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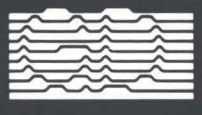
GEOPHYSICS DIVISION



# NEW ZEALAND SEISMOLOGICAL REPORT 1985

SEISMOLOGICAL OBSERVATORY BULLETIN

E — 169

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## POSTAL SERVICE

All measurement and interpretation of records is carried out at the central station. Requests and communications should therefore be sent to :

The Superintendent
Seismological Observatory
P.O. Box 1320
Wellington
New Zealand.

Correspondents are asked to note that surface mails from Europe and the Americas are infrequent, and that articles not sent by airmail may take four or five months to reach us.

Published in 1988

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## INTRODUCTION

The form and content of this bulletin follow the lines laid down in the 1984 Report (E-168).

Phase data are not published here, but are instead sent to the International Seismological Centre, and appear in their bulletins, which constitute the only medium now in use for reporting routine teleseismic observations made in New Zealand. For those willing to accept the Observatory's interpretation of seismic events in the New Zealand region, however, lists of origin coordinates and magnitudes, with sufficient supplementary information to assess the quality of the data on which they are based are given in the following pages.

Seismologists urgently requiring unpublished New Zealand data may apply to the Observatory. Historic data is also available, but unless a two-way information exchange is involved it is the Observatory's practice to make a charge for recovery of this material.

Definitive origin data for local earthquakes is usually available within a few months of their occurrence.

M. A. LOWRY
Editor

## NEW ZEALAND SEISMICITY IN 1985

Although one earthquake of magnitude ($M_L$) 7·0 and three of magnitude six or more were felt on New Zealand during 1985, all but one of these shocks had epicentres far out to sea in the Bay Of Plenty. The other shock (chronologically the first) lay off the southwestern tip of the South Island, and the highest Modified Mercalli intensity reported from any of these earthquakes was MM V. In fact, there was only one report of an intensity as high as MM VI during the whole year: the shaking from a deep earthquake of $M_L$ 5·5 with its epicentre off the end of Farewell Spit reached this intensity in Blenheim (reporting locality 77).

The year began with a major earthquake sequence in the Bay of Plenty in full swing. This sequence was of sufficient importance to merit detailed discussion in the next section of this Report, and is only mentioned here in passing. Two other earthquakes in January gave rise to ports of MM V. One, with an onshore epicentre east of the Bay of Plenty (85/599), shook Opotiki (35) with this intensity and was also felt from Whakamarama (25) to Mahia Beach (54). Its magnitude was 5·5. The other (85/624), located about 100km east of the southeast tip of the South Island, produced reports of MM V from Mahitahi (104) on the West Coast, to Dog Island (154) in Foveaux Strait. The magnitude was 6·0.

February was quiet apart from the Bay of Plenty sequence, but even this activity was waning, and by the end of the month shocks which met the Observatory's criteria for determining origins were no longer being seen there.

In March, the shock off Farewell Spit, already mentioned (85/715), registered $M_L$ 5·5 and its focus was at a depth of about 180 km. The fact that the strongest intensity report (MM VI) came from Blenheim (77), much farther from the epicentre than some other population centres, is not too unusual. It has been remarked before in previous Reports that subducting lithosphere seems to provide a waveguide that transmits energy more efficiently than the overlying material. This earthquake's origin was somewhat deeper than the estimated depth of the top surface of the subducting Pacific plate, which is believed to lie at a depth of about 125 km beneath the epicentre, and at about 40 km beneath Blenheim. The rest of March was quiet.

In the first half of April two earthquakes were felt at MM V on the Bay of Plenty coast. The first (85/806), of magnitude 5·0 was located very close to the coast, and was reported at this intensity at Whakatane (27) and also at Te Whaiti (42). The second shock (85/811) was of magnitude 6·1 and over 190 km deep. Its epicentre lay a couple of hundred kilometres NNE of East Cape, at the southern end of the western flank of the Kermadec Trough. It was felt most strongly in Opotiki (35). Before the end of the month, MM V was also attained at Uruti (38), Okoia (57) and Waikawa Beach (65), as a result of a shallow $M_L$ 5·0 shock off the coast near Wanganui, and yet again at Tauranga (26) from another shallow shock of the same magnitude.

The period from the beginning of May to the end of August saw only two shocks which gave rise to reports of MM V. The first of these (85/1012), was a magnitude 5·1 event at moderate depth (86 km) in the Fiordland subduction zone. The MM V reports came from Queenstown (132) and Centre Island (148). The second shock was widely felt. MM V reports from this $M_L$ 5·7 earthquake, slightly deeper than normal beneath northern Hawkes Bay, were spread from Whakatane (27) to Whakatu (60). August was a particularly quiet month, without any earthquake in the Observatory's declared area of interest reaching $M_L$ 5·0.

In September, a shock at normal depth near the Fiordland coast (85/1238), registered $M_L$ 5·2 and resulted in a report of MM V from Centre Island (148). Later in the same month another shock (85/1242) of $M_L$ 5·2 near Opotiki (35) was felt there at MM V, and later still the year's only $M_L$ 7·0 shock (85/1274) was felt at MM V from Cape Runaway (29) to Maruia (87), with many reports of lower intensities from places in between. The shock originated at normal depth almost 350 km NNE of East

Cape beneath the southern end of the Kermadec Trench. That MM V was reported as far south as Maruia is rather a surprise, although in the past several reports of Kermadec Region earthquakes that were not felt anywhere else in New Zealand have come from the Christchurch/Banks Peninsula area.

Seismic activity slumped again in October, but November saw a resurgence, with most of the epicentres again offshore in the Bay of Plenty to Kermadec Trench region. There was also an onshore earthquake of magnitude 5·1 (85/1326) in northern Hawkes Bay, felt at MM V at Reporoa (33) and Gisborne (45).

In December a series of shocks 500 kilometres north of East Cape included seven events of over magnitude five, but none of these was felt ashore.

The main impression gained by reviewing the earthquakes of 1985 in our region is that the part of the Indian/Pacific plate boundary to the north of New Zealand has seen the release of a very substantial amount of seismic energy. It might reasonably be supposed that this has been accompanied by a redistribution of regional stress which must sooner or later require a complementary adjustment on the adjacent part of the plate boundary on the mainland.

In a country that has not experienced a strong earthquake near even a minor population centre in almost twenty years, there is food for thought in a report of MM V coming from a place something like 1000 kilometres from the epicentre of a magnitude seven earthquake.

Apart from minor hydrothermal activity on Ruapehu in May and June, there was no significant activity on any of the mainland volcanoes or White Island.

## THE BAY OF PLENTY EARTHQUAKE SEQUENCE OF 1984/5

The activity offshore in the Bay of Plenty that began in late December 1984, continued into early 1985. By the end of January, when activity had fallen to a low level, 600 earthquakes of magnitude ($M_L$) 4 and greater, including 54 of magnitude 5 or more and one (84/1254) of magnitude 6·3 had been recorded. While the main shock was distinctly stronger than any other, the sequence had some of the characteristics of a swarm. More than one third of the shocks preceded the strongest one, and although the highest rate of occurrence was at the time of the main shock, activity did not diminish steadily afterwards, but rather there were periods of greater activity interspersed with periods of quiescence.

Focal mechanisms of some of the largest shocks, the main shock, four foreshocks and three aftershocks, were obtained by the Centroid-Moment Tensor method by Dziewonski et al (1985a,b). Although not particularly well determined, these mechanisms give a valuable indication of the processes that caused this activity. All the foreshocks showed a normal faulting mechanism on faults striking NE, the axis of extension striking NW. The mainshock and two aftershocks, however, had mechanisms that were predominantly strike-slip, with a small normal component. The direction of the axis of extension was similar to that of the normal faulting events. The last mechanism obtained, for an event seven days after the main shock (85/216), was similar to the foreshocks: normal faulting on a NE-striking fault.

These mechanisms suggest that the earthquakes occurred as a result of a regional extension in a NW-SE direction. The region lies to the NNE of the Taupo Volcanic Zone which is known to be undergoing a similar extension and which also has earthquake swarms.

References: DZIEWONSKI, A.M.; FRANZEN, J.E. and WOODHOUSE, J.H. (1985a): Centroid-Moment Tensor solutions for October-December 1984. Phys. Earth Planet. Intr. 39 :147-156.

DZIEWONSKI, A.M.; FRANZEN, J.E. and WOODHOUSE, J.H. (1985b): Centroid-Moment Tensor solutions for January-March 1985. Phys. Earth Planet. Intr. 40: 749-758.

## THE INSTRUMENTAL NETWORKS

### DESCRIPTION

The system of seismograph stations under the scientific direction of the Seismological Observatory at Wellington in 1985, comprised a standard network of stations covering the main islands of New Zealand and extending over the south-west Pacific from Samoa, Fiji, and Rarotonga, to Ross Island in the Antarctic; a smaller and closer-spaced network near Wellington; two seismographs deployed to provide some information on the existing seismic environment in the area where a new dam is being built at Clyde; and specialised or temporary stations established for research purposes.

The stations of the standard network are of two kinds, one having short-period instruments intended to record shocks originating within about 1000 km, and the other equipped with long-period instruments designed to provide information about more distant earthquakes and about the internal structure of the Earth. These functions overlap, and every station yields information of both kinds. Most of the instruments record on photographic paper, but a growing number of them use pen-and-ink or heated stylus recorders instead.

Wellington Network stations transmit their outputs to a central recorder at the Seismological Observatory. The network has twelve stations, and is intended primarily for research but is also used in the rapid location of shocks of interest to the public or civil defence officials.

The Clyde dam surveillance stations operate in the same way as the Wellington Network but their telemetered output is recorded at Clyde and thence sent to Wellington for analysis.

A new network of telemetering stations, with central recording at Wairakei, is intended to monitor possible volcanic hazards in the region of Lake Taupo. This network started to operate in 1984 and two more stations have been added during 1985.

There is also a 'Seismic Research Observatory' located at South Karori near Wellington. This is an instrument package sponsored by the United States Geological Survey and is one of about ten similar installations distributed around the world. The three-component seismometer is enclosed in a gas-filled capsule and has been lowered to a position about 10 m below sea-level in a bore-hole 165 mm in diameter and about 100 m deep. Seismic signals are transmitted by landline to the Observatory at Kelburn, where both analogue records on heat-sensitive paper and digital records on magnetic tape are made. Three-component long-period and vertical component short-period motions are recorded. Paper records are retained and archived by the Observatory, but tapes are sent to the U.S.G.S.

In addition to information from the standard network, data is contributed by one station operated by the Royal New Zealand Navy Field Station on Great Barrier Island, another belonging to the Geology Department of Otago University at Dunedin, and volcanological research or surveillance stations, operated in various collaborations by the Geological and Geophysical Surveys of the D.S.I.R., the Universities of Auckland and Wellington and the Ministry of Works and Development. These volcanological stations are on White Island, in the Rotorua geothermal area, in Tongariro National Park, and around Lake Taupo. They are not under the control of the Observatory, but their readings are freely available for use in the local origin determination programme and the Observatory archives their records. Temporary stations set up by the Observatory, for research or to monitor unusual seismic activity, sometimes provide additional data for origin determinations.

## CHANGES TO THE NETWORKS IN 1985

1985 saw the closure of a number of long-established New Zealand seismograph stations and the opening of some new ones. The South Island lost one station without getting an immediate replacement, while a series of changes in the North Island resulted in a net gain of one station there, leaving the grand total unchanged.

In April a new station was installed at North Egmont (NEZ) in anticipation of the closing of Tarata (TNZ), which followed in July. Roxburgh (ROX) was closed in April and Onerahi (ONE) in September. The station at East Cape (ECZ) ceased operation and was replaced by Hicks Bay (HBZ) in July. A minor change was the replacement of the Auckland (AUC) L-4C seismometer by a Willmore Mk II.

Three further stations of the Taupo area net were opened, the first two, Ketatahi (KETZ) and Hinemaiaia (HATZ), in May, and Huka (HUTZ) in September, at about the same time that the nearby station at Wairakei (WNZ) was closed down.

## INDEX OF STATION CODES AND POSITIONS

Throughout the tabular sections of this Report, stations are identified by the internationally recognised abbreviations allotted by the United States National Earthquake Information Service and used by the International Seismological Centre.

| CODE | NAME | LATITUDE d m s | LONGITUDE d m s | ALT m |
|---|---|---|---|---|
| | | SEISMIC RESEARCH OBSERVATORY | | |
| SNZO | South Karori | 41 18 37 S | 174 42 17 E | -10 |
| | | STANDARD NETWORK | | |
| AFI | Afiamalu | 13 54 34 S | 171 46 38 W | 706 |
| API | Apia | 13 48 26 S | 171 46 30 W | 2 |
| AUC | Auckland | 36 51 36 S | 174 46 41 E | 79 |
| BRZ | Borland Lodge | 45 46 45 S | 167 32 19 E | 190 |
| CAZ | Castlepoint | 40 54 15 S | 176 13 34 E | 6 |
| CBZ | Campbell Island | 52 33 03 S | 169 09 33 E | 30 |
| CIZ | Chatham Island | 43 57 18 S | 176 33 56 W | 45 |
| CMZ | Cashmere | 43 35 10 S | 172 38 23 E | 255 |
| COB | Cobb River | 41 05 16 S | 172 44 02 E | 213 |
| CRZ | Cape Reinga | 34 25 55 S | 172 40 47 E | 140 |
| ECZ | East Cape | 37 41 37 S | 178 32 46 E | 40 |
| GNZ | Gisborne | 38 38 39 S | 178 01 21 E | 30 |
| HBZ | Hicks Bay | 37 35 57 S | 178 18 05 E | 0 |
| KAI | Kaimata | 42 31 33 S | 171 24 31 E | 82 |
| KKZ | Kaikoura | 42 25 19 S | 173 41 17 E | 105 |
| KRP | Karapiro | 37 55 30 S | 175 32 15 E | 64 |
| MNG | Mangahao | 40 37 07 S | 175 28 55 E | 396 |
| MSZ | Milford Sound | 44 40 14 S | 167 55 01 E | 38 |
| NDF | Nadi | 17 45 25 S | 177 27 00 E | 30 |
| NEZ | North Egmont | 39 16 22 S | 174 05 46 E | 920 |
| NUE | Niue | 19 04 35 S | 169 55 41 W | 56 |
| OBZ | Oban | 46 54 18 S | 168 06 55 E | 26 |
| TMP | Tomahawk | 44 18 54 S | 170 07 12 E | 720 |

| CODE | NAME | LATITUDE d m s | LONGITUDE d m s | ALT m |
|---|---|---|---|---|
| OMZ | Oamaru | 45 04 14 S | 170 54 53 E | 95 |
| ONE | Onerahi | 35 46 33 S | 174 21 45 E | 30 |
| RAO | Raoul Island | 29 15 06 S | 177 55 06 W | 110 |
| RAR | Rarotonga | 21 12 45 S | 159 46 24 W | 28 |
| RGZ | Rangipo | 39 09 19 S | 175 50 02 E | 667 |
| ROX | Roxburgh | 45 28 33 S | 169 19 13 E | 106 |
| RTY | Rotoiti | 41 48 27 S | 172 50 35 E | 635 |
| SBA | Scott Base | 77 51 01 S | 166 45 22 E | 38 |
| TNZ | Tarata | 39 11 14 S | 174 22 49 E | 123 |
| TRZ | Taradale | 39 33 12 S | 176 49 17 E | 17 |
| TUA | Tuai | 38 48 29 S | 177 09 02 E | 274 |
| WEL | Wellington | 41 17 10 S | 174 46 06 E | 122 |
| WIZ | White Island | 37 31 42 S | 177 11 21 E | 40 |
| WNZ | Wairakei | 38 37 53 S | 176 06 10 E | 350 |
| WTZ | Whakatane | 37 59 05 S | 176 59 18 E | 4 |
| | | CLYDE NETWORK | | |
| CYZ | Clyde | 45 08 45 S | 169 19 46 E | 606 |
| MHZ | Mount Horn | 45 03 43 S | 169 16 47 E | 1 127 |
| | | CONTRIBUTING STATIONS | | |
| CNZ | Chateau | 39 12 00 S | 175 32 51 E | 1 116 |
| DNZ | Dunedin | 45 51 59 S | 170 30 54 E | 15 |
| DRZ | Dome Shelter | 39 16 35 S | 175 33 49 E | 2 600 |
| GBZ | Great Barrier | 36 13 04 S | 175 28 52 E | 70 |
| MGZ | Maungaku | 39 00 07 S | 175 32 20 E | 806 |
| NGZ | Ngauruhoe | 39 10 39 S | 175 36 12 E | 1 400 |
| RBY | Rainbow Mountain | 38 19 16 S | 176 23 16 E | 739 |
| TAZ | Tarawera | 38 13 59 S | 176 30 28 E | 1 027 |
| | | TAUPO NETWORK | | |
| HATZ | Hinemaiaia | 38 53 32 S | 176 05 31 E | 492 |
| HITZ | Hingarae | 38 42 31 S | 175 45 59 E | 1 458 |
| HUTZ | Huka | 38 38 02 S | 176 05 41 E | 360 |
| KETZ | Ketatahi | 39 06 02 S | 175 39 06 E | 1 208 |
| RATZ | Rangitukua | 38 52 07 S | 175 46 16 E | 649 |
| | | WELLINGTON NETWORK | | |
| BHW | Baring Head | 41 24 33 S | 174 52 17 E | 10 |
| BLW | Big Hill | 41 22 07 S | 175 28 29 E | 340 |
| CAW | Cannon Point | 41 06 32 S | 175 04 04 E | 330 |
| CCW | Cape Campbell | 41 45 17 S | 174 12 54 E | 216 |
| KIW | Kapiti Island | 40 51 50 S | 174 54 42 E | 320 |
| MOW | Moikau | 41 25 18 S | 175 15 07 E | 430 |
| MRW | Makara Radio | 41 13 57 S | 174 42 18 E | 235 |
| MTW | Mount Morrison | 41 09 34 S | 175 30 07 E | 282 |
| TCW | Tory Channel | 41 12 48 S | 174 16 33 E | 150 |
| WDW | Wainui Dam | 41 16 07 S | 174 59 37 E | 130 |
| WEL | Wellington | 41 17 10 S | 174 46 06 E | 122 |
| WHW | Wrights Hill | 41 17 51 S | 174 44 17 E | 383 |

## INSTRUMENTATION AND LITHOLOGY

### STANDARD NETWORK AND CONTRIBUTING STATIONS

Stations are listed in the alphabetical order of their abbreviations. Pendulum and galvanometer periods, To and Tg, are given in seconds. The damping of electromagnetic instruments, when not listed, may be assumed to be critical. Magnifications listed are for the period of maximum response, except in the case of World-Wide Standard instruments, where the magnifications are given at the conventional periods of 1·0 and 15 seconds. Typical period response curves for Willmore II, Benioff, Wood-Anderson and Mark Products L-4C seismographs are shown at the end of this section.

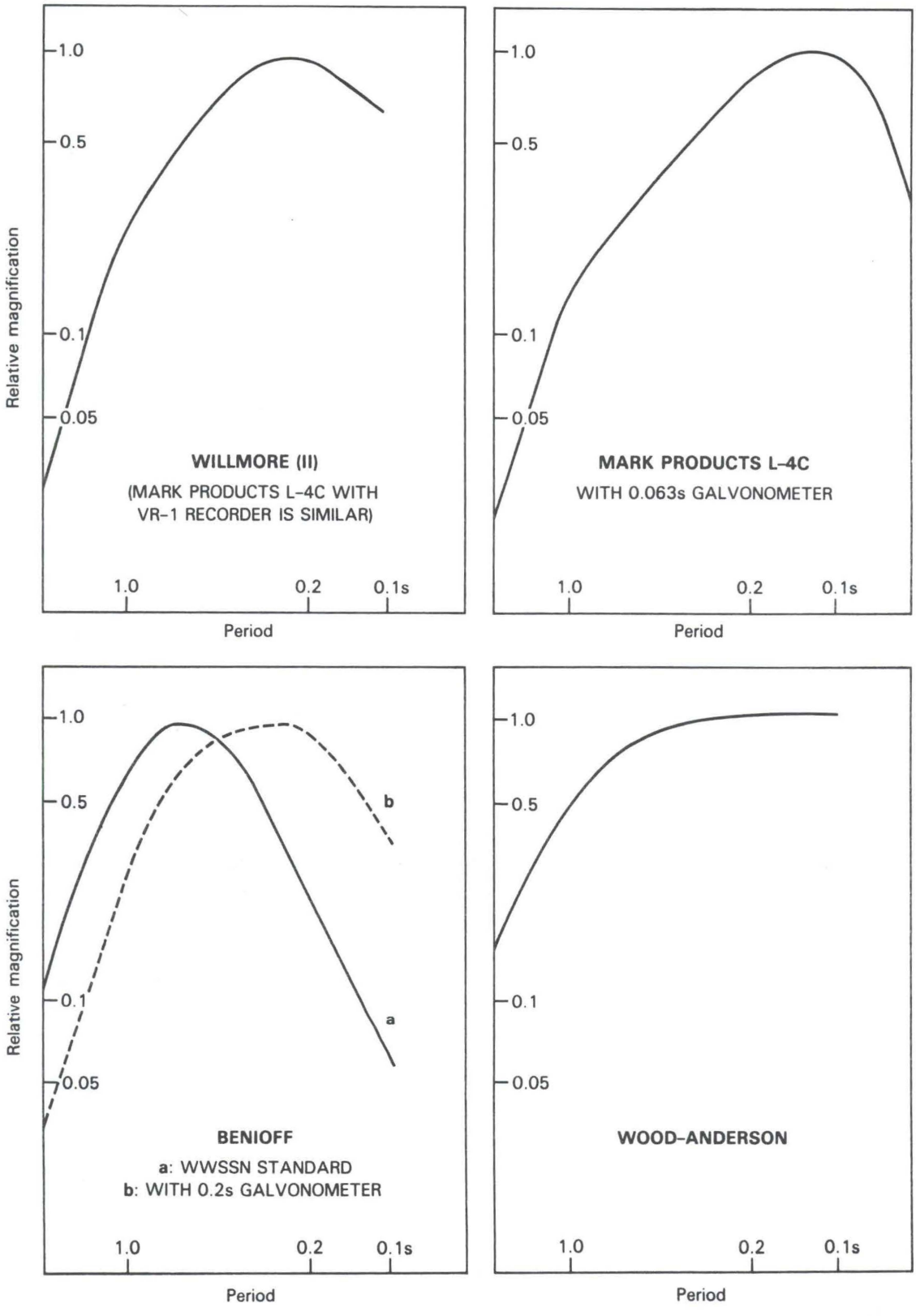
| | Instrument | Compt. | To | Tg | Damping | Magnification |
|---|---|---|---|---|---|---|
| AFI | AFIAMALU (World-Wide Standard Station) | | | | | |
| | Foundation: Basaltic lava flows. | | | | | |
| | Benioff | ZNE | 1·0 | 0·75 | | 12 500 at 1·0s |
| | Press-Ewing | ZNE | 15 | 100 | | 750 at 15s |
| API | APIA | | | | | |
| | Foundation: Coral sand on Recent and Pleistocene basalt. | | | | | |
| | Johnson-Matheson (photo-cell amplifier with hot stylus recorder). | | | | | |
| | | Z | 1·2 | 0·20 | | Uncertain |
| AUC | AUCKLAND | | | | | |
| | Foundation: Volcanic beds on Tertiary sandstone and mudstone. | | | | | |
| | Mark Products L-4C (with Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | | | 3 800 at 0·25s |
| BRZ | BORLAND LODGE | | | | | |
| | Foundation: Quaternary gravels. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 29 100 at 0·25s |
| | Wood-Anderson | X | 0·80 | crit. | | 2 800 at 0·80s |
| | The Wood-Anderson is oriented with the X component northeast. | | | | | |
| CAZ | CASTLEPOINT | | | | | |
| | Foundation: Quaternary mudstone. | | | | | |
| | Willmore II (with Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | | | Variable |
| | The magnification may be reduced when high seas are running. | | | | | |
| CBZ | CAMPBELL ISLAND | | | | | |
| | Foundation: Basalt. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 5 000 at 0·25s |
| CIZ | CHATHAM ISLANDS | | | | | |
| | Foundation: Clay over basalt. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 4 440 at 0·20s |
| | | N | 1·0 | 0·25 | | 5 110 at 0·20s |
| | | E | 1·0 | 0·25 | | 4 400 at 0·20s |
| CMZ | CASHMERE | | | | | |
| | Foundation: Rhyolite. | | | | | |
| | Mark Products L-4C (Telemetered to Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | | | 24 000 at 0·20s |

| | Instrument | Compt. | To | Tg | Damping | Magnification |
|---|---|---|---|---|---|---|
| CNZ | CHATEAU (Geophysical Survey) | | | | | |
| | Foundation: Volcanic ash and lava. | | | | | |
| | Willmore I (Telemetered to Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | | | Variable |
| COB | COBB RIVER | | | | | |
| | Foundation: Schist. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 27 300 at 0·20s |
| CRZ | CAPE REINGA | | | | | |
| | Foundation: Cretaceous basic volcanics. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 9 350 at 0·25s |
| | | N | 1·0 | 0·25 | | 10 200 at 0·20s |
| DNZ | DUNEDIN (University of Otago) | | | | | |
| | Foundation: Basaltic lava flow. | | | | | |
| | Willmore III with Kinemetrics pen-recorder. | | | | | |
| | | Z | 1·0 | | | Variable |
| | | N | 1·0 | | | Variable |
| | | E | 1·0 | | | Variable |
| DRZ | DOME SHELTER (Geophysical Survey) | | | | | |
| | Foundation: Recent andesitic ash. | | | | | |
| | Mark Products L-4C (High and low magnifications, telemetered to Kinemetrics VR-1 pen-recorders). | | | | | |
| | | Z | 1·0 | | | Variable |
| ECZ | EAST CAPE | | | | | |
| | Foundation: Mudstone and sandstone. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 4 800 at 0·33s |
| GBZ | GREAT BARRIER (Defence Scientific Establishment) | | | | | |
| | Foundation: Tertiary volcanics. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 23 800 at 0·25s |
| GNZ | GISBORNE | | | | | |
| | Foundation: Alluvium on Tertiary mudstone. | | | | | |
| | Willmore I | Z | 1·0 | 0·25 | | 27 000 at 0·25s |
| | | N | 1·0 | 0·25 | | 29 500 at 0·20s |
| HBZ | HICKS BAY | | | | | |
| | Foundation: Consolidated conglomerate. | | | | | |
| | Mark Products L-4C in borehole (with Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1.0 | | | 50 700 at 0.10s |
| KAI | KAIMATA | | | | | |
| | Foundation: Moraine and river gravels over Tertiary mudstone and sandstone. | | | | | |
| | Wood-Anderson | X | 0·80 | | crit. | 2 800 at 0·80s |
| | This instrument is oriented with the X component northeast. | | | | | |
| KKZ | KAIKOURA | | | | | |
| | Foundation: Tertiary limestone and mudstone. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 12 000 at 0·25s |
| KRP | KARAPIRO | | | | | |
| | Foundation: Greywacke. | | | | | |
| | Benioff | Z | 1·0 | 0·20 | | 46 700 at 0·25s |
| | | E | 1·0 | 0·20 | | 41 000 at 0·50s |

| | Instrument | Compt. | To | Tg | Damping | Magnification |
|---|---|---|---|---|---|---|
| MGZ | MAUNGAKU (Ministry of Works) | | | | | |
| | Foundation: Quaternary andesite. | | | | | |
| | Mark Products L-4C (Telemetered to Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | | | Variable |
| MNG | MANGAHAO | | | | | |
| | Foundation: Greywacke. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 52 000 at 0·33s |
| MSZ | MILFORD SOUND | | | | | |
| | Foundation: Gneiss. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 49 800 at 0·25s |
| NDF | NADI | | | | | |
| | Foundation: Recent clays. | | | | | |
| | Willmore II (photo-cell amplifier with hot stylus recorder). | | | | | |
| | | Z | 1·25 | 0·20 | | 6 000 approx. |
| NEZ | NORTH EGMONT | | | | | |
| | Foundation: Volcanic ash. | | | | | |
| | Mark Products L-4C (with Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1.0 | | | 25 100 at 0·10s |
| NGZ | NGAURUHOE (Geophysical Survey) | | | | | |
| | Foundation: Recent volcanic flows. | | | | | |
| | Mark Products L-4C (Telemetered to Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | | | Variable |
| NUE | NIUE | | | | | |
| | Foundation: Hard coral. | | | | | |
| | Willmore II (with Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | | | 17 200 at 0·10s |
| OBZ | OBAN | | | | | |
| | Foundation: Weathered granite. | | | | | |
| | Mark Products L-4C (with Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | | | 12 000 at 1·0s |
| OMZ | OAMARU | | | | | |
| | Foundation: Recent deposits overlying Tertiary limestone. | | | | | |
| | Willmore II | Z | 1·0 | 0·20 | | 11 500 at 0·20s |
| ONE | ONERAHI | | | | | |
| | Foundation: Basalt. | | | | | |
| | Wood-Anderson | E | 0·80 | | crit. | 2 800 at 0·80s |
| RAO | RAOUL ISLAND | | | | | |
| | Foundation: Volcanic rock. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 4 800 at 0·25s |
| RAR | RAROTONGA (World-Wide Standard Station) | | | | | |
| | Foundation: Basalt. | | | | | |
| | Benioff | ZNE | 1·0 | 0·75 | | 6 250 at 1·0s |
| | Press-Ewing | ZNE | 15 | 100 | | 375 at 15s |
| RBY | RAINBOW MOUNTAIN (Geological Survey) | | | | | |
| | Foundation: Dacite lava. | | | | | |
| | Mark Products L-4C (Telemetered to Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | 0·25 | | Variable |

| | Instrument | Compt. | To | Tg | Damping | Magnification |
|---|---|---|---|---|---|---|
| RGZ | RANGIPO | | | | | |
| | Foundation: Volcanic rock. | | | | | |
| | Mark Products L-4C (with Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | 0·25 | | 8 000 at 1.0s |
| ROX | ROXBURGH | | | | | |
| | Foundation: chlorite schist. | | | | | |
| | Willmore I | Z | 1·0 | 0·25 | | 11 500 at 0·25s |
| RTY | ROTOITI | | | | | |
| | Foundation: Glacial gravels. | | | | | |
| | Mark Products L-4C (with Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | 0·25 | | Uncertain |
| SBA | SCOTT BASE (World-Wide Standard Station) | | | | | |
| | Foundation: Frozen basaltic debris resting on lava flows. | | | | | |
| | Benioff | ZNE | 1·0 | 0·75 | | 50 000 at 1·0s |
| | | | | | | 25 000 (Feb 10 onw'd) |
| | | | | | | 12 500 (Feb 26 onw'd) |
| | | | | | | 25 000 (Mar 24 onw'd) |
| | | | | | | 50 000 (Apr 27 onw'd) |
| | Press-Ewing | ZNE | 15 | 100 | | 750 at 15s |
| TAZ | TARAWERA (Geological Survey) | | | | | |
| | Foundation: Rhyolite lava. | | | | | |
| | Mark Products L-4C (Telemetered to Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | 0·25 | | Variable |
| TMP | TOMAHAWK GULLY | | | | | |
| | Foundation: Mesozoic Greywacke | | | | | |
| | Mark Products L-4C (Telemetered to Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1.0 | | | 750 000 at 0·20s |
| | | N | 1.0 | | | 100 000 at 0·20s |
| TNZ | TARATA | | | | | |
| | Foundation: Pleistocene mudstone. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 4 570 at 0·20s |
| TRZ | TARADALE | | | | | |
| | Foundation: Quaternary sands and silts, overlying Quaternary limestone. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 5 550 at 0·25s |
| TUA | TUAI | | | | | |
| | Foundation: Thick Tertiary sandstone and mudstone. | | | | | |
| | Willmore II | Z | 1·0 | 0·25 | | 7 080 at 0·25s |
| WEL | WELLINGTON (World-Wide Standard Station) | | | | | |
| | Foundation: Greywacke. | | | | | |
| | Benioff | ZNE | 1·0 | 0·75 | | 6 250 at 1·0s |
| | Press-Ewing | ZNE | 15 | 100 | | 750 at 15s |
| | Wood-Anderson | NE | 0·80 | | crit. | 1 400 at 0·8s |
| | Imamura | Z | 1 | 5:1 | | 2 |
| | | NE | 4 | 5:1 | | 2 |
| | The Benioff vertical component operates both photographic and heated-stylus recorders. There is also a pen-recorder operated by a Willmore I seismometer. | | | | | |

| | Instrument | Compt. | To | Tg | Damping | Magnification |
|---|---|---|---|---|---|---|
| WIZ | WHITE ISLAND (Geological Survey/Victoria University) | | | | | |
| | Foundation: Recent andesite. | | | | | |
| | Mark Products L-4C (Telemetered to Kinemetrics VR-1 pen-recorder). | | | | | |
| | | Z | 1·0 | | | Variable |
| WNZ | WAIRAKEI | | | | | |
| | Foundation: Pumice breccia. | | | | | |
| | Willmore I | Z | 1·0 | 0·25 | | 200 (nominal) |
| WTZ | WHAKATANE | | | | | |
| | Foundation: Weathered Jurassic greywacke. | | | | | |
| | Willmore II | Z | 1·0 | 0·20 | | 24 000 at 0·20s |




PERIOD RESPONSE CURVES
Short Period Seismographs

## SEISMIC RESEARCH OBSERVATORY

This station is sponsored by the United States Geological Survey. A three-component seismometer sealed in a gas-filled capsule is placed in a borehole 165mm in diameter and about 100m deep, located at a quiet site several kilometres from the Observatory. The ground surface there is 88m above, and the seismometer 10m below, sea level. Both digital and analogue recordings are made from the three long-period and the vertical component short-period outputs. Paper analogue records are archived by the Observatory, but the digital tape records of detected events are held by the USGS. The recorder is at the observatory site in Kelburn, and the signals are transmitted to it by landline.

| Code | Station | Component | Magnification |
|---|---|---|---|
| SNZO | South Karori | ZNE | 20 000 at 25s |
| | | Z | 6 250 at 1·0s |

The lithological foundation is Jurassic-Permian Greywacke.

## CLYDE NETWORK

Two of the seismographs of the erstwhile Pukaki network have been relocated to allow data to be collected on the prevailing level of microseismicity in the area of the dam at present under construction at Clyde on the Clutha River. These instruments are operated by New Zealand Electricity, (division of the Ministry of Energy) and they (together with other instruments to be added to the network later) will be used to monitor any changes in local seismicity associated with the use of the lake for the generation of electric power. The records are interpreted and retained at the Observatory where they are available for other seismological use. During 1985, observations from these stations have not been treated differently from those of standard network stations. The Clyde network consists at present of two stations linked by radio to a common double pen recorder at Clyde. The seismometers are Mark Products L-4C instruments with a natural period of one second, and a Kinemetrics VR-1 recorder is used, giving the response curve shown in the graph preceding this section. The lithological foundation at both stations is Mesozoic Greywacke. The ex-Pukaki Network station at Tomahawk Gully (TMP), continues to run and be recorded on its old site, but will not be a part of this network.

| Code | Station | Component | Magnification |
|---|---|---|---|
| CYZ | Clyde | Z | 275 000 at 0·10s |
| MHZ | Mount Horn | Z | 275 000 at 0·10s |

## TAUPO NETWORK

This network is intended to monitor volcanic and geothermal activity in the Taupo Volcanic Region. Although relatively quiet in historic times, (the 1886 Tarawera eruption notwithstanding), the geological record show that the Region has been the scene of larger-scale activity at a number of times in the more distant past. The first two stations of the new network were installed in 1984. Although there were five seismometers installed by the end of 1985, there were only two recorders, so that only two stations were active at any one time.

| Code | Station | Component | Magnification | Foundation |
|---|---|---|---|---|
| HATZ | Hinemaiaia | Z | 43 100 at 0·10s | Ignimbrite |
| HITZ | Hingarae | Z | 54 600 at 0·10s | Ignimbrite |
| RATZ | Rangitukua | Z | 44 700 at 0·10s | Rhyolite |
| KETZ | Ketatahi | Z | 70 800 at 0·10s | Andesite |

## WELLINGTON NETWORK

The stations of the Wellington network are linked by radio or land-line to a common recorder at the main observatory site at Kelburn. The seismometers used are Mark Products L-4C instruments with a natural period of 1·0 second. The recorder used is a Teledyne Develocorder with galvanometers having a period of 0·063s (frequency 16Hz). Magnifications quoted refer to the trace as seen when projected on the screen of the Develocorder, which magnifies the film trace ten times. At Wellington only one low gain channel operated in 1985. The lithological foundation at all of these stations is Jurassic-Permian Greywacke, except for CCW where it is Miocene sandstone.

N.B. The films from the Wellington network are normally read on a viewer which has a magnification approximately twice that of the Develocorder.

| Code | Station | Component | Magnification at 0·10s |
|---|---|---|---|
| BHW | Baring Head | Z | 380 000 |
| BLW | Big Hill | Z | 340 000 |
| CAW | Cannon Point | Z | 420 000 |
| CCW | Cape Campbell | Z | 135 000 |
| KIW | Kapiti Island | Z | 500 000 |
| MOW | Moikau | Z | 210 000 |
| MRW | Makara Radio | Z | 400 000 |
| MTW | Mount Morrison | Z | 420 000 |
| TCW | Tory Channel | Z | 710 000 |
| WDW | Wainui Dam | Z | 640 000 |
| WEL | Wellington | N | 110 000 |

## TIMING ARRANGEMENTS

Unless stated otherwise, times in this Report are given in Universal Time (U.T. or, more strictly, U.T.C., defined in a later section). For most seismological and civil purposes this may be regarded as the Mean Solar Time of the Greenwich meridian.

Throughout the standard network, minute marks derived from quartz crystal clocks of high stability appear on records as abrupt trace deflections of about two seconds duration. Radio time signals also operate the trace deflector so that the relationship between the locally generated minute marks and Universal Time can be established. In most cases the radio signals are those of the New Zealand Time Service (for which the Observatory is administratively responsible), transmitted hourly through the stations of Radio New Zealand, but in areas where local reception is bad, the Australian station VNG is used. It is estimated that the total error in time-signal recording resulting from signal transmission and delay in operation of the trace deflector should never exceed 30 milliseconds. Further details of the New Zealand Time Service appear later in this Report.

