolnshire
Staffs	Staffordshire
Lancs	Lancashire
Hydrofrac	Hydraulic Fracturing
...	and felt elsewhere

Appendix 2 Key to Phase Data Encoding

Time	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 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, 3, 4, 5 etc. describes the maximum EMS intensity produced by the event.
Comments	Additional comments about the event e.g.: C/F see list of comments and abbreviations in Appendix 1.
STAT	Station name
CO	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 e.g. P, S, PG, PN, IAML
WT	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 e.g.; 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**

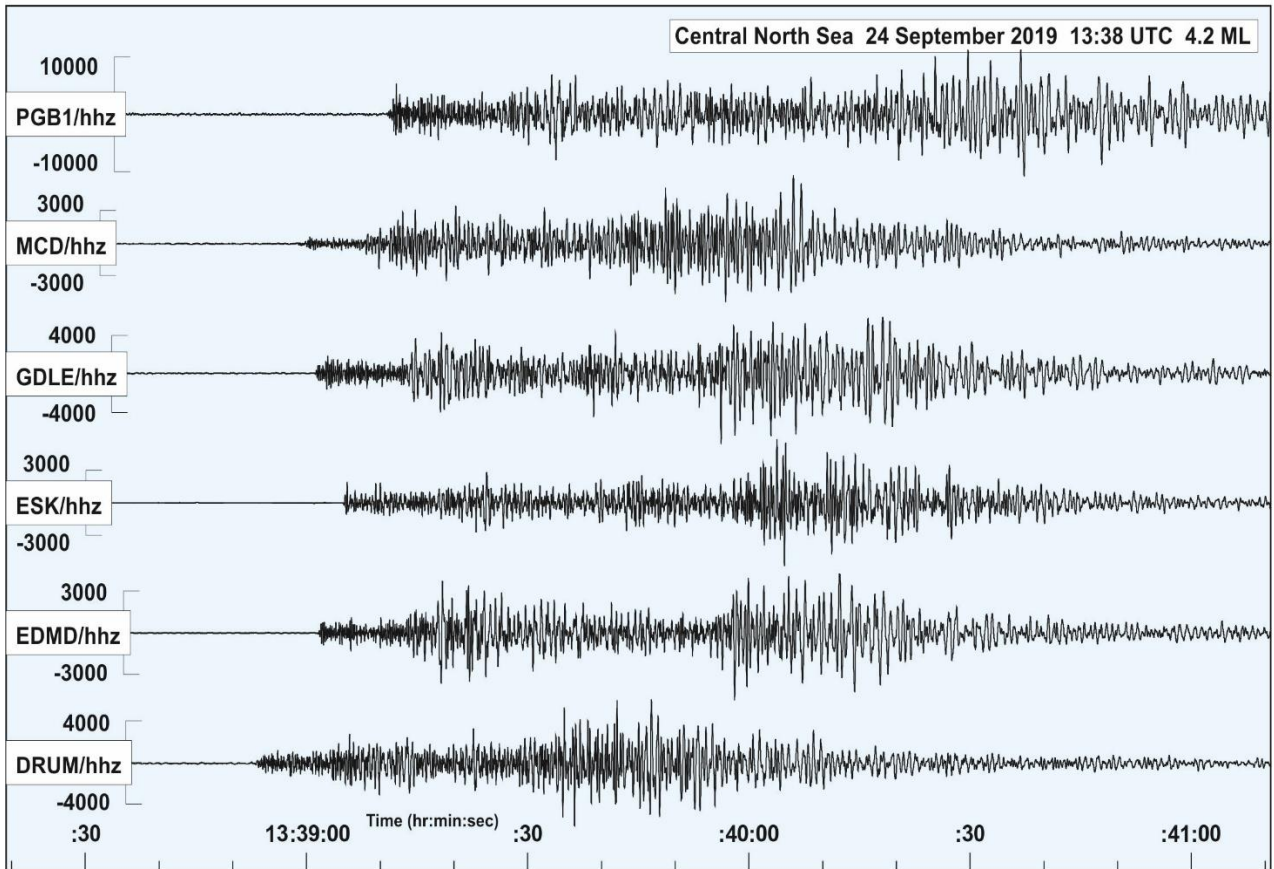
Most ordinary buildings collapse.