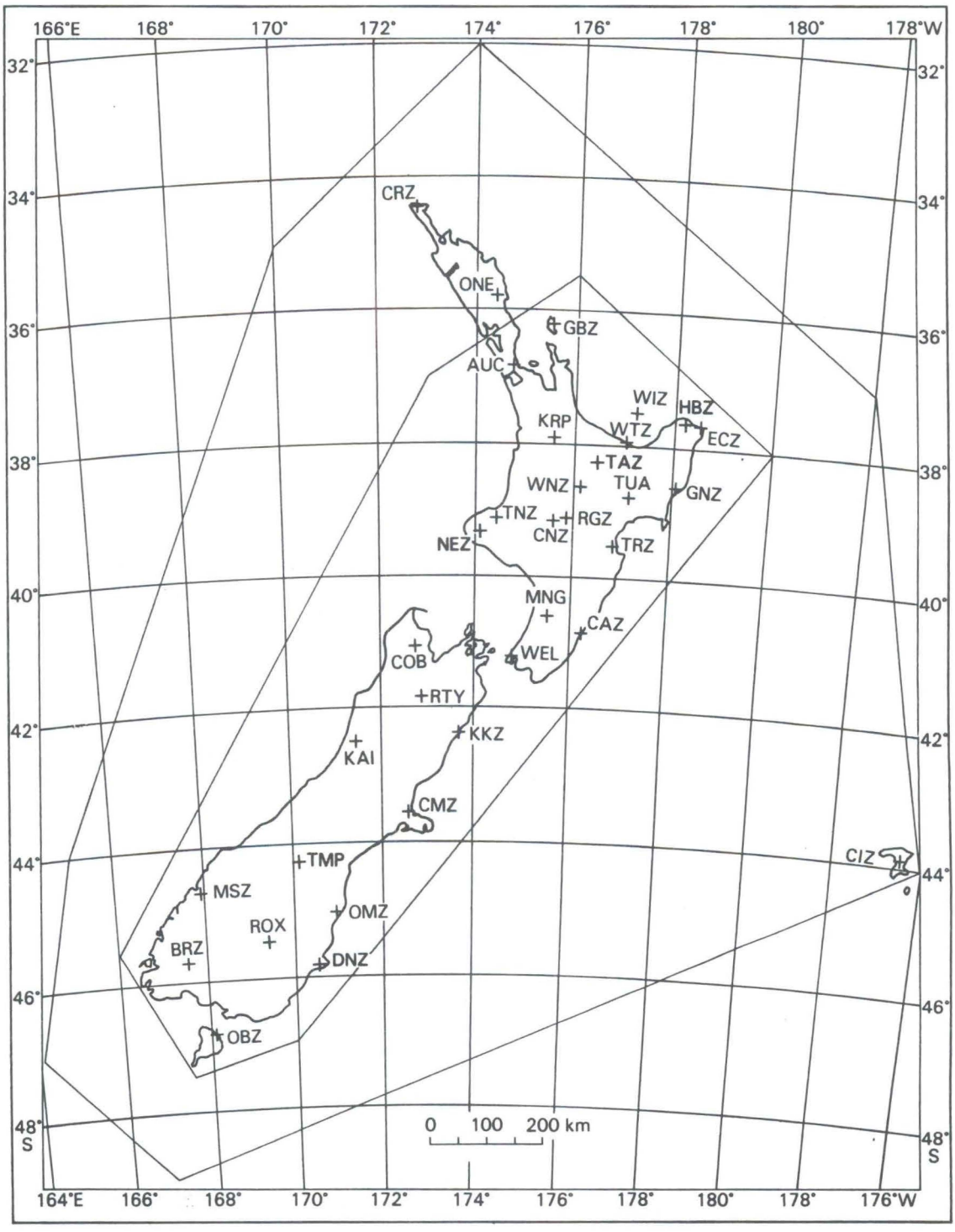
Stations of the World-Wide Standard Seismograph Network have the timing arrangements usual at such stations. At other stations beyond New Zealand, time signals originating at the Observatory or from VNG are used. Time-pulse signals of one second duration derived directly from the national Time Service are displayed on the topmost and lowest traces of the Wellington network records. Pulses of longer duration mark minutes and hours.

It is sometimes desirable to know the local civil time at which an earthquake occurred. The times now used for civil purposes in New Zealand (except the Chatham Islands) are New Zealand Standard Time, and New Zealand Daylight Time, which are defined in the Time Act, 1974. New Zealand Standard Time is 12 hours, and New Zealand Daylight Time 13 hours, ahead of U.T. The period of Daylight Time is specified by Order in Council, as provided by the Act, normally extending from 02h NZST on the last Sunday in October until 02h NZST on the first Sunday in March of the following year.

The time observed in the Chatham Islands is 45 minutes in advance of that currently in use in New Zealand. New Zealand Standard Time is observed at Scott Base, in Fiji and on Raoul and Campbell Islands. Times observed elsewhere in the South Pacific are decided by the governments of the respective countries. Those affecting places which sometimes report earthquakes to the Observatory are listed below.

| | |
|---|---|
| Western Samoa | 11h 00m behind U.T. |
| Niue | 11h 00m behind U.T. |
| Rarotonga | 10h 00m behind U.T. |
| Tonga | 13h 00m ahead of U.T. |
| Norfolk Island | 11h 30m ahead of U.T. |
| French Polynesia | 10h 00m behind U.T. |

Note that Western Samoa, Niue, Rarotonga and French Polynesia are on the opposite side of the International Date Line from New Zealand.




Map showing the areas within which the Observatory attempts to determine origins for all shallow earthquakes of magnitude (ML) 3·7 or more (inner polygon) and all earthquakes of magnitude 4·0 or greater (outer polygon).

## INSTRUMENTAL DATA

### CONTENT

This section contains origin times, epicentres, focal depths, and magnitudes of earthquakes in the New Zealand region that the Observatory has located from instrumental data, together with indicators of the quality of the data used.

In the areas within the inner and outer polygons outlined on the map opposite, the Observatory attempts to determine origins for all shallow earthquakes of ML 3·7 or more, and all shocks of ML 4·0 or more, respectively. (Origins are regarded as shallow if their depth is less than 60km.) Origins are also calculated for smaller or more distant earthquakes reported to have been felt in New Zealand. Weak shocks felt during earthquake swarms do not automatically get this individual attention, but an origin is found for at least one shock in any sequence giving rise to felt reports. Once an origin has been calculated, the data and determination are listed regardless of whether the outcome satisfies the selection criteria.

For the more intensively studied area around Wellington, coordinates of all seismic events of magnitude ML 2·3 or more are calculated using data from a closely spaced local network of seismometers. Station readings are not published, but origins and magnitudes are listed at the end of this section.

### DETERMINATION OF ORIGINS

Earthquake origins were determined using the phases P, Pn, P*, Pg, and the corresponding S phases. In computing travel times, (except for origins listed under the Wellington Network heading), it was assumed that the New Zealand crust was 33 km thick, and divided into two uniform layers by a discontinuity at a depth of 12 km. Above the discontinuity the velocities of P and S were 5·5 and 3·3 km/s respectively (Pg and Sg) and below it they were 6·5 and 3·7 km/s (P* and S*). Travel times for Pn and Sn, which travel in the mantle, were calculated using mantle velocities of 8·1 km/s for Pn and 4·6 km/s for Sn. Several studies have shown that these values are close to the average velocities for Pn and Sn in New Zealand. Travel times for P and S from sub-crustal earthquakes were derived from the Jeffreys-Bullen Tables (British Association for the Advancement of Science, 1958), and, at the base of the crust, corresponded to a velocity of 7·8 km/s for P and 4·4 km/s for S. It is known that the mantle in New Zealand is not laterally homogeneous, but until more accurate travel times can be routinely calculated, Jeffreys-Bullen Tables will continue to be used, to maintain consistency with earlier Reports.

Calculations were carried out on a PDP 11/34 computer using FORTRAN programs developed by W. D. Smith, E. G. C. Smith, A. J. Haines and T. H. Webb. A provisional origin was repeatedly adjusted to obtain the best agreement between the observed arrival times for the various phases, and times computed from tables. More precisely, the origin was adjusted to minimise the sum of the squares of the weighted residuals (i.e. observed minus computed arrival times).

Weights in the range 0-100% were initially assigned to phase arrival times according to whether the phase was P or S and the precision of the measurement. S phases were given half the weight of P phases and phases labelled "e" or measured only to the nearest second were given half the weight of corresponding phases measured to a tenth of a second. A sharp P arrival was thus at first assigned 100% weight and an emergent S 25%. The weight of readings was further modified by the location program, which, after each iteration, weighted the residuals used to adjust the trial origin. The procedure (see Jeffreys, H., 1939: Probability Theory, Cambridge University Press.) greatly reduced the weight given to phases

with residuals greater than three standard errors.

In general, all four coordinates of the earthquake origin were calculated (origin time, latitude, longitude, and focal depth). In some cases, however, the focal depth was not allowed to vary, but restricted to some chosen depth. This was most commonly done for crustal earthquakes. Unless there was a station within 25 km of a shock in the upper crust, or within 50 km of a shock in the lower crust, a nominal depth of either 12 or 33 km was usually assigned, according to the crustal phases present and the goodness of fit of the resulting solution. Less often, the depth was restricted to a smaller value, particularly when the strengths of locally reported felt intensities indicated an uncommonly shallow focus. The letter R printed after the depth in the lists which follow betokens a restriction for any of the foregoing reasons. There were also occasions when information not acceptable as input to the location program indicated the depth of focus, and in such cases the depth was similarly held at the appropriate value and the restriction is shown by following the depth by the letter G (to indicate intervention by a Geophysicist). When convergence of the location program failed for lack of enough data, both epicentre and depth were fixed at values consistent with the available information, and computation limited to finding a compatible origin time. Such doubly-restricted origins have the letters RR printed after the depth.

In routine origin determinations, sufficient of the stations nearest to the epicentre were read to yield enough data for a satisfactory solution, together with a selection of other stations from which readings were recorded but not used. When enough observations were available, arrival times recorded at stations more than three degrees from the epicentre were excluded from the calculations. Observatory analysts were free to reject data which they thought to be unreliable completely, or to halve the weight given to it in the location program's procedure for minimising mean residuals. (See later details of the weighting procedure).

Origins determined from Wellington network data were obtained using a modified location program with different convergence criteria, in conjunction with a velocity model that has been found to be appropriate for the area. Details of this model are given immediately before the listing of origins from the Wellington network.

In using the results in this section, it is essential to keep in mind that the positions of earthquakes with epicentres outside the network of seismograph stations can be very uncertain, even though the mean residual is small. With the the aim of helping the reader to assess the reliability of the results presented here, the positional relationships between an epicentre, and the stations which recorded the data used to find it, are given after the calculated origin coordinates. Similarly, the number of magnitude estimates contributing to the mean value, and an indication of their scatter, are also shown.

The solutions presented here are in all cases based upon uniform procedures applied to laterally homogeneous models. For origins determined using the standard network, the model approximates average conditions in the New Zealand region, but as the real structure is known to be asymmetrical, the true origin can be somewhat different from the one calculated. Care should therefore be taken not to attach significance to an epicentre in an unusual place or a focus at an unusual depth, without investigating the uncertainties of the determination.

Because a well-established local model has been used to calculate the origins listed under the Wellington Network heading, systematic errors in this area should be considerably smaller than in other parts of the country.

## MAGNITUDES

The magnitudes assigned to local earthquakes are intended to be the values of ML as originally defined by C.F. Richter (Bull. Seism. Soc. Am 25: 1-32, 1935), but his procedure for performing the magnitude calculation at other than the standard distance of 100 km has been modified, so as to take account of the

observed characteristics of energy propagation in New Zealand, including the effect of focal depth. (For details, see Haines, A.J.: A local magnitude scale for New Zealand earthquakes. Bull. Seism. Soc. Am. 71: 275-94.)

## STANDARD NETWORK

Magnitudes of earthquakes recorded by the standard network are based on the largest amplitudes in the P and S groups, recorded by Willmore vertical and Wood-Anderson seismographs. (The deployment of these is described in the earlier section on instrumentation.) At Wellington, where two-component Wood-Anderson instruments are installed, the root-mean-square amplitude is used. An amplitude-distance relationship of the form

$$A = A_o R^{-N} \exp ( - \alpha R )$$

where A is a trace amplitude recorded at an epicentral distance R, $A_o$ is a calibration function, N is a geometric spreading factor and $\alpha$ is an inelastic attenuation coefficient, has been found appropriate for all parts of the country.

For all New Zealand crustal earthquakes N is 2 and a generally takes a value close to 0. With these values, the relationship describes head-wave propagation with no attenuation. In the Central Volcanic Region, however, (see Map, page 27), $\alpha$ takes values of 0.8 deg-1 for P waves and 1.05 deg-1 for S waves. Adjustments are therefore made according to the distance travelled in the volcanic region.

For deep earthquakes in the Main Seismic Region the same parameters as for crustal earthquakes apply (N = 2, $\alpha$ = 0), provided that (i) R now measures the slant distance from the focus to the base of the crust, and (ii) stations to the west of the volcanic region or south of the Main Seismic Region are not used, because the structure there demands different

TABLE 1

MAGNITUDE CORRECTIONS FOR THE TWO CLASSES OF FOCAL DEPTH, FOR P AND S PHASES RECORDED ON WILLMORE AND WOOD-ANDERSON INSTRUMENTS

| Station | Willmore P | | Willmore S | | Wood-Anderson | |
|---|---|---|---|---|---|---|
| | ≤33 km | >33 km | ≤33 km | >33 km | ≤33 km | >33 km |
| BRZ Fiordland only | | 0·05 | | -0·20 | | 0·05 |
| All shallow | 0·15 | | -0·10 | | 0·15 | |
| CMZ | 0·05 | | -0·15 | | | |
| COB | 0·15 | | -0·40 | | | |
| CRZ | 0·25 | | 0·20 | | | |
| ECZ | 0·60 | 0·40 | 0·50 | 0·40 | | |
| GNZ | 0·00 | 0·00 | -0·20 | -0·20 | | |
| KAI | | | | | | 0·30 |
| KKZ | 0·25 | 0·25 | 0·05 | 0·05 | | |
| KRP | -0·25 | | -0·30 | | | |
| MNG | -0·35 | -0·40 | -0·45 | -0·50 | | |
| MSZ Fiordland only | | -0·35 | | -0·60 | | |
| All shallow | -0·25 | | -0·50 | | | |
| OBZ | 0·00 | | -0·40 | | | |
| OMZ | 0·15 | | -0·15 | | | |
| ONE | | | | | 0·15 | |
| ROX | 0·15 | | -0·25 | | | |
| TNZ | 0·40 | | 0·25 | | | |
| TRZ | 0·30 | 0·45 | 0·15 | 0·10 | | |
| TUA | 0·40 | 0·40 | 0·35 | 0·40 | | |
| WEL | | | | | 0·30 | 0·30 |
| WNZ | 0·95 | 1·30 | 0·75 | 1·35 | | |

spreading and attenuation terms.

For deep earthquakes in Fiordland the same amplitude-distance relationship is used, with (i) N given the value 1 (body wave propagation), (ii) $\alpha$ increasing with focal depth, and (iii) stations in the Main Seismic Region (apart from COB) not used, because of variations of the coefficients N and $\alpha$. Milford Sound (MSZ) and Borland Lodge (BRZ) should ideally be excluded for the same reason, but as they are sometimes the only stations from which any estimate of magnitude can be made, they are used when necessary, with N = 2 and $\alpha$ = 0.

Corrections are applied to allow for station characteristics. These include differences in site effects, frequency responses and magnifications of the instruments. Their determination is empirical, and made in such a manner as to give the most consistent estimates of magnitude from the different stations, and their absolute level is adjusted to give a standard Wood-Anderson instrument at Wellington a zero correction, a procedure that can be justified on a priori grounds and provides a smooth connection with New Zealand magnitudes published before 1977. Station corrections (Table 1) are added to the individual estimates of magnitude, which are then averaged. The trace amplitudes on which magnitude calculations are based are no longer published, but the number of measurements and the number of stations contributing to the average magnitude are listed. (e.g. "5M/4stn" appearing in a data summary indicates that 5 amplitude measurements of records from 4 stations were used to compute an average). When amplitude measurements from other stations are available, the BRZ and MSZ estimates are only given half weight in the calculation of the average magnitude.

### Clyde and Taupo Networks

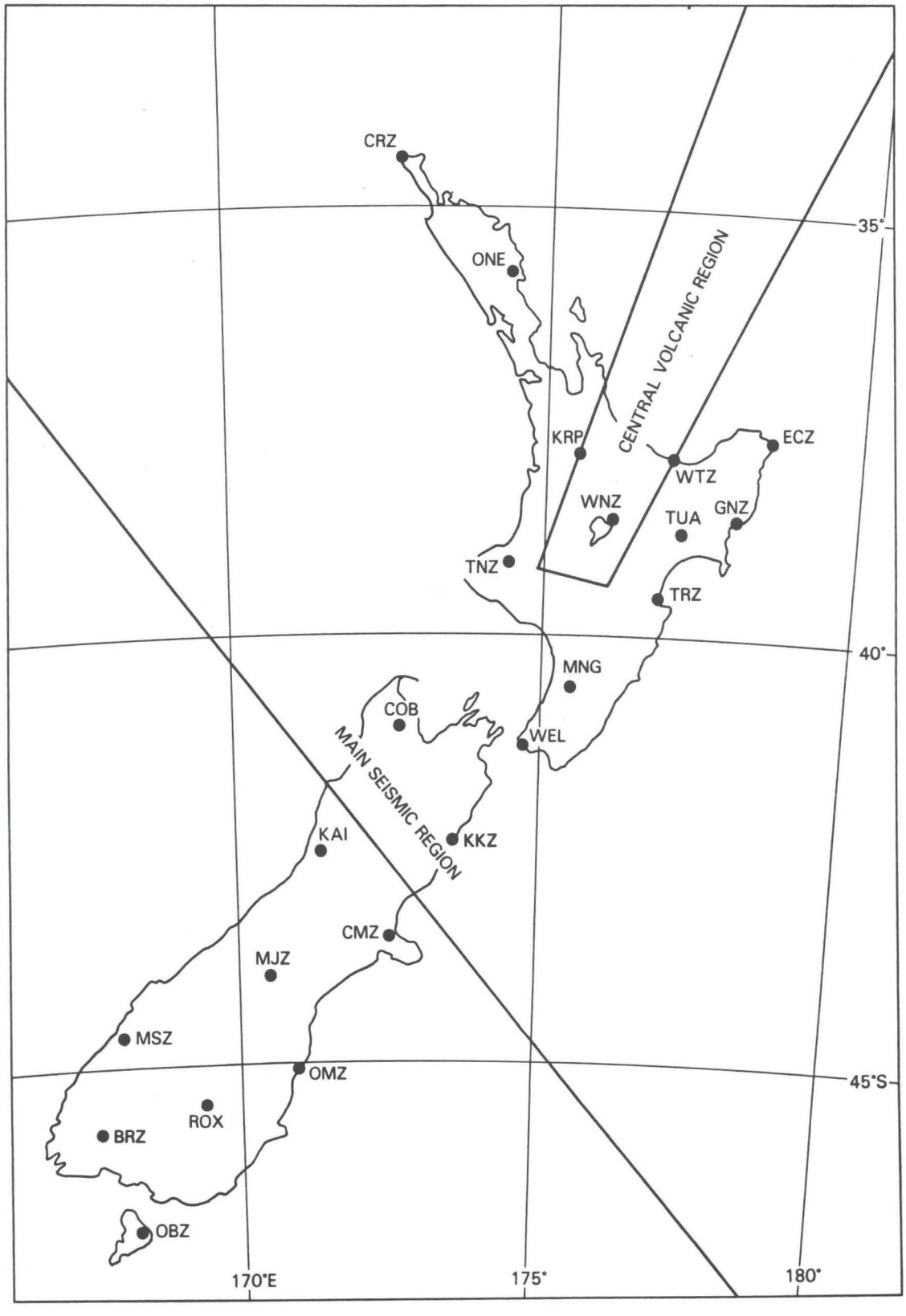
Neither Clyde nor Taupo network stations were not used for magnitude determinations during 1985.

## WELLINGTON NETWORK

Magnitudes are calculated using both the maximum amplitude on the viewing screen and the duration of the signal. The formulae are empirical, developed by R. Robinson for maximum consistency among stations. Both scales were calibrated against the Wood-Anderson determination at Wellington, for a selection of shocks that were large enough to record there. The formulae are listed below, where $T_i$ is the duration in seconds at station i, $A_i$ is the amplitude (mm) on the viewing screen, $R_i$ is the slant distance from the focus (km), and $C_i$ and $K_i$ are station corrections for determinations made from durations and amplitudes respectively. Individual estimates are averaged to give the final values which appear in the list of origins.

$$M_T = -0.8 + 2.30 \log_{10} T_i + C_i$$

$$M_A = \log_{10} A_i - 1.71 + 1.56 \log_{10} R_i + K_i$$




Stations and regions used in Standard Magnitude determinations.

## DATA FROM THE STANDARD NETWORK

### LAYOUT

The first entry for each earthquake is the reference number, used throughout the Report. The second line gives the origin coordinates and the magnitude and the third line shows, beneath each of the coordinates in line two, its standard error. Where depth has been restricted, the letter R or G in place of the standard error indicates the fact. The fourth line starts with Rsd, the standard deviation of residuals, an indication of how well the adopted origin reconciles the available data with the standard earth model used by the location program. Formally,

$$Rsd = \left[ \sum_{i=1}^{n} \{(w_i \, r_i \, / \, 100)^2 / \, (n-m)\} \right]^{1/2}$$

where $r_i$ is the ith residual, $w_i$ its weight, $n$ the number of readings and $m$ the number of parameters determined. (4 for unrestricted depth, 3 when depth is restricted.) When the number of readings used and the number of parameters are the same, the standard errors and Rsd are not defined. This is shown by the letters ND. The remainder of the fourth line and most of the fifth line present information indicating to the reader the degree of constraint on the adopted origin. Xph/Ystn shows that X phases from Y stations were used in the determination of the origin. (All phases given non-zero weight are counted but stations which failed to provide such a phase are not). Dmin is the distance from the epicentre to the nearest of these Y stations and Az. gap is the greatest angular gap in their distribution about the epicentre.

Corr. is the correlation coefficient of the errors in latitude and longitude. It may be used to construct an epicentral confidence region. (See Flinn, E.A., 1965. "Confidence regions and error determinations for seismic event locations." Rev. Geophys. 3: 157-185.) pM/Qstn shows that p magnitude estimates from phases recorded at Q stations contributed to the average value shown on line two. Msd is the standard deviation of the magnitude estimates.

The numbers of upward and downward first motions recorded are indicated at the end of line five.

Additional information may be appended to the above. This usually consists of a short summary of the places where a shock has been felt and the intensities there, but may include other comments. Further details of reports received by the Observatory concerning the effects of earthquakes and the intensities assessed from these observations appear in later sections of this Report.

85/1
**JAN 01 0002 04·3s 36·92S 177·36E 12km M=4·0**
0·9 0·06 0·03 R
Rsd 0·5s 7ph/5stn Dmin 69km Az.gap 255°
Corr. -0·045 4M/4stn Msd 0·2

85/2
**JAN 01 0012 31·6s 37·01S 177·36E 12km M=3·8**
0·8 0·06 0·04 R
Rsd 0·4s 6ph/5stn Dmin 60km Az.gap 249°
Corr. 0·224 4M/4stn Msd 0·2

85/3
**JAN 01 0057 58·7s 37·01S 177·42E 12km M=4·5**
0·7 0·04 0·02 R
Rsd 0·5s 9ph/5stn Dmin 61km Az.gap 250°
Corr. -0·069 4M/4stn Msd 0·2

85/4
**JAN 01 0102 46·7s 38·31S 176·11E 161km M=4·1**
0·8 0·03 0·05 7
Rsd 0·6s 10ph/8stn Dmin 66km Az.gap 115°
Corr. -0·130 11M/6stn Msd 0·3 2↓

85/5
**JAN 01 0114 48·4s 37·05S 177·40E 12km M=3·9**
0·8 0·06 0·03 R
Rsd 0·6s 7ph/5stn Dmin 56km Az.gap 247°
Corr. -0·137 4M/4stn Msd 0·1

85/6
**JAN 01 0156 40·1s 37·05S 177·23E 12km M=3·8**
0·6 0·04 0·03 R
Rsd 0·5s 8ph/5stn Dmin 53km Az.gap 246°
Corr. -0·126 4M/4stn Msd 0·2

85/7
**JAN 01 0226 10·0s 36·73S 177·46E 12km M=3·7**
1·5 0·12 0·05 R
Rsd 0·6s 6ph/5stn Dmin 91km Az.gap 266°
Corr. 0·268 4M/4stn Msd 0·1

85/8
**JAN 01 0354 10·6s 37·34S 177·23E 12km M=3·4**
0·5 0·04 0·02 R
Rsd 0·4s 6ph/5stn Dmin 21km Az.gap 223°
Corr. -0·240 5M/4stn Msd 0·1

85/9
**JAN 01 0414 35·4s 36·80S 177·46E 12km M=4·1**
1·0 0·07 0·03 R
Rsd 0·5s 6ph/5stn Dmin 84km Az.gap 263°
Corr. -0·078 4M/4stn Msd 0·3

85/10
**JAN 01 0437 23·1s 36·69S 177·48E 12km M=4·4**
1·3 0·09 0·05 R
Rsd 0·8s 8ph/5stn Dmin 96km Az.gap 269°
Corr. 0·142 4M/4stn Msd 0·1

85/11
**JAN 01 0512 46·6s 36·58S 177·50E 12km M=5·1**
1·2 0·09 0·05 R
Rsd 1·0s 11ph/9stn Dmin 109km Az.gap 206°
Corr. 0·173 6M/6stn Msd 0·3 3↑

85/12
**JAN 01 0550 23·9s 37·02S 177·35E 12km M=3·7**
1·2 0·09 0·04 R
Rsd 0·7s 6ph/5stn Dmin 58km Az.gap 249°
Corr. -0·062 4M/4stn Msd 0·2

85/13
**JAN 01 0607 49·2s 37·05S 177·41E 12km M=3·7**
1·2 0·09 0·05 R
Rsd 0·7s 7ph/5stn Dmin 56km Az.gap 247°
Corr. 0·129 4M/4stn Msd 0·2

85/14
**JAN 01 0611 57·1s 37·25S 177·34E 12km M=4·0**
0·8 0·06 0·03 R
Rsd 0·7s 7ph/5stn Dmin 34km Az.gap 231°
Corr. -0·229 4M/4stn Msd 0·2

85/15
**JAN 01 0621 43·2s 37·25S 177·32E 12km M=3·8**
0·5 0·04 0·02 R
Rsd 0·5s 8ph/5stn Dmin 33km Az.gap 231°
Corr. -0·155 4M/4stn Msd 0·1

85/16
**JAN 01 0722 46·1s 36·39S 177·55E 12km M=4·2**
1·2 0·08 0·07 R
Rsd 1·0s 8ph/5stn Dmin 130km Az.gap 283°
Corr. 0·005 4M/4stn Msd 0·2

85/17
**JAN 01 0729 42·5s 37·28S 177·33E 12km M=4·2**
0·5 0·04 0·02 R
Rsd 0·5s 8ph/5stn Dmin 30km Az.gap 228°
Corr. -0·125 4M/4stn Msd 0·2 1↑

85/18
**JAN 01 0735 06·9s 36·94S 177·53E 12km M=4·4**
1·7 0·13 0·04 R
Rsd 0·9s 7ph/5stn Dmin 72km Az.gap 255°
Corr. 0·029 4M/4stn Msd 0·2 1↑ 1↓

85/19
**JAN 01 0755 38·5s 36·84S 177·39E 12km M=4·1**
0·7 0·05 0·03 R
Rsd 0·5s 7ph/5stn Dmin 78km Az.gap 260°
Corr. -0·080 4M/4stn Msd 0·1

85/20
**JAN 01 0932 04·5s 36·79S 177·62E 12km M=4·5**
1·2 0·08 0·04 R
Rsd 0·6s 8ph/5stn Dmin 91km Az.gap 266°
Corr. 0·526 4M/4stn Msd 0·3

85/21
**JAN 01 0938 53·5s 36·74S 177·55E 12km M=4·1**
1·3 0·09 0·04 R
Rsd 0·7s 8ph/5stn Dmin 93km Az.gap 267°
Corr. 0·414 4M/4stn Msd 0·4

85/22
**JAN 01 1002 00·0s 37·23S 177·24E 12km M=3·4**
0·6 0·04 0·02 R
Rsd 0·3s 6ph/5stn Dmin 33km Az.gap 232°
Corr. 0·453 4M/4stn Msd 0·1 1↑

85/23
**JAN 01 1002 53·4s 37·03S 177·36E 12km M=4·1**
0·6 0·04 0·02 R
Rsd 0·4s 7ph/5stn Dmin 57km Az.gap 247°
Corr. -0·157 4M/4stn Msd 0·3

85/24
**JAN 01 1117 01·2s 36·78S 177·43E 12km M=3·9**
1·5 0·11 0·03 R
Rsd 0·6s 8ph/5stn Dmin 86km Az.gap 264°
Corr. -0·372 4M/4stn Msd 0·2

85/25
**JAN 01 1215 04·7s 36·77S 177·44E 12km M=4·5**
1·3 0·10 0·04 R
Rsd 0·6s 6ph/5stn Dmin 86km Az.gap 264°
Corr. -0·030 4M/4stn Msd 0·2

85/26
**JAN 01 1220 53·0s 36·72S 177·42E 12km M=4·2**
1·1 0·09 0·03 R
Rsd 0·5s 7ph/5stn Dmin 92km Az.gap 267°
Corr. -0·053 4M/4stn Msd 0·2

85/27
**JAN 01 1233 13·5s 36·76S 177·45E 12km M=4·0**
1·0 0·07 0·03 R
Rsd 0·6s 8ph/5stn Dmin 88km Az.gap 265°
Corr. -0·027 4M/4stn Msd 0·3

85/28
**JAN 01 1236 28·9s 36·84S 177·42E 12km M=3·9**
2·5 0·17 0·06 R
Rsd 0·7s 6ph/5stn Dmin 79km Az.gap 260°
Corr. 0·326 4M/4stn Msd 0·2

85/29
**JAN 01 1309 21·2s 36·55S 177·49E 12km M=3·9**
1·4 0·10 0·03 R
Rsd 0·4s 7ph/5stn Dmin 111km Az.gap 276°
Corr. 0·045 4M/4stn Msd 0·2

85/30
**JAN 01 1315 11·1s 36·74S 177·46E 12km M=4·0**
1·1 0·08 0·03 R
Rsd 0·6s 7ph/5stn Dmin 91km Az.gap 266°
Corr. -0·277 4M/4stn Msd 0·3

85/31
**JAN 01 1332 50·5s 36·60S 177·52E 12km M=4·5**
1·5 0·11 0·04 R
Rsd 0·8s 9ph/5stn Dmin 107km Az.gap 274°
Corr. -0·321 4M/4stn Msd 0·3

85/32
**JAN 01 1350 07·1s 36·81S 177·49E 12km M=3·9**
1·2 0·08 0·04 R
Rsd 0·7s 7ph/5stn Dmin 84km Az.gap 263°
Corr. 0·258 4M/4stn Msd 0·3

85/33
**JAN 01 1355 13·2s 36·61S 177·48E 12km M=4·1**
2·0 0·15 0·06 R
Rsd 0·8s 6ph/5stn Dmin 105km Az.gap 273°
Corr. 0·217 4M/4stn Msd 0·3

85/34
**JAN 01 1406 40·7s 36·80S 177·44E 12km M=4·1**
0·6 0·05 0·02 R
Rsd 0·4s 7ph/5stn Dmin 83km Az.gap 262°
Corr. -0·096 4M/4stn Msd 0·1

85/35
**JAN 01 1408 05·9s 36·83S 177·54E 12km M=4·7**
2·5 0·20 0·07 R
Rsd 0·9s 6ph/6stn Dmin 83km Az.gap 262°
Corr. 0·504 4M/4stn Msd 0·2

85/36
**JAN 01 1410 26·4s 36·80S 177·50E 12km M=4·4**
R R R R
Rsd 0·4s 3ph/3stn Dmin 136km Az.gap 263°
Corr. R 3M/3stn Msd 0·2
In the coda of preceding shock.

85/37
**JAN 01 1423 30·8s 36·80S 177·45E 12km M=3·9**
1·0 0·08 0·02 R
Rsd 0·4s 7ph/5stn Dmin 84km Az.gap 263°
Corr. 0·184 5M/4stn Msd 0·2

85/38
**JAN 01 1429 14·9s 36·73S 177·59E 12km M=4·3**
2·3 0·18 0·06 R
Rsd 1·0s 8ph/5stn Dmin 95km Az.gap 269°
Corr. 0·418 4M/4stn Msd 0·3

85/39
**JAN 01 1534 27·7s 36·77S 177·46E 12km M=4·8**
1·7 0·13 0·05 R
Rsd 0·8s 8ph/6stn Dmin 88km Az.gap 265°
Corr. -0·067 4M/4stn Msd 0·3 1↑

85/40
**JAN 01 1640 24·9s 36·60S 177·48E 12km M=5·0**
2·1 0·16 0·06 R
Rsd 0·8s 8ph/8stn Dmin 106km Az.gap 204°
Corr. 0·303 5M/5stn Msd 0·4

85/41
**JAN 01 1648 07·0s 36·54S 177·51E 12km M=5·0**
1·6 0·12 0·04 R
Rsd 0·6s 9ph/7stn Dmin 113km Az.gap 277°
Corr. 0·217 6M/6stn Msd 0·2

85/42
**JAN 01 1704 17·9s 36·61S 177·53E 12km M=4·7**
1·6 0·12 0·05 R
Rsd 0·7s 7ph/5stn Dmin 107km Az.gap 273°
Corr. -0·018 3M/3stn Msd 0·4

85/43
**JAN 01 1729 01·7s 36·72S 177·51E 12km M=4·3**
1·6 0·11 0·04 R
Rsd 0·7s 8ph/5stn Dmin 95km Az.gap 268°
Corr. 0·148 4M/4stn Msd 0·2

85/44
**JAN 01 1732 27·7s 36·82S 177·38E 12km M=3·8**
0·5 0·04 0·02 R
Rsd 0·3s 6ph/5stn Dmin 80km Az.gap 260°
Corr. 0·036 4M/4stn Msd 0·2

85/45
**JAN 01 1747 31·9s 36·89S 177·45E 12km M=4·0**
2·1 0·17 0·05 R
Rsd 0·9s 7ph/5stn Dmin 74km Az.gap 258°
Corr. 0·176 4M/4stn Msd 0·2

85/46
**JAN 01 1800 38·6s 36·69S 177·49E 12km M=4·4**
1·1 0·08 0·04 R
Rsd 0·7s 7ph/5stn Dmin 96km Az.gap 269°
Corr. 0·199 3M/3stn Msd 0·2

85/47
**JAN 01 1814 49·8s 36·72S 177·51E 12km M=4·9**
2·2 0·16 0·05 R
Rsd 0·9s 8ph/6stn Dmin 94km Az.gap 268°
Corr. 0·383 4M/4stn Msd 0·2 1↓

85/48
**JAN 01 1821 10·8s 36·63S 177·44E 12km M=3·8**
0·7 0·04 0·04 R
Rsd 0·4s 7ph/5stn Dmin 102km Az.gap 272°
Corr. -0·075 4M/4stn Msd 0·3

85/49
**JAN 01 1823 33·8s 36·72S 177·51E 12km M=4·1**
0·9 0·06 0·03 R
Rsd 0·5s 8ph/5stn Dmin 94km Az.gap 268°
Corr. 0·226 4M/4stn Msd 0·2

85/50
**JAN 01 1850 19·2s 37·14S 177·35E 12km M=3·8**
1·0 0·06 0·04 R
Rsd 0·6s 9ph/5stn Dmin 45km Az.gap 239°
Corr. -0·439 4M/4stn Msd 0·2

85/51
**JAN 01 1856 20·3s 36·76S 177·50E 12km M=4·2**
1·8 0·12 0·05 R
Rsd 1·0s 8ph/5stn Dmin 90km Az.gap 266°
Corr. 0·232 4M/4stn Msd 0·3

85/52
**JAN 01 1910 48·8s 36·82S 177·50E 12km M=4·0**
1·7 0·13 0·04 R
Rsd 0·7s 7ph/5stn Dmin 83km Az.gap 263°
Corr. 0·326 4M/4stn Msd 0·2

85/53
**JAN 01 1913 00·8s 36·80S 177·50E 12km M=3·8**
1·5 0·11 0·05 R
Rsd 0·6s 6ph/5stn Dmin 85km Az.gap 263°
Corr. 0·521 4M/4stn Msd 0·2

85/54
**JAN 01 1951 21·8s 36·64S 177·54E 12km M=3·9**
1·7 0·12 0·05 R
Rsd 0·9s 8ph/5stn Dmin 104km Az.gap 273°
Corr. 0·587 4M/4stn Msd 0·1

85/55
**JAN 01 2040 53·1s 36·83S 177·48E 12km M=4·2**
2·0 0·15 0·04 R
Rsd 1·0s 8ph/5stn Dmin 81km Az.gap 262°
Corr. 0·090 4M/4stn Msd 0·3

85/56
**JAN 01 2053 22·3s 36·66S 177·53E 12km M=3·9**
1·1 0·08 0·05 R
Rsd 0·8s 8ph/5stn Dmin 101km Az.gap 271°
Corr. -0·141 4M/4stn Msd 0·1

85/57
**JAN 01 2057 52·2s 36·65S 177·49E 12km M=4·6**
0·8 0·05 0·04 R
Rsd 0·6s 8ph/5stn Dmin 101km Az.gap 271°
Corr. 0·106 4M/4stn Msd 0·4

85/58
**JAN 01 2136 33·4s 37·00S 177·43E 12km M=4·4**
1·5 0·12 0·04 R
Rsd 0·8s 7ph/5stn Dmin 62km Az.gap 250°
Corr. -0·038 3M/3stn Msd 0·3 1↓

85/59
**JAN 01 2140 16·6s 36·65S 177·54E 12km M=4·4**
1·1 0·07 0·04 R
Rsd 0·8s 10ph/5stn Dmin 103km Az.gap 272°
Corr. 0·157 4M/4stn Msd 0·2

85/60
**JAN 01 2151 33·6s 36·92S 177·52E 12km M=4·3**
1·8 0·14 0·04 R
Rsd 0·8s 9ph/5stn Dmin 73km Az.gap 257°
Corr. 0·131 3M/3stn Msd 0·2

85/61
**JAN 01 2248 10·2s 36·82S 177·39E 12km M=4·3**
1·2 0·09 0·04 R
Rsd 0·9s 8ph/5stn Dmin 81km Az.gap 261°
Corr. -0·093 4M/4stn Msd 0·2 1↑

85/62
**JAN 01 2248 44·4s 36·83S 177·38E 12km M=4·7**
2·4 0·17 0·07 R
Rsd 1·1s 7ph/6stn Dmin 79km Az.gap 260°
Corr. 0·260 5M/5stn Msd 0·3

85/63
**JAN 01 2251 54·4s 36·91S 177·26E 12km M=4·3**
2·3 0·19 0·06 R
Rsd 0·9s 6ph/5stn Dmin 69km Az.gap 255°
Corr. 0·409 4M/4stn Msd 0·3 1↓

85/64
**JAN 01 2255 34·1s 36·86S 177·34E 12km M=4·1**
1·0 0·07 0·03 R
Rsd 0·7s 9ph/5stn Dmin 76km Az.gap 258°
Corr. -0·132 3M/3stn Msd 0·4

85/65
**JAN 01 2257 51·1s 36·92S 177·32E 12km M=3·9**
1·3 0·08 0·05 R
Rsd 1·0s 8ph/5stn Dmin 69km Az.gap 255°
Corr. 0·129 4M/4stn Msd 0·2

85/66
**JAN 01 2258 53·8s 36·85S 177·38E 12km M=4·4**
1·4 0·09 0·05 R
Rsd 1·0s 7ph/5stn Dmin 77km Az.gap 259°
Corr. -0·007 4M/4stn Msd 0·3

85/67
**JAN 01 2310 01·4s 36·71S 177·52E 12km M=4·2**
1·1 0·07 0·05 R
Rsd 0·6s 7ph/5stn Dmin 95km Az.gap 268°
Corr. 0·025 4M/4stn Msd 0·2

85/68
**JAN 01 2321 09·5s 36·84S 177·35E 12km M=3·9**
2·3 0·17 0·06 R
Rsd 1·0s 7ph/5stn Dmin 78km Az.gap 259°
Corr. 0·236 5M/4stn Msd 0·3

85/69
**JAN 01 2341 48·7s 39·23S 174·80E 188km M=4·1**
1·3 0·05 0·08 13
Rsd 0·7s 9ph/7stn Dmin 36km Az.gap 106°
Corr. -0·490 6M/4stn Msd 0·3

85/70
**JAN 01 2346 16·3s 36·92S 177·30E 12km M=4·1**
1·6 0·12 0·04 R
Rsd 0·8s 8ph/5stn Dmin 69km Az.gap 254°
Corr. -0·043 4M/4stn Msd 0·2 1↑

85/71
**JAN 02 0013 49·0s 36·99S 177·24E 12km M=4·0**
1·0 0·08 0·03 R
Rsd 0·7s 8ph/5stn Dmin 60km Az.gap 249°
Corr. -0·043 4M/4stn Msd 0·3

85/72
**JAN 02 0117 23·7s 36·97S 177·24E 12km M=4·1**
1·8 0·14 0·05 R
Rsd 1·0s 7ph/5stn Dmin 63km Az.gap 251°
Corr. -0·175 4M/4stn Msd 0·3

85/73
**JAN 02 0136 36·1s 36·90S 177·50E 12km M=4·1**
0·7 0·05 0·02 R
Rsd 0·6s 11ph/5stn Dmin 75km Az.gap 258°
Corr. 0·001 4M/4stn Msd 0·3

85/74
**JAN 02 0142 32·7s 36·71S 177·62E 12km M=4·0**
1·9 0·13 0·05 R
Rsd 0·7s 8ph/5stn Dmin 99km Az.gap 270°
Corr. 0·529 4M/4stn Msd 0·1

85/75
**JAN 02 0249 37·8s 37·24S 177·34E 12km M=3·4**
1·1 0·06 0·05 R
Rsd 0·7s 7ph/5stn Dmin 35km Az.gap 232°
Corr. -0·286 4M/4stn Msd 0·2

85/76
**JAN 02 0528 49·1s 37·10S 177·43E 12km M=3·6**
1·3 0·08 0·04 R
Rsd 0·7s 7ph/5stn Dmin 52km Az.gap 243°
Corr. -0·430 4M/4stn Msd 0·2

85/77
**JAN 02 0531 45·3s 36·73S 177·48E 12km M=3·9**
0·8 0·06 0·02 R
Rsd 0·3s 7ph/5stn Dmin 93km Az.gap 267°
Corr. 0·194 4M/4stn Msd 0·3

85/78
**JAN 02 0557 21·3s 37·33S 177·24E 12km M=3·6**
1·7 0·11 0·07 R
Rsd 1·0s 7ph/5stn Dmin 22km Az.gap 224°
Corr. -0·701 4M/4stn Msd 0·4

85/79
**JAN 02 0732 05·2s 37·13S 177·35E 12km M=3·9**
1·0 0·07 0·04 R
Rsd 0·6s 7ph/5stn Dmin 46km Az.gap 240°
Corr. -0·521 4M/4stn Msd 0·2

85/80
**JAN 02 0808 52·1s 37·16S 177·35E 12km M=3·7**
1·1 0·08 0·03 R
Rsd 0·4s 7ph/5stn Dmin 43km Az.gap 238°
Corr. -0·674 4M/4stn Msd 0·3

85/81
**JAN 02 0818 07·2s 36·77S 177·47E 12km M=4·2**
2·3 0·17 0·05 R
Rsd 1·0s 7ph/5stn Dmin 88km Az.gap 264°
Corr. 0·316 4M/4stn Msd 0·1

85/82
**JAN 02 0835 01·9s 36·90S 177·34E 12km M=4·1**
1·5 0·10 0·06 R
Rsd 1·1s 7ph/5stn Dmin 71km Az.gap 256°
Corr. -0·125 4M/4stn Msd 0·3

85/83
**JAN 02 0844 20·5s 37·22S 177·28E 12km M=4·0**
0·4 0·03 0·02 R
Rsd 0·3s 6ph/5stn Dmin 36km Az.gap 234°
Corr. -0·197 4M/4stn Msd 0·2

85/84
**JAN 02 0853 00·0s 36·85S 177·27E 12km M=4·1**
1·3 0·09 0·05 R
Rsd 1·0s 9ph/5stn Dmin 76km Az.gap 259°
Corr. -0·149 4M/4stn Msd 0·2

85/85
**JAN 02 0858 34·8s 36·84S 177·45E 12km M=4·0**
0·6 0·04 0·03 R
Rsd 0·4s 7ph/5stn Dmin 79km Az.gap 261°
Corr. -0·004 4M/4stn Msd 0·3

85/86
**JAN 02 0914 05·7s 36·98S 177·33E 12km M=4·2**
1·5 0·12 0·04 R
Rsd 0·9s 8ph/5stn Dmin 62km Az.gap 251°
Corr. 0·145 4M/4stn Msd 0·3

85/87
**JAN 02 0938 59·8s 37·08S 177·37E 12km M=3·7**
2·6 0·19 0·09 R
Rsd 1·0s 5ph/5stn Dmin 52km Az.gap 244°
Corr. -0·606 4M/4stn Msd 0·2

85/88
**JAN 02 0942 45·5s 37·08S 177·31E 12km M=3·6**
0·6 0·04 0·03 R
Rsd 0·4s 7ph/5stn Dmin 51km Az.gap 243°
Corr. -0·519 4M/4stn Msd 0·2

85/89
**JAN 02 1112 39·5s 37·02S 177·41E 12km M=3·7**
1·3 0·09 0·05 R
Rsd 0·7s 7ph/5stn Dmin 60km Az.gap 249°
Corr. -0·484 4M/4stn Msd 0·1

85/90
**JAN 02 1114 38·5s 37·10S 177·43E 12km M=3·5**
1·5 0·12 0·05 R
Rsd 0·8s 7ph/5stn Dmin 52km Az.gap 243°
Corr. 0·260 4M/4stn Msd 0·2

85/91
**JAN 02 1116 36·2s 44·31S 168·62E 5km M=4·4**
0·3 0·02 0·02 R
Rsd 0·5s 9ph/8stn Dmin 69km Az.gap 176°
Corr. -0·490 5M/3stn Msd 0·1 1↑ 1↓
Felt Mahitahi (104) MM IV and Branches (122).

85/92
**JAN 02 1218 56·0s 37·03S 177·37E 12km M=4·1**
1·0 0·07 0·04 R
Rsd 0·7s 8ph/5stn Dmin 58km Az.gap 248°
Corr. -0·072 4M/4stn Msd 0·1

85/93
**JAN 02 1253 35·6s 36·71S 177·54E 12km M=3·7**
1·0 0·07 0·03 R
Rsd 0·7s 10ph/5stn Dmin 96km Az.gap 269°
Corr. 0·135 4M/4stn Msd 0·2

85/94
**JAN 02 1259 01·5s 36·64S 177·55E 12km M=5·4**
1·6 0·12 0·05 R
Rsd 0·8s 9ph/6stn Dmin 104km Az.gap 272°
Corr. 0·228 4M/4stn Msd 0·2 1↑ 1↓

85/95
**JAN 02 1307 35·9s 36·76S 177·52E 12km M=4·6**
1·2 0·09 0·03 R
Rsd 0·7s 10ph/5stn Dmin 90km Az.gap 266°
Corr. 0·315 4M/4stn Msd 0·4

85/96
**JAN 02 1313 51·7s 36·95S 177·39E 12km M=3·8**
0·6 0·04 0·02 R
Rsd 0·4s 8ph/5stn Dmin 66km Az.gap 253°
Corr. 0·018 4M/4stn Msd 0·2

85/97
**JAN 02 1326 35·3s 36·90S 177·44E 12km M=4·2**
0·9 0·07 0·03 R
Rsd 0·8s 9ph/5stn Dmin 73km Az.gap 257°
Corr. -0·025 3M/3stn Msd 0·4

85/98
**JAN 02 1339 54·4s 36·62S 177·58E 12km M=5·3**
1·8 0·14 0·05 R
Rsd 0·9s 8ph/6stn Dmin 107km Az.gap 274°
Corr. 0·312 5M/5stn Msd 0·4 1↑

85/99
**JAN 02 1343 57·5s 37·55S 177·34E 12km M=3·6**
0·5 0·04 0·03 R
Rsd 0·6s 7ph/5stn Dmin 13km Az.gap 179°
Corr. 0·320 4M/4stn Msd 0·4

85/100
**JAN 02 1400 06·5s 36·62S 177·64E 12km M=4·2**
1·6 0·11 0·04 R
Rsd 0·8s 9ph/5stn Dmin 109km Az.gap 275°
Corr. 0·229 3M/3stn Msd 0·3

85/101
**JAN 02 1428 26·1s 36·71S 177·53E 12km M=4·2**
1·1 0·07 0·04 R
Rsd 0·8s 10ph/5stn Dmin 96km Az.gap 269°
Corr. 0·161 4M/4stn Msd 0·4

85/102
**JAN 02 1612 30·9s 36·70S 177·58E 12km M=4·2**
1·0 0·06 0·03 R
Rsd 0·7s 9ph/5stn Dmin 98km Az.gap 270°
Corr. 0·162 4M/4stn Msd 0·3

85/103
**JAN 02 1619 14·0s 36·66S 177·36E 12km M=4·4**
2·6 0·17 0·09 R
Rsd 1·0s 8ph/5stn Dmin 98km Az.gap 270°
Corr. -0·193 4M/4stn Msd 0·2

85/104
**JAN 02 1620 58·0s 37·06S 177·32E 12km M=3·8**
1·1 0·08 0·03 R
Rsd 0·4s 6ph/5stn Dmin 53km Az.gap 245°
Corr. -0·058 4M/4stn Msd 0·1

85/105
**JAN 02 1721 54·7s 36·92S 177·34E 12km M=3·8**
1·3 0·08 0·05 R
Rsd 1·0s 8ph/5stn Dmin 69km Az.gap 255°
Corr. -0·073 3M/3stn Msd 0·1

85/106
**JAN 02 1813 36·1s 36·74S 177·52E 12km M=4·4**
1·0 0·07 0·04 R
Rsd 0·7s 9ph/5stn Dmin 92km Az.gap 266°
Corr. -0·039 4M/4stn Msd 0·3

85/107
**JAN 02 2025 22·3s 36·93S 177·33E 12km M=5·3**
1·7 0·14 0·05 R
Rsd 1·0s 9ph/7stn Dmin 68km Az.gap 254°
Corr. -0·060 4M/4stn Msd 0·2 2↓

85/108
**JAN 02 2029 29·8s 37·17S 177·24E 12km M=3·7**
1·1 0·08 0·03 R
Rsd 0·6s 7ph/5stn Dmin 40km Az.gap 237°
Corr. -0·391 4M/4stn Msd 0·3

85/109
**JAN 02 2034 04·8s 36·88S 177·34E 12km M=3·7**
0·7 0·04 0·03 R
Rsd 0·6s 8ph/5stn Dmin 73km Az.gap 256°
Corr. -0·135 4M/4stn Msd 0·3

85/110
**JAN 02 2039 35·6s 36·97S 177·30E 12km M=4·2**
2·3 0·16 0·07 R
Rsd 1·2s 6ph/5stn Dmin 63km Az.gap 252°
Corr. 0·082 4M/4stn Msd 0·3

85/111
**JAN 02 2108 56·6s 36·55S 177·54E 12km M=5·5**
2·4 0·19 0·07 R
Rsd 1·0s 7ph/6stn Dmin 113km Az.gap 276°
Corr. 0·208 6M/6stn Msd 0·4 1↓

85/112
**JAN 02 2159 29·5s 36·94S 177·29E 12km M=4·8**
1·5 0·12 0·04 R
Rsd 0·9s 11ph/7stn Dmin 66km Az.gap 253°
Corr. 0·008 7M/7stn Msd 0·3

85/113
**JAN 02 2215 52·4s 36·93S 177·36E 12km M=5·3**
1·7 0·13 0·05 R
Rsd 1·1s 10ph/8stn Dmin 68km Az.gap 187°
Corr. -0·213 6M/6stn Msd 0·2

85/114
**JAN 03 0045 56·2s 36·98S 177·27E 12km M=4·3**
1·2 0·09 0·04 R
Rsd 0·8s 8ph/5stn Dmin 61km Az.gap 250°
Corr. -0·222 4M/4stn Msd 0·3

85/115
**JAN 03 0345 47·4s 36·94S 177·28E 12km M=4·1**
1·1 0·07 0·04 R
Rsd 0·8s 8ph/5stn Dmin 65km Az.gap 253°
Corr. -0·149 4M/4stn Msd 0·3

85/116
**JAN 03 0347 24·2s 36·85S 177·28E 12km M=4·0**
1·3 0·09 0·05 R
Rsd 0·9s 8ph/5stn Dmin 76km Az.gap 258°
Corr. -0·052 5M/4stn Msd 0·2

85/117
**JAN 03 0503 15·5s 36·92S 177·36E 12km M=4·1**
1·3 0·09 0·04 R
Rsd 0·9s 8ph/5stn Dmin 69km Az.gap 254°
Corr. 0·171 4M/4stn Msd 0·3

85/118
**JAN 03 0512 32·5s 37·01S 177·34E 12km M=3·4**
1·8 0·11 0·07 R
Rsd 0·8s 6ph/5stn Dmin 59km Az.gap 249°
Corr. 0·550 4M/4stn Msd 0·3

85/119
**JAN 03 0954 34·4s 40·56S 173·47E 126km M=3·9**
0·6 0·04 0·04 7
Rsd 0·6s 10ph/7stn Dmin 85km Az.gap 161°
Corr. -0·424 5M/3stn Msd 0·2 1↓

85/120
**JAN 03 1026 42·4s 36·78S 177·57E 12km M=3·8**
3·2 0·22 0·06 R
Rsd 1·1s 6ph/5stn Dmin 90km Az.gap 266°
Corr. 0·339 4M/4stn Msd 0·2

85/121
**JAN 03 1144 20·4s 36·76S 177·58E 12km M=4·3**
1·8 0·14 0·04 R
Rsd 0·8s 8ph/5stn Dmin 92km Az.gap 267°
Corr. 0·563 4M/4stn Msd 0·4

85/122
**JAN 03 1145 08·4s 36·84S 177·57E 12km M=4·4**
3·7 0·26 0·06 R
Rsd 1·1s 7ph/5stn Dmin 83km Az.gap 262°
Corr. 0·007 4M/4stn Msd 0·4
In the coda of the preceding shock.

85/123
**JAN 03 1227 12·0s 36·85S 177·39E 12km M=3·6**
1·1 0·08 0·04 R
Rsd 0·5s 6ph/5stn Dmin 77km Az.gap 259°
Corr. 0·267 4M/4stn Msd 0·1

85/124
**JAN 03 1228 46·0s 36·85S 177·47E 12km M=3·7**
2·0 0·16 0·04 R
Rsd 0·8s 7ph/5stn Dmin 80km Az.gap 261°
Corr. 0·443 4M/4stn Msd 0·2

85/125
**JAN 03 1538 43·3s 36·84S 177·54E 12km M=4·2**
1·6 0·12 0·04 R
Rsd 0·8s 7ph/5stn Dmin 83km Az.gap 262°
Corr. 0·201 4M/4stn Msd 0·3

85/126
**JAN 03 1613 23·4s 38·37S 178·77E 33km M=3·6**
2·3 0·09 0·21 R
Rsd 0·7s 4ph/2stn Dmin 72km Az.gap 320°
Corr. 0·024 1M/1stn Msd ND 1↑

85/127
**JAN 03 1646 08·8s 36·60S 177·63E 12km M=5·0**
1·5 0·11 0·04 R
Rsd 0·8s 10ph/6stn Dmin 110km Az.gap 276°
Corr. 0·278 6M/6stn Msd 0·3 1↑

85/128
**JAN 03 1651 20·4s 36·82S 177·59E 12km M=3·8**
0·9 0·06 0·04 R
Rsd 0·5s 9ph/5stn Dmin 86km Az.gap 264°
Corr. -0·038 4M/4stn Msd 0·3

85/129
**JAN 03 2249 31·7s 36·63S 177·52E 12km M=3·9**
1·0 0·07 0·04 R
Rsd 0·5s 7ph/5stn Dmin 104km Az.gap 273°
Corr. -0·041 4M/4stn Msd 0·1

85/130
**JAN 04 0121 44·0s 36·62S 177·49E 12km M=3·9**
0·6 0·04 0·03 R
Rsd 0·4s 7ph/5stn Dmin 104km Az.gap 273°
Corr. 0·000 4M/4stn Msd 0·2

85/131
**JAN 04 0123 40·8s 36·82S 177·39E 12km M=3·9**
1·2 0·10 0·03 R
Rsd 0·4s 7ph/5stn Dmin 81km Az.gap 261°
Corr. 0·462 4M/4stn Msd 0·2

85/132
**JAN 04 0302 05·5s 36·81S 177·34E 12km M=4·1**
1·1 0·07 0·05 R
Rsd 0·9s 8ph/5stn Dmin 81km Az.gap 261°
Corr. -0·004 4M/4stn Msd 0·3

85/133
**JAN 04 0306 00·9s 36·89S 177·35E 12km M=3·8**
2·6 0·20 0·07 R
Rsd 1·2s 6ph/5stn Dmin 72km Az.gap 256°
Corr. 0·256 4M/4stn Msd 0·2

85/134
**JAN 04 0321 06·9s 36·71S 177·37E 12km M=3·9**
4·2 0·30 0·07 R
Rsd 1·0s 6ph/5stn Dmin 92km Az.gap 267°
Corr. 0·232 4M/4stn Msd 0·2

85/135
**JAN 04 0323 17·7s 36·88S 177·35E 12km M=3·8**
1·1 0·07 0·05 R
Rsd 0·8s 7ph/5stn Dmin 73km Az.gap 257°
Corr. 0·044 4M/4stn Msd 0·2

85/136
**JAN 04 0326 33·5s 37·08S 177·42E 12km M=3·7**
1·2 0·09 0·04 R
Rsd 0·7s 7ph/5stn Dmin 53km Az.gap 244°
Corr. 0·180 4M/4stn Msd 0·2

85/137
**JAN 04 0355 03·1s 36·72S 177·61E 12km M=3·8**
1·0 0·06 0·06 R
Rsd 0·7s 8ph/5stn Dmin 97km Az.gap 269°
Corr. 0·241 4M/4stn Msd 0·1

85/138
**JAN 04 0435 40·5s 36·67S 177·54E 12km M=4·6**
0·8 0·06 0·03 R
Rsd 0·7s 10ph/5stn Dmin 100km Az.gap 271°
Corr. 0·101 4M/4stn Msd 0·2

85/139
**JAN 04 0542 54·4s 36·92S 177·50E 12km M=3·9**
1·3 0·09 0·04 R
Rsd 0·8s 9ph/5stn Dmin 73km Az.gap 256°
Corr. -0·198 4M/4stn Msd 0·2

85/140
**JAN 04 0544 48·6s 36·75S 177·58E 12km M=4·2**
1·1 0·08 0·04 R
Rsd 0·8s 8ph/5stn Dmin 93km Az.gap 267°
Corr. 0·058 3M/3stn Msd 0·2

85/141
**JAN 04 0622 59·6s 39·97S 174·03E 122km M=3·9**
0·7 0·05 0·06 11
Rsd 0·4s 7ph/6stn Dmin 143km Az.gap 197°
Corr. -0·817 6M/4stn Msd 0·2 1↓

85/142
**JAN 04 0732 05·4s 36·68S 177·63E 12km M=4·1**
2·6 0·18 0·05 R
Rsd 0·6s 7ph/5stn Dmin 102km Az.gap 272°
Corr. 0·516 4M/4stn Msd 0·3

85/143
**JAN 04 0756 52·5s 36·86S 177·40E 12km M=4·2**
1·5 0·12 0·05 R
Rsd 0·7s 5ph/4stn Dmin 76km Az.gap 259°
Corr. 0·072 4M/4stn Msd 0·2

85/144
**JAN 04 1021 22·5s 36·76S 177·52E 12km M=4·4**
1·1 0·07 0·04 R
Rsd 0·8s 8ph/5stn Dmin 90km Az.gap 266°
Corr. 0·026 4M/4stn Msd 0·2 2↓

85/145
**JAN 04 1110 03·1s 36·68S 177·56E 12km M=4·5**
1·1 0·08 0·04 R
Rsd 0·9s 10ph/5stn Dmin 99km Az.gap 270°
Corr. 0·028 4M/4stn Msd 0·2

85/146
**JAN 04 1121 28·3s 36·88S 177·41E 12km M=3·9**
1·3 0·08 0·05 R
Rsd 0·7s 7ph/5stn Dmin 75km Az.gap 257°
Corr. -0·334 4M/4stn Msd 0·1

85/147
**JAN 04 1248 27·2s 37·31S 177·44E 12km M=3·3**
0·8 0·06 0·03 R
Rsd 0·3s 6ph/5stn Dmin 33km Az.gap 227°
Corr. -0·612 4M/4stn Msd 0·1

85/148
**JAN 04 1525 20·4s 36·81S 177·25E 12km M=4·1**
1·4 0·09 0·07 R
Rsd 1·0s 7ph/4stn Dmin 132km Az.gap 261°
Corr. 0·088 4M/4stn Msd 0·2 1↓

85/149
**JAN 04 1802 45·4s 37·37S 177·43E 12km M=3·4**
0·8 0·07 0·02 R
Rsd 0·5s 7ph/5stn Dmin 28km Az.gap 222°
Corr. -0·570 4M/4stn Msd 0·3

85/150
**JAN 04 2121 01·2s 36·68S 177·54E 12km M=4·2**
1·2 0·08 0·04 R
Rsd 0·9s 9ph/5stn Dmin 99km Az.gap 270°
Corr. 0·108 5M/4stn Msd 0·2

85/151
**JAN 04 2151 35·7s 36·91S 177·33E 12km M=4·0**
1·1 0·08 0·04 R
Rsd 0·9s 8ph/5stn Dmin 70km Az.gap 255°
Corr. -0·050 4M/4stn Msd 0·3

85/152
**JAN 04 2235 41·5s 36·70S 177·49E 12km M=4·2**
1·1 0·07 0·05 R
Rsd 0·9s 8ph/5stn Dmin 95km Az.gap 269°
Corr. 0·247 4M/4stn Msd 0·3

85/153
**JAN 04 2355 52·4s 40·20S 175·25E 12km M=4·0**
0·2 0·01 0·02 R
Rsd 0·6s 15ph/12stn Dmin 79km Az.gap 122°
Corr. -0·477 9M/8stn Msd 0·4
Felt Waikawa Beach (65) MM IV and Ohingaiti (58).

85/154
**JAN 05 0050 17·9s 36·67S 177·34E 12km M=4·1**
1·1 0·07 0·04 R
Rsd 0·8s 9ph/5stn Dmin 96km Az.gap 269°
Corr. -0·048 4M/4stn Msd 0·2

85/155
**JAN 05 0106 30·7s 36·79S 177·57E 12km M=4·7**
1·8 0·14 0·04 R
Rsd 1·0s 9ph/5stn Dmin 89km Az.gap 265°
Corr. 0·352 4M/4stn Msd 0·3 1↓

85/156
**JAN 05 0322 10·7s 36·64S 177·57E 12km M=4·5**
1·5 0·10 0·05 R
Rsd 1·0s 8ph/5stn Dmin 104km Az.gap 273°
Corr. 0·045 4M/4stn Msd 0·2 1↓

85/157
**JAN 05 0632 00·7s 41·15S 173·64E 33km M=3·5**
0·3 0·04 0·03 R
Rsd 0·9s 12ph/10stn Dmin 54km Az.gap 123°
Corr. -0·285 7M/5stn Msd 0·3 1↓

85/158
**JAN 05 0734 16·4s 40·25S 173·58E 167km M=3·9**
0·5 0·04 0·04 7
Rsd 0·5s 11ph/10stn Dmin 117km Az.gap 177°
Corr. -0·560 5M/4stn Msd 0·4 1↑

85/159
**JAN 05 0811 37·6s 36·60S 177·55E 12km M=4·5**
1·0 0·07 0·04 R
Rsd 0·8s 9ph/5stn Dmin 108km Az.gap 274°
Corr. 0·057 4M/4stn Msd 0·3

85/160
**JAN 05 0818 15·4s 36·95S 177·40E 12km M=4·0**
1·1 0·09 0·03 R
Rsd 0·6s 7ph/5stn Dmin 67km Az.gap 253°
Corr. 0·099 4M/4stn Msd 0·4
Interpretation doubtful.

85/161
**JAN 05 0824 02·8s 37·04S 177·17E 12km M=3·9**
1·5 0·09 0·08 R
Rsd 1·0s 7ph/5stn Dmin 54km Az.gap 246°
Corr. -0·403 4M/4stn Msd 0·3

85/162
**JAN 05 0834 33·4s 36·70S 177·48E 12km M=4·3**
1·3 0·10 0·04 R
Rsd 0·7s 8ph/5stn Dmin 96km Az.gap 269°
Corr. 0·256 1M/1stn Msd ND

85/163
**JAN 05 0843 21·2s 36·59S 177·63E 12km M=4·0**
2·7 0·19 0·06 R
Rsd 0·9s 9ph/5stn Dmin 111km Az.gap 276°
Corr. 0·448 4M/4stn Msd 0·3

85/164
**JAN 05 0845 21·6s 36·62S 177·56E 12km M=4·2**
1·3 0·08 0·07 R
Rsd 0·9s 8ph/5stn Dmin 106km Az.gap 274°
Corr. 0·053 4M/4stn Msd 0·3

85/165
**JAN 05 0848 30·2s 37·08S 177·10E 12km M=4·9**
0·7 0·06 0·04 R
Rsd 0·8s 10ph/8stn Dmin 50km Az.gap 178°
Corr. -0·065 6M/6stn Msd 0·2 3↓
Felt Mercury Bay (18), Whangamata (21) MM IV, Chiltern (18) and Elston (25).

85/166
**JAN 05 0854 07·4s 37·04S 177·50E 12km M=3·9**
1·8 0·15 0·05 R
Rsd 0·8s 8ph/5stn Dmin 60km Az.gap 248°
Corr. 0·175 4M/4stn Msd 0·4

85/167
**JAN 05 0906 28·8s 37·04S 177·28E 12km M=3·9**
1·3 0·09 0·04 R
Rsd 0·9s 6ph/5stn Dmin 55km Az.gap 246°
Corr. -0·087 4M/4stn Msd 0·3
Interpretation doubtful.

85/168
**JAN 05 0914 07·1s 36·66S 177·54E 12km M=4·0**
2·1 0·15 0·07 R
Rsd 1·0s 7ph/5stn Dmin 102km Az.gap 272°
Corr. 0·262 4M/4stn Msd 0·3

85/169
**JAN 05 0926 20·3s 36·69S 177·57E 12km M=3·9**
1·7 0·12 0·06 R
Rsd 0·7s 7ph/5stn Dmin 99km Az.gap 270°
Corr. 0·418 4M/4stn Msd 0·1

85/170
**JAN 05 0942 33·0s 36·81S 177·50E 12km M=4·0**
1·8 0·13 0·04 R
Rsd 0·8s 8ph/5stn Dmin 84km Az.gap 263°
Corr. 0·181 4M/4stn Msd 0·3

85/171
**JAN 05 0958 58·0s 37·09S 177·34E 12km M=3·9**
0·7 0·04 0·03 R
Rsd 0·3s 6ph/4stn Dmin 51km Az.gap 282°
Corr. -0·147 4M/4stn Msd 0·3

85/172
**JAN 05 1016 41·1s 36·75S 177·40E 12km M=3·9**
2·2 0·16 0·06 R
Rsd 0·6s 6ph/5stn Dmin 88km Az.gap 265°
Corr. -0·407 4M/4stn Msd 0·1

85/173
**JAN 05 1100 54·3s 36·61S 177·57E 12km M=4·9**
2·4 0·18 0·06 R
Rsd 1·1s 9ph/7stn Dmin 107km Az.gap 218°
Corr. 0·509 6M/6stn Msd 0·3 1↓

85/174
**JAN 05 1109 41·9s 36·81S 177·47E 12km M=4·2**
1·4 0·10 0·04 R
Rsd 0·7s 8ph/5stn Dmin 84km Az.gap 262°
Corr. 0·057 4M/4stn Msd 0·2

85/175
**JAN 05 1300 16·7s 36·98S 177·31E 12km M=4·0**
1·4 0·10 0·04 R
Rsd 0·8s 6ph/5stn Dmin 61km Az.gap 250°
Corr. 0·073 4M/4stn Msd 0·2

85/176
**JAN 05 1342 10·6s 36·91S 177·50E 12km M=3·8**
4·4 0·34 0·06 R
Rsd 0·9s 6ph/4stn Dmin 127km Az.gap 256°
Corr. 0·358 4M/4stn Msd 0·2

85/177
**JAN 05 1416 09·1s 36·86S 177·56E 12km M=4·0**
2·8 0·21 0·04 R
Rsd 0·9s 8ph/4stn Dmin 127km Az.gap 261°
Corr. 0·189 4M/4stn Msd 0·2

85/178
**JAN 05 1543 06·6s 36·58S 177·61E 12km M=4·2**
2·1 0·15 0·06 R
Rsd 1·0s 8ph/4stn Dmin 149km Az.gap 276°
Corr. 0·401 4M/4stn Msd 0·2

85/179
**JAN 05 1625 51·8s 38·17S 176·60E 2km M=4·2**
0·3 0·03 0·03 R
Rsd 0·8s 9ph/7stn Dmin 40km Az.gap 134°
Corr. -0·008 5M/4stn Msd 0·2 2↑ 2↓
Felt Kawerau (34).

85/180
**JAN 05 1853 08·6s 36·71S 177·55E 12km M=4·0**
3·1 0·24 0·08 R
Rsd 0·9s 6ph/4stn Dmin 140km Az.gap 269°
Corr. 0·696 4M/4stn Msd 0·2

85/181
**JAN 05 1857 27·4s 36·59S 177·59E 12km M=4·8**
2·0 0·15 0·05 R
Rsd 1·0s 9ph/4stn Dmin 149km Az.gap 276°
Corr. 0·319 4M/4stn Msd 0·2 1↑

85/182
**JAN 05 2011 32·7s 38·15S 176·63E 2km M=4·3**
0·4 0·03 0·04 R
Rsd 0·8s 9ph/8stn Dmin 14km Az.gap 169°
Corr. -0·550 4M/3stn Msd 0·2 1↓
Felt Kawerau (34).

85/183
**JAN 05 2320 27·9s 36·80S 177·42E 12km M=4·0**
1·1 0·07 0·05 R
Rsd 0·8s 8ph/5stn Dmin 84km Az.gap 262°
Corr. 0·125 4M/4stn Msd 0·2

85/184
**JAN 06 0419 02·8s 37·26S 177·03E 12km M=3·7**
1·0 0·08 0·04 R
Rsd 0·8s 5ph/5stn Dmin 33km Az.gap 230°
Corr. -0·026 4M/4stn Msd 0·4

85/185
**JAN 06 0449 03·4s 36·91S 177·06E 12km M=4·5**
1·7 0·12 0·05 R
Rsd 1·1s 7ph/5stn Dmin 70km Az.gap 254°
Corr. -0·062 4M/4stn Msd 0·1

85/186
**JAN 06 0512 55·0s 36·72S 177·50E 12km M=3·9**
0·9 0·06 0·05 R
Rsd 0·7s 9ph/5stn Dmin 94km Az.gap 268°
Corr. 0·131 4M/4stn Msd 0·3

85/187
**JAN 06 0514 41·9s 37·17S 177·24E 12km M=3·5**
1·0 0·06 0·05 R
Rsd 0·7s 7ph/5stn Dmin 41km Az.gap 237°
Corr. 0·148 4M/4stn Msd 0·4

85/188
**JAN 06 0554 17·8s 37·15S 177·03E 12km M=4·4**
0·8 0·06 0·04 R
Rsd 0·7s 7ph/5stn Dmin 44km Az.gap 239°
Corr. -0·114 4M/4stn Msd 0·3

85/189
**JAN 06 0623 02·1s 36·86S 177·01E 12km M=4·1**
1·3 0·09 0·03 R
Rsd 0·4s 5ph/4stn Dmin 125km Az.gap 258°
Corr. -0·621 4M/4stn Msd 0·2

85/190
**JAN 06 0845 15·8s 37·22S 177·20E 12km M=4·0**
0·9 0·07 0·04 R
Rsd 1·0s 8ph/5stn Dmin 35km Az.gap 233°
Corr. 0·035 4M/4stn Msd 0·4

85/191
**JAN 06 0935 31·5s 38·15S 176·61E 2km M=4·3**
0·2 0·02 0·02 R
Rsd 0·6s 11ph/9stn Dmin 13km Az.gap 112°
Corr. -0·206 5M/4stn Msd 0·3 2↓
Felt Kawerau (34).

85/192
**JAN 06 0937 29·0s 36·85S 177·46E 12km M=4·7**
1·0 0·07 0·03 R
Rsd 0·7s 8ph/5stn Dmin 78km Az.gap 260°
Corr. -0·077 2M/2stn Msd 0·3

85/193
**JAN 06 0951 15·1s 36·75S 177·44E 12km M=3·9**
1·3 0·09 0·04 R
Rsd 0·6s 6ph/5stn Dmin 89km Az.gap 265°
Corr. -0·026 4M/4stn Msd 0·2

85/194
**JAN 06 0951 33·8s 37·67S 176·31E 288km M=4·2**
0·5 0·04 0·06 5
Rsd 0·3s 9ph/8stn Dmin 69km Az.gap 257°
Corr. -0·647 6M/5stn Msd 0·2
In the coda of preceding shock.

85/195
**JAN 06 1025 26·7s 36·95S 177·02E 12km M=3·7**
1·1 0·07 0·05 R
Rsd 0·8s 8ph/5stn Dmin 66km Az.gap 252°
Corr. 0·348 4M/4stn Msd 0·3

85/196
**JAN 06 1045 46·9s 37·21S 177·15E 12km M=3·6**
1·5 0·12 0·06 R
Rsd 0·9s 6ph/4stn Dmin 87km Az.gap 234°
Corr. 0·340 4M/4stn Msd 0·4

85/197
**JAN 06 1115 05·3s 36·80S 177·43E 12km M=3·9**
1·9 0·15 0·04 R
Rsd 0·8s 7ph/4stn Dmin 137km Az.gap 262°
Corr. 0·219 4M/4stn Msd 0·1

85/198
**JAN 06 1535 57·2s 36·60S 177·53E 12km M=4·1**
3·0 0·23 0·06 R
Rsd 0·9s 6ph/4stn Dmin 151km Az.gap 274°
Corr. 0·542 4M/4stn Msd 0·1

85/199
**JAN 06 1546 04·9s 36·96S 177·37E 12km M=3·8**
1·5 0·13 0·04 R
Rsd 0·5s 6ph/4stn Dmin 119km Az.gap 252°
Corr. 0·537 4M/4stn Msd 0·0

85/200
**JAN 06 1601 22·9s 37·25S 177·32E 12km M=3·6**
1·4 0·11 0·06 R
Rsd 0·8s 5ph/4stn Dmin 87km Az.gap 231°
Corr. 0·232 4M/4stn Msd 0·2

85/201
**JAN 06 1611 00·6s 36·74S 177·42E 12km M=4·0**
2·3 0·17 0·05 R
Rsd 0·6s 5ph/4stn Dmin 143km Az.gap 266°
Corr. -0·412 4M/4stn Msd 0·2

85/202
**JAN 06 1613 32·5s 36·85S 177·49E 12km M=3·8**
3·0 0·24 0·08 R
Rsd 0·9s 6ph/4stn Dmin 133km Az.gap 260°
Corr. 0·658 4M/4stn Msd 0·2

85/203
**JAN 06 1620 33·8s 36·80S 177·53E 12km M=3·8**
2·1 0·16 0·05 R
Rsd 0·9s 6ph/4stn Dmin 134km Az.gap 264°
Corr. 0·411 4M/4stn Msd 0·2

85/204
**JAN 06 1635 55·9s 36·76S 177·53E 12km M=4·4**
1·6 0·13 0·04 R
Rsd 0·8s 9ph/4stn Dmin 137km Az.gap 266°
Corr. 0·331 4M/4stn Msd 0·2

85/205
**JAN 06 1640 28·1s 36·75S 177·54E 12km M=4·2**
3·1 0·25 0·07 R
Rsd 1·0s 7ph/4stn Dmin 138km Az.gap 267°
Corr. 0·713 4M/4stn Msd 0·2

85/206
**JAN 06 1709 53·8s 36·59S 177·61E 12km M=5·1**
1·4 0·11 0·05 R
Rsd 1·0s 10ph/7stn Dmin 148km Az.gap 220°
Corr. 0·436 6M/6stn Msd 0·4

85/207
**JAN 06 1721 11·7s 36·77S 177·47E 12km M=4·1**
1·2 0·09 0·03 R
Rsd 0·5s 7ph/4stn Dmin 140km Az.gap 264°
Corr. 0·129 4M/4stn Msd 0·2

85/208
**JAN 06 1733 23·1s 36·90S 177·45E 12km M=4·1**
1·2 0·10 0·04 R
Rsd 0·7s 7ph/4stn Dmin 128km Az.gap 258°
Corr. 0·148 4M/4stn Msd 0·2

85/209
**JAN 06 1743 38·3s 36·75S 177·52E 12km M=4·6**
2·5 0·20 0·05 R
Rsd 0·9s 8ph/4stn Dmin 139km Az.gap 266°
Corr. 0·647 3M/3stn Msd 0·4

85/210
**JAN 06 1759 59·8s 36·83S 177·47E 12km M=4·3**
2·5 0·21 0·06 R
Rsd 0·7s 6ph/4stn Dmin 135km Az.gap 261°
Corr. 0·618 3M/3stn Msd 0·3

85/211
**JAN 06 1808 44·4s 36·78S 177·52E 12km M=4·3**
0·9 0·07 0·03 R
Rsd 0·7s 9ph/4stn Dmin 136km Az.gap 264°
Corr. 0·269 3M/3stn Msd 0·2

85/212
**JAN 06 1820 19·6s 36·68S 177·39E 12km M=4·0**
1·6 0·12 0·03 R
Rsd 0·5s 6ph/4stn Dmin 149km Az.gap 269°
Corr. -0·165 4M/4stn Msd 0·1

85/213
**JAN 06 1824 23·9s 36·82S 177·44E 12km M=3·7**
1·8 0·14 0·05 R
Rsd 0·6s 6ph/4stn Dmin 136km Az.gap 262°
Corr. 0·494 3M/3stn Msd 0·2

85/214
**JAN 06 1825 41·1s 36·66S 177·44E 12km M=4·2**
1·0 0·07 0·04 R
Rsd 0·5s 7ph/4stn Dmin 151km Az.gap 270°
Corr. -0·179 3M/3stn Msd 0·1

85/215
**JAN 06 1829 04·8s 36·72S 177·47E 12km M=4·1**
1·7 0·14 0·04 R
Rsd 0·5s 6ph/4stn Dmin 144km Az.gap 268°
Corr. 0·490 4M/4stn Msd 0·3

85/216
**JAN 06 1832 05·5s 36·61S 177·57E 12km M=5·6**
1·0 0·08 0·07 R
Rsd 1·1s 8ph/7stn Dmin 148km Az.gap 217°
Corr. 0·551 6M/6stn Msd 0·4 1↑

85/217
**JAN 06 1836 53·8s 36·88S 177·43E 12km M=4·4**
2·1 0·17 0·04 R
Rsd 0·7s 6ph/4stn Dmin 129km Az.gap 258°
Corr. 0·468 2M/2stn Msd 0·1

85/218
**JAN 06 1840 48·4s 36·82S 177·49E 12km M=4·6**
2·0 0·15 0·05 R
Rsd 0·9s 7ph/4stn Dmin 83km Az.gap 262°
Corr. 0·265 2M/2stn Msd 0·1

85/219
**JAN 06 1845 20·7s 36·64S 177·62E 12km M=5·2**
1·2 0·09 0·05 R
Rsd 0·8s 9ph/7stn Dmin 143km Az.gap 218°
Corr. 0·516 6M/6stn Msd 0·4

85/220
**JAN 06 1849 07·3s 36·65S 177·42E 12km M=4·0**
3·4 0·22 0·06 R
Rsd 1·1s 6ph/4stn Dmin 153km Az.gap 270°
Corr. -0·133 3M/3stn Msd 0·2
Interpretation doubtful.

85/221
**JAN 06 1850 30·1s 36·80S 177·40E 12km M=3·8**
R R R R
Rsd 0·6s 3ph/3stn Dmin 136km Az.gap 263°
Corr. R 3M/3stn Msd 0·0
In coda of previous shock.

85/222
**JAN 06 1852 18·4s 36·66S 177·52E 12km M=4·4**
3·7 0·29 0·06 R
Rsd 0·6s 6ph/4stn Dmin 146km Az.gap 271°
Corr. 0·704 3M/2stn Msd 0·1

85/223
**JAN 06 1859 34·3s 36·69S 177·57E 12km M=3·8**
3·9 0·28 0·07 R
Rsd 0·8s 5ph/4stn Dmin 141km Az.gap 270°
Corr. 0·635 3M/3stn Msd 0·3

85/224
**JAN 06 1904 20·0s 36·75S 177·44E 12km M=4·4**
1·8 0·15 0·05 R
Rsd 0·7s 5ph/4stn Dmin 143km Az.gap 265°
Corr. 0·067 2M/2stn Msd 0·1

85/225
**JAN 06 1910 43·0s 36·70S 177·53E 12km M=3·9**
5·1 0·36 0·06 R
Rsd 1·2s 6ph/4stn Dmin 142km Az.gap 269°
Corr. 0·201 4M/4stn Msd 0·2

85/226
**JAN 06 1914 44·5s 36·60S 177·54E 12km M=3·9**
1·0 0·07 0·03 R
Rsd 0·5s 7ph/4stn Dmin 150km Az.gap 274°
Corr. 0·392 3M/3stn Msd 0·3

85/227
**JAN 06 1917 27·8s 36·70S 177·45E 12km M=4·1**
1·8 0·14 0·04 R
Rsd 0·7s 6ph/4stn Dmin 148km Az.gap 268°
Corr. -0·152 3M/3stn Msd 0·3

85/228
**JAN 06 1918 47·9s 37·08S 177·48E 12km M=4·4**
1·4 0·12 0·04 R
Rsd 0·9s 7ph/4stn Dmin 109km Az.gap 245°
Corr. 0·262 3M/3stn Msd 0·3

85/229
**JAN 06 1921 04·3s 36·61S 177·49E 12km M=4·7**
1·3 0·10 0·04 R
Rsd 0·5s 6ph/5stn Dmin 106km Az.gap 273°
Corr. 0·229 3M/3stn Msd 0·2

85/230
**JAN 06 1925 02·2s 36·67S 177·47E 12km M=3·8**
0·8 0·06 0·04 R
Rsd 0·6s 8ph/5stn Dmin 98km Az.gap 270°
Corr. -0·035 4M/4stn Msd 0·1

85/231
**JAN 06 1928 33·0s 36·69S 177·41E 12km M=3·9**
0·7 0·05 0·03 R
Rsd 0·5s 8ph/5stn Dmin 95km Az.gap 268°
Corr. -0·137 4M/4stn Msd 0·1

85/232
**JAN 06 1929 28·1s 36·66S 177·53E 12km M=4·1**
1·9 0·12 0·05 R
Rsd 0·7s 6ph/5stn Dmin 101km Az.gap 271°
Corr. 0·220 3M/3stn Msd 0·2

85/233
**JAN 06 1930 47·3s 36·63S 177·53E 12km M=5·5**
2·2 0·16 0·06 R
Rsd 1·0s 9ph/8stn Dmin 104km Az.gap 273°
Corr. 0·329 5M/5stn Msd 0·4 1↑ 1↓

85/234
**JAN 06 1939 55·8s 36·68S 177·55E 12km M=4·1**
1·3 0·08 0·05 R
Rsd 0·8s 9ph/5stn Dmin 100km Az.gap 271°
Corr. -0·199 4M/4stn Msd 0·4

85/235
**JAN 06 1941 35·5s 36·55S 177·60E 12km M=4·3**
2·4 0·15 0·08 R
Rsd 1·1s 6ph/5stn Dmin 115km Az.gap 277°
Corr. -0·104 4M/4stn Msd 0·3

85/236
**JAN 06 1953 41·8s 36·67S 177·29E 12km M=4·3**
2·0 0·12 0·10 R
Rsd 0·8s 6ph/4stn Dmin 95km Az.gap 306°
Corr. -0·420 2M/2stn Msd 0·1
Interpretation doubtful.

85/237
**JAN 06 1957 49·0s 37·08S 177·33E 12km M=3·7**
1·0 0·06 0·03 R
Rsd 0·4s 7ph/5stn Dmin 52km Az.gap 244°
Corr. 0·141 4M/4stn Msd 0·0

85/238
**JAN 06 1958 27·4s 36·95S 177·50E 12km M=4·2**
2·6 0·21 0·04 R
Rsd 0·9s 7ph/5stn Dmin 70km Az.gap 255°
Corr. 0·168 3M/3stn Msd 0·3

85/239
**JAN 06 2004 57·7s 36·65S 177·36E 12km M=4·0**
1·4 0·10 0·04 R
Rsd 0·4s 6ph/5stn Dmin 99km Az.gap 270°
Corr. -0·439 3M/3stn Msd 0·1

85/240
**JAN 06 2023 38·5s 36·92S 177·52E 12km M=3·9**
1·9 0·14 0·04 R
Rsd 0·8s 7ph/5stn Dmin 74km Az.gap 257°
Corr. 0·068 3M/3stn Msd 0·1

85/241
**JAN 06 2032 29·9s 36·79S 177·49E 12km M=4·6**
1·5 0·12 0·04 R
Rsd 0·7s 7ph/5stn Dmin 86km Az.gap 264°
Corr. 0·349 2M/2stn Msd 0·3

85/242
**JAN 06 2039 31·5s 36·58S 177·62E 12km M=4·3**
2·3 0·15 0·05 R
Rsd 0·9s 9ph/5stn Dmin 112km Az.gap 277°
Corr. 0·315 4M/4stn Msd 0·2

85/243
**JAN 06 2058 19·2s 36·60S 177·57E 12km M=4·7**
1·8 0·13 0·05 R
Rsd 0·7s 7ph/5stn Dmin 109km Az.gap 275°
Corr. 0·468 3M/3stn Msd 0·5

85/244
**JAN 06 2107 37·0s 37·02S 177·53E 12km M=3·8**
1·6 0·11 0·05 R
Rsd 0·8s 9ph/5stn Dmin 64km Az.gap 250°
Corr. 0·477 4M/4stn Msd 0·3

85/245
**JAN 06 2111 49·9s 36·57S 177·49E 12km M=4·2**
1·2 0·08 0·05 R
Rsd 0·8s 8ph/5stn Dmin 110km Az.gap 275°
Corr. -0·130 4M/4stn Msd 0·1

85/246
**JAN 06 2121 34·3s 36·70S 177·44E 12km M=4·1**
2·3 0·16 0·05 R
Rsd 1·0s 8ph/5stn Dmin 94km Az.gap 268°
Corr. -0·161 4M/4stn Msd 0·2

85/247
**JAN 06 2131 14·4s 36·86S 177·47E 12km M=4·2**
0·9 0·06 0·04 R
Rsd 0·6s 8ph/5stn Dmin 78km Az.gap 259°
Corr. -0·074 4M/4stn Msd 0·3

85/248
**JAN 06 2153 51·0s 36·69S 177·43E 12km M=3·9**
0·8 0·05 0·03 R
Rsd 0·3s 6ph/5stn Dmin 96km Az.gap 269°
Corr. -0·191 4M/4stn Msd 0·0

85/249
**JAN 06 2158 14·1s 36·69S 177·39E 12km M=4·2**
0·5 0·03 0·02 R
Rsd 0·4s 8ph/5stn Dmin 95km Az.gap 268°
Corr. 0·226 4M/4stn Msd 0·2

85/250
**JAN 06 2158 56·0s 37·17S 177·25E 12km M=3·9**
0·3 0·02 0·01 R
Rsd 0·2s 5ph/4stn Dmin 94km Az.gap 237°
Corr. -0·099 4M/4stn Msd 0·2
Interpretation doubtful.

85/251
**JAN 06 2204 13·9s 36·64S 177·67E 12km M=3·8**
1·7 0·11 0·06 R
Rsd 0·8s 6ph/5stn Dmin 108km Az.gap 275°
Corr. 0·522 4M/4stn Msd 0·3

85/252
**JAN 06 2207 07·8s 36·72S 177·48E 12km M=3·9**
2·2 0·17 0·05 R
Rsd 0·8s 7ph/5stn Dmin 94km Az.gap 267°
Corr. 0·209 4M/4stn Msd 0·2

85/253
**JAN 06 2209 51·8s 36·75S 177·53E 12km M=3·9**
3·3 0·25 0·07 R
Rsd 1·0s 7ph/5stn Dmin 91km Az.gap 267°
Corr. 0·028 4M/4stn Msd 0·3

85/254
**JAN 06 2218 43·9s 36·77S 177·45E 12km M=4·1**
1·1 0·09 0·03 R
Rsd 0·6s 7ph/5stn Dmin 87km Az.gap 265°
Corr. 0·141 4M/4stn Msd 0·1

85/255
**JAN 06 2227 23·3s 36·77S 177·42E 12km M=3·9**
0·9 0·07 0·02 R
Rsd 0·4s 6ph/5stn Dmin 87km Az.gap 264°
Corr. 0·012 4M/4stn Msd 0·2

85/256
**JAN 06 2234 03·7s 36·97S 177·32E 12km M=3·7**
1·8 0·12 0·05 R
Rsd 0·8s 7ph/5stn Dmin 64km Az.gap 252°
Corr. 0·047 4M/4stn Msd 0·2

85/257
**JAN 06 2235 33·8s 36·84S 177·40E 12km M=3·7**
1·1 0·07 0·04 R
Rsd 0·4s 7ph/5stn Dmin 79km Az.gap 260°
Corr. 0·537 4M/4stn Msd 0·1

85/258
**JAN 06 2236 25·5s 36·90S 177·40E 12km M=3·8**
1·2 0·09 0·02 R
Rsd 0·5s 6ph/5stn Dmin 72km Az.gap 256°
Corr. 0·058 3M/3stn Msd 0·1

85/259
**JAN 06 2238 46·6s 36·57S 177·31E 12km M=4·4**
1·8 0·12 0·04 R
Rsd 0·5s 7ph/5stn Dmin 107km Az.gap 273°
Corr. -0·557 4M/4stn Msd 0·2

85/260
**JAN 06 2242 08·7s 36·69S 177·49E 12km M=4·0**
1·0 0·07 0·02 R
Rsd 0·3s 6ph/5stn Dmin 96km Az.gap 269°
Corr. 0·030 4M/4stn Msd 0·1

85/261
**JAN 06 2258 44·0s 36·78S 177·41E 12km M=4·3**
1·2 0·09 0·04 R
Rsd 0·6s 6ph/5stn Dmin 85km Az.gap 263°
Corr. -0·052 4M/4stn Msd 0·3

85/262
**JAN 06 2303 02·5s 36·78S 177·55E 12km M=4·1**
3·0 0·22 0·05 R
Rsd 0·9s 7ph/5stn Dmin 89km Az.gap 265°
Corr. 0·135 4M/4stn Msd 0·2

85/263
**JAN 06 2311 30·9s 36·69S 177·34E 12km M=3·9**
2·6 0·18 0·06 R
Rsd 0·8s 6ph/5stn Dmin 94km Az.gap 268°
Corr. -0·307 4M/4stn Msd 0·2

85/264
**JAN 06 2334 28·9s 36·91S 177·47E 12km M=4·2**
1·2 0·09 0·04 R
Rsd 0·7s 8ph/5stn Dmin 73km Az.gap 257°
Corr. -0·314 4M/4stn Msd 0·3

85/265
**JAN 06 2342 34·8s 36·57S 177·56E 12km M=4·4**
1·7 0·12 0·06 R
Rsd 1·1s 8ph/5stn Dmin 111km Az.gap 275°
Corr. 0·051 4M/4stn Msd 0·1

85/266
**JAN 07 0157 04·8s 37·01S 177·18E 12km M=3·5**
1·4 0·08 0·06 R
Rsd 0·6s 7ph/4stn Dmin 58km Az.gap 284°
Corr. 0·459 4M/4stn Msd 0·3

85/267
**JAN 07 0353 41·6s 36·72S 177·46E 12km M=4·3**
0·9 0·06 0·03 R
Rsd 0·4s 8ph/5stn Dmin 93km Az.gap 268°
Corr. 0·345 4M/4stn Msd 0·2

85/268
**JAN 07 0443 14·5s 36·64S 177·42E 12km M=4·0**
0·8 0·05 0·03 R
Rsd 0·4s 7ph/5stn Dmin 101km Az.gap 271°
Corr. -0·133 4M/4stn Msd 0·1

85/269
**JAN 07 0506 32·3s 36·81S 177·50E 12km M=3·8**
1·9 0·12 0·05 R
Rsd 0·7s 6ph/5stn Dmin 84km Az.gap 263°
Corr. -0·071 4M/4stn Msd 0·2

85/270
**JAN 07 0545 59·5s 36·79S 177·38E 12km M=4·1**
1·6 0·10 0·04 R
Rsd 0·7s 9ph/5stn Dmin 84km Az.gap 263°
Corr. -0·213 4M/4stn Msd 0·1

85/271
**JAN 07 0704 48·4s 36·83S 177·41E 12km M=3·9**
1·0 0·06 0·05 R
Rsd 0·6s 8ph/5stn Dmin 80km Az.gap 261°
Corr. 0·021 4M/4stn Msd 0·2

85/272
**JAN 07 0727 47·9s 36·64S 177·55E 12km M=4·3**
0·8 0·05 0·03 R
Rsd 0·6s 10ph/5stn Dmin 104km Az.gap 272°
Corr. 0·146 3M/3stn Msd 0·2

85/273
**JAN 07 0730 08·5s 36·76S 177·38E 12km M=4·4**
0·8 0·05 0·04 R
Rsd 0·7s 8ph/5stn Dmin 87km Az.gap 264°
Corr. -0·186 3M/3stn Msd 0·2

85/274
**JAN 07 0843 59·1s 36·70S 177·47E 12km M=4·1**
0·8 0·06 0·04 R
Rsd 0·6s 7ph/5stn Dmin 95km Az.gap 268°
Corr. 0·099 4M/4stn Msd 0·1

85/275
**JAN 07 1000 45·9s 40·41S 173·52E 124km M=3·7**
0·5 0·02 0·02 5
Rsd 0·3s 11ph/10stn Dmin 100km Az.gap 168°
Corr. -0·236 4M/3stn Msd 0·2 1↑

85/276
**JAN 07 1031 53·9s 36·70S 177·50E 12km M=4·1**
2·9 0·21 0·05 R
Rsd 0·8s 7ph/5stn Dmin 96km Az.gap 268°
Corr. -0·377 4M/4stn Msd 0·1

85/277
**JAN 07 1104 22·2s 36·74S 177·41E 12km M=4·2**
1·1 0·08 0·03 R
Rsd 0·5s 6ph/5stn Dmin 89km Az.gap 266°
Corr. -0·048 4M/4stn Msd 0·1

85/278
**JAN 07 1340 19·3s 41·73S 173·69E 31km M=3·4**
0·7 0·05 0·03 11
Rsd 0·5s 7ph/6stn Dmin 44km Az.gap 168°
Corr. -0·565 4M/3stn Msd 0·1

85/279
**JAN 07 1537 51·0s 36·61S 177·60E 12km M=3·7**
1·9 0·12 0·06 R
Rsd 0·8s 7ph/4stn Dmin 146km Az.gap 274°
Corr. 0·193 4M/4stn Msd 0·1

85/280
**JAN 07 1545 22·8s 36·79S 177·45E 12km M=4·1**
1·1 0·09 0·03 R
Rsd 0·5s 6ph/4stn Dmin 139km Az.gap 263°
Corr. -0·266 3M/3stn Msd 0·2

85/281
**JAN 07 1851 37·6s 36·69S 177·36E 12km M=3·9**
0·7 0·05 0·03 R
Rsd 0·6s 6ph/6stn Dmin 94km Az.gap 210°
Corr. 0·264 3M/3stn Msd 0·1

85/282
**JAN 07 2353 47·6s 42·39S 172·93E 19km M=4·1**
0·3 0·02 0·03 3
Rsd 0·6s 13ph/9stn Dmin 66km Az.gap 128°
Corr. -0·359 7M/5stn Msd 0·3 2↑ 1↓

85/283
**JAN 08 0042 36·0s 42·41S 172·95E 16km M=3·9**
0·3 0·02 0·03 4
Rsd 0·6s 10ph/6stn Dmin 67km Az.gap 131°
Corr. -0·185 7M/5stn Msd 0·3

85/284
**JAN 08 0045 11·8s 36·95S 177·33E 12km M=3·8**
0·4 0·02 0·02 R
Rsd 0·4s 11ph/6stn Dmin 65km Az.gap 192°
Corr. 0·504 4M/4stn Msd 0·1
Interpretation doubtful.

85/285
**JAN 08 0048 14·1s 36·59S 177·52E 12km M=4·9**
0·7 0·05 0·05 R
Rsd 0·9s 11ph/7stn Dmin 108km Az.gap 222°
Corr. 0·712 6M/6stn Msd 0·3

85/286
**JAN 08 0152 35·3s 36·78S 177·45E 12km M=4·5**
0·4 0·03 0·03 R
Rsd 0·6s 10ph/6stn Dmin 87km Az.gap 208°
Corr. 0·612 3M/3stn Msd 0·3

85/287
**JAN 08 0621 52·0s 44·42S 168·08E 12km M=3·4**
0·7 0·06 0·07 R
Rsd 0·4s 7ph/5stn Dmin 31km Az.gap 243°
Corr. -0·905 4M/2stn Msd 0·1 1↑

85/288
**JAN 08 0636 03·3s 36·61S 177·43E 12km M=4·8**
0·7 0·05 0·04 R
Rsd 0·7s 9ph/8stn Dmin 104km Az.gap 218°
Corr. 0·618 6M/6stn Msd 0·3

85/289
**JAN 08 0647 36·2s 36·67S 177·40E 12km M=4·3**
0·6 0·04 0·03 R
Rsd 0·6s 11ph/6stn Dmin 97km Az.gap 212°
Corr. 0·361 3M/3stn Msd 0·1

85/290
**JAN 08 0651 46·8s 36·87S 177·64E 12km M=4·1**
0·9 0·05 0·05 R
Rsd 0·6s 10ph/6stn Dmin 83km Az.gap 209°
Corr. 0·655 2M/2stn Msd 0·4

85/291
**JAN 08 0700 02·9s 36·74S 177·55E 12km M=4·5**
0·6 0·03 0·04 R
Rsd 0·6s 10ph/6stn Dmin 93km Az.gap 213°
Corr. 0·463 3M/3stn Msd 0·3

85/292
**JAN 08 0718 18·8s 36·72S 177·53E 12km M=3·8**
0·5 0·03 0·03 R
Rsd 0·5s 10ph/6stn Dmin 94km Az.gap 214°
Corr. 0·566 4M/4stn Msd 0·3

85/293
**JAN 08 0721 32·4s 36·78S 177·44E 12km M=4·3**
0·5 0·04 0·04 R
Rsd 0·7s 9ph/6stn Dmin 86km Az.gap 207°
Corr. 0·536 2M/2stn Msd 0·3

85/294
**JAN 08 0724 17·5s 36·77S 177·37E 12km M=4·2**
0·6 0·04 0·03 R
Rsd 0·5s 10ph/6stn Dmin 86km Az.gap 206°
Corr. 0·433 4M/4stn Msd 0·1

85/295
**JAN 08 0741 46·6s 36·54S 177·62E 12km M=5·6**
0·8 0·06 0·07 R
Rsd 0·9s 10ph/8stn Dmin 116km Az.gap 223°
Corr. 0·809 5M/5stn Msd 0·3

85/296
**JAN 08 0747 40·8s 36·61S 177·71E 12km M=3·8**
1·6 0·11 0·10 R
Rsd 1·0s 6ph/6stn Dmin 112km Az.gap 227°
Corr. 0·844 2M/2stn Msd 0·1
Interpretation doubtful.

85/297
**JAN 08 0748 47·8s 36·88S 177·64E 12km M=4·6**
0·7 0·06 0·05 R
Rsd 0·6s 10ph/6stn Dmin 83km Az.gap 209°
Corr. 0·799 3M/3stn Msd 0·3
Interpretation doubtful.

85/298
**JAN 08 0753 50·3s 36·83S 177·45E 12km M=4·7**
0·3 0·03 0·02 R
Rsd 0·5s 11ph/7stn Dmin 81km Az.gap 203°
Corr. 0·640 4M/4stn Msd 0·4

85/299
**JAN 08 0804 58·0s 36·68S 177·38E 12km M=4·4**
0·4 0·02 0·03 R
Rsd 0·5s 10ph/6stn Dmin 95km Az.gap 212°
Corr. 0·558 3M/3stn Msd 0·2

85/300
**JAN 08 0814 07·9s 38·86S 177·86E 32km M=4·0**
0·2 0·02 0·02 1
Rsd 0·3s 11ph/10stn Dmin 27km Az.gap 180°
Corr. -0·554 9M/8stn Msd 0·2

85/301
**JAN 08 0920 01·1s 36·88S 177·42E 12km M=4·0**
0·3 0·02 0·02 R
Rsd 0·5s 10ph/6stn Dmin 74km Az.gap 200°
Corr. 0·597 4M/4stn Msd 0·3

85/302
**JAN 08 0957 30·7s 36·57S 177·61E 12km M=5·3**
0·6 0·04 0·05 R
Rsd 0·7s 11ph/8stn Dmin 113km Az.gap 221°
Corr. 0·792 4M/4stn Msd 0·3

85/303
**JAN 08 1003 41·7s 36·75S 177·37E 12km M=3·9**
0·4 0·03 0·03 R
Rsd 0·4s 7ph/6stn Dmin 88km Az.gap 206°
Corr. 0·614 4M/4stn Msd 0·2

85/304
**JAN 08 1021 11·2s 46·53S 166·13E 12km M=4·0**
0·4 0·02 0·04 R
Rsd 0·4s 8ph/5stn Dmin 137km Az.gap 289°
Corr. -0·062 7M/4stn Msd 0·1

85/305
**JAN 08 1122 26·3s 36·60S 177·66E 12km M=5·0**
0·6 0·05 0·04 R
Rsd 0·7s 12ph/7stn Dmin 145km Az.gap 221°
Corr. 0·726 6M/6stn Msd 0·4

85/306
**JAN 08 1131 36·1s 36·96S 177·39E 12km M=3·8**
0·4 0·03 0·03 R
Rsd 0·6s 9ph/5stn Dmin 119km Az.gap 194°
Corr. 0·546 4M/4stn Msd 0·3

85/307
**JAN 08 1211 39·3s 37·10S 177·37E 12km M=5·2**
0·4 0·03 0·03 R
Rsd 0·8s 12ph/9stn Dmin 50km Az.gap 183°
Corr. 0·615 5M/5stn Msd 0·1 3↓

85/308
**JAN 08 1258 00·2s 37·34S 177·33E 12km M=3·4**
0·2 0·02 0·02 R
Rsd 0·4s 7ph/5stn Dmin 77km Az.gap 164°
Corr. 0·495 4M/4stn Msd 0·3

85/309
**JAN 08 1432 34·8s 36·63S 177·45E 12km M=4·7**
0·6 0·05 0·04 R
Rsd 0·8s 12ph/8stn Dmin 102km Az.gap 213°
Corr. 0·642 6M/6stn Msd 0·4

85/310
**JAN 09 0037 13·3s 36·98S 177·38E 12km M=3·5**
0·9 0·05 0·05 R
Rsd 0·8s 9ph/6stn Dmin 63km Az.gap 192°
Corr. 0·481 4M/4stn Msd 0·2

85/311
**JAN 09 0039 42·1s 36·56S 177·53E 12km M=3·9**
0·9 0·06 0·04 R
Rsd 0·6s 9ph/6stn Dmin 111km Az.gap 223°
Corr. 0·518 4M/4stn Msd 0·1

85/312
**JAN 09 0137 48·6s 36·71S 177·54E 12km M=3·8**
1·2 0·08 0·04 R
Rsd 0·8s 9ph/5stn Dmin 96km Az.gap 269°
Corr. -0·014 4M/4stn Msd 0·3

85/313
**JAN 09 0323 14·5s 36·63S 177·47E 12km M=4·1**
0·9 0·05 0·05 R
Rsd 0·6s 9ph/6stn Dmin 103km Az.gap 217°
Corr. 0·537 4M/4stn Msd 0·2

85/314
**JAN 09 0411 04·7s 36·49S 177·62E 12km M=4·9**
0·6 0·04 0·04 R
Rsd 0·7s 12ph/7stn Dmin 121km Az.gap 231°
Corr. 0·727 6M/6stn Msd 0·4

85/315
**JAN 09 0617 05·7s 37·07S 177·07E 12km M=3·6**
0·6 0·05 0·07 R
Rsd 0·9s 10ph/6stn Dmin 52km Az.gap 175°
Corr. 0·829 4M/4stn Msd 0·3

85/316
**JAN 09 0629 52·4s 40·91S 173·52E 131km M=4·0**
0·8 0·04 0·04 9
Rsd 0·6s 14ph/11stn Dmin 69km Az.gap 128°
Corr. -0·323 4M/3stn Msd 0·3 1↑
Felt Titahi Bay (68).

85/317
**JAN 09 1028 40·4s 36·79S 177·34E 12km M=4·5**
0·6 0·05 0·05 R
Rsd 0·9s 9ph/5stn Dmin 136km Az.gap 203°
Corr. 0·679 3M/3stn Msd 0·2

85/318
**JAN 09 1037 40·2s 36·99S 177·28E 12km M=3·8**
0·5 0·04 0·03 R
Rsd 0·5s 9ph/5stn Dmin 114km Az.gap 188°
Corr. 0·627 4M/4stn Msd 0·2

85/319
**JAN 09 1111 11·6s 36·90S 177·37E 12km M=3·8**
0·7 0·04 0·05 R
Rsd 0·8s 10ph/6stn Dmin 72km Az.gap 197°
Corr. 0·729 4M/4stn Msd 0·1

85/320
**JAN 09 1238 32·8s 36·99S 177·14E 12km M=4·0**
0·4 0·03 0·03 R
Rsd 0·6s 11ph/6stn Dmin 60km Az.gap 184°
Corr. 0·643 3M/3stn Msd 0·3

85/321
**JAN 09 1303 13·3s 36·74S 177·56E 12km M=4·8**
0·7 0·05 0·05 R
Rsd 1·0s 10ph/7stn Dmin 93km Az.gap 214°
Corr. 0·624 6M/6stn Msd 0·3 1↓

85/322
**JAN 09 1350 16·9s 40·00S 176·67E 66km M=4·1**
0·4 0·02 0·04 7
Rsd 0·6s 14ph/11stn Dmin 51km Az.gap 162°
Corr. -0·593 8M/6stn Msd 0·3 2↑ 1↓
Felt Patoka (52) MM IV and Hastings (60).

85/323
**JAN 09 1358 40·1s 36·97S 177·13E 12km M=3·7**
0·4 0·03 0·03 R
Rsd 0·6s 11ph/6stn Dmin 62km Az.gap 184°
Corr. 0·567 4M/4stn Msd 0·2

85/324
**JAN 09 1503 19·3s 42·05S 172·09E 12km M=3·6**
0·3 0·02 0·03 R
Rsd 0·7s 12ph/9stn Dmin 68km Az.gap 160°
Corr. -0·630 3M/2stn Msd 0·1

85/325
**JAN 09 1512 12·9s 36·88S 177·37E 12km M=3·9**
0·8 0·06 0·04 R
Rsd 0·7s 8ph/6stn Dmin 73km Az.gap 198°
Corr. 0·357 4M/4stn Msd 0·4

85/326
**JAN 09 1738 15·1s 41·04S 176·32E 26km M=3·4**
0·4 0·03 0·04 2
Rsd 0·5s 12ph/10stn Dmin 16km Az.gap 259°
Corr. -0·426 5M/3stn Msd 0·3 2↓
Felt Castlepoint (67) MM IV.

85/327
**JAN 09 1954 30·7s 36·99S 177·26E 12km M=3·8**
0·5 0·04 0·03 R
Rsd 0·8s 9ph/6stn Dmin 60km Az.gap 187°
Corr. 0·467 4M/4stn Msd 0·2

85/328
**JAN 09 2030 31·5s 36·93S 177·27E 12km M=3·7**
0·5 0·04 0·03 R
Rsd 0·7s 11ph/6stn Dmin 67km Az.gap 191°
Corr. 0·416 4M/4stn Msd 0·2

85/329
**JAN 09 2313 08·5s 37·15S 177·41E 12km M=3·7**
0·6 0·04 0·03 R
Rsd 0·6s 10ph/6stn Dmin 47km Az.gap 181°
Corr. -0·068 4M/4stn Msd 0·1

85/330
**JAN 10 0022 36·1s 42·51S 173·58E 27km M=4·0**
0·7 0·02 0·04 6
Rsd 0·6s 10ph/6stn Dmin 99km Az.gap 176°
Corr. -0·347 5M/4stn Msd 0·3

85/331
**JAN 10 0256 09·3s 36·77S 177·51E 12km M=3·8**
1·1 0·07 0·05 R
Rsd 0·6s 8ph/6stn Dmin 89km Az.gap 211°
Corr. 0·425 4M/4stn Msd 0·2

85/332
**JAN 10 0257 04·2s 37·03S 177·25E 12km M=3·8**
0·2 0·02 0·01 R
Rsd 0·3s 8ph/6stn Dmin 56km Az.gap 184°
Corr. 0·478 4M/4stn Msd 0·1
In the coda of preceding shock.

85/333
**JAN 10 0545 58·5s 36·61S 177·46E 12km M=4·3**
0·7 0·04 0·05 R
Rsd 0·7s 11ph/6stn Dmin 105km Az.gap 219°
Corr. 0·570 4M/4stn Msd 0·2

85/334
**JAN 10 0605 21·0s 40·68S 176·37E 65km M=4·1**
0·7 0·04 0·07 8
Rsd 0·6s 13ph/10stn Dmin 28km Az.gap 173°
Corr. -0·755 5M/4stn Msd 0·2 1↑

85/335
**JAN 10 0759 46·0s 36·64S 177·40E 12km M=4·1**
0·6 0·04 0·04 R
Rsd 0·7s 10ph/6stn Dmin 101km Az.gap 214°
Corr. 0·661 4M/4stn Msd 0·2

85/336
**JAN 10 0815 18·9s 36·61S 177·44E 12km M=3·9**
0·8 0·05 0·04 R
Rsd 0·6s 11ph/6stn Dmin 104km Az.gap 217°
Corr. 0·548 4M/4stn Msd 0·3

85/337
**JAN 10 0818 31·3s 36·67S 177·38E 12km M=4·4**
0·5 0·03 0·03 R
Rsd 0·5s 10ph/6stn Dmin 96km Az.gap 212°
Corr. 0·488 3M/3stn Msd 0·1

85/338
**JAN 10 0833 48·1s 36·59S 177·49E 12km M=4·0**
1·7 0·12 0·06 R
Rsd 0·6s 7ph/6stn Dmin 107km Az.gap 221°
Corr. 0·284 3M/3stn Msd 0·1

85/339
**JAN 10 0844 39·5s 36·66S 177·39E 12km M=4·2**
0·5 0·03 0·03 R
Rsd 0·5s 10ph/6stn Dmin 98km Az.gap 214°
Corr. 0·650 3M/3stn Msd 0·2

85/340
**JAN 10 0847 01·9s 36·70S 177·39E 12km M=4·2**
0·6 0·04 0·04 R
Rsd 0·7s 10ph/6stn Dmin 94km Az.gap 211°
Corr. 0·694 4M/4stn Msd 0·2

85/341
**JAN 10 0857 01·4s 36·61S 177·38E 12km M=4·8**
0·5 0·04 0·04 R
Rsd 0·7s 10ph/6stn Dmin 103km Az.gap 216°
Corr. 0·641 3M/3stn Msd 0·3

85/342
**JAN 10 0900 36·1s 36·78S 177·36E 12km M=4·0**
2·6 0·20 0·05 R
Rsd 0·6s 7ph/5stn Dmin 85km Az.gap 263°
Corr. -0·011 3M/3stn Msd 0·1

85/343
**JAN 10 0914 31·4s 36·86S 177·42E 12km M=4·1**
0·6 0·04 0·05 R
Rsd 0·7s 8ph/6stn Dmin 77km Az.gap 201°
Corr. 0·568 3M/3stn Msd 0·3

85/344
**JAN 10 0915 20·6s 36·91S 177·39E 12km M=4·5**
1·3 0·10 0·05 R
Rsd 0·7s 6ph/4stn Dmin 71km Az.gap 256°
Corr. -0·033 2M/2stn Msd 0·1
In the coda of preceding shock.

85/345
**JAN 10 0923 09·3s 36·74S 177·39E 12km M=3·9**
0·8 0·05 0·05 R
Rsd 0·6s 9ph/6stn Dmin 90km Az.gap 208°
Corr. 0·650 4M/4stn Msd 0·2

85/346
**JAN 10 0930 25·7s 36·72S 177·41E 12km M=3·9**
1·9 0·14 0·06 R
Rsd 0·5s 6ph/6stn Dmin 92km Az.gap 210°
Corr. -0·040 4M/4stn Msd 0·3

85/347
**JAN 10 0935 46·2s 36·75S 177·45E 12km M=4·1**
0·8 0·05 0·04 R
Rsd 0·8s 9ph/6stn Dmin 90km Az.gap 210°
Corr. 0·292 4M/4stn Msd 0·1

85/348
**JAN 10 0940 55·4s 36·80S 177·30E 12km M=4·0**
0·8 0·05 0·06 R
Rsd 0·8s 8ph/5stn Dmin 82km Az.gap 232°
Corr. 0·669 4M/4stn Msd 0·1

85/349
**JAN 10 0953 24·6s 36·70S 177·41E 12km M=4·1**
0·6 0·04 0·05 R
Rsd 0·7s 11ph/6stn Dmin 95km Az.gap 212°
Corr. 0·661 3M/3stn Msd 0·1

85/350
**JAN 10 1000 40·7s 36·71S 177·41E 12km M=3·7**
1·0 0·07 0·06 R
Rsd 0·6s 8ph/6stn Dmin 93km Az.gap 211°
Corr. 0·634 4M/4stn Msd 0·2

85/351
**JAN 10 1004 02·3s 36·70S 177·32E 12km M=4·0**
0·6 0·04 0·04 R
Rsd 0·6s 9ph/6stn Dmin 93km Az.gap 209°
Corr. 0·560 4M/4stn Msd 0·2

85/352
**JAN 10 1007 57·1s 36·96S 177·20E 12km M=3·9**
0·3 0·02 0·02 R
Rsd 0·3s 10ph/6stn Dmin 63km Az.gap 187°
Corr. 0·611 4M/4stn Msd 0·0

85/353
**JAN 10 1009 15·2s 37·07S 176·99E 12km M=3·8**
0·3 0·03 0·04 R
Rsd 0·4s 6ph/5stn Dmin 101km Az.gap 172°
Corr. 0·831 4M/4stn Msd 0·2
In the coda of preceding shock.

85/354
**JAN 10 1025 07·0s 36·70S 177·40E 12km M=4·3**
0·8 0·05 0·04 R
Rsd 0·6s 8ph/6stn Dmin 94km Az.gap 211°
Corr. 0·396 3M/3stn Msd 0·2

85/355
**JAN 10 1030 09·8s 36·80S 177·28E 12km M=4·0**
0·6 0·04 0·04 R
Rsd 0·6s 10ph/6stn Dmin 81km Az.gap 201°
Corr. 0·570 4M/4stn Msd 0·2

85/356
**JAN 10 1043 06·8s 36·64S 177·39E 12km M=4·8**
0·6 0·04 0·04 R
Rsd 0·7s 8ph/6stn Dmin 100km Az.gap 214°
Corr. 0·636 3M/3stn Msd 0·3 1↑

85/357
**JAN 10 1045 33·0s 36·86S 177·40E 12km M=4·4**
0·7 0·06 0·03 R
Rsd 0·6s 6ph/5stn Dmin 129km Az.gap 200°
Corr. 0·226 2M/2stn Msd 0·1

85/358
**JAN 10 1048 20·7s 36·66S 177·50E 12km M=4·0**
1·4 0·09 0·05 R
Rsd 0·5s 7ph/6stn Dmin 100km Az.gap 216°
Corr. 0·307 4M/4stn Msd 0·2

85/359
**JAN 10 1055 00·0s 36·82S 177·49E 12km M=4·1**
0·5 0·03 0·04 R
Rsd 0·6s 9ph/6stn Dmin 83km Az.gap 206°
Corr. 0·708 4M/4stn Msd 0·4

85/360
**JAN 10 1100 33·2s 36·70S 177·40E 12km M=4·1**
0·9 0·06 0·05 R
Rsd 0·5s 8ph/6stn Dmin 93km Az.gap 211°
Corr. 0·669 3M/3stn Msd 0·1

85/361
**JAN 10 1105 33·1s 36·95S 177·25E 12km M=3·6**
0·6 0·04 0·02 R
Rsd 0·3s 7ph/5stn Dmin 64km Az.gap 252°
Corr. 0·380 4M/4stn Msd 0·1

85/362
**JAN 10 1107 26·9s 36·69S 177·36E 12km M=4·2**
0·6 0·04 0·04 R
Rsd 0·5s 10ph/6stn Dmin 94km Az.gap 210°
Corr. 0·619 4M/4stn Msd 0·2

85/363
**JAN 10 1117 23·0s 36·86S 177·44E 12km M=3·9**
0·3 0·02 0·02 R
Rsd 0·3s 8ph/6stn Dmin 77km Az.gap 202°
Corr. 0·695 4M/4stn Msd 0·2

85/364
**JAN 10 1120 25·7s 36·58S 177·47E 12km M=4·3**
1·1 0·08 0·05 R
Rsd 0·8s 9ph/6stn Dmin 108km Az.gap 221°
Corr. 0·561 4M/4stn Msd 0·1

85/365
**JAN 10 1125 16·5s 37·29S 177·15E 12km M=3·5**
0·6 0·05 0·05 R
Rsd 0·9s 8ph/5stn Dmin 79km Az.gap 163°
Corr. 0·620 4M/4stn Msd 0·3

85/366
**JAN 10 1125 50·0s 36·88S 177·47E 12km M=3·8**
1·9 0·13 0·05 R
Rsd 0·7s 7ph/4stn Dmin 130km Az.gap 259°
Corr. 0·632 4M/4stn Msd 0·3

85/367
**JAN 10 1132 54·8s 36·85S 177·47E 12km M=4·0**
0·6 0·04 0·04 R
Rsd 0·5s 9ph/6stn Dmin 79km Az.gap 204°
Corr. 0·476 3M/3stn Msd 0·2

85/368
**JAN 10 1136 26·8s 36·94S 177·13E 12km M=3·8**
0·6 0·05 0·06 R
Rsd 0·3s 6ph/5stn Dmin 65km Az.gap 220°
Corr. 0·835 4M/4stn Msd 0·2
Interpretation doubtful.

85/369
**JAN 10 1143 31·4s 36·56S 177·55E 12km M=5·2**
0·7 0·06 0·05 R
Rsd 0·8s 10ph/8stn Dmin 112km Az.gap 219°
Corr. 0·591 5M/5stn Msd 0·3 1↓

85/370
**JAN 10 1155 49·2s 36·59S 177·48E 12km M=4·3**
0·6 0·05 0·04 R
Rsd 0·6s 8ph/6stn Dmin 107km Az.gap 221°
Corr. 0·731 3M/3stn Msd 0·9

85/371
**JAN 10 1201 03·8s 36·63S 177·36E 12km M=3·9**
0·5 0·03 0·03 R
Rsd 0·4s 9ph/6stn Dmin 100km Az.gap 214°
Corr. 0·486 4M/4stn Msd 0·1

85/372
**JAN 10 1202 53·6s 36·64S 177·39E 12km M=4·5**
0·7 0·05 0·05 R
Rsd 0·7s 7ph/6stn Dmin 100km Az.gap 214°
Corr. 0·675 2M/2stn Msd 0·1

85/373
**JAN 10 1205 29·1s 36·74S 177·42E 12km M=3·8**
0·8 0·05 0·04 R
Rsd 0·6s 8ph/6stn Dmin 89km Az.gap 209°
Corr. 0·420 4M/4stn Msd 0·1

85/374
**JAN 10 1217 39·0s 36·57S 177·51E 12km M=5·2**
0·8 0·06 0·06 R
Rsd 0·9s 11ph/8stn Dmin 110km Az.gap 218°
Corr. 0·753 5M/5stn Msd 0·2

85/375
**JAN 10 1230 55·4s 36·65S 177·56E 12km M=4·0**
0·9 0·06 0·06 R
Rsd 0·9s 10ph/6stn Dmin 103km Az.gap 219°
Corr. 0·645 3M/3stn Msd 0·1

85/376
**JAN 10 1235 44·3s 22·68S 176·62W 182km M=5·7**
R R R R
Rsd 2·2s 4ph/3stn Dmin 1840kmAz.gap 349°
Corr. R 2M/1stn Msd 0·1
Origin fixed at USGS origin.

85/377
**JAN 10 1236 52·6s 36·42S 177·67E 12km M=4·6**
1·2 0·08 0·07 R
Rsd 1·0s 10ph/6stn Dmin 130km Az.gap 235°
Corr. 0·703 3M/3stn Msd 0·2

85/378
**JAN 10 1250 17·2s 36·81S 177·64E 12km M=4·1**
0·7 0·04 0·05 R
Rsd 0·6s 10ph/6stn Dmin 89km Az.gap 213°
Corr. 0·667 3M/3stn Msd 0·4

85/379
**JAN 10 1301 00·6s 36·71S 177·36E 12km M=4·2**
0·7 0·05 0·05 R
Rsd 0·7s 9ph/6stn Dmin 92km Az.gap 209°
Corr. 0·676 3M/3stn Msd 0·3

85/380
**JAN 10 1315 48·9s 36·63S 177·44E 12km M=3·9**
1·6 0·11 0·09 R
Rsd 0·8s 7ph/5stn Dmin 154km Az.gap 217°
Corr. 0·791 4M/4stn Msd 0·2

85/381
**JAN 10 1328 21·7s 36·51S 177·49E 12km M=4·2**
1·4 0·10 0·04 R
Rsd 0·6s 9ph/6stn Dmin 116km Az.gap 225°
Corr. 0·066 4M/4stn Msd 0·1

85/382
**JAN 10 1331 56·5s 36·65S 177·50E 12km M=4·0**
0·9 0·06 0·06 R
Rsd 0·6s 10ph/6stn Dmin 101km Az.gap 217°
Corr. 0·741 4M/4stn Msd 0·0

85/383
**JAN 10 1343 44·4s 36·53S 177·56E 12km M=4·7**
0·9 0·06 0·06 R
Rsd 0·9s 10ph/6stn Dmin 116km Az.gap 226°
Corr. 0·710 3M/3stn Msd 0·5

85/384
**JAN 10 1352 38·9s 36·66S 177·35E 12km M=4·2**
1·0 0·07 0·06 R
Rsd 0·8s 8ph/6stn Dmin 97km Az.gap 211°
Corr. 0·583 3M/3stn Msd 0·1

85/385
**JAN 10 1406 24·8s 36·54S 177·47E 12km M=4·3**
0·8 0·06 0·05 R
Rsd 0·9s 9ph/6stn Dmin 112km Az.gap 223°
Corr. 0·605 3M/3stn Msd 0·1

85/386
**JAN 10 1406 48·2s 36·60S 177·40E 12km M=4·4**
R R R R
Rsd 0·1s 3ph/3stn Dmin 158km Az.gap 272°
Corr. R 3M/3stn Msd 0·1
In the coda of preceding shock.

85/387
**JAN 10 1409 04·2s 36·69S 177·50E 12km M=4·1**
1·4 0·09 0·08 R
Rsd 0·8s 8ph/6stn Dmin 97km Az.gap 214°
Corr. 0·585 3M/3stn Msd 0·1

85/388
**JAN 10 1411 00·5s 36·75S 177·36E 12km M=3·8**
0·5 0·04 0·03 R
Rsd 0·4s 8ph/6stn Dmin 87km Az.gap 206°
Corr. 0·514 4M/4stn Msd 0·4

85/389
**JAN 10 1415 12·9s 36·48S 177·55E 12km M=5·0**
0·8 0·06 0·06 R
Rsd 0·9s 12ph/8stn Dmin 120km Az.gap 223°
Corr. 0·771 6M/6stn Msd 0·2

85/390
**JAN 10 1420 50·1s 36·60S 177·44E 12km M=4·2**
0·8 0·05 0·05 R
Rsd 0·9s 12ph/6stn Dmin 105km Az.gap 218°
Corr. 0·617 5M/4stn Msd 0·2

85/391
**JAN 10 1428 08·4s 36·53S 177·47E 12km M=4·8**
0·7 0·05 0·05 R
Rsd 0·8s 13ph/8stn Dmin 113km Az.gap 218°
Corr. 0·732 5M/5stn Msd 0·4

85/392
**JAN 10 1444 18·2s 36·51S 177·50E 12km M=4·4**
0·8 0·06 0·04 R
Rsd 0·7s 9ph/6stn Dmin 116km Az.gap 225°
Corr. 0·640 4M/4stn Msd 0·2

85/393
**JAN 10 1446 46·7s 36·63S 177·46E 12km M=4·2**
0·6 0·04 0·04 R
Rsd 0·5s 9ph/6stn Dmin 102km Az.gap 217°
Corr. 0·825 3M/3stn Msd 0·3

85/394
**JAN 10 1448 57·2s 36·92S 177·32E 12km M=3·9**
1·5 0·09 0·06 R
Rsd 0·9s 7ph/5stn Dmin 68km Az.gap 254°
Corr. -0·399 4M/4stn Msd 0·1

85/395
**JAN 10 1504 28·6s 35·78S 178·16E 313km M=4·6**
1·0 0·18 0·14 17
Rsd 0·4s 7ph/5stn Dmin 213km Az.gap 307°
Corr. 0·310 1M/1stn Msd ND

85/396
**JAN 10 1530 46·8s 36·45S 177·61E 12km M=5·6**
1·8 0·14 0·13 R
Rsd 1·2s 9ph/8stn Dmin 161km Az.gap 226°
Corr. 0·898 7M/7stn Msd 0·3 1↑

85/397
**JAN 10 1538 36·6s 36·98S 177·26E 12km M=3·9**
0·4 0·02 0·03 R
Rsd 0·5s 11ph/6stn Dmin 61km Az.gap 187°
Corr. 0·702 4M/4stn Msd 0·3

85/398
**JAN 10 1539 44·0s 36·76S 177·36E 12km M=4·3**
0·6 0·05 0·04 R
Rsd 0·7s 6ph/5stn Dmin 140km Az.gap 206°
Corr. 0·630 4M/4stn Msd 0·2

85/399
**JAN 10 1546 27·8s 36·92S 177·38E 12km M=3·9**
0·8 0·05 0·05 R
Rsd 0·8s 9ph/6stn Dmin 69km Az.gap 196°
Corr. 0·642 4M/4stn Msd 0·3

85/400
**JAN 10 1730 50·9s 36·80S 177·33E 12km M=3·8**
0·5 0·03 0·03 R
Rsd 0·4s 10ph/6stn Dmin 82km Az.gap 202°
Corr. 0·645 4M/4stn Msd 0·2

85/401
**JAN 10 1824 21·1s 37·01S 177·50E 12km M=4·4**
1·0 0·08 0·05 R
Rsd 0·9s 8ph/6stn Dmin 64km Az.gap 195°
Corr. 0·486 3M/3stn Msd 0·3

85/402
**JAN 10 1833 57·3s 38·03S 178·21E 23km M=3·9**
0·3 0·02 0·03 5
Rsd 0·6s 8ph/6stn Dmin 47km Az.gap 154°
Corr. -0·208 4M/4stn Msd 0·3

85/403
**JAN 10 1845 41·7s 37·16S 177·33E 12km M=4·2**
0·3 0·02 0·03 R
Rsd 0·5s 9ph/6stn Dmin 42km Az.gap 177°
Corr. 0·463 3M/3stn Msd 0·2

85/404
**JAN 10 2139 01·6s 36·93S 177·34E 12km M=5·0**
0·5 0·04 0·04 R
Rsd 0·8s 10ph/8stn Dmin 68km Az.gap 194°
Corr. 0·688 6M/6stn Msd 0·2 1↓

85/405
**JAN 10 2314 49·2s 36·94S 177·36E 12km M=3·7**
0·7 0·04 0·04 R
Rsd 0·6s 9ph/6stn Dmin 67km Az.gap 194°
Corr. 0·318 4M/4stn Msd 0·3

85/406
**JAN 10 2321 34·1s 36·79S 177·40E 12km M=3·9**
1·0 0·07 0·08 R
Rsd 0·7s 8ph/6stn Dmin 83km Az.gap 205°
Corr. 0·779 4M/4stn Msd 0·2

85/407
**JAN 10 2327 39·2s 36·87S 177·09E 12km M=3·8**
0·9 0·06 0·06 R
Rsd 0·8s 8ph/6stn Dmin 73km Az.gap 190°
Corr. 0·618 4M/4stn Msd 0·1

85/408
**JAN 11 0017 51·4s 36·39S 177·35E 12km M=4·2**
1·5 0·09 0·06 R
Rsd 0·9s 10ph/6stn Dmin 127km Az.gap 228°
Corr. 0·376 4M/4stn Msd 0·2

85/409
**JAN 11 0030 58·3s 36·95S 177·26E 12km M=3·7**
1·0 0·08 0·06 R
Rsd 0·9s 8ph/6stn Dmin 65km Az.gap 190°
Corr. 0·430 4M/4stn Msd 0·3

85/410
**JAN 11 0034 20·2s 36·91S 177·37E 12km M=4·8**
0·4 0·03 0·03 R
Rsd 0·6s 10ph/7stn Dmin 71km Az.gap 196°
Corr. 0·626 4M/4stn Msd 0·3 1↑

85/411
**JAN 11 0310 58·3s 36·89S 177·42E 12km M=4·1**
0·4 0·03 0·03 R
Rsd 0·6s 11ph/6stn Dmin 74km Az.gap 199°
Corr. 0·369 4M/4stn Msd 0·1

85/412
**JAN 11 0450 09·2s 36·50S 177·62E 12km M=5·3**
0·8 0·06 0·06 R
Rsd 0·8s 10ph/8stn Dmin 120km Az.gap 224°
Corr. 0·808 6M/6stn Msd 0·4 1↓

85/413
**JAN 11 0600 45·5s 36·95S 177·34E 12km M=4·1**
0·7 0·04 0·05 R
Rsd 0·9s 9ph/6stn Dmin 65km Az.gap 192°
Corr. 0·549 3M/3stn Msd 0·3 1↑

85/414
**JAN 11 0604 45·7s 36·90S 177·28E 12km M=4·0**
1·0 0·07 0·06 R
Rsd 1·1s 10ph/6stn Dmin 70km Az.gap 194°
Corr. 0·310 4M/4stn Msd 0·3 1↑

85/415
**JAN 11 0759 32·1s 36·62S 177·41E 12km M=3·9**
0·6 0·04 0·03 R
Rsd 0·5s 9ph/6stn Dmin 103km Az.gap 216°
Corr. 0·278 4M/4stn Msd 0·1

85/416
**JAN 11 1324 19·3s 36·63S 177·38E 12km M=4·0**
0·7 0·05 0·04 R
Rsd 0·6s 8ph/6stn Dmin 101km Az.gap 214°
Corr. 0·315 4M/4stn Msd 0·1

85/417
**JAN 11 1426 41·5s 36·63S 177·42E 12km M=4·0**
0·5 0·03 0·03 R
Rsd 0·5s 7ph/6stn Dmin 101km Az.gap 216°
Corr. 0·301 4M/4stn Msd 0·1

85/418
**JAN 11 1536 12·6s 37·02S 177·25E 12km M=4·6**
0·5 0·04 0·04 R
Rsd 1·0s 10ph/6stn Dmin 57km Az.gap 184°
Corr. 0·524 3M/3stn Msd 0·3 1↑

85/419
**JAN 11 1630 10·2s 36·92S 177·37E 12km M=4·0**
0·5 0·03 0·03 R
Rsd 0·5s 10ph/6stn Dmin 70km Az.gap 196°
Corr. 0·411 4M/4stn Msd 0·2

85/420
**JAN 12 0036 47·1s 43·64S 170·61E 12km M=3·6**
0·2 0·02 0·03 R
Rsd 0·4s 9ph/7stn Dmin 85km Az.gap 147°
Corr. -0·771 8M/5stn Msd 0·2

85/421
**JAN 12 0813 53·5s 36·88S 177·30E 12km M=3·7**
0·7 0·05 0·04 R
Rsd 0·7s 8ph/6stn Dmin 73km Az.gap 196°
Corr. 0·210 4M/4stn Msd 0·3

85/422
**JAN 12 0941 44·3s 38·93S 175·66E 5km M=3·5**
0·3 0·03 0·04 5
Rsd 0·6s 8ph/6stn Dmin 13km Az.gap 115°
Corr. -0·815 6M/5stn Msd 0·3
Felt Moerangi Station, Omori (40) MM IV, Motuoapa (40) MM III, Kuratau (40).

85/423
**JAN 12 0948 19·0s 38·96S 175·72E 4km M=3·5**
0·4 0·03 0·04 4
Rsd 0·6s 8ph/6stn Dmin 17km Az.gap 129°
Corr. -0·727 5M/4stn Msd 0·3
Felt Moerangi station, Omori (40) MM IV, Motuoapa (40) MM III, Kuratau (40).

85/424
**JAN 12 1431 59·7s 36·69S 177·44E 12km M=4·0**
0·7 0·04 0·03 R
Rsd 0·6s 11ph/6stn Dmin 95km Az.gap 213°
Corr. 0·502 4M/4stn Msd 0·3

85/425
**JAN 12 1628 00·2s 36·81S 177·40E 12km M=3·6**
0·2 0·01 0·01 R
Rsd 0·1s 7ph/6stn Dmin 81km Az.gap 204°
Corr. 0·424 4M/4stn Msd 0·3

85/426
**JAN 12 1823 47·7s 36·61S 177·44E 12km M=4·5**
0·7 0·04 0·04 R
Rsd 0·8s 11ph/6stn Dmin 104km Az.gap 218°
Corr. 0·596 5M/4stn Msd 0·3

85/427
**JAN 12 1905 58·0s 36·47S 177·55E 12km M=4·6**
0·9 0·06 0·05 R
Rsd 0·8s 12ph/6stn Dmin 122km Az.gap 229°
Corr. 0·752 4M/4stn Msd 0·2

85/428
**JAN 12 2258 11·0s 36·61S 177·52E 12km M=4·2**
0·7 0·05 0·04 R
Rsd 0·8s 8ph/5stn Dmin 151km Az.gap 220°
Corr. 0·581 3M/3stn Msd 0·3

85/429
**JAN 12 2335 14·3s 37·00S 177·35E 12km M=3·7**
0·7 0·04 0·05 R
Rsd 0·8s 8ph/5stn Dmin 114km Az.gap 189°
Corr. 0·656 4M/4stn Msd 0·3

85/430
**JAN 13 0108 24·2s 36·42S 177·50E 12km M=5·5**
1·0 0·08 0·07 R
Rsd 1·0s 11ph/9stn Dmin 169km Az.gap 224°
Corr. 0·765 6M/5stn Msd 0·4 1↓

85/431
**JAN 13 0205 48·3s 39·09S 174·62E 28km M=4·0**
0·1 0·01 0·02 1
Rsd 0·3s 10ph/7stn Dmin 23km Az.gap 149°
Corr. -0·581 6M/4stn Msd 0·2 4↓

85/432
**JAN 13 0432 55·9s 36·79S 177·40E 12km M=3·8**
0·8 0·05 0·04 R
Rsd 0·6s 8ph/5stn Dmin 138km Az.gap 205°
Corr. 0·465 4M/4stn Msd 0·3

85/433
**JAN 13 0959 58·2s 36·76S 177·50E 12km M=4·0**
0·7 0·06 0·05 R
Rsd 0·8s 8ph/5stn Dmin 139km Az.gap 211°
Corr. 0·675 4M/4stn Msd 0·3

85/434
**JAN 13 1452 03·5s 36·63S 177·45E 12km M=4·1**
0·5 0·03 0·01 R
Rsd 0·2s 6ph/4stn Dmin 152km Az.gap 272°
Corr. 0·343 4M/4stn Msd 0·3

85/435
**JAN 13 1455 25·3s 36·80S 177·38E 12km M=4·3**
0·5 0·03 0·02 R
Rsd 0·3s 7ph/4stn Dmin 136km Az.gap 262°
Corr. 0·194 3M/3stn Msd 0·2

85/436
**JAN 13 1459 31·4s 36·89S 177·49E 12km M=4·3**
1·0 0·07 0·03 R
Rsd 0·6s 9ph/4stn Dmin 129km Az.gap 258°
Corr. 0·365 3M/3stn Msd 0·5

85/437
**JAN 13 1501 52·2s 36·88S 177·45E 12km M=4·0**
1·6 0·12 0·05 R
Rsd 0·8s 5ph/4stn Dmin 129km Az.gap 258°
Corr. 0·137 3M/3stn Msd 0·3

85/438
**JAN 13 1502 34·8s 37·25S 177·11E 12km M=4·2**
0·7 0·05 0·02 R
Rsd 0·3s 5ph/3stn Dmin 82km Az.gap 230°
Corr. -0·311 4M/4stn Msd 0·3
In the coda of preceding shock.

85/439
**JAN 13 1513 00·9s 36·75S 177·37E 12km M=3·9**
2·0 0·13 0·06 R
Rsd 0·8s 6ph/4stn Dmin 141km Az.gap 264°
Corr. -0·140 4M/4stn Msd 0·2

85/440
**JAN 13 1517 19·2s 36·69S 177·48E 12km M=3·8**
1·1 0·07 0·03 R
Rsd 0·5s 8ph/4stn Dmin 146km Az.gap 269°
Corr. 0·147 4M/4stn Msd 0·4

85/441
**JAN 13 1520 44·6s 36·77S 177·44E 12km M=3·7**
0·8 0·05 0·02 R
Rsd 0·3s 5ph/4stn Dmin 140km Az.gap 264°
Corr. 0·294 4M/4stn Msd 0·4

85/442
**JAN 13 1525 03·4s 36·81S 177·48E 12km M=4·4**
1·9 0·15 0·04 R
Rsd 0·9s 8ph/4stn Dmin 136km Az.gap 262°
Corr. 0·185 3M/3stn Msd 0·3

85/443
**JAN 13 1525 34·0s 36·70S 177·40E 12km M=4·8**
R R R R
Rsd 0·4s 5ph/4stn Dmin 147km Az.gap 208°
Corr. R 5M/4stn Msd 0·3
In the coda of preceding shock.

85/444
**JAN 13 1536 18·5s 36·86S 177·34E 12km M=3·8**
2·0 0·16 0·06 R
Rsd 0·8s 5ph/4stn Dmin 129km Az.gap 258°
Corr. 0·027 4M/4stn Msd 0·3

85/445
**JAN 13 1541 51·4s 36·68S 177·56E 12km M=3·8**
1·9 0·13 0·07 R
Rsd 0·9s 7ph/4stn Dmin 143km Az.gap 270°
Corr. 0·595 3M/3stn Msd 0·4

85/446
**JAN 13 1547 10·7s 36·81S 177·47E 12km M=4·1**
1·0 0·07 0·03 R
Rsd 0·6s 8ph/4stn Dmin 137km Az.gap 262°
Corr. 0·247 3M/3stn Msd 0·2

85/447
**JAN 13 1548 09·2s 37·10S 177·50E 12km M=4·4**
1·1 0·09 0·03 R
Rsd 0·7s 7ph/4stn Dmin 108km Az.gap 244°
Corr. 0·057 3M/3stn Msd 0·3

85/448
**JAN 13 1601 00·6s 36·74S 177·37E 12km M=5·4**
0·9 0·08 0·04 R
Rsd 0·7s 9ph/7stn Dmin 142km Az.gap 205°
Corr. 0·469 5M/5stn Msd 0·3

85/449
**JAN 13 1607 45·3s 36·80S 177·48E 12km M=4·1**
1·6 0·11 0·06 R
Rsd 0·7s 7ph/4stn Dmin 137km Az.gap 263°
Corr. 0·543 3M/3stn Msd 0·3

85/450
**JAN 13 1608 57·3s 36·84S 177·44E 12km M=4·4**
1·1 0·07 0·03 R
Rsd 0·5s 7ph/4stn Dmin 134km Az.gap 260°
Corr. 0·074 4M/4stn Msd 0·4

85/451
**JAN 13 1610 54·7s 37·02S 177·21E 12km M=3·8**
1·2 0·09 0·03 R
Rsd 0·6s 6ph/4stn Dmin 108km Az.gap 248°
Corr. 0·044 4M/4stn Msd 0·2

85/452
**JAN 13 1615 56·8s 36·79S 177·41E 12km M=3·9**
1·0 0·07 0·04 R
Rsd 0·5s 6ph/4stn Dmin 138km Az.gap 263°
Corr. 0·394 4M/4stn Msd 0·2

85/453
**JAN 13 1629 16·2s 36·70S 177·56E 12km M=4·5**
2·2 0·17 0·06 R
Rsd 1·0s 7ph/4stn Dmin 140km Az.gap 270°
Corr. 0·278 4M/4stn Msd 0·1

85/454
**JAN 13 1631 48·2s 36·71S 177·47E 12km M=4·0**
2·4 0·19 0·06 R
Rsd 0·7s 6ph/4stn Dmin 145km Az.gap 268°
Corr. 0·477 4M/4stn Msd 0·2

85/455
**JAN 13 1633 17·1s 36·77S 177·40E 12km M=3·8**
0·8 0·05 0·03 R
Rsd 0·3s 6ph/4stn Dmin 139km Az.gap 264°
Corr. 0·567 4M/4stn Msd 0·2

85/456
**JAN 13 1635 28·7s 36·95S 177·42E 12km M=4·3**
1·6 0·13 0·03 R
Rsd 0·7s 7ph/4stn Dmin 121km Az.gap 254°
Corr. 0·313 4M/4stn Msd 0·2

85/457
**JAN 13 1700 44·1s 36·98S 177·26E 12km M=3·6**
3·3 0·26 0·07 R
Rsd 0·8s 5ph/4stn Dmin 115km Az.gap 250°
Corr. -0·093 5M/4stn Msd 0·3

85/458
**JAN 13 1708 47·8s 36·83S 177·44E 12km M=4·0**
1·5 0·11 0·05 R
Rsd 0·8s 7ph/4stn Dmin 134km Az.gap 261°
Corr. 0·489 4M/4stn Msd 0·3

85/459
**JAN 13 1717 11·9s 36·93S 177·53E 12km M=4·0**
1·6 0·13 0·03 R
Rsd 0·7s 7ph/4stn Dmin 123km Az.gap 255°
Corr. 0·293 4M/4stn Msd 0·3

85/460
**JAN 13 1722 42·7s 36·83S 177·43E 12km M=4·2**
0·7 0·05 0·02 R
Rsd 0·4s 8ph/4stn Dmin 134km Az.gap 260°
Corr. 0·310 3M/3stn Msd 0·3

85/461
**JAN 13 1724 38·5s 36·49S 177·58E 12km M=4·0**
2·1 0·15 0·05 R
Rsd 0·7s 7ph/4stn Dmin 158km Az.gap 280°
Corr. -0·189 3M/3stn Msd 0·2

85/462
**JAN 13 1745 48·1s 36·73S 177·53E 12km M=3·8**
1·8 0·12 0·05 R
Rsd 0·7s 7ph/4stn Dmin 140km Az.gap 268°
Corr. 0·368 4M/4stn Msd 0·2

85/463
**JAN 13 1748 09·2s 36·90S 177·55E 12km M=3·8**
3·5 0·27 0·05 R
Rsd 0·9s 7ph/4stn Dmin 125km Az.gap 258°
Corr. 0·138 4M/4stn Msd 0·3

85/464
**JAN 13 1756 54·1s 36·81S 177·44E 12km M=4·0**
1·7 0·13 0·05 R
Rsd 1·0s 7ph/4stn Dmin 136km Az.gap 262°
Corr. 0·257 4M/4stn Msd 0·1

85/465
**JAN 13 1805 05·9s 36·65S 177·58E 12km M=4·8**
2·6 0·19 0·05 R
Rsd 1·0s 9ph/4stn Dmin 144km Az.gap 273°
Corr. 0·019 3M/3stn Msd 0·3

85/466
**JAN 13 1812 06·7s 36·66S 177·52E 12km M=4·1**
2·4 0·16 0·07 R
Rsd 1·0s 8ph/4stn Dmin 146km Az.gap 271°
Corr. 0·367 3M/3stn Msd 0·3

85/467
**JAN 13 1841 27·8s 36·74S 177·50E 12km M=4·2**
0·9 0·06 0·04 R
Rsd 0·7s 7ph/4stn Dmin 140km Az.gap 267°
Corr. -0·135 4M/4stn Msd 0·1

85/468
**JAN 13 1846 20·8s 36·75S 177·47E 12km M=4·2**
1·2 0·08 0·04 R
Rsd 0·5s 7ph/4stn Dmin 142km Az.gap 266°
Corr. -0·326 4M/4stn Msd 0·7

85/469
**JAN 13 1901 41·0s 35·94S 177·44E 12km M=4·3**
1·8 0·10 0·07 R
Rsd 0·7s 6ph/4stn Dmin 218km Az.gap 296°
Corr. -0·161 3M/3stn Msd 0·1

85/470
**JAN 13 1955 59·1s 36·46S 176·68E 12km M=4·3**
1·3 0·08 0·05 R
Rsd 0·3s 6ph/4stn Dmin 171km Az.gap 278°
Corr. -0·827 3M/3stn Msd 0·2

85/471
**JAN 13 2035 01·8s 36·66S 177·58E 12km M=3·9**
1·2 0·09 0·05 R
Rsd 0·8s 8ph/5stn Dmin 143km Az.gap 219°
Corr. 0·541 3M/3stn Msd 0·1

85/472
**JAN 13 2045 31·0s 36·53S 177·48E 12km M=4·6**
0·7 0·06 0·05 R
Rsd 0·8s 9ph/5stn Dmin 160km Az.gap 224°
Corr. 0·771 2M/2stn Msd 0·1

85/473
**JAN 13 2134 59·8s 36·82S 177·38E 12km M=3·7**
0·9 0·07 0·04 R
Rsd 0·6s 6ph/4stn Dmin 133km Az.gap 202°
Corr. 0·457 2M/2stn Msd 0·1

85/474
**JAN 13 2304 18·0s 36·65S 177·55E 12km M=4·2**
0·9 0·07 0·06 R
Rsd 0·9s 7ph/5stn Dmin 146km Az.gap 219°
Corr. 0·700 2M/2stn Msd 0·1

85/475
**JAN 14 0031 56·2s 39·54S 176·17E 12km M=3·8**
0·5 0·04 0·03 R
Rsd 0·7s 11ph/8stn Dmin 56km Az.gap 192°
Corr. 0·291 8M/6stn Msd 0·3

85/476
**JAN 14 0256 15·0s 36·70S 177·49E 12km M=4·1**
0·4 0·03 0·03 R
Rsd 0·3s 7ph/5stn Dmin 144km Az.gap 214°
Corr. 0·809 3M/3stn Msd 0·1

85/477
**JAN 14 0423 58·2s 36·64S 177·40E 12km M=3·9**
0·4 0·03 0·02 R
Rsd 0·3s 6ph/5stn Dmin 154km Az.gap 214°
Corr. 0·211 3M/3stn Msd 0·0

85/478
**JAN 14 0446 42·5s 36·58S 177·39E 12km M=5·2**
0·4 0·04 0·03 R
Rsd 0·6s 11ph/8stn Dmin 160km Az.gap 214°
Corr. 0·658 4M/4stn Msd 0·3 1↓

85/479
**JAN 14 0453 51·0s 36·78S 177·37E 12km M=4·0**
0·3 0·02 0·02 R
Rsd 0·4s 10ph/5stn Dmin 137km Az.gap 204°
Corr. 0·472 3M/3stn Msd 0·3

85/480
**JAN 14 0457 52·7s 36·46S 177·54E 12km M=4·2**
0·7 0·05 0·04 R
Rsd 0·6s 8ph/5stn Dmin 164km Az.gap 229°
Corr. 0·564 3M/3stn Msd 0·2

85/481
**JAN 14 0510 45·5s 36·81S 177·50E 12km M=3·7**
1·4 0·09 0·08 R
Rsd 0·8s 7ph/5stn Dmin 135km Az.gap 208°
Corr. 0·661 3M/3stn Msd 0·1

85/482
**JAN 14 0541 52·7s 37·12S 177·59E 12km M=3·4**
0·7 0·05 0·04 R
Rsd 0·5s 8ph/5stn Dmin 106km Az.gap 190°
Corr. 0·628 3M/3stn Msd 0·3

85/483
**JAN 14 1353 01·1s 36·81S 177·45E 12km M=3·6**
1·0 0·08 0·06 R
Rsd 0·6s 6ph/5stn Dmin 137km Az.gap 206°
Corr. 0·622 3M/3stn Msd 0·2

85/484
**JAN 14 1520 15·6s 36·96S 177·29E 12km M=3·7**
0·5 0·04 0·04 R
Rsd 0·5s 8ph/5stn Dmin 117km Az.gap 191°
Corr. 0·781 3M/3stn Msd 0·3

85/485
**JAN 14 1607 41·5s 36·85S 177·53E 12km M=3·6**
0·9 0·07 0·05 R
Rsd 0·9s 8ph/5stn Dmin 129km Az.gap 206°
Corr. 0·523 3M/3stn Msd 0·1

85/486
**JAN 14 1741 51·2s 36·51S 177·47E 12km M=4·3**
1·2 0·09 0·07 R
Rsd 0·9s 7ph/5stn Dmin 162km Az.gap 224°
Corr. 0·789 3M/3stn Msd 0·2

85/487
**JAN 14 1811 23·8s 36·84S 177·52E 12km M=3·9**
0·5 0·04 0·03 R
Rsd 0·7s 9ph/5stn Dmin 132km Az.gap 207°
Corr. 0·595 3M/3stn Msd 0·3

85/488
**JAN 14 1905 04·1s 36·67S 177·45E 12km M=3·8**
0·9 0·06 0·06 R
Rsd 0·8s 7ph/5stn Dmin 150km Az.gap 215°
Corr. 0·733 3M/3stn Msd 0·3

85/489
**JAN 14 1911 16·4s 37·53S 178·70E 24km M=4·4**
0·8 0·04 0·07 3
Rsd 0·6s 9ph/8stn Dmin 22km Az.gap 269°
Corr. 0·437 4M/3stn Msd 0·3

85/490
**JAN 14 2046 22·3s 36·55S 177·50E 12km M=4·3**
0·8 0·06 0·05 R
Rsd 0·8s 10ph/5stn Dmin 157km Az.gap 223°
Corr. 0·683 3M/3stn Msd 0·3

85/491
**JAN 14 2215 02·2s 37·04S 177·37E 12km M=3·8**
0·5 0·04 0·03 R
Rsd 0·7s 8ph/5stn Dmin 110km Az.gap 187°
Corr. 0·446 3M/3stn Msd 0·2

85/492
**JAN 14 2257 12·7s 38·43S 176·40E 84km M=3·4**
0·8 0·04 0·04 10
Rsd 0·6s 9ph/7stn Dmin 23km Az.gap 98°
Corr. 0·037 6M/4stn Msd 0·1 1↓

85/493
**JAN 14 2315 54·3s 36·67S 177·52E 12km M=3·9**
1·0 0·08 0·05 R
Rsd 0·7s 6ph/5stn Dmin 145km Az.gap 217°
Corr. 0·474 3M/3stn Msd 0·1

85/494
**JAN 15 0426 03·5s 36·83S 177·42E 12km M=3·8**
0·5 0·04 0·02 R
Rsd 0·2s 5ph/5stn Dmin 134km Az.gap 261°
Corr. 0·242 7M/5stn Msd 0·2

85/495
**JAN 15 0827 52·0s 36·92S 177·45E 12km M=4·0**
0·4 0·03 0·02 R
Rsd 0·4s 6ph/8stn Dmin 125km Az.gap 199°
Corr. 0·230 7M/5stn Msd 0·2

85/496
**JAN 15 0845 22·6s 36·89S 177·45E 12km M=4·0**
1·4 0·10 0·04 R
Rsd 0·7s 5ph/7stn Dmin 128km Az.gap 201°
Corr. 0·069 7M/6stn Msd 0·2

85/497
**JAN 15 0854 49·0s 36·88S 177·43E 12km M=4·0**
1·3 0·09 0·03 R
Rsd 0·4s 5ph/7stn Dmin 129km Az.gap 201°
Corr. -0·407 9M/6stn Msd 0·2
WTZ T 56 30

85/498
**JAN 15 0900 49·7s 36·99S 177·36E 12km M=3·6**
0·9 0·06 0·04 R
Rsd 0·4s 6ph/7stn Dmin 115km Az.gap 191°
Corr. -0·261 6M/5stn Msd 0·2

85/499
**JAN 15 0902 30·1s 36·78S 177·50E 12km M=4·0**
0·7 0·05 0·02 R
Rsd 0·3s 6ph/6stn Dmin 137km Az.gap 210°
Corr. -0·287 8M/6stn Msd 0·2
WTZ T 04 14

85/500
**JAN 15 0906 56·4s 36·68S 177·47E 12km M=4·3**
0·8 0·06 0·04 R
Rsd 0·6s 7ph/8stn Dmin 147km Az.gap 215°
Corr. 0·197 7M/5stn Msd 0·2
WTZ T 08 42

85/501
**JAN 15 0926 00·9s 36·89S 177·51E 12km M=3·8**
1·1 0·08 0·07 R
Rsd 0·8s 7ph/7stn Dmin 128km Az.gap 202°
Corr. 0·378 6M/4stn Msd 0·2
WTZ T 27 44

85/502
**JAN 15 0928 42·9s 36·91S 177·49E 12km M=4·0**
0·2 0·02 0·01 R
Rsd 0·2s 6ph/7stn Dmin 127km Az.gap 201°
Corr. 0·502 8M/6stn Msd 0·2

85/503
**JAN 15 0929 19·0s 36·91S 177·49E 12km M=4·4**
R R R R
Rsd 0·1s 3ph/4stn Dmin 127km Az.gap 200°
Corr. 0·000 8M/6stn Msd 0·3

85/504
**JAN 15 0932 39·5s 37·04S 177·29E 12km M=3·8**
2·6 0·19 0·08 R
Rsd 0·9s 5ph/7stn Dmin 108km Az.gap 184°
Corr. -0·290 6M/4stn Msd 0·3
WTZ T 34 16

85/505
**JAN 15 0941 36·5s 36·60S 177·45E 12km M=4·3**
1·1 0·08 0·04 R
Rsd 0·5s 7ph/7stn Dmin 156km Az.gap 219°
Corr. 0·197 8M/5stn Msd 0·2

85/506
**JAN 15 0945 28·1s 36·65S 177·43E 12km M=3·9**
1·4 0·09 0·05 R
Rsd 0·5s 7ph/4stn Dmin 152km Az.gap 271°
Corr. -0·080 5M/3stn Msd 0·2
WTZ T 47 36 Indications of second shock about 20 secs later.

85/507
**JAN 15 0950 50·3s 36·83S 177·43E 12km M=3·8**
0·7 0·05 0·03 R
Rsd 0·3s 7ph/5stn Dmin 134km Az.gap 261°
Corr. 0·251 6M/4stn Msd 0·2
WTZ 52 32

85/508
**JAN 15 1513 19·6s 39·17S 174·89E 212km M=4·5**
0·6 0·04 0·06 6
Rsd 0·8s 21ph/15stn Dmin 44km Az.gap 101°
Corr. -0·512 11M/7stn Msd 0·2 2↑ 1↓

85/509
**JAN 16 0249 37·4s 39·89S 174·47E 103km M=4·1**
0·4 0·02 0·04 6
Rsd 0·7s 25ph/14stn Dmin 78km Az.gap 128°
Corr. -0·510 8M/6stn Msd 0·2 1↑

85/510
**JAN 16 0949 30·1s 36·88S 177·39E 12km M=3·9**
1·2 0·09 0·05 R
Rsd 0·6s 6ph/7stn Dmin 127km Az.gap 199°
Corr. 0·301 6M/5stn Msd 0·2

85/511
**JAN 16 1445 44·8s 36·97S 177·46E 12km M=3·8**
0·8 0·06 0·02 R
Rsd 0·3s 6ph/7stn Dmin 120km Az.gap 195°
Corr. 0·019 10M/7stn Msd 0·1

85/512
**JAN 16 1520 51·2s 37·05S 177·45E 12km M=3·7**
0·8 0·06 0·02 R
Rsd 0·3s 6ph/8stn Dmin 112km Az.gap 190°
Corr. -0·077 8M/6stn Msd 0·2

85/513
**JAN 16 1536 40·8s 36·98S 177·47E 12km M=4·2**
0·6 0·05 0·02 R
Rsd 0·3s 5ph/6stn Dmin 119km Az.gap 252°
Corr. 0·315 11M/7stn Msd 0·3
WTZ eT 38 24

85/514
**JAN 16 1543 29·4s 36·89S 177·48E 12km M=4·2**
0·6 0·05 0·03 R
Rsd 0·5s 6ph/8stn Dmin 129km Az.gap 202°
Corr. 0·259 10M/7stn Msd 0·2
WTZ T 44 10

85/515
**JAN 16 1554 07·8s 36·77S 177·50E 12km M=4·3**
1·7 0·11 0·11 R
Rsd 1·0s 6ph/7stn Dmin 138km Az.gap 210°
Corr. 0·295 10M/7stn Msd 0·3
WTZ T 55 49

85/516
**JAN 16 1559 58·6s 36·83S 177·46E 12km M=4·1**
1·2 0·09 0·04 R
Rsd 0·6s 6ph/6stn Dmin 135km Az.gap 261°
Corr. 0·199 8M/7stn Msd 0·3
WTZ T 01 41

85/517
**JAN 16 1611 56·4s 36·96S 177·45E 12km M=3·8**
1·2 0·08 0·04 R
Rsd 0·4s 7ph/6stn Dmin 120km Az.gap 195°
Corr. 0·053 8M/6stn Msd 0·2

85/518
**JAN 16 1615 07·5s 36·94S 177·42E 12km M=4·0**
0·4 0·03 0·04 R
Rsd 0·5s 7ph/7stn Dmin 122km Az.gap 196°
Corr. 0·492 9M/7stn Msd 0·2
WTZ T 16 46

85/519
**JAN 16 1625 58·4s 36·64S 177·42E 12km M=3·9**
2·1 0·14 0·05 R
Rsd 0·6s 6ph/6stn Dmin 154km Az.gap 216°
Corr. -0·362 7M/5stn Msd 0·2
WTZ T 27 43

85/520
**JAN 16 1636 11·6s 36·77S 177·45E 12km M=3·8**
2·4 0·17 0·07 R
Rsd 0·7s 6ph/6stn Dmin 141km Az.gap 208°
Corr. 0·073 8M/6stn Msd 0·1

85/521
**JAN 16 1637 12·9s 36·88S 177·45E 12km M=4·1**
1·9 0·13 0·05 R
Rsd 0·8s 7ph/7stn Dmin 129km Az.gap 201°
Corr. -0·018 8M/6stn Msd 0·3
WTZ T 38 48

85/522
**JAN 16 1639 28·5s 36·92S 177·44E 12km M=3·7**
1·4 0·09 0·04 R
Rsd 0·4s 6ph/4stn Dmin 125km Az.gap 279°
Corr. -0·345 5M/3stn Msd 0·3
WTZ T 41 08

85/523
**JAN 16 1641 17·8s 36·83S 177·85E 12km M=3·6**
2·6 0·17 0·09 R
Rsd 1·2s 6ph/7stn Dmin 114km Az.gap 220°
Corr. -0·139 6M/5stn Msd 0·2
WTZ T 43 05

85/524
**JAN 16 1700 58·7s 36·88S 177·51E 12km M=3·8**
3·9 0·26 0·11 R
Rsd 1·1s 5ph/6stn Dmin 128km Az.gap 204°
Corr. 0·291 7M/5stn Msd 0·2

85/525
**JAN 16 1706 40·2s 38·23S 179·42E 33km M=4·0**
1·8 0·05 0·17 R
Rsd 0·6s 10ph/7stn Dmin 97km Az.gap 302°
Corr. -0·251 9M/6stn Msd 0·2

85/526
**JAN 16 1716 07·4s 36·63S 177·51E 12km M=4·3**
1·9 0·12 0·07 R
Rsd 0·7s 7ph/8stn Dmin 150km Az.gap 218°
Corr. 0·050 9M/6stn Msd 0·2
WTZ T 17 49

85/527
**JAN 16 1723 06·8s 36·51S 177·38E 12km M=4·0**
1·1 0·07 0·05 R
Rsd 0·5s 7ph/6stn Dmin 167km Az.gap 222°
Corr. -0·113 7M/4stn Msd 0·2
WTZ eT 24 51

85/528
**JAN 16 1812 25·9s 36·88S 177·44E 12km M=3·6**
0·7 0·05 0·02 R
Rsd 0·3s 7ph/7stn Dmin 129km Az.gap 201°
Corr. -0·062 8M/5stn Msd 0·1
WTZ eT 14 07

85/529
**JAN 16 1821 24·5s 36·80S 177·48E 12km M=3·8**
0·8 0·05 0·02 R
Rsd 0·2s 6ph/7stn Dmin 137km Az.gap 208°
Corr. -0·245 8M/5stn Msd 0·1

85/530
**JAN 16 2020 38·9s 36·89S 177·51E 12km M=3·8**
0·9 0·06 0·03 R
Rsd 0·3s 7ph/6stn Dmin 128km Az.gap 202°
Corr. -0·219 8M/5stn Msd 0·2

85/531
**JAN 16 2114 08·1s 36·86S 177·46E 12km M=3·8**
1·5 0·10 0·04 R
Rsd 0·5s 6ph/6stn Dmin 132km Az.gap 203°
Corr. -0·137 8M/6stn Msd 0·2

85/532
**JAN 16 2356 19·9s 37·01S 177·51E 12km M=3·5**
0·7 0·05 0·02 R
Rsd 0·2s 6ph/6stn Dmin 118km Az.gap 195°
Corr. -0·380 7M/4stn Msd 0·2
WTZ eT 58 00

85/533
**JAN 17 0525 00·6s 36·89S 177·41E 12km M=3·9**
0·9 0·06 0·03 R
Rsd 0·5s 7ph/8stn Dmin 127km Az.gap 199°
Corr. 0·050 8M/6stn Msd 0·3
WTZ T 56 44

85/534
**JAN 17 0710 41·6s 36·71S 177·51E 12km M=4·5**
0·8 0·06 0·06 R
Rsd 0·9s 6ph/7stn Dmin 143km Az.gap 214°
Corr. 0·517 9M/7stn Msd 0·2
WTZ T 12 28

85/535
**JAN 17 0713 47·3s 36·73S 177·33E 12km M=4·1**
4·2 0·27 0·17 R
Rsd 1·7s 6ph/5stn Dmin 143km Az.gap 266°
Corr. 0·452 6M/5stn Msd 0·2
WTZ T 15 30·5

85/536
**JAN 17 0722 06·5s 36·94S 177·47E 12km M=3·9**
0·8 0·05 0·04 R
Rsd 0·6s 7ph/5stn Dmin 124km Az.gap 255°
Corr. -0·011 8M/5stn Msd 0·3
WTZ T 23 47

85/537
**JAN 17 0745 21·0s 36·84S 177·40E 12km M=3·9**
0·6 0·04 0·03 R
Rsd 0·3s 7ph/6stn Dmin 132km Az.gap 202°
Corr. 0·237 6M/4stn Msd 0·1

85/538
**JAN 17 1725 55·4s 36·75S 177·46E 12km M=4·5**
0·8 0·06 0·05 R
Rsd 0·6s 8ph/7stn Dmin 142km Az.gap 210°
Corr. 0·403 9M/7stn Msd 0·2

85/539
**JAN 17 1731 57·8s 36·89S 177·44E 12km M=4·0**
1·6 0·11 0·07 R
Rsd 0·8s 8ph/6stn Dmin 128km Az.gap 201°
Corr. 0·246 8M/5stn Msd 0·1
WTZ T 33 47

85/540
**JAN 17 1737 55·8s 36·85S 177·43E 12km M=4·0**
0·6 0·04 0·02 R
Rsd 0·2s 6ph/5stn Dmin 132km Az.gap 260°
Corr. -0·369 8M/5stn Msd 0·1

85/541
**JAN 17 1822 55·3s 36·74S 177·41E 12km M=4·9**
1·3 0·10 0·04 R
Rsd 0·7s 9ph/7stn Dmin 143km Az.gap 266°
Corr. -0·039 6M/5stn Msd 0·3

85/542
**JAN 18 1654 52·0s 36·90S 177·39E 12km M=3·9**
0·4 0·03 0·01 R
Rsd 0·2s 8ph/7stn Dmin 71km Az.gap 198°
Corr. -0·019 9M/6stn Msd 0·2
WTZ T 56 33·3

85/543
**JAN 18 1721 29·5s 36·56S 177·46E 12km M=4·7**
0·8 0·05 0·07 R
Rsd 0·9s 9ph/10stn Dmin 110km Az.gap 222°
Corr. 0·366 9M/6stn Msd 0·3 1↑
WIZ T 22 56

85/544
**JAN 18 1733 06·4s 36·68S 177·46E 12km M=4·2**
1·0 0·06 0·05 R
Rsd 0·6s 8ph/7stn Dmin 98km Az.gap 215°
Corr. 0·150 10M/6stn Msd 0·2
WIZ eT 34 34 WTZ eT 34 49

85/545
**JAN 18 1752 19·9s 36·34S 177·37E 12km M=4·3**
3·7 0·23 0·09 R
Rsd 1·0s 7ph/7stn Dmin 133km Az.gap 231°
Corr. 0·017 7M/5stn Msd 0·2
WIZ T 54 02 WTZ T 54 09·0

85/546
**JAN 18 1900 48·5s 36·85S 177·34E 12km M=4·1**
1·1 0·08 0·04 R
Rsd 0·7s 8ph/7stn Dmin 76km Az.gap 200°
Corr. 0·132 6M/5stn Msd 0·3
WIZ T 02 12 WTZ ET 02 30

85/547
**JAN 18 2132 23·5s 36·50S 177·50E 12km M=4·3**
1·2 0·08 0·06 R
Rsd 0·8s 9ph/6stn Dmin 117km Az.gap 278°
Corr. 0·054 10M/7stn Msd 0·2

85/548
**JAN 18 2133 53·4s 37·10S 177·42E 12km M=3·9**
2·0 0·15 0·08 R
Rsd 1·4s 7ph/6stn Dmin 51km Az.gap 243°
Corr. -0·189 8M/7stn Msd 0·3
WIZ T 35 21 WTZ eT 35 30

85/549
**JAN 18 2135 18·3s 36·83S 177·49E 12km M=4·1**
1·1 0·08 0·05 R
Rsd 0·7s 8ph/7stn Dmin 82km Az.gap 206°
Corr. 0·142 6M/6stn Msd 0·2

85/550
**JAN 18 2135 53·9s 36·46S 177·36E 12km M=4·9**
2·4 0·15 0·11 R
Rsd 1·2s 7ph/7stn Dmin 119km Az.gap 279°
Corr. -0·250 9M/7stn Msd 0·2
WTZ eT 3743

85/551
**JAN 18 2203 11·4s 36·57S 177·44E 12km M=4·2**
1·6 0·11 0·08 R
Rsd 1·1s 8ph/7stn Dmin 108km Az.gap 220°
Corr. -0·030 8M/6stn Msd 0·2
WTZ T 0426

85/552
**JAN 18 2319 03·3s 36·65S 177·45E 12km M=4·4**
1·2 0·08 0·05 R
Rsd 0·9s 10ph/8stn Dmin 100km Az.gap 215°
Corr. -0·138 7M/6stn Msd 0·2
WIZ T 20 30 WTZ ET 20 43

85/553
**JAN 18 2334 06·9s 36·86S 177·54E 12km M=3·8**
1·2 0·08 0·03 R
Rsd 0·4s 7ph/6stn Dmin 80km Az.gap 260°
Corr. -0·196 6M/5stn Msd 0·1
WIZ T 35 33 WTZ T 35 37

85/554
**JAN 18 2344 07·3s 36·84S 177·08E 12km M=3·8**
0·8 0·05 0·06 R
Rsd 0·4s 7ph/6stn Dmin 77km Az.gap 192°
Corr. -0·331 5M/4stn Msd 0·2

85/555
**JAN 19 0109 28·3s 36·56S 177·49E 12km M=3·9**
1·7 0·11 0·08 R
Rsd 0·9s 9ph/7stn Dmin 111km Az.gap 223°
Corr. -0·259 8M/5stn Msd 0·1
WIZ eT 11 00

85/556
**JAN 19 0112 23·3s 36·49S 177·32E 12km M=4·0**
0·9 0·05 0·05 R
Rsd 0·4s 7ph/5stn Dmin 116km Az.gap 221°
Corr. -0·479 7M/4stn Msd 0·1
WTZ T 14 06

85/557
**JAN 19 0128 05·2s 36·58S 177·47E 12km M=4·1**
1·3 0·08 0·08 R
Rsd 0·9s 11ph/7stn Dmin 108km Az.gap 275°
Corr. 0·064 9M/6stn Msd 0·1
WIZ T 29 33 WTZ T 29 52

85/558
**JAN 19 0137 09·8s 36·48S 177·41E 12km M=3·9**
0·9 0·06 0·05 R
Rsd 0·5s 8ph/5stn Dmin 118km Az.gap 295°
Corr. -0·207 8M/5stn Msd 0·2
WIZ T 38 49 WTZ ET 38 55

85/559
**JAN 19 0145 51·2s 36·45S 177·45E 12km M=3·9**
1·0 0·05 0·05 R
Rsd 0·4s 9ph/6stn Dmin 121km Az.gap 280°
Corr. -0·059 7M/4stn Msd 0·1
WIZ eT 47 23 WTZ eT 47 37

85/560
**JAN 19 0148 39·1s 36·77S 177·55E 12km M=4·3**
1·2 0·08 0·06 R
Rsd 1·1s 10ph/8stn Dmin 90km Az.gap 212°
Corr. 0·198 9M/7stn Msd 0·1
WIZ T 50 07 WTZ T 50 17

85/561
**JAN 19 0159 58·8s 36·58S 177·37E 12km M=3·8**
0·9 0·05 0·03 R
Rsd 0·4s 9ph/7stn Dmin 106km Az.gap 217°
Corr. -0·224 8M/5stn Msd 0·2
WIZ eT 01 31

85/562
**JAN 19 0207 21·8s 36·73S 177·46E 12km M=4·1**
1·3 0·09 0·05 R
Rsd 0·6s 8ph/6stn Dmin 92km Az.gap 211°
Corr. -0·284 9M/6stn Msd 0·2
WIZ T 08 49 WTZ T 09 04

85/563
**JAN 19 0537 24·7s 36·54S 177·51E 12km M=4·0**
1·3 0·08 0·06 R
Rsd 0·7s 8ph/7stn Dmin 113km Az.gap 224°
Corr. -0·222 8M/5stn Msd 0·3
WIZ eT 38 58

85/564
**JAN 19 0910 10·9s 36·68S 177·48E 12km M=4·1**
1·7 0·11 0·09 R
Rsd 1·3s 9ph/8stn Dmin 98km Az.gap 215°
Corr. -0·066 9M/6stn Msd 0·2
WIZ T 11 46 WTZ T 11 52

85/565
**JAN 19 1948 18·1s 37·00S 178·20E 98km M=4·5**
1·1 0·06 0·08 12
Rsd 1·0s 14ph/12stn Dmin 83km Az.gap 230°
Corr. 0·457 9M/5stn Msd 0·3 1↑ 2↓

85/566
**JAN 20 0843 29·9s 36·96S 177·23E 12km M=3·9**
1·0 0·06 0·06 R
Rsd 0·7s 9ph/8stn Dmin 63km Az.gap 188°
Corr. 0·155 9M/6stn Msd 0·2

85/567
**JAN 20 1608 07·8s 36·60S 177·48E 12km M=3·9**
1·3 0·08 0·05 R
Rsd 0·7s 8ph/8stn Dmin 107km Az.gap 220°
Corr. -0·197 9M/6stn Msd 0·2
WTZ T 0951 WIZ T 0942

85/568
**JAN 20 1901 00·9s 36·67S 177·35E 12km M=4·1**
0·7 0·05 0·03 R
Rsd 0·4s 7ph/8stn Dmin 97km Az.gap 211°
Corr. -0·315 6M/5stn Msd 0·1
WIZ T 02 28 WTZ T 02 45

85/569
**JAN 20 1917 24·8s 36·67S 177·55E 12km M=4·5**
1·1 0·07 0·07 R
Rsd 1·0s 10ph/8stn Dmin 100km Az.gap 217°
Corr. 0·124 8M/7stn Msd 0·2

85/570
**JAN 20 1918 39·7s 36·55S 177·51E 12km M=4·7**
1·0 0·06 0·04 R
Rsd 0·5s 8ph/7stn Dmin 113km Az.gap 294°
Corr. -0·266 11M/7stn Msd 0·2
WTZ ET 20 24

85/571
**JAN 20 1944 02·0s 37·31S 177·54E 12km M=4·0**
2·9 0·25 0·07 R
Rsd 1·1s 6ph/6stn Dmin 39km Az.gap 244°
Corr. -0·628 5M/5stn Msd 0·4

85/572
**JAN 20 1959 07·0s 36·88S 177·46E 12km M=4·3**
1·5 0·10 0·04 R
Rsd 0·7s 8ph/7stn Dmin 75km Az.gap 258°
Corr. 0·003 10M/7stn Msd 0·3
WIZ T 00 50

85/573
**JAN 21 0103 24·6s 36·89S 177·27E 12km M=3·8**
0·8 0·05 0·07 R
Rsd 0·4s 7ph/4stn Dmin 71km Az.gap 297°
Corr. -0·683 4M/3stn Msd 0·2

85/574
**JAN 21 0405 38·0s 36·71S 177·55E 12km M=3·9**
2·9 0·18 0·16 R
Rsd 1·2s 6ph/7stn Dmin 96km Az.gap 215°
Corr. -0·273 9M/6stn Msd 0·2

85/575
**JAN 21 0432 04·4s 36·69S 177·07E 12km M=4·0**
1·9 0·12 0·08 R
Rsd 1·0s 7ph/6stn Dmin 93km Az.gap 267°
Corr. -0·194 6M/5stn Msd 0·2

85/576
**JAN 21 0503 35·7s 36·58S 177·50E 12km M=3·8**
2·1 0·14 0·15 R
Rsd 1·0s 7ph/5stn Dmin 109km Az.gap 293°
Corr. -0·435 6M/4stn Msd 0·1

85/577
**JAN 21 0504 45·5s 36·71S 177·26E 12km M=4·0**
1·3 0·09 0·05 R
Rsd 0·5s 7ph/5stn Dmin 91km Az.gap 266°
Corr. -0·169 7M/5stn Msd 0·1
Shock at 05 34 partly obscures WIZ trace.

85/578
**JAN 21 0534 43·9s 37·06S 177·29E 12km M=3·9**
0·7 0·04 0·04 R
Rsd 0·4s 10ph/7stn Dmin 53km Az.gap 245°
Corr. 0·044 8M/6stn Msd 0·2

85/579
**JAN 21 0554 07·5s 36·82S 177·40E 12km M=4·3**
0·7 0·05 0·05 R
Rsd 0·8s 7ph/7stn Dmin 81km Az.gap 203°
Corr. 0·424 6M/6stn Msd 0·2
WTZ T 54 45

85/580
**JAN 21 0600 50·0s 36·53S 177·52E 12km M=4·7**
1·0 0·07 0·07 R
Rsd 0·9s 7ph/7stn Dmin 115km Az.gap 225°
Corr. 0·446 6M/6stn Msd 0·2

85/581
**JAN 21 0904 52·7s 45·21S 166·78E 12km M=3·9**
1·1 0·04 0·09 R
Rsd 0·9s 10ph/7stn Dmin 87km Az.gap 265°
Corr. -0·158 7M/4stn Msd 0·2

85/582
**JAN 21 1000 43·2s 36·72S 177·43E 12km M=4·0**
0·7 0·04 0·03 R
Rsd 0·4s 8ph/7stn Dmin 92km Az.gap 211°
Corr. 0·455 5M/4stn Msd 0·2

85/583
**JAN 21 1005 24·7s 36·67S 177·55E 12km M=3·7**
0·7 0·04 0·03 R
Rsd 0·4s 7ph/4stn Dmin 101km Az.gap 271°
Corr. 0·081 5M/4stn Msd 0·1

85/584
**JAN 21 1154 55·5s 36·63S 177·44E 12km M=4·0**
1·1 0·06 0·06 R
Rsd 0·7s 8ph/7stn Dmin 103km Az.gap 217°
Corr. 0·153 5M/4stn Msd 0·2

85/585
**JAN 21 1352 28·1s 39·25S 175·46E 89km M=3·7**
0·5 0·03 0·04 5
Rsd 0·7s 19ph/12stn Dmin 9km Az.gap 89°
Corr. -0·317 9M/5stn Msd 0·3 1↓

85/586
**JAN 21 1653 48·8s 38·14S 176·61E 12km M=3·4**
0·5 0·04 0·04 R
Rsd 1·1s 7ph/5stn Dmin 14km Az.gap 113°
Corr. 0·223 4M/3stn Msd 0·4

85/587
**JAN 21 1803 11·9s 36·64S 177·59E 12km M=4·3**
1·5 0·10 0·09 R
Rsd 0·9s 6ph/5stn Dmin 105km Az.gap 273°
Corr. 0·058 4M/4stn Msd 0·3

85/588
**JAN 21 1904 37·6s 36·92S 177·20E 12km M=3·8**
0·8 0·05 0·05 R
Rsd 0·4s 6ph/4stn Dmin 67km Az.gap 254°
Corr. 0·326 4M/3stn Msd 0·2

85/589
**JAN 21 1936 17·7s 36·60S 177·52E 12km M=4·8**
1·4 0·09 0·07 R
Rsd 0·9s 7ph/6stn Dmin 107km Az.gap 273°
Corr. 0·305 5M/4stn Msd 0·2

85/590
**JAN 21 1937 51·5s 36·60S 177·52E 12km M=4·9**
R R R R
Rsd 2·0s 5ph/4stn Dmin 107km Az.gap 273°
Corr. 0·000 3M/2stn Msd 0·1

85/591
**JAN 21 1938 46·9s 37·90S 176·74E 12km M=4·4**
0·8 0·04 0·02 R
Rsd 0·2s 5ph/4stn Dmin 42km Az.gap 298°
Corr. 0·756 2M/1stn Msd 0·1
Masked by Bay of Plenty shocks. Largest of swarm near TAZ. Next largest at 16 53 48·8.

85/592
**JAN 21 2124 10·1s 36·48S 177·42E 12km M=4·0**
1·1 0·07 0·06 R
Rsd 0·6s 7ph/4stn Dmin 118km Az.gap 278°
Corr. -0·139 5M/3stn Msd 0·2

85/593
**JAN 22 0315 47·6s 36·53S 177·43E 12km M=4·1**
1·3 0·09 0·06 R
Rsd 0·8s 6ph/6stn Dmin 112km Az.gap 276°
Corr. 0·057 4M/3stn Msd 0·1

85/594
**JAN 22 0406 13·4s 45·16S 166·78E 12km M=3·7**
1·0 0·03 0·08 R
Rsd 0·6s 10ph/6stn Dmin 91km Az.gap 267°
Corr. -0·236 6M/3stn Msd 0·2

85/595
**JAN 22 0426 05·9s 40·87S 172·85E 1km M=4·3**
0·4 0·02 0·04 R
Rsd 0·7s 16ph/13stn Dmin 26km Az.gap 182°
Corr. -0·603 11M/8stn Msd 0·3 1↑ 1↓
Felt Paturau (71) MM IV, Takaka (72).

85/596
**JAN 22 2147 31·2s 37·62S 176·92E 113km M=4·0**
0·9 0·04 0·04 11
Rsd 0·8s 13ph/12stn Dmin 26km Az.gap 107°
Corr. 0·072 8M/5stn Msd 0·2 1↑

85/597
**JAN 23 0605 30·7s 36·71S 177·49E 12km M=3·7**
1·6 0·10 0·10 R
Rsd 0·8s 6ph/5stn Dmin 94km Az.gap 268°
Corr. -0·298 3M/3stn Msd 0·1

85/598
**JAN 23 0606 36·9s 36·68S 177·50E 12km M=4·0**
1·2 0·08 0·07 R
Rsd 0·6s 6ph/5stn Dmin 98km Az.gap 270°
Corr. -0·297 3M/3stn Msd 0·1

85/599
**JAN 23 1902 04·0s 38·00S 177·47E 40km M=5·5**
0·3 0·02 0·02 8
Rsd 0·5s 15ph/18stn Dmin 58km Az.gap 96°
Corr. 0·072 2M/2stn Msd 0·0 3↑ 2↓
Felt Bay of Plenty and Gisborne. Maximum intensity MM V at Opotiki (35).

85/600
**JAN 24 0229 04·6s 38·09S 177·65E 95km M=4·0**
1·4 0·06 0·07 17
Rsd 1·3s 14ph/11stn Dmin 69km Az.gap 94°
Corr. 0·125 7M/4stn Msd 0·3

85/601
**JAN 24 0733 33·0s 36·91S 177·23E 12km M=3·7**
0·4 0·03 0·03 R
Rsd 0·4s 8ph/6stn Dmin 69km Az.gap 191°
Corr. 0·309 3M/3stn Msd 0·0

85/602
**JAN 25 1254 12·5s 38·29S 176·23E 147km M=4·0**
0·9 0·05 0·05 7
Rsd 0·7s 15ph/9stn Dmin 25km Az.gap 134°
Corr. 0·119 9M/5stn Msd 0·2 1↑

85/603
**JAN 25 1821 52·8s 39·03S 175·57E 128km M=3·5**
0·6 0·03 0·05 7
Rsd 0·6s 19ph/12stn Dmin 4km Az.gap 95°
Corr. -0·454 7M/4stn Msd 0·3 1↓

85/604
**JAN 25 2101 20·1s 38·15S 178·49E 71km M=3·0**
2·4 0·11 0·16 22
Rsd 1·0s 7ph/6stn Dmin 51km Az.gap 212°
Corr. -0·379 5M/3stn Msd 0·4

85/605
**JAN 26 0619 24·7s 36·87S 177·28E 12km M=4·2**
0·4 0·03 0·02 R
Rsd 0·4s 10ph/6stn Dmin 74km Az.gap 195°
Corr. 0·393 4M/3stn Msd 0·1 1↑

85/606
**JAN 26 1942 21·5s 36·89S 177·47E 12km M=4·2**
0·7 0·06 0·06 R
Rsd 0·9s 9ph/8stn Dmin 130km Az.gap 201°
Corr. 0·384 4M/4stn Msd 0·2

85/607
**JAN 26 1947 20·0s 36·87S 177·42E 12km M=4·1**
0·4 0·03 0·02 R
Rsd 0·3s 6ph/6stn Dmin 136km Az.gap 201°
Corr. 0·509 5M/4stn Msd 0·2

85/608
**JAN 26 2104 43·6s 36·64S 177·53E 12km M=4·2**
1·4 0·10 0·07 R
Rsd 1·0s 8ph/7stn Dmin 147km Az.gap 219°
Corr. 0·689 6M/5stn Msd 0·3

85/609
**JAN 26 2105 44·5s 36·46S 177·70E 12km M=4·3**
R R R R
Rsd ND 1ph/1stn Dmin 251km Az.gap 360°
Corr. 0·384 3M/3stn Msd 0·4

85/610
**JAN 27 0019 50·7s 43·93S 168·88E 12km M=4·0**
0·6 0·04 0·05 R
Rsd 0·8s 11ph/7stn Dmin 108km Az.gap 191°
Corr. -0·287 9M/5stn Msd 0·2

85/611
**JAN 27 0830 38·3s 34·36S 179·59E 285km M=5·4**
2·4 0·16 0·21 21
Rsd 1·0s 16ph/13stn Dmin 382km Az.gap 304°
Corr. 0·609 13M/8stn Msd 0·2

85/612
**JAN 27 1623 10·8s 35·51S 179·26W 12km M=4·5**
0·8 0·05 0·11 R
Rsd 0·4s 9ph/8stn Dmin 312km Az.gap 336°
Corr. -0·402 9M/6stn Msd 0·2

85/613
**JAN 28 0106 03·3s 38·93S 178·28E 21km M=4·0**
1·0 0·05 0·07 5
Rsd 0·6s 10ph/10stn Dmin 39km Az.gap 213°
Corr. -0·753 12M/8stn Msd 0·2
Felt Gisborne (44).

85/614
**JAN 28 1551 55·9s 44·98S 167·68E 127km M=3·9**
0·8 0·04 0·06 6
Rsd 0·6s 9ph/5stn Dmin 39km Az.gap 218°
Corr. -0·259 7M/4stn Msd 0·2

85/615
**JAN 28 2341 37·8s 36·21S 177·76E 12km M=4·2**
11·7 0·93 0·29 R
Rsd 1·8s 5ph/5stn Dmin 179km Az.gap 292°
Corr. 0·776 5M/5stn Msd 0·4

85/616
**JAN 29 1653 22·9s 37·04S 177·38E 12km M=3·7**
0·8 0·06 0·07 R
Rsd 0·7s 8ph/8stn Dmin 126km Az.gap 187°
Corr. 0·596 14M/7stn Msd 0·2

85/617
**JAN 30 0900 46·0s 45·10S 166·82E 12km M=3·9**
0·8 0·03 0·08 R
Rsd 0·7s 12ph/8stn Dmin 94km Az.gap 255°
Corr. -0·230 15M/9stn Msd 0·2 1↑ 1↓

85/618
**JAN 30 1132 07·5s 43·59S 170·55E 12km M=3·9**
0·4 0·03 0·06 R
Rsd 0·7s 15ph/11stn Dmin 88km Az.gap 168°
Corr. -0·658 17M/10stn Msd 0·3 1↑
Felt Lilybank Station (106) MM V.

85/619
**JAN 30 1728 44·5s 42·39S 174·22E 36km M=4·0**
0·4 0·03 0·04 6
Rsd 0·7s 21ph/15stn Dmin 43km Az.gap 177°
Corr. -0·614 5M/4stn Msd 0·2 6↑ 1↓
Felt Wellington (68) MM IV.

85/620
**JAN 30 1755 08·1s 37·28S 176·88E 222km M=4·2**
1·4 0·11 0·06 9
Rsd 0·7s 12ph/10stn Dmin 138km Az.gap 230°
Corr. 0·052 13M/7stn Msd 0·3 1↑

85/621
**JAN 30 1819 43·3s 39·75S 174·03E 229km M=3·6**
0·8 0·06 0·06 8
Rsd 0·4s 9ph/7stn Dmin 149km Az.gap 210°
Corr. -0·756 5M/4stn Msd 0·5 2↑ 1↓

85/622
**JAN 30 1940 36·6s 42·42S 172·98E 12km M=4·0**
0·3 0·02 0·04 R
Rsd 0·7s 11ph/10stn Dmin 59km Az.gap 102°
Corr. -0·331 15M/9stn Msd 0·3 4↑ 3↓

85/623
**JAN 30 2350 00·8s 44·38S 167·96E 12km M=4·0**
0·5 0·04 0·04 R
Rsd 0·4s 11ph/8stn Dmin 33km Az.gap 256°
Corr. -0·560 16M/8stn Msd 0·3 3↑

85/624
**JAN 31 0433 01·5s 46·11S 165·05E 33km M=6·0**
2·1 0·06 0·23 R
Rsd 0·6s 7ph/11stn Dmin 196km Az.gap 277°
Corr. 0·313 23M/13stn Msd 0·3 2↑ 6↓
Felt over the length of the South Island and on Stewart Island. Maximum intensity MM V at several places from Mahitahi (104) to Dog Island (154).

85/625
**JAN 31 1102 46·2s 35·02S 178·73E 249km M=4·3**
0·9 0·07 0·10 15
Rsd 0·5s 13ph/10stn Dmin 296km Az.gap 268°
Corr. 0·701 12M/7stn Msd 0·4 1↑ 2↓

85/626
**JAN 31 2028 48·8s 36·97S 179·50W 33km M=4·3**
0·9 0·09 0·07 R
Rsd 0·4s 8ph/8stn Dmin 191km Az.gap 323°
Corr. -0·202 15M/10stn Msd 0·3 1↑ 1↓

85/627
**JAN 31 2103 32·3s 37·04S 179·46W 33km M=4·0**
0·7 0·07 0·06 R
Rsd 0·3s 8ph/9stn Dmin 191km Az.gap 327°
Corr. -0·163 10M/6stn Msd 0·3

85/628
**JAN 31 2313 14·4s 38·10S 176·30E 12km**
R R R R
Rsd 0·4s 2ph/1stn Dmin 23km Az.gap 360°
Corr. 0·000 0M/0stn Msd ND 1↓
Felt Rotorua (33) MM IV.

85/629
**FEB 01 2228 58·4s 37·70S 176·92E 5km M=3·6**
0·4 0·03 0·03 R
Rsd 0·8s 8ph/6stn Dmin 31km Az.gap 89°
Corr. 0·016 8M/5stn Msd 0·3 2↑ 1↓

85/630
**FEB 02 1150 37·2s 40·39S 174·92E 33km M=4·1**
0·2 0·01 0·03 R
Rsd 0·5s 20ph/16stn Dmin 52km Az.gap 94°
Corr. -0·321 25M/15stn Msd 0·3 6↑ 1↓

85/631
**FEB 03 1513 29·6s 37·03S 177·40E 12km M=3·7**
0·9 0·06 0·07 R
Rsd 0·8s 10ph/7stn Dmin 126km Az.gap 189°
Corr. 0·716 14M/9stn Msd 0·2

85/632
**FEB 03 1634 04·5s 36·60S 178·15E 12km M=3·8**
0·7 0·04 0·05 R
Rsd 0·4s 10ph/9stn Dmin 126km Az.gap 240°
Corr. 0·758 15M/10stn Msd 0·1 1↑

85/633
**FEB 04 0718 32·2s 38·29S 178·58E 12km M=4·2**
0·7 0·03 0·09 R
Rsd 0·5s 10ph/10stn Dmin 62km Az.gap 228°
Corr. -0·793 20M/13stn Msd 0·4 2↑ 2↓

85/634
**FEB 04 1035 38·7s 36·79S 177·41E 12km M=4·7**
0·9 0·06 0·07 R
Rsd 0·9s 13ph/10stn Dmin 84km Az.gap 204°
Corr. 0·643 18M/12stn Msd 0·4 2↑ 2↓

85/635
**FEB 04 1040 29·0s 36·89S 177·32E 12km M=4·0**
0·6 0·05 0·04 R
Rsd 0·6s 7ph/7stn Dmin 72km Az.gap 196°
Corr. 0·555 13M/8stn Msd 0·3 1↑

85/636
**FEB 04 1124 57·3s 29·45S 178·08W 455km M=5·8**
2·0 0·14 0·29 79
Rsd 1·0s 12ph/12stn Dmin 961km Az.gap 323°
Corr. -0·185 13M/7stn Msd 0·2

85/637
**FEB 04 1257 22·2s 38·23S 176·49E 156km M=3·6**
0·9 0·05 0·05 7
Rsd 0·6s 13ph/7stn Dmin 83km Az.gap 178°
Corr. 0·124 10M/6stn Msd 0·3 3↑ 3↓

85/638
**FEB 04 1402 07·4s 36·74S 177·23E 12km M=3·7**
1·2 0·10 0·06 R
Rsd 0·7s 4ph/5stn Dmin 88km Az.gap 203°
Corr. 0·294 9M/6stn Msd 0·2

85/639
**FEB 05 0742 03·1s 38·19S 176·06E 5km M=2·1**
0·9 0·03 0·08 R
Rsd 0·1s 4ph/3stn Dmin 54km Az.gap 257°
Corr. 0·926 2M/1stn Msd 0·0 1↑
Felt Rotorua (33) MM V.

85/640
**FEB 05 0748 27·9s 37·59S 177·84E 206km M=3·6**
1·5 0·11 0·11 10
Rsd 0·5s 6ph/5stn Dmin 57km Az.gap 256°
Corr. 0·089 7M/5stn Msd 0·3 1↑

85/641
**FEB 05 1505 09·4s 37·12S 177·29E 12km M=3·5**
0·4 0·03 0·03 R
Rsd 0·5s 8ph/5stn Dmin 46km Az.gap 179°
Corr. 0·157 8M/5stn Msd 0·3

85/642
**FEB 06 0152 13·2s 39·74S 174·08E 209km M=3·9**
0·7 0·03 0·05 7
Rsd 0·4s 12ph/8stn Dmin 67km Az.gap 166°
Corr. -0·653 7M/5stn Msd 0·3 2↑ 3↓

85/643
**FEB 06 0407 29·3s 37·20S 177·19E 12km M=3·8**
0·6 0·05 0·04 R
Rsd 0·6s 6ph/5stn Dmin 36km Az.gap 170°
Corr. 0·288 13M/8stn Msd 0·2 1↑

85/644
**FEB 06 0435 41·9s 37·16S 177·27E 12km M=3·9**
0·5 0·04 0·05 R
Rsd 0·5s 6ph/6stn Dmin 41km Az.gap 175°
Corr. 0·445 14M/8stn Msd 0·2 1↓

85/645
**FEB 07 0456 49·7s 37·07S 177·20E 12km M=3·8**
0·6 0·04 0·04 R
Rsd 0·4s 7ph/5stn Dmin 51km Az.gap 180°
Corr. 0·659 11M/7stn Msd 0·2 1↑

85/646
**FEB 07 1557 33·5s 33·77S 179·89E 349km M=4·4**
0·8 0·08 0·09 11
Rsd 0·3s 10ph/9stn Dmin 452km Az.gap 336°
Corr. -0·073 13M/7stn Msd 0·2

85/647
**FEB 07 1944 40·3s 36·81S 177·96E 33km M=3·7**
1·1 0·07 0·06 R
Rsd 0·6s 10ph/8stn Dmin 105km Az.gap 273°
Corr. 0·465 9M/5stn Msd 0·2 1↑ 1↓

85/648
**FEB 07 2058 54·6s 43·69S 170·65E 12km M=4·4**
0·2 0·02 0·04 R
Rsd 0·4s 12ph/9stn Dmin 81km Az.gap 171°
Corr. -0·740 15M/9stn Msd 0·3 5↑ 1↓
Felt Lilybank Station (106) MM V.

85/649
**FEB 07 2116 49·8s 37·07S 177·10E 12km M=3·7**
0·8 0·06 0·08 R
Rsd 0·7s 7ph/5stn Dmin 52km Az.gap 176°
Corr. 0·615 10M/6stn Msd 0·2 2↑

85/650
**FEB 08 1031 33·6s 36·78S 177·26E 12km M=4·1**
0·6 0·04 0·04 R
Rsd 0·4s 7ph/7stn Dmin 83km Az.gap 201°
Corr. 0·616 10M/6stn Msd 0·2 1↑ 2↓

85/651
**FEB 08 1216 27·2s 37·81S 176·96E 155km M=3·4**
1·7 0·07 0·10 15
Rsd 0·8s 9ph/7stn Dmin 37km Az.gap 129°
Corr. -0·173 3M/2stn Msd 0·5 1↓

85/652
**FEB 09 0336 19·8s 37·06S 177·26E 12km M=3·9**
0·7 0·05 0·05 R
Rsd 0·4s 5ph/7stn Dmin 52km Az.gap 182°
Corr. 0·738 13M/7stn Msd 0·3 2↑

85/653
**FEB 09 1107 44·5s 37·04S 177·31E 12km M=4·5**
0·7 0·05 0·06 R
Rsd 0·6s 9ph/8stn Dmin 55km Az.gap 185°
Corr. 0·555 21M/12stn Msd 0·3 2↓

85/654
**FEB 10 1814 22·9s 36·89S 177·50E 12km M=4·0**
0·5 0·04 0·04 R
Rsd 0·5s 7ph/6stn Dmin 76km Az.gap 202°
Corr. 0·653 12M/7stn Msd 0·2 1↑ 2↓

85/655
**FEB 11 0824 13·6s 37·06S 177·25E 12km M=3·9**
0·4 0·03 0·03 R
Rsd 0·3s 6ph/5stn Dmin 52km Az.gap 182°
Corr. 0·207 10M/6stn Msd 0·2

85/656
**FEB 11 0946 19·4s 37·11S 177·24E 12km M=3·8**
0·2 0·01 0·01 R
Rsd 0·1s 6ph/5stn Dmin 47km Az.gap 178°
Corr. 0·564 12M/7stn Msd 0·2

85/657
**FEB 11 1104 32·8s 44·69S 167·96E 12km M=3·6**
0·4 0·02 0·03 R
Rsd 0·2s 7ph/4stn Dmin 112km Az.gap 242°
Corr. -0·567 9M/5stn Msd 0·2 2↑ 1↓

85/658
**FEB 11 1729 53·9s 37·40S 177·17E 12km M=3·6**
1·0 0·11 0·11 R
Rsd 1·0s 5ph/7stn Dmin 15km Az.gap 156°
Corr. 0·619 11M/6stn Msd 0·2

85/659
**FEB 12 0358 27·2s 37·18S 177·29E 12km M=4·2**
0·4 0·03 0·03 R
Rsd 0·3s 7ph/6stn Dmin 39km Az.gap 174°
Corr. 0·296 4M/2stn Msd 0·1

85/660
**FEB 13 1354 04·4s 32·28S 179·50W 549km M=5·1**
3·7 0·43 0·90 65
Rsd 1·1s 9ph/7stn Dmin 626km Az.gap 342°
Corr. -0·160 7M/4stn Msd 0·2

85/661
**FEB 13 2339 21·7s 40·04S 173·00E 12km M=3·7**
1·0 0·06 0·10 R
Rsd 0·6s 7ph/7stn Dmin 118km Az.gap 237°
Corr. -0·768 3M/2stn Msd 0·3

85/662
**FEB 13 2342 34·9s 36·38S 179·45E 136km M=4·5**
1·7 0·17 0·10 26
Rsd 0·5s 6ph/5stn Dmin 166km Az.gap 323°
Corr. 0·301 2M/2stn Msd 0·4

85/663
**FEB 14 0028 49·9s 36·34S 179·54E 137km M=5·0**
0·9 0·05 0·07 11
Rsd 0·4s 8ph/6stn Dmin 174km Az.gap 296°
Corr. 0·499 6M/5stn Msd 0·3

85/664
**FEB 14 1026 34·7s 37·12S 177·54E 12km M=3·8**
1·4 0·09 0·09 R
Rsd 1·0s 5ph/5stn Dmin 109km Az.gap 188°
Corr. 0·424 2M/2stn Msd 0·2

85/665
**FEB 15 0343 23·5s 38·28S 179·61W 33km M=4·1**
4·7 0·24 0·40 R
Rsd 0·9s 7ph/6stn Dmin 210km Az.gap 321°
Corr. 0·467 3M/2stn Msd 0·1

85/666
**FEB 15 1253 26·5s 44·72S 167·95E 12km M=4·6**
0·4 0·04 0·05 R
Rsd 0·5s 9ph/9stn Dmin 6km Az.gap 139°
Corr. 0·672 6M/3stn Msd 0·2
Felt Mahitahi (104) to Howden (121), maximum intensity MM V at Martins Bay (112) and Milford (120).

85/667
**FEB 17 0031 33·3s 37·77S 177·05E 5km M=3·8**
0·5 0·04 0·03 R
Rsd 0·6s 6ph/6stn Dmin 115km Az.gap 126°
Corr. 0·186 7M/4stn Msd 0·4

85/668
**FEB 18 0519 00·6s 42·31S 173·15E 12km M=3·6**
0·2 0·02 0·03 R
Rsd 0·5s 8ph/7stn Dmin 47km Az.gap 139°
Corr. 0·236 4M/3stn Msd 0·4

85/669
**FEB 18 1119 28·3s 36·83S 177·52E 12km M=4·2**
2·4 0·14 0·09 R
Rsd 1·0s 6ph/4stn Dmin 131km Az.gap 262°
Corr. 0·640 4M/2stn Msd 0·2

85/670
**FEB 20 2020 20·8s 39·06S 175·26E 153km M=3·9**
0·7 0·03 0·08 7
Rsd 0·5s 10ph/9stn Dmin 29km Az.gap 172°
Corr. -0·582 4M/2stn Msd 0·1

85/671
**FEB 20 2126 43·6s 38·07S 176·17E 185km M=3·9**
1·1 0·05 0·12 9
Rsd 0·6s 8ph/5stn Dmin 58km Az.gap 185°
Corr. -0·364 4M/2stn Msd 0·5

85/672
**FEB 20 2238 54·8s 37·90S 179·86W 33km M=4·2**
2·9 0·18 0·20 R
Rsd 0·5s 9ph/8stn Dmin 142km Az.gap 306°
Corr. 0·662 4M/2stn Msd 0·1

85/673
**FEB 23 0724 56·3s 35·99S 178·19E 12km M=4·3**
4·9 0·32 0·24 R
Rsd 0·9s 5ph/5stn Dmin 192km Az.gap 304°
Corr. 0·767 4M/2stn Msd 0·2
This was the last and largest event of three similar shocks occuring within eleven minutes.

85/674
**FEB 23 0808 42·0s 37·00S 177·52E 12km M=3·7**
1·6 0·09 0·09 R
Rsd 0·8s 5ph/3stn Dmin 66km Az.gap 288°
Corr. 0·077 2M/1stn Msd 0·1

85/675
**FEB 24 0421 51·4s 38·44S 175·58E 183km M=4·2**
1·6 0·08 0·13 13
Rsd 0·7s 9ph/8stn Dmin 57km Az.gap 169°
Corr. 0·072 3M/2stn Msd 0·1

85/676
**FEB 24 1601 25·5s 36·99S 177·36E 12km M=3·8**
0·6 0·04 0·03 R
Rsd 0·3s 6ph/5stn Dmin 61km Az.gap 250°
Corr. 0·386 2M/1stn Msd 0·1

85/677
**FEB 24 1652 27·6s 41·16S 173·43E 96km M=3·8**
0·7 0·03 0·04 9
Rsd 0·6s 12ph/9stn Dmin 59km Az.gap 104°
Corr. -0·194 4M/2stn Msd 0·1

85/678
**FEB 25 0015 20·2s 38·64S 175·75E 172km M=4·4**
1·2 0·06 0·08 11
Rsd 0·8s 13ph/12stn Dmin 61km Az.gap 105°
Corr. -0·697 5M/3stn Msd 0·2

85/679
**FEB 25 0311 59·9s 42·69S 167·30E 12km M=4·0**
1·6 0·06 0·23 R
Rsd 0·3s 4ph/3stn Dmin 225km Az.gap 343°
Corr. -0·424 4M/2stn Msd 0·2

85/680
**FEB 25 0744 44·0s 42·83S 166·43E 5km M=4·0**
0·9 0·06 0·15 R
Rsd 0·1s 4ph/3stn Dmin 237km Az.gap 348°
Corr. 0·484 3M/2stn Msd 0·2

85/681
**FEB 25 0945 53·9s 36·92S 177·17E 5km M=4·2**
0·5 0·04 0·03 R
Rsd 0·5s 8ph/7stn Dmin 68km Az.gap 189°
Corr. 0·006 4M/2stn Msd 0·1

85/682
**FEB 25 1259 55·2s 45·37S 166·76E 5km M=4·8**
1·7 0·05 0·17 R
Rsd 0·6s 7ph/6stn Dmin 120km Az.gap 308°
Corr. 0·370 7M/4stn Msd 0·3

85/683
**FEB 25 1441 07·0s 37·97S 176·29E 182km M=3·7**
0·6 0·03 0·02 5
Rsd 0·2s 8ph/7stn Dmin 66km Az.gap 203°
Corr. 0·415 6M/3stn Msd 0·3

85/684
**FEB 26 0905 45·9s 36·97S 177·37E 12km M=3·9**
0·8 0·08 0·03 R
Rsd 0·2s 4ph/4stn Dmin 131km Az.gap 252°
Corr. 0·448 6M/3stn Msd 0·1

85/685
**FEB 26 1150 43·5s 44·59S 168·92E 12km M=3·5**
0·3 0·02 0·02 R
Rsd 0·5s 9ph/7stn Dmin 60km Az.gap 170°
Corr. 0·026 5M/3stn Msd 0·3
Felt Mount Aspiring Station (113) MM IV.

85/686
**FEB 26 1200 27·0s 36·76S 177·20E 12km M=4·8**
1·3 0·09 0·04 R
Rsd 0·4s 8ph/8stn Dmin 85km Az.gap 263°
Corr. 0·161 10M/6stn Msd 0·2

85/687
**FEB 26 1239 17·8s 36·73S 177·18E 12km M=4·2**
0·3 0·02 0·01 R
Rsd 0·1s 6ph/5stn Dmin 89km Az.gap 265°
Corr. 0·137 6M/3stn Msd 0·1

85/688
**FEB 26 1244 57·6s 38·45S 175·97E 161km M=4·1**
1·1 0·05 0·06 10
Rsd 0·6s 9ph/7stn Dmin 69km Az.gap 131°
Corr. -0·342 7M/4stn Msd 0·3

85/689
**FEB 26 1333 01·4s 36·89S 177·25E 12km M=4·0**
0·8 0·06 0·04 R
Rsd 0·4s 6ph/5stn Dmin 71km Az.gap 256°
Corr. 0·259 6M/3stn Msd 0·2

85/690
**FEB 26 1340 38·5s 36·92S 177·16E 12km M=3·9**
0·9 0·06 0·05 R
Rsd 0·4s 5ph/4stn Dmin 68km Az.gap 287°
Corr. 0·418 3M/2stn Msd 0·1

85/691
**FEB 26 1407 41·1s 36·86S 177·24E 12km M=4·2**
0·6 0·04 0·04 R
Rsd 0·4s 6ph/5stn Dmin 74km Az.gap 289°
Corr. 0·304 6M/3stn Msd 0·2

85/692
**FEB 26 1409 50·7s 36·84S 177·27E 12km M=4·0**
0·4 0·03 0·02 R
Rsd 0·2s 8ph/6stn Dmin 76km Az.gap 259°
Corr. 0·134 5M/3stn Msd 0·1

85/693
**FEB 26 1416 37·5s 36·76S 177·23E 12km M=4·5**
0·7 0·04 0·04 R
Rsd 0·4s 8ph/6stn Dmin 85km Az.gap 263°
Corr. 0·255 5M/4stn Msd 0·1 1↓

85/694
**FEB 26 1630 45·9s 36·94S 177·39E 12km M=4·3**
0·7 0·04 0·05 R
Rsd 0·4s 7ph/6stn Dmin 67km Az.gap 253°
Corr. 0·075 8M/4stn Msd 0·1

85/695
**FEB 26 1720 25·5s 36·83S 177·13E 12km M=3·9**
0·8 0·05 0·03 R
Rsd 0·3s 4ph/3stn Dmin 77km Az.gap 290°
Corr. 0·425 3M/2stn Msd 0·1

85/696
**FEB 26 2054 27·9s 36·81S 177·24E 12km M=4·0**
0·3 0·02 0·02 R
Rsd 0·2s 4ph/3stn Dmin 80km Az.gap 292°
Corr. 0·388 4M/2stn Msd 0·1
This event was last in swarm of fifteen events. The four smallest events were not located.

85/697
**FEB 27 0626 57·5s 42·00S 174·05E 12km M=4·5**
0·4 0·03 0·03 R
Rsd 0·5s 8ph/8stn Dmin 31km Az.gap 153°
Corr. -0·461 7M/5stn Msd 0·2 3↓

85/698
**FEB 27 0641 14·1s 42·04S 174·10E 12km M=3·4**
0·8 0·07 0·03 R
Rsd 0·6s 7ph/6stn Dmin 93km Az.gap 234°
Corr. -0·615 3M/2stn Msd 0·1

85/699
**FEB 28 1829 16·3s 37·11S 177·36E 12km M=3·8**
0·8 0·05 0·05 R
Rsd 0·6s 5ph/4stn Dmin 49km Az.gap 242°
Corr. 0·048 7M/4stn Msd 0·1

85/700
**MAR 01 1922 14·6s 36·91S 177·24E 12km M=4·1**
0·6 0·04 0·03 R
Rsd 0·3s 7ph/6stn Dmin 69km Az.gap 192°
Corr. 0·502 3M/3stn Msd 0·1

85/701
**MAR 01 2108 35·0s 41·70S 177·64E 33km M=4·0**
1·2 0·07 0·11 R
Rsd 0·5s 9ph/5stn Dmin 185km Az.gap 313°
Corr. 0·197 4M/3stn Msd 0·2

85/702
**MAR 02 0403 54·8s 38·73S 176·06E 171km M=3·9**
1·4 0·09 0·06 10
Rsd 0·5s 8ph/7stn Dmin 64km Az.gap 227°
Corr. -0·742 5M/3stn Msd 0·6 2↑

85/703
**MAR 02 1708 10·2s 40·35S 177·02E 45km M=3·5**
1·6 0·06 0·18 25
Rsd 0·8s 7ph/6stn Dmin 90km Az.gap 246°
Corr. -0·627 3M/2stn Msd 0·1 1↑
Felt Mount Vernon (60) MM V.

85/704
**MAR 02 1746 11·3s 40·16S 174·95E 12km M=3·9**
0·3 0·02 0·04 R
Rsd 0·6s 8ph/8stn Dmin 68km Az.gap 113°
Corr. -0·002 8M/4stn Msd 0·3 1↑
This event may have been felt (see unconfirmed felt report 17 hr 30 mins Ahuahu Valley (57).

85/705
**MAR 02 1848 58·5s 38·19S 175·88E 270km M=4·7**
0·7 0·04 0·05 6
Rsd 0·4s 11ph/9stn Dmin 41km Az.gap 124°
Corr. -0·559 11M/6stn Msd 0·2 3↑ 1↓

85/706
**MAR 03 2030 23·8s 40·71S 174·52E 68km M=3·4**
0·2 0·01 0·02 2
Rsd 0·1s 6ph/5stn Dmin 37km Az.gap 188°
Corr. -0·511 2M/1stn Msd 0·1

85/707
**MAR 04 1355 39·6s 39·34S 176·22E 78km M=3·5**
0·6 0·03 0·08 11
Rsd 0·7s 10ph/10stn Dmin 56km Az.gap 185°
Corr. -0·382 7M/4stn Msd 0·1

85/708
**MAR 04 1553 04·6s 39·83S 174·03E 114km M=3·7**
0·8 0·03 0·04 12
Rsd 0·4s 9ph/7stn Dmin 137km Az.gap 204°
Corr. -0·529 3M/2stn Msd 0·1 1↑ 1↓

85/709
**MAR 04 1844 04·0s 40·49S 178·73W 33km M=4·1**
0·2 0·01 0·01 R
Rsd 0·1s 6ph/4stn Dmin 346km Az.gap 314°
Corr. -0·317 4M/2stn Msd 0·1

85/710
**MAR 05 1348 03·1s 42·88S 171·57E 12km M=3·5**
0·3 0·02 0·05 R
Rsd 0·3s 4ph/3stn Dmin 41km Az.gap 190°
Corr. -0·333 3M/2stn Msd 0·3

85/711
**MAR 06 0141 06·1s 45·47S 164·82E 12km M=4·3**
0·7 0·04 0·06 R
Rsd 0·4s 5ph/4stn Dmin 260km Az.gap 308°
Corr. -0·192 4M/2stn Msd 0·2

85/712
**MAR 06 1118 00·1s 46·25S 165·69E 12km M=4·5**
1·8 0·06 0·19 R
Rsd 0·5s 6ph/5stn Dmin 200km Az.gap 294°
Corr. 0·706 6M/3stn Msd 0·2

85/713
**MAR 06 1823 56·1s 38·93S 175·46E 144km M=4·1**
0·8 0·03 0·08 7
Rsd 0·5s 8ph/7stn Dmin 30km Az.gap 161°
Corr. -0·013 3M/2stn Msd 0·2 1↓

85/714
**MAR 07 0051 09·5s 36·58S 176·72E 12km M=4·2**
3·2 0·12 0·20 R
Rsd 1·0s 7ph/5stn Dmin 118km Az.gap 224°
Corr. 0·853 4M/2stn Msd 0·1

85/715
**MAR 07 0757 26·4s 40·59S 173·31E 178km M=5·5**
0·4 0·02 0·02 4
Rsd 0·3s 13ph/20stn Dmin 74km Az.gap 160°
Corr. -0·572 10M/6stn Msd 0·3 2↑ 3↓
Several S to P converted phases recorded. Felt throughout central New Zealand with maximum intensity MM VI at Blenheim (77).

85/716
**MAR 08 1422 18·7s 43·29S 170·49E 12km M=4·0**
0·4 0·03 0·06 R
Rsd 0·7s 13ph/9stn Dmin 114km Az.gap 165°
Corr. -0·686 7M/4stn Msd 0·1
Felt Whataroa (97) with intensity of MM V.

85/717
**MAR 08 1630 28·4s 36·73S 177·60E 12km M=3·9**
2·1 0·14 0·09 R
Rsd 0·5s 5ph/3stn Dmin 216km Az.gap 297°
Corr. 0·317 4M/3stn Msd 0·2
This event was the second in a group of three occurring within 25 minutes.

85/718
**MAR 08 2323 55·8s 37·44S 177·54E 132km M=4·3**
1·0 0·07 0·03 11
Rsd 0·3s 6ph/5stn Dmin 93km Az.gap 216°
Corr. 0·456 5M/3stn Msd 0·3 1↓

85/719
**MAR 09 0121 17·6s 33·11S 178·61W 33km M=5·5**
6·5 0·31 0·50 R
Rsd 2·1s 13ph/11stn Dmin 570km Az.gap 308°
Corr. 0·759 7M/5stn Msd 0·3
The USGS solution is 33·043S 179·130W 33R.

85/720
**MAR 09 0154 06·3s 33·21S 178·45W 33km M=5·4**
4·8 0·20 0·40 R
Rsd 1·4s 12ph/10stn Dmin 567km Az.gap 310°
Corr. 0·625 7M/5stn Msd 0·4
The USGS solution is 32·977S 179·160W 33R.

85/721
**MAR 09 0803 54·2s 49·13S 165·30E 12km M=4·1**
3·2 0·33 0·46 R
Rsd 0·6s 5ph/3stn Dmin 324km Az.gap 342°
Corr. -0·651 4M/2stn Msd 0·1

85/722
**MAR 09 2045 15·4s 39·30S 175·09E 126km M=3·8**
0·4 0·03 0·03 4
Rsd 0·3s 7ph/7stn Dmin 41km Az.gap 209°
Corr. -0·698 4M/2stn Msd 0·3 1↑

85/723
**MAR 10 0905 51·7s 46·86S 165·56E 89km M=4·4**
2·2 0·12 0·23 27
Rsd 0·5s 7ph/6stn Dmin 195km Az.gap 306°
Corr. 0·333 7M/4stn Msd 0·2

85/724
**MAR 10 2224 36·9s 42·43S 174·21E 12km M=2·9**
1·1 0·08 0·08 R
Rsd 0·4s 6ph/4stn Dmin 42km Az.gap 245°
Corr. -0·935 2M/1stn Msd 0·0
Felt Meriburn (90).

85/725
**MAR 10 2357 41·0s 42·32S 173·97E 14km M=4·3**
0·3 0·02 0·02 3
Rsd 0·4s 12ph/9stn Dmin 26km Az.gap 167°
Corr. -0·410 9M/6stn Msd 0·2 3↓
This event was followed by four aftershocks occurring over the next eighteen hours. Felt Meriburn (90).

85/726
**MAR 12 0000 30·2s 41·03S 174·55E 36km M=3·4**
0·3 0·02 0·01 4
Rsd 0·3s 14ph/15stn Dmin 26km Az.gap 89°
Corr. -0·221 6M/4stn Msd 0·4 8↑ 1↓

85/727
**MAR 12 0800 47·9s 37·82S 176·70E 12km M=3·6**
0·3 0·02 0·03 R
Rsd 0·5s 8ph/7stn Dmin 103km Az.gap 118°
Corr. 0·485 11M/7stn Msd 0·3 1↑ 1↓
Felt Clovelly (27).

85/728
**MAR 14 0226 07·4s 45·08S 167·56E 98km M=4·0**
0·7 0·04 0·06 6
Rsd 0·5s 14ph/8stn Dmin 53km Az.gap 224°
Corr. -0·037 6M/4stn Msd 0·1 3↑ 2↓

85/729
**MAR 14 0507 08·8s 46·26S 165·78E 12km M=3·7**
4·9 0·21 0·49 R
Rsd 0·9s 4ph/4stn Dmin 193km Az.gap 291°
Corr. 0·817 6M/3stn Msd 0·3

85/730
**MAR 14 1958 21·1s 45·28S 167·32E 98km M=3·5**
0·7 0·02 0·07 4
Rsd 0·2s 6ph/3stn Dmin 83km Az.gap 234°
Corr. -0·616 7M/4stn Msd 0·2 1↓

85/731
**MAR 15 1151 11·6s 37·84S 176·31E 198km M=3·6**
1·8 0·08 0·06 16
Rsd 0·5s 8ph/6stn Dmin 68km Az.gap 219°
Corr. 0·090 10M/6stn Msd 0·3 3↑

85/732
**MAR 16 1155 37·8s 38·13S 176·38E 169km M=4·1**
1·0 0·05 0·05 8
Rsd 0·6s 15ph/11stn Dmin 56km Az.gap 147°
Corr. 0·058 12M/7stn Msd 0·4 3↑ 3↓

85/733
**MAR 17 0608 49·0s 46·79S 164·99E 12km M=4·1**
3·9 0·20 0·33 R
Rsd 1·1s 6ph/4stn Dmin 239km Az.gap 315°
Corr. -0·228 6M/4stn Msd 0·2

85/734
**MAR 17 1331 48·7s 36·09S 178·32E 208km M=3·9**
1·4 0·14 0·10 23
Rsd 0·4s 7ph/5stn Dmin 241km Az.gap 315°
Corr. 0·558 9M/5stn Msd 0·3 2↑

85/735
**MAR 17 1646 38·7s 38·98S 176·53E 84km M=3·6**
0·7 0·03 0·04 7
Rsd 0·5s 12ph/10stn Dmin 54km Az.gap 84°
Corr. -0·047 13M/7stn Msd 0·2 1↑ 1↓

85/736
**MAR 17 1737 41·1s 37·33S 176·52E 360km M=4·6**
1·5 0·09 0·09 13
Rsd 0·6s 13ph/10stn Dmin 84km Az.gap 231°
Corr. -0·363 14M/8stn Msd 0·2 4↑ 1↓

85/737
**MAR 18 0157 03·4s 41·29S 175·16E 22km M=3·7**
0·1 0·01 0·01 1
Rsd 0·2s 17ph/19stn Dmin 14km Az.gap 72°
Corr. -0·242 8M/5stn Msd 0·4 3↑ 3↓
Felt Wellington (65) MM IV and in lower Hutt Valley (68).

85/738
**MAR 18 1348 12·8s 35·93S 178·51E 218km M=4·0**
0·7 0·08 0·12 14
Rsd 0·3s 6ph/5stn Dmin 265km Az.gap 331°
Corr. -0·581 7M/5stn Msd 0·3

85/739
**MAR 18 1450 06·9s 50·81S 163·08E 12km M=4·2**
2·4 0·53 0·69 R
Rsd 0·3s 4ph/3stn Dmin 570km Az.gap 351°
Corr. -0·953 4M/2stn Msd 0·2

85/740
**MAR 18 1929 12·9s 45·06S 167·64E 120km M=3·8**
1·0 0·09 0·24 28
Rsd 0·5s 9ph/5stn Dmin 133km Az.gap 258°
Corr. -0·846 6M/4stn Msd 0·3 2↑ 1↓

85/741
**MAR 19 1124 14·4s 45·09S 167·50E 106km M=4·0**
0·5 0·02 0·04 5
Rsd 0·4s 14ph/7stn Dmin 57km Az.gap 228°
Corr. -0·258 10M/6stn Msd 0·2 4↑ 3↓

85/742
**MAR 20 0520 55·2s 37·18S 179·23E 273km M=3·8**
3·2 0·32 0·26 19
Rsd 0·8s 6ph/7stn Dmin 83km Az.gap 318°
Corr. -0·557 8M/4stn Msd 0·4 1↑

85/743
**MAR 20 0740 36·5s 39·62S 175·77E 12km M=3·4**
0·3 0·02 0·04 R
Rsd 0·5s 10ph/7stn Dmin 51km Az.gap 106°
Corr. 0·000 13M/7stn Msd 0·3 1↑ 1↓
Felt Moawhango (58) MM IV.

85/744
**MAR 20 2049 48·5s 36·84S 177·22E 12km M=3·7**
0·1 0·01 0·01 R
Rsd 0·1s 4ph/3stn Dmin 129km Az.gap 196°
Corr. 0·600 7M/6stn Msd 0·3

85/745
**MAR 21 0632 57·5s 35·99S 178·41E 245km M=3·8**
0·7 0·04 0·06 10
Rsd 0·2s 6ph/5stn Dmin 255km Az.gap 317°
Corr. -0·530 6M/4stn Msd 0·2

85/746
**MAR 21 1320 03·6s 38·46S 175·79E 163km M=3·5**
1·8 0·06 0·11 16
Rsd 0·9s 9ph/6stn Dmin 64km Az.gap 147°
Corr. 0·153 7M/4stn Msd 0·3 2↑ 1↓

85/747
**MAR 21 2026 33·3s 45·98S 166·41E 12km M=3·7**
0·5 0·02 0·05 R
Rsd 0·2s 7ph/4stn Dmin 166km Az.gap 271°
Corr. -0·238 6M/3stn Msd 0·2 1↓

85/748
**MAR 21 2219 37·5s 33·01S 178·84W 33km M=4·7**
4·3 0·22 0·31 R
Rsd 0·8s 9ph/9stn Dmin 571km Az.gap 308°
Corr. 0·856 17M/12stn Msd 0·4

85/749
**MAR 21 2259 00·8s 46·30S 165·48E 12km M=4·1**
0·5 0·03 0·04 R
Rsd 0·2s 7ph/6stn Dmin 213km Az.gap 298°
Corr. 0·065 11M/6stn Msd 0·2

85/750
**MAR 21 2359 09·7s 38·63S 176·06E 5km M=3·1**
0·5 0·04 0·05 R
Rsd 0·9s 7ph/5stn Dmin 3km Az.gap 119°
Corr. -0·143 4M/3stn Msd 0·2 1↓
Felt Wairakei (41) MM IV.

85/751
**MAR 22 1913 03·0s 46·39S 165·78E 12km M=4·7**
1·8 0·09 0·16 R
Rsd 0·8s 8ph/8stn Dmin 188km Az.gap 293°
Corr. 0·509 21M/12stn Msd 0·3 1↑ 4↓

85/752
**MAR 22 2202 43·9s 46·66S 167·18E 12km M=3·7**
2·3 0·08 0·23 R
Rsd 0·9s 7ph/4stn Dmin 77km Az.gap 263°
Corr. 0·707 8M/5stn Msd 0·2 1↑

85/753
**MAR 23 0212 48·3s 40·42S 175·73E 12km M=3·5**
0·4 0·03 0·05 R
Rsd 1·0s 11ph/7stn Dmin 30km Az.gap 145°
Corr. -0·048 10M/7stn Msd 0·4 3↓

85/754
**MAR 23 0707 31·7s 41·03S 174·23E 50km M=3·6**
0·2 0·02 0·02 4
Rsd 0·4s 23ph/24stn Dmin 21km Az.gap 97°
Corr. -0·406 8M/5stn Msd 0·3 5↑ 5↓

85/755
**MAR 23 1200 28·6s 45·16S 166·46E 12km M=3·7**
1·8 0·09 0·18 R
Rsd 0·7s 10ph/6stn Dmin 127km Az.gap 278°
Corr. -0·620 11M/6stn Msd 0·2 1↓

85/756
**MAR 23 2232 12·6s 36·19S 177·88E 246km M=5·2**
0·7 0·03 0·05 8
Rsd 0·4s 15ph/14stn Dmin 177km Az.gap 230°
Corr. 0·648 14M/8stn Msd 0·3 3↑ 6↓

85/757
**MAR 24 1416 00·6s 37·41S 176·70E 206km M=3·6**
0·3 0·02 0·01 2
Rsd 0·1s 5ph/4stn Dmin 69km Az.gap 259°
Corr. 0·425 7M/4stn Msd 0·3 1↑

85/758
**MAR 25 1337 15·6s 43·30S 171·51E 12km M=2·5**
0·7 0·05 0·07 R
Rsd 0·6s 6ph/4stn Dmin 86km Az.gap 130°
Corr. -0·154 9M/6stn Msd 0·3
Felt Lake Coleridge (100) MM V.

85/759
**MAR 25 1802 31·7s 44·23S 169·85E 12km M=3·7**
0·2 0·02 0·02 R
Rsd 0·3s 12ph/9stn Dmin 23km Az.gap 142°
Corr. -0·089 9M/5stn Msd 0·3 2↑ 3↓
Felt Lake Ohau (115) MM IV.

85/760
**MAR 25 2315 40·3s 41·84S 171·79E 12km M=3·4**
0·5 0·03 0·05 R
Rsd 0·5s 7ph/4stn Dmin 83km Az.gap 201°
Corr. -0·630 10M/6stn Msd 0·2 1↑

85/761
**MAR 25 2353 12·4s 39·42S 176·81E 61km M=3·2**
0·6 0·03 0·03 8
Rsd 0·3s 7ph/7stn Dmin 15km Az.gap 126°
Corr. -0·402 6M/3stn Msd 0·2 1↓
Felt Patoka (52) MM V.

85/762
**MAR 26 0233 19·4s 37·47S 176·87E 12km M=3·8**
1·2 0·08 0·08 R
Rsd 0·5s 5ph/4stn Dmin 58km Az.gap 256°
Corr. 0·224 3M/3stn Msd 0·1

85/763
**MAR 26 0422 54·8s 40·35S 175·45E 12km M=3·8**
0·4 0·02 0·06 R
Rsd 0·8s 10ph/8stn Dmin 30km Az.gap 136°
Corr. -0·262 8M/6stn Msd 0·3 1↑
Felt Palmerston North (62) MM IV.

85/764
**MAR 26 0734 00·5s 37·59S 176·59E 12km M=4·1**
0·3 0·02 0·02 R
Rsd 0·4s 10ph/6stn Dmin 53km Az.gap 116°
Corr. 0·187 4M/3stn Msd 0·2

85/765
**MAR 26 1403 36·2s 40·62S 176·48E 59km M=3·5**
0·9 0·05 0·09 8
Rsd 0·4s 8ph/7stn Dmin 38km Az.gap 201°
Corr. -0·663 3M/2stn Msd 0·2 2↑ 1↓

85/766
**MAR 26 1901 41·0s 36·90S 177·45E 220km M=4·4**
1·4 0·11 0·07 10
Rsd 0·5s 9ph/8stn Dmin 127km Az.gap 290°
Corr. 0·308 6M/3stn Msd 0·1

85/767
**MAR 27 0440 39·5s 37·20S 177·44E 33km M=4·5**
0·4 0·03 0·03 R
Rsd 0·3s 9ph/8stn Dmin 43km Az.gap 179°
Corr. 0·446 8M/4stn Msd 0·1

85/768
**MAR 27 0505 26·4s 37·13S 177·47E 12km M=3·9**
2·2 0·13 0·08 R
Rsd 0·8s 5ph/4stn Dmin 51km Az.gap 282°
Corr. 0·061 4M/3stn Msd 0·1

85/769
**MAR 27 1340 47·0s 39·32S 175·23E 164km M=3·6**
1·3 0·05 0·09 12
Rsd 0·6s 8ph/6stn Dmin 30km Az.gap 223°
Corr. -0·581 2M/1stn Msd 0·3 1↑

85/770
**MAR 27 2140 14·1s 37·69S 176·57E 227km M=4·4**
1·7 0·11 0·08 12
Rsd 0·8s 9ph/7stn Dmin 49km Az.gap 198°
Corr. -0·524 6M/3stn Msd 0·1 1↑ 1↓

85/771
**MAR 27 2227 14·2s 38·23S 176·02E 204km M=4·1**
1·7 0·08 0·09 13
Rsd 0·6s 7ph/4stn Dmin 54km Az.gap 157°
Corr. -0·178 3M/2stn Msd 0·2 1↑

85/772
**MAR 28 0754 16·7s 37·24S 176·55E 318km M=4·0**
0·8 0·07 0·11 9
Rsd 0·3s 8ph/6stn Dmin 91km Az.gap 298°
Corr. -0·670 4M/2stn Msd 0·1

85/773
**MAR 28 0911 10·3s 43·57S 170·59E 12km M=3·9**
0·1 0·01 0·03 R
Rsd 0·3s 11ph/8stn Dmin 91km Az.gap 151°
Corr. -0·721 10M/6stn Msd 0·2 1↑

85/774
**MAR 28 1026 11·6s 35·88S 179·44W 137km M=4·8**
1·0 0·11 0·09 27
Rsd 0·4s 12ph/9stn Dmin 270km Az.gap 334°
Corr. 0·034 6M/3stn Msd 0·1

85/775
**MAR 28 1833 12·6s 43·36S 170·98E 12km M=3·8**
0·2 0·02 0·03 R
Rsd 0·5s 12ph/8stn Dmin 99km Az.gap 168°
Corr. -0·552 7M/5stn Msd 0·4 1↓

85/776
**MAR 29 0209 18·3s 38·05S 176·25E 5km M=2·6**
R R R R
Rsd 0·4s 3ph/2stn Dmin 30km Az.gap 210°
Corr. 0·000 1M/1stn Msd ND
Felt Rotorua (33) MM V.

85/777
**MAR 29 0637 59·6s 40·46S 175·66E 12km M=3·8**
0·5 0·03 0·04 R
Rsd 0·9s 14ph/9stn Dmin 23km Az.gap 140°
Corr. -0·094 5M/4stn Msd 0·4 2↑

85/778
**MAR 29 0815 41·9s 43·20S 172·51E 33km M=3·7**
0·4 0·03 0·06 R
Rsd 0·8s 8ph/4stn Dmin 45km Az.gap 134°
Corr. -0·504 4M/2stn Msd 0·1 1↑

85/779
**MAR 29 1357 49·7s 44·78S 166·73E 5km M=3·8**
1·0 0·07 0·09 R
Rsd 0·3s 5ph/4stn Dmin 95km Az.gap 340°
Corr. -0·084 5M/4stn Msd 0·3

85/780
**MAR 29 1548 20·2s 43·53S 172·56E 12km M=3·8**
0·2 0·02 0·04 R
Rsd 0·5s 8ph/7stn Dmin 9km Az.gap 118°
Corr. -0·338 10M/5stn Msd 0·2 1↑
Felt Christchurch (110).

85/781
**MAR 30 0155 22·4s 41·75S 174·72E 11km M=4·0**
2·2 0·06 0·05 15
Rsd 0·6s 10ph/8stn Dmin 51km Az.gap 222°
Corr. -0·325 7M/5stn Msd 0·3 2↑
Felt Waterloo (68) MM III.

85/782
**MAR 30 1202 00·7s 36·65S 177·96E 12km M=4·1**
2·8 0·12 0·13 R
Rsd 0·7s 5ph/4stn Dmin 119km Az.gap 303°
Corr. 0·831 4M/3stn Msd 0·5

85/783
**MAR 30 1223 08·4s 37·11S 177·41E 12km M=4·0**
0·7 0·05 0·04 R
Rsd 0·7s 8ph/7stn Dmin 50km Az.gap 184°
Corr. 0·336 7M/4stn Msd 0·4

85/784
**MAR 31 0920 12·3s 40·61S 174·52E 80km M=3·7**
0·5 0·03 0·03 9
Rsd 0·5s 11ph/9stn Dmin 43km Az.gap 106°
Corr. -0·460 3M/2stn Msd 0·2 1↑ 1↓

85/785
**MAR 31 2143 19·0s 35·04S 179·82W 292km M=4·9**
3·0 0·23 0·33 44
Rsd 1·1s 11ph/7stn Dmin 328km Az.gap 334°
Corr. -0·514 7M/4stn Msd 0·2

85/786
**APR 01 0134 12·1s 42·10S 173·87E 12km M=3·8**
0·2 0·02 0·02 R
Rsd 0·4s 10ph/7stn Dmin 39km Az.gap 143°
Corr. -0·323 6M/4stn Msd 0·2 2↑

85/787
**APR 01 0339 07·1s 38·28S 176·48E 12km M=3·0**
R R R R
Rsd 0·1s 2ph/2stn Dmin 5km Az.gap 270°
Corr. 0·000 1M/1stn Msd ND 1↑
Felt Waimangu (33) MM V. This event was one of a swarm of 22 occuring between 0317 and 0931.

85/788
**APR 01 0344 57·1s 37·57S 177·47E 93km M=3·7**
1·3 0·08 0·09 12
Rsd 0·8s 9ph/8stn Dmin 26km Az.gap 177°
Corr. -0·009 3M/3stn Msd 0·1

85/789
**APR 02 1800 58·4s 38·84S 175·11E 239km M=3·8**
0·4 0·02 0·06 3
Rsd 0·1s 11ph/8stn Dmin 55km Az.gap 296°
Corr. -0·566 2M/1stn Msd 0·5 2↑

85/790
**APR 03 1119 56·6s 45·05S 166·93E 5km M=3·8**
0·3 0·02 0·03 R
Rsd 0·2s 9ph/5stn Dmin 89km Az.gap 266°
Corr. -0·467 4M/3stn Msd 0·1

85/791
**APR 03 1753 00·8s 38·43S 175·74E 184km M=4·5**
1·4 0·07 0·11 11
Rsd 0·7s 12ph/8stn Dmin 59km Az.gap 141°
Corr. 0·200 5M/3stn Msd 0·2 3↑ 1↓

85/792
**APR 03 1812 28·0s 33·06S 178·56W 33km M=5·5**
4·7 0·23 0·40 R
Rsd 2·1s 17ph/13stn Dmin 577km Az.gap 275°
Corr. 0·471 14M/11stn Msd 0·3
The USGS solution is 33·141S 179·345W 33R at 26·5 seconds.

85/793
**APR 04 1639 36·0s 40·35S 174·08E 108km M=3·5**
1·0 0·08 0·03 11
Rsd 0·5s 8ph/5stn Dmin 90km Az.gap 230°
Corr. -0·443 2M/1stn Msd 0·2 3↑

85/794
**APR 04 1732 42·5s 37·76S 177·50E 51km M=5·0**
0·5 0·03 0·03 8
Rsd 0·6s 12ph/15stn Dmin 38km Az.gap 133°
Corr. 0·043 7M/4stn Msd 0·2 2↑ 1↓
Felt in the Bay of Plenty region. Maximum intensity MM V at Whakatane (27) and Te Whaiti (42).

85/795
**APR 05 0630 36·8s 39·78S 174·04E 127km M=3·5**
0·8 0·04 0·04 10
Rsd 0·5s 8ph/6stn Dmin 144km Az.gap 207°
Corr. -0·468 2M/1stn Msd 0·1 2↑

85/796
**APR 05 1003 19·1s 40·69S 176·52E 74km M=4·1**
1·1 0·06 0·09 19
Rsd 0·8s 11ph/9stn Dmin 88km Az.gap 214°
Corr. -0·829 9M/6stn Msd 0·2 1↓

85/797
**APR 05 1027 03·6s 44·35S 167·90E 5km M=4·1**
0·7 0·04 0·05 R
Rsd 0·7s 10ph/7stn Dmin 35km Az.gap 271°
Corr. -0·507 8M/6stn Msd 0·2

85/798
**APR 05 1814 06·0s 38·51S 175·91E 6km M=3·3**
0·4 0·02 0·03 4
Rsd 0·6s 5ph/4stn Dmin 22km Az.gap 131°
Corr. 0·188 3M/2stn Msd 0·1 1↓
A similar event followed this 2 minutes later. Felt Waihora Road (40) MM V.

85/799
**APR 06 0218 54·8s 49·31S 165·25E 143km M=4·9**
1·4 0·17 0·36 38
Rsd 0·7s 9ph/6stn Dmin 342km Az.gap 342°
Corr. -0·731 4M/2stn Msd 0·2

85/800
**APR 06 1436 07·4s 38·02S 176·14E 188km M=4·0**
0·8 0·04 0·11 6
Rsd 0·3s 8ph/5stn Dmin 54km Az.gap 268°
Corr. -0·217 3M/2stn Msd 0·3

85/801
**APR 06 1936 54·4s 46·01S 166·83E 123km M=3·7**
1·4 0·05 0·27 29
Rsd 0·7s 7ph/4stn Dmin 140km Az.gap 255°
Corr. -0·098 4M/2stn Msd 0·3

85/802
**APR 06 2207 25·6s 37·31S 177·16E 120km M=3·9**
2·5 0·30 0·08 36
Rsd 0·9s 5ph/4stn Dmin 76km Az.gap 226°
Corr. -0·583 5M/4stn Msd 0·2 1↑ 2↓

85/803
**APR 07 1156 50·0s 41·03S 175·82E 2km M=4·4**
0·5 0·03 0·04 5
Rsd 0·8s 10ph/8stn Dmin 37km Az.gap 149°
Corr. -0·437 7M/5stn Msd 0·4 1↑
Felt Masterton (66) MM V.

85/804
**APR 07 1222 10·5s 38·27S 175·66E 196km M=3·9**
2·2 0·11 0·13 17
Rsd 0·7s 8ph/7stn Dmin 40km Az.gap 153°
Corr. -0·036 5M/3stn Msd 0·3 1↑

85/805
**APR 07 1642 27·7s 36·71S 177·63E 171km M=5·3**
0·7 0·03 0·05 8
Rsd 0·4s 12ph/10stn Dmin 136km Az.gap 216°
Corr. 0·480 10M/6stn Msd 0·3 4↑ 2↓

85/806
**APR 08 0232 10·5s 37·50S 176·24E 295km M=4·1**
0·7 0·08 0·15 10
Rsd 0·3s 7ph/4stn Dmin 85km Az.gap 300°
Corr. -0·869 6M/3stn Msd 0·2 1↑ 1↓

85/807
**APR 10 0620 47·3s 41·22S 172·56E 211km M=3·8**
0·9 0·08 0·11 8
Rsd 0·8s 13ph/8stn Dmin 21km Az.gap 192°
Corr. -0·815 3M/2stn Msd 0·4 1↑ 3↓

85/808
**APR 10 0626 59·9s 36·97S 177·32E 12km M=3·7**
2·7 0·18 0·11 R
Rsd 0·9s 5ph/6stn Dmin 63km Az.gap 251°
Corr. -0·206 12M/6stn Msd 0·2 1↑

85/809
**APR 10 1728 55·8s 41·41S 172·65E 203km M=3·9**
0·9 0·05 0·06 6
Rsd 0·5s 10ph/8stn Dmin 37km Az.gap 152°
Corr. -0·467 3M/2stn Msd 0·1 3↑

85/810
**APR 11 1155 10·6s 35·75S 179·55E 192km M=6·1**
1·4 0·07 0·13 14
Rsd 0·7s 18ph/21stn Dmin 233km Az.gap 281°
Corr. 0·797 9M/6stn Msd 0·3 5↑ 10↓
Felt Opotiki (35) MM V, and Whakatane (27) to Karori (68) MM IV.

85/811
**APR 11 1544 52·6s 38·90S 175·39E 132km M=3·4**
0·9 0·03 0·06 10
Rsd 0·6s 13ph/11stn Dmin 36km Az.gap 117°
Corr. -0·431 10M/6stn Msd 0·3 1↑ 2↓

85/812
**APR 11 1657 18·0s 37·76S 177·29E 100km M=3·7**
0·5 0·03 0·03 4
Rsd 0·4s 16ph/8stn Dmin 27km Az.gap 165°
Corr. 0·240 10M/6stn Msd 0·3 3↑ 1↓
Felt Ahuahu Valley (57).

85/813
**APR 11 2311 05·6s 31·94S 178·16W 33km M=4·8**
3·0 0·16 0·27 R
Rsd 0·7s 7ph/7stn Dmin 705km Az.gap 314°
Corr. 0·413 15M/10stn Msd 0·2

85/814
**APR 13 1133 51·0s 40·18S 174·43E 33km M=3·4**
0·1 0·01 0·02 R
Rsd 0·3s 14ph/12stn Dmin 86km Az.gap 124°
Corr. 0·048 15M/10stn Msd 0·3 4↑ 2↓

85/815
**APR 13 2304 07·7s 37·69S 177·14E 172km M=3·6**
1·2 0·07 0·05 9
Rsd 0·5s 11ph/7stn Dmin 82km Az.gap 192°
Corr. -0·221 9M/6stn Msd 0·3 1↑

85/816
**APR 14 1218 54·6s 37·49S 176·78E 169km M=3·6**
1·6 0·12 0·11 13
Rsd 0·6s 11ph/6stn Dmin 86km Az.gap 254°
Corr. 0·451 9M/6stn Msd 0·2 1↑

85/817
**APR 14 1913 57·3s 38·53S 175·96E 162km M=4·2**
0·7 0·03 0·03 6
Rsd 0·6s 16ph/10stn Dmin 17km Az.gap 89°
Corr. -0·391 12M/7stn Msd 0·4 5↑ 2↓

85/818
**APR 14 2006 33·8s 38·77S 176·03E 109km M=4·5**
0·6 0·03 0·04 7
Rsd 0·8s 19ph/17stn Dmin 17km Az.gap 83°
Corr. -0·394 9M/5stn Msd 0·4 5↑ 7↓
Felt Patoka (52) MM III.

85/819
**APR 15 1500 03·5s 34·74S 179·77W 346km M=4·3**
2·4 0·19 0·46 23
Rsd 0·6s 11ph/9stn Dmin 361km Az.gap 335°
Corr. -0·662 11M/8stn Msd 0·2

85/820
**APR 15 2043 42·9s 33·31S 179·24E 297km M=4·9**
3·6 0·23 0·37 62
Rsd 0·8s 7ph/8stn Dmin 490km Az.gap 290°
Corr. 0·885 13M/7stn Msd 0·3

85/821
**APR 16 0425 31·2s 40·64S 172·55E 12km M=3·8**
0·7 0·02 0·07 R
Rsd 0·5s 10ph/6stn Dmin 52km Az.gap 250°
Corr. -0·664 13M/8stn Msd 0·3 2↑ 1↓

85/822
**APR 16 2205 48·5s 31·56S 179·76W 503km M=6·0**
1·0 0·10 0·12 26
Rsd 0·5s 15ph/11stn Dmin 678km Az.gap 308°
Corr. 0·662 10M/6stn Msd 0·3 3↑ 2↓

85/823
**APR 17 0724 52·3s 34·90S 179·15E 290km M=4·3**
1·0 0·15 0·12 21
Rsd 0·2s 6ph/5stn Dmin 315km Az.gap 327°
Corr. 0·329 11M/7stn Msd 0·3

85/824
**APR 17 1555 45·6s 31·69S 179·91W 509km M=4·9**
1·7 0·16 0·23 48
Rsd 0·6s 11ph/8stn Dmin 680km Az.gap 308°
Corr. 0·315 12M/8stn Msd 0·3

85/825
**APR 17 1606 29·2s 38·25S 175·87E 179km M=4·7**
0·4 0·02 0·02 3
Rsd 0·3s 15ph/12stn Dmin 46km Az.gap 95°
Corr. -0·187 13M/7stn Msd 0·3 2↑ 5↓

85/826
**APR 18 1951 47·3s 38·73S 176·07E 117km M=4·0**
0·7 0·03 0·03 8
Rsd 0·7s 17ph/12stn Dmin 11km Az.gap 82°
Corr. -0·116 12M/7stn Msd 0·2 4↑ 3↓

85/827
**APR 18 2325 07·8s 37·79S 179·26E 12km M=4·2**
1·5 0·06 0·12 R
Rsd 0·5s 11ph/8stn Dmin 64km Az.gap 308°
Corr. 0·718 16M/10stn Msd 0·2 2↑ 2↓

85/828
**APR 19 1612 31·3s 42·06S 173·85E 58km M=3·3**
0·4 0·02 0·02 5
Rsd 0·3s 10ph/13stn Dmin 42km Az.gap 137°
Corr. -0·357 5M/3stn Msd 0·2 2↑ 8↓
Felt Waitaria Bay (78).

85/829
**APR 20 0318 53·5s 44·53S 167·89E 5km M=4·6**
0·6 0·03 0·05 R
Rsd 0·3s 8ph/9stn Dmin 16km Az.gap 228°
Corr. -0·762 16M/9stn Msd 0·3 3↑ 2↓
Felt Milford Sound (120) MM V.

85/830
**APR 20 0340 59·2s 44·60S 167·94E 5km M=3·7**
0·4 0·03 0·03 R
Rsd 0·3s 10ph/7stn Dmin 9km Az.gap 249°
Corr. -0·562 8M/5stn Msd 0·3 3↑

85/831
**APR 20 0447 57·0s 44·63S 167·96E 5km M=3·7**
0·3 0·03 0·02 R
Rsd 0·3s 8ph/6stn Dmin 5km Az.gap 224°
Corr. -0·487 9M/6stn Msd 0·2 1↑ 1↓

85/832
**APR 20 0729 00·2s 37·35S 176·57E 253km M=4·0**
1·3 0·08 0·12 12
Rsd 0·6s 11ph/7stn Dmin 79km Az.gap 264°
Corr. -0·442 9M/6stn Msd 0·4 3↑

85/833
**APR 20 1041 57·6s 39·00S 175·46E 139km M=3·9**
0·5 0·02 0·03 5
Rsd 0·5s 18ph/10stn Dmin 23km Az.gap 106°
Corr. -0·366 13M/7stn Msd 0·3 3↑ 2↓

85/834
**APR 20 1642 24·2s 33·15S 176·92W 275km M=4·5**
1·4 0·26 0·23 75
Rsd 0·3s 5ph/4stn Dmin 761km Az.gap 345°
Corr. -0·818 6M/4stn Msd 0·2

85/835
**APR 20 1706 11·1s 40·49S 174·91E 12km M=3·9**
0·3 0·02 0·03 R
Rsd 0·6s 12ph/10stn Dmin 50km Az.gap 119°
Corr. -0·148 19M/11stn Msd 0·4 1↑ 7↓
Felt Himatangi Beach (61) MM IV.

85/836
**APR 21 1238 42·5s 39·42S 174·53E 205km M=3·5**
2·0 0·16 0·20 24
Rsd 0·8s 7ph/5stn Dmin 96km Az.gap 215°
Corr. -0·649 4M/2stn Msd 0·3 1↓

85/837
**APR 21 1256 27·7s 38·43S 175·88E 172km M=3·6**
1·4 0·05 0·06 12
Rsd 0·5s 10ph/8stn Dmin 58km Az.gap 135°
Corr. 0·152 10M/6stn Msd 0·4 2↑ 1↓

85/838
**APR 22 0313 43·9s 38·79S 175·66E 143km M=3·6**
0·7 0·03 0·04 6
Rsd 0·5s 12ph/8stn Dmin 43km Az.gap 106°
Corr. -0·206 6M/3stn Msd 0·3 3↑

85/839
**APR 24 1535 06·5s 38·51S 177·84E 12km M=3·6**
0·3 0·02 0·02 R
Rsd 0·5s 12ph/9stn Dmin 22km Az.gap 98°
Corr. 0·177 7M/4stn Msd 0·2 3↑
Felt Gisborne (44).

85/840
**APR 24 2032 01·7s 38·50S 177·87E 12km M=3·5**
0·3 0·03 0·03 R
Rsd 0·6s 11ph/9stn Dmin 20km Az.gap 106°
Corr. 0·304 6M/4stn Msd 0·2 2↑

85/841
**APR 25 0152 47·3s 44·69S 166·76E 59km M=3·8**
1·4 0·12 0·11 12
Rsd 0·4s 7ph/4stn Dmin 91km Az.gap 337°
Corr. -0·533 2M/1stn Msd 0·0

85/842
**APR 25 0659 19·8s 39·49S 174·85E 33km M=3·9**
0·2 0·02 0·03 R
Rsd 0·7s 15ph/9stn Dmin 52km Az.gap 88°
Corr. -0·159 8M/5stn Msd 0·4 3↑ 3↓

85/843
**APR 25 1925 16·1s 50·37S 163·12E 33km M=5·3**
1·1 0·04 0·16 R
Rsd 0·6s 13ph/9stn Dmin 485km Az.gap 269°
Corr. 0·253 5M/3stn Msd 0·2

85/844
**APR 25 2327 07·5s 40·15S 174·97E 16km M=5·0**
0·2 0·01 0·03 3
Rsd 0·6s 22ph/21stn Dmin 68km Az.gap 82°
Corr. -0·014 11M/9stn Msd 0·2 3↑ 4↓
Felt throughout the southern half of the North Island, with maximum intensity MM V at Uruti (38), Okoia (57) and Waikawa Beach (65).

85/845
**APR 25 2331 10·0s 40·13S 174·95E 12km M=3·8**
0·2 0·01 0·02 R
Rsd 0·4s 13ph/9stn Dmin 71km Az.gap 111°
Corr. -0·409 3M/2stn Msd 0·3 1↑

85/846
**APR 25 2338 54·0s 39·15S 175·76E 94km M=4·1**
0·5 0·02 0·04 7
Rsd 0·8s 22ph/15stn Dmin 20km Az.gap 85°
Corr. -0·407 10M/6stn Msd 0·2 2↑ 1↓

85/847
**APR 26 0432 13·4s 38·48S 176·14E 3km M=3·4**
0·3 0·01 0·02 3
Rsd 0·3s 6ph/6stn Dmin 17km Az.gap 109°
Corr. -0·072 4M/3stn Msd 0·2 1↑ 2↓

85/848
**APR 26 0648 09·5s 40·14S 174·89E 12km M=4·4**
0·2 0·02 0·03 R
Rsd 0·9s 23ph/18stn Dmin 73km Az.gap 85°
Corr. -0·091 14M/10stn Msd 0·3 5↑ 3↓
Felt Waikawa Beach (65) MM V, Wellington (68) MM IV.

85/849
**APR 26 1405 01·1s 40·14S 174·89E 12km M=4·3**
0·3 0·02 0·04 R
Rsd 0·9s 22ph/17stn Dmin 73km Az.gap 99°
Corr. -0·122 15M/10stn Msd 0·3 3↑ 3↓

85/850
**APR 26 1746 24·4s 38·83S 175·62E 156km M=4·5**
0·5 0·03 0·03 4
Rsd 0·6s 21ph/14stn Dmin 42km Az.gap 107°
Corr. -0·419 11M/7stn Msd 0·2 8↑ 3↓

85/851
**APR 26 1902 19·2s 45·35S 167·42E 101km M=4·1**
0·9 0·04 0·07 9
Rsd 0·8s 15ph/8stn Dmin 85km Az.gap 224°
Corr. -0·243 8M/4stn Msd 0·2 3↑ 1↓

85/852
**APR 28 1819 40·3s 37·73S 176·47E 12km M=3·9**
0·4 0·04 0·02 R
Rsd 0·6s 8ph/7stn Dmin 54km Az.gap 176°
Corr. -0·293 5M/4stn Msd 0·4 2↑ 1↓

85/853
**APR 28 1928 34·9s 37·98S 176·13E 210km M=4·5**
1·2 0·07 0·06 9
Rsd 0·7s 16ph/9stn Dmin 52km Az.gap 197°
Corr. -0·093 9M/5stn Msd 0·2 3↑

85/854
**APR 28 2300 56·4s 37·58S 176·54E 12km M=5·0**
0·2 0·02 0·02 R
Rsd 0·5s 15ph/12stn Dmin 58km Az.gap 116°
Corr. 0·123 7M/7stn Msd 0·2 2↑ 2↓
Felt Bay of Plenty, maximum intensity MM V at Tauranga (26).

85/855
**APR 28 2329 20·0s 37·61S 176·56E 12km M=3·9**
0·4 0·04 0·03 R
Rsd 0·6s 7ph/6stn Dmin 56km Az.gap 192°
Corr. -0·320 4M/3stn Msd 0·2 3↑ 1↓

85/856
**APR 29 0543 44·2s 37·57S 176·56E 12km M=3·6**
0·3 0·03 0·02 R
Rsd 0·4s 7ph/6stn Dmin 56km Az.gap 199°
Corr. -0·210 3M/2stn Msd 0·3 3↑

85/857
**APR 29 1415 22·5s 37·60S 176·56E 12km M=3·8**
0·3 0·02 0·02 R
Rsd 0·4s 7ph/6stn Dmin 57km Az.gap 194°
Corr. -0·199 3M/2stn Msd 0·2 2↑ 1↓

85/858
**MAY 01 0312 55·6s 38·04S 176·21E 208km M=4·9**
0·9 0·05 0·05 8
Rsd 0·7s 18ph/13stn Dmin 34km Az.gap 158°
Corr. -0·355 14M/8stn Msd 0·2 8↑ 2↓

85/859
**MAY 02 1456 07·2s 38·93S 175·70E 130km M=3·9**
0·5 0·02 0·03 5
Rsd 0·5s 14ph/10stn Dmin 28km Az.gap 99°
Corr. -0·344 7M/5stn Msd 0·3 3↑

85/860
**MAY 03 0411 58·5s 40·78S 172·44E 12km M=3·3**
1·6 0·06 0·13 R
Rsd 0·6s 10ph/9stn Dmin 42km Az.gap 283°
Corr. -0·476 6M/3stn Msd 0·2 1↓
Felt Paturau (71) MM V.

85/861
**MAY 04 0813 05·2s 40·52S 176·40E 80km M=3·7**
0·6 0·03 0·05 7
Rsd 0·5s 13ph/9stn Dmin 45km Az.gap 165°
Corr. -0·675 5M/3stn Msd 0·3

85/862
**MAY 04 1056 40·7s 41·20S 173·79E 56km M=3·5**
1·0 0·06 0·04 15
Rsd 0·8s 12ph/9stn Dmin 40km Az.gap 127°
Corr. 0·076 3M/2stn Msd 0·3 1↑ 1↓

85/863
**MAY 04 1353 33·4s 40·15S 175·09E 26km M=3·6**
0·5 0·03 0·06 6
Rsd 0·8s 16ph/11stn Dmin 62km Az.gap 125°
Corr. -0·502 7M/4stn Msd 0·2 3↑ 2↓

85/864
**MAY 04 2128 46·0s 37·17S 177·02E 242km M=4·2**
2·0 0·13 0·13 13
Rsd 0·7s 11ph/8stn Dmin 91km Az.gap 237°
Corr. -0·318 6M/4stn Msd 0·1 1↑

85/865
**MAY 05 0813 46·6s 39·58S 177·20E 67km M=4·2**
0·4 0·03 0·04 7
Rsd 0·7s 21ph/15stn Dmin 33km Az.gap 174°
Corr. -0·587 8M/5stn Msd 0·3 3↑ 3↓
Felt Gwavas forest (59) MM V, Mount Vernon (60).

85/866
**MAY 05 1200 37·1s 37·74S 177·61E 45km M=3·7**
0·5 0·03 0·03 7
Rsd 0·6s 12ph/8stn Dmin 44km Az.gap 145°
Corr. -0·053 5M/3stn Msd 0·2 1↑ 1↓

85/867
**MAY 06 1710 05·2s 37·69S 179·73E 33km M=5·9**
0·4 0·03 0·04 R
Rsd 0·4s 14ph/12stn Dmin 104km Az.gap 225°
Corr. 0·655 17M/11stn Msd 0·2 2↑ 6↓
Felt Bay of Plenty (35) to Wellington (68), maximum intensity MM IV at Opotiki (35), Mount Vernon (60) and Dannevirke (63).

85/868
**MAY 06 1723 23·6s 37·25S 179·96E 33km M=4·3**
1·2 0·09 0·11 R
Rsd 0·4s 13ph/9stn Dmin 134km Az.gap 324°
Corr. -0·086 13M/7stn Msd 0·2

85/869
**MAY 06 1748 09·4s 37·41S 179·89E 33km M=4·4**
1·0 0·06 0·09 R
Rsd 0·4s 15ph/9stn Dmin 123km Az.gap 321°
Corr. -0·167 12M/7stn Msd 0·2
Felt Wairoa (53) MM IV.

85/870
**MAY 06 1822 02·7s 37·44S 179·86E 33km M=4·0**
2·0 0·14 0·18 R
Rsd 0·6s 10ph/6stn Dmin 120km Az.gap 332°
Corr. -0·205 9M/5stn Msd 0·2

85/871
**MAY 06 1849 34·2s 37·02S 179·99W 33km M=4·3**
2·0 0·19 0·18 R
Rsd 0·8s 11ph/8stn Dmin 149km Az.gap 328°
Corr. -0·302 6M/4stn Msd 0·2

85/872
**MAY 06 2007 56·5s 37·37S 179·74W 33km M=3·8**
2·1 0·13 0·19 R
Rsd 0·5s 6ph/4stn Dmin 150km Az.gap 329°
Corr. -0·186 5M/3stn Msd 0·3

85/873
**MAY 06 2107 24·7s 37·44S 179·92W 33km M=3·9**
2·2 0·15 0·20 R
Rsd 0·6s 7ph/4stn Dmin 138km Az.gap 326°
Corr. -0·235 4M/2stn Msd 0·2

85/874
**MAY 07 0226 02·8s 37·83S 179·98W 33km M=3·9**
5·8 0·16 0·54 R
Rsd 0·6s 6ph/6stn Dmin 131km Az.gap 313°
Corr. -0·664 9M/5stn Msd 0·3

85/875
**MAY 07 0255 16·4s 37·45S 179·75W 33km M=4·0**
4·9 0·17 0·44 R
Rsd 0·8s 6ph/5stn Dmin 153km Az.gap 328°
Corr. 0·316 8M/4stn Msd 0·2

85/876
**MAY 07 0444 16·6s 39·01S 174·92E 250km M=4·2**
1·2 0·05 0·06 11
Rsd 0·7s 15ph/13stn Dmin 51km Az.gap 137°
Corr. -0·618 8M/5stn Msd 0·2 8↑ 2↓

85/877
**MAY 07 0634 45·2s 37·26S 179·72W 33km M=3·9**
1·9 0·15 0·17 R
Rsd 0·7s 5ph/3stn Dmin 160km Az.gap 329°
Corr. -0·347 8M/4stn Msd 0·2

85/878
**MAY 07 0727 28·9s 37·85S 179·61W 33km M=3·7**
4·6 0·18 0·43 R
Rsd 0·7s 6ph/6stn Dmin 163km Az.gap 330°
Corr. -0·361 7M/4stn Msd 0·3

85/879
**MAY 07 0801 20·8s 37·49S 179·78W 33km M=4·0**
0·8 0·03 0·08 R
Rsd 0·3s 7ph/5stn Dmin 150km Az.gap 328°
Corr. -0·277 10M/6stn Msd 0·2 1↑

85/880
**MAY 07 0818 16·0s 37·65S 179·30W 33km M=3·8**
2·9 0·19 0·24 R
Rsd 1·0s 6ph/4stn Dmin 190km Az.gap 333°
Corr. 0·072 8M/4stn Msd 0·2

85/881
**MAY 07 0837 33·1s 37·25S 179·90W 33km M=4·2**
3·3 0·12 0·30 R
Rsd 0·6s 6ph/5stn Dmin 146km Az.gap 327°
Corr. 0·526 13M/7stn Msd 0·2 1↓

85/882
**MAY 07 1222 51·0s 37·48S 179·70W 33km M=4·1**
1·8 0·08 0·16 R
Rsd 0·5s 7ph/6stn Dmin 157km Az.gap 328°
Corr. 0·257 12M/6stn Msd 0·1

85/883
**MAY 07 1228 42·5s 37·59S 179·63W 33km M=3·9**
1·6 0·08 0·15 R
Rsd 0·5s 7ph/6stn Dmin 161km Az.gap 319°
Corr. 0·000 10M/6stn Msd 0·2

85/884
**MAY 07 1229 21·8s 37·49S 179·95W 33km M=4·1**
2·4 0·08 0·21 R
Rsd 0·5s 7ph/6stn Dmin 135km Az.gap 326°
Corr. -0·256 9M/6stn Msd 0·2

85/885
**MAY 07 1255 04·1s 37·56S 179·60E 33km M=3·7**
2·7 0·11 0·26 R
Rsd 1·1s 5ph/4stn Dmin 94km Az.gap 318°
Corr. -0·311 8M/4stn Msd 0·2 1↑

85/886
**MAY 07 1323 04·9s 37·70S 179·76W 33km M=3·8**
2·5 0·12 0·22 R
Rsd 0·6s 5ph/3stn Dmin 149km Az.gap 331°
Corr. 0·208 7M/4stn Msd 0·3

85/887
**MAY 07 1504 21·4s 37·34S 179·96W 33km M=4·0**
1·8 0·08 0·15 R
Rsd 0·6s 6ph/5stn Dmin 138km Az.gap 325°
Corr. 0·252 8M/5stn Msd 0·2 1↑

85/888
**MAY 07 1912 07·5s 37·54S 179·59W 33km M=4·1**
5·1 0·16 0·48 R
Rsd 0·8s 6ph/6stn Dmin 165km Az.gap 321°
Corr. -0·382 11M/6stn Msd 0·2

85/889
**MAY 08 0356 20·5s 37·59S 179·77W 33km M=4·0**
2·8 0·09 0·25 R
Rsd 0·5s 5ph/4stn Dmin 149km Az.gap 327°
Corr. 0·259 10M/5stn Msd 0·2 1↑ 1↓

85/890
**MAY 08 0855 24·1s 37·36S 177·25E 12km M=4·2**
0·4 0·03 0·03 R
Rsd 0·6s 11ph/10stn Dmin 20km Az.gap 161°
Corr. 0·063 8M/6stn Msd 0·2 1↑ 1↓

85/891
**MAY 08 1107 37·6s 37·42S 179·81E 33km M=3·5**
1·7 0·14 0·16 R
Rsd 0·6s 7ph/5stn Dmin 116km Az.gap 323°
Corr. -0·313 6M/4stn Msd 0·3 1↑

85/892
**MAY 08 1631 10·9s 36·87S 177·26E 33km M=4·5**
0·8 0·07 0·07 R
Rsd 1·0s 9ph/9stn Dmin 74km Az.gap 195°
Corr. 0·557 12M/8stn Msd 0·3 3↑ 3↓

85/893
**MAY 08 1637 34·4s 37·46S 179·92E 33km M=3·7**
7·5 0·22 0·70 R
Rsd 1·1s 6ph/5stn Dmin 124km Az.gap 324°
Corr. 0·065 7M/4stn Msd 0·3 1↑

85/894
**MAY 08 2005 06·1s 33·61S 177·80W 423km M=5·7**
3·5 0·33 0·30 68
Rsd 1·2s 11ph/8stn Dmin 561km Az.gap 324°
Corr. 0·325 6M/4stn Msd 0·4

85/895
**MAY 08 2309 56·0s 36·23S 178·70E 138km M=5·0**
1·6 0·07 0·11 20
Rsd 0·7s 9ph/10stn Dmin 163km Az.gap 269°
Corr. 0·573 7M/4stn Msd 0·3 1↑ 3↓

85/896
**MAY 09 0346 53·9s 38·78S 175·88E 152km M=3·8**
1·0 0·06 0·08 9
Rsd 0·5s 7ph/5stn Dmin 51km Az.gap 216°
Corr. -0·781 6M/5stn Msd 0·2 2↑

85/897
**MAY 09 0442 11·0s 37·57S 179·88E 33km M=3·6**
5·6 0·20 0·51 R
Rsd 1·0s 4ph/3stn Dmin 118km Az.gap 330°
Corr. 0·379 6M/3stn Msd 0·2

85/898
**MAY 09 0700 44·4s 37·22S 177·17E 33km M=3·8**
0·9 0·07 0·07 R
Rsd 0·8s 9ph/9stn Dmin 86km Az.gap 168°
Corr. 0·197 8M/7stn Msd 0·1 1↑

85/899
**MAY 09 1238 26·1s 37·57S 179·99W 33km M=4·6**
2·2 0·07 0·20 R
Rsd 0·4s 6ph/7stn Dmin 130km Az.gap 324°
Corr. 0·447 13M/7stn Msd 0·2 1↑ 3↓

85/900
**MAY 09 1628 55·0s 37·27S 179·72E 33km M=3·7**
1·0 0·04 0·09 R
Rsd 0·2s 5ph/6stn Dmin 114km Az.gap 333°
Corr. 0·546 8M/5stn Msd 0·3

85/901
**MAY 09 2217 26·1s 41·33S 174·47E 28km M=3·9**
0·3 0·04 0·03 2
Rsd 0·6s 10ph/9stn Dmin 20km Az.gap 126°
Corr. -0·319 6M/3stn Msd 0·4 1↑ 2↓
Felt Kelburn (68) MM IV. See also Welnet solution.

85/902
**MAY 10 0819 48·7s 42·63S 173·43E 56km M=3·7**
0·3 0·03 0·04 6
Rsd 0·5s 12ph/11stn Dmin 32km Az.gap 168°
Corr. -0·672 3M/2stn Msd 0·2 2↑ 2↓

85/903
**MAY 10 0939 03·3s 37·50S 179·78W 33km M=3·6**
3·7 0·15 0·36 R
Rsd 0·5s 5ph/4stn Dmin 149km Az.gap 335°
Corr. -0·251 6M/4stn Msd 0·3

85/904
**MAY 10 1055 22·3s 37·51S 179·77W 33km M=3·8**
4·1 0·15 0·38 R
Rsd 0·7s 6ph/5stn Dmin 150km Az.gap 334°
Corr. 0·332 7M/4stn Msd 0·3 1↑

85/905
**MAY 10 2227 42·0s 40·15S 175·03E 33km M=3·5**
0·3 0·02 0·06 R
Rsd 0·7s 8ph/7stn Dmin 64km Az.gap 121°
Corr. -0·037 5M/3stn Msd 0·4 4↑

85/906
**MAY 11 0426 21·2s 38·17S 177·62E 49km M=3·7**
0·5 0·02 0·03 8
Rsd 0·5s 9ph/8stn Dmin 59km Az.gap 89°
Corr. -0·015 5M/3stn Msd 0·3 2↑ 1↓

85/907
**MAY 12 0044 54·8s 39·82S 177·05E 44km M=3·4**
0·3 0·02 0·05 5
Rsd 0·4s 11ph/10stn Dmin 36km Az.gap 188°
Corr. -0·705 9M/5stn Msd 0·1 1↑ 5↓

85/908
**MAY 12 1117 35·3s 37·60S 179·72W 33km M=3·8**
3·1 0·11 0·28 R
Rsd 0·5s 5ph/4stn Dmin 153km Az.gap 333°
Corr. 0·211 8M/5stn Msd 0·1

85/909
**MAY 13 0712 57·0s 37·73S 179·46W 33km M=4·2**
3·3 0·16 0·31 R
Rsd 0·6s 7ph/6stn Dmin 176km Az.gap 331°
Corr. -0·554 11M/6stn Msd 0·2

85/910
**MAY 13 0928 12·1s 39·09S 174·95E 217km M=3·9**
1·2 0·04 0·06 10
Rsd 0·6s 14ph/9stn Dmin 57km Az.gap 128°
Corr. -0·326 7M/4stn Msd 0·1 2↑ 1↓

85/911
**MAY 13 1214 46·4s 37·50S 179·75E 33km M=3·6**
3·5 0·11 0·33 R
Rsd 0·5s 6ph/5stn Dmin 109km Az.gap 322°
Corr. 0·028 5M/4stn Msd 0·3

85/912
**MAY 13 1530 35·2s 38·93S 175·95E 128km M=3·9**
0·8 0·03 0·05 9
Rsd 0·6s 11ph/11stn Dmin 36km Az.gap 86°
Corr. -0·285 10M/5stn Msd 0·3 4↑ 2↓

85/913
**MAY 13 2125 52·9s 41·05S 174·25E 51km M=4·0**
0·2 0·02 0·02 4
Rsd 0·3s 9ph/10stn Dmin 18km Az.gap 96°
Corr. -0·170 6M/4stn Msd 0·4 3↑ 1↓
See also Welnet solution. Felt Wellington (68) MM IV.

85/914
**MAY 13 2322 57·1s 37·61S 179·80W 33km M=4·5**
1·8 0·05 0·16 R
Rsd 0·3s 8ph/7stn Dmin 146km Az.gap 322°
Corr. 0·610 13M/7stn Msd 0·2 1↑ 2↓

85/915
**MAY 15 1238 10·7s 39·45S 174·40E 229km M=4·2**
1·3 0·04 0·10 12
Rsd 0·6s 11ph/9stn Dmin 103km Az.gap 208°
Corr. -0·620 5M/3stn Msd 0·2 4↑ 1↓

85/916
**MAY 15 1320 00·8s 33·68S 178·95W 33km M=5·2**
2·6 0·11 0·21 R
Rsd 0·7s 11ph/9stn Dmin 499km Az.gap 303°
Corr. 0·745 10M/6stn Msd 0·3

85/917
**MAY 15 2112 32·7s 38·18S 179·23E 33km M=3·7**
4·4 0·10 0·43 R
Rsd 0·9s 7ph/6stn Dmin 81km Az.gap 292°
Corr. -0·288 7M/4stn Msd 0·2 1↑ 1↓

85/918
**MAY 15 2143 57·6s 37·53S 179·46E 33km M=3·7**
4·1 0·15 0·36 R
Rsd 0·7s 5ph/4stn Dmin 83km Az.gap 328°
Corr. 0·641 6M/4stn Msd 0·2 1↓

85/919
**MAY 16 1654 20·7s 37·74S 179·80E 33km M=3·8**
3·5 0·10 0·32 R
Rsd 0·6s 6ph/6stn Dmin 111km Az.gap 325°
Corr. 0·376 10M/6stn Msd 0·1 1↓

85/920
**MAY 16 1944 23·5s 37·30S 179·80W 33km M=4·0**
2·0 0·07 0·18 R
Rsd 0·3s 6ph/6stn Dmin 153km Az