12 - **Completely devastating**

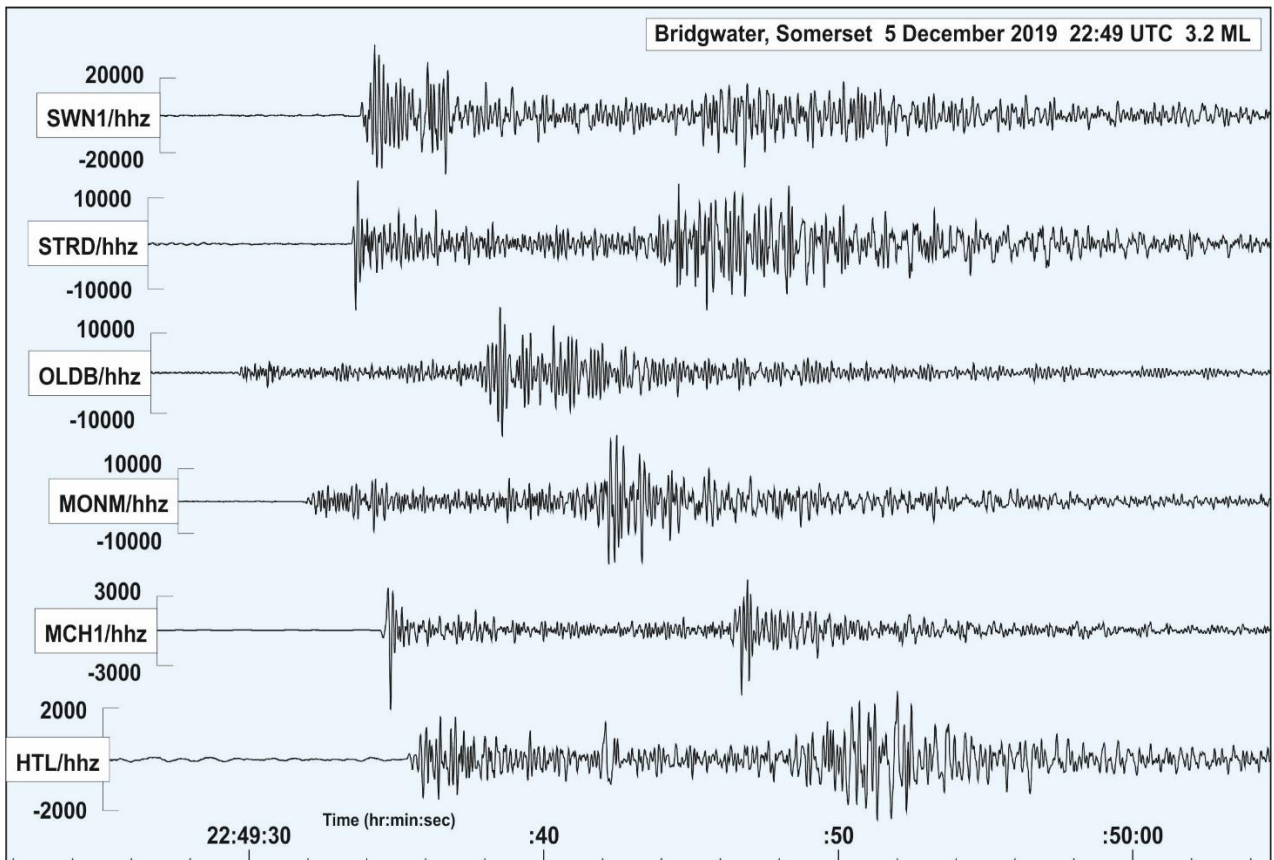
Practically all structures above and below ground are heavily damaged or destroyed.

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



Seismograms of the ground displacements from the magnitude 4.2 ML Central North Sea earthquake on 24 September 2019.



Seismograms of the ground displacements from the magnitude 3.2 ML Bridgwater, Somerset earthquake on 5 December 2019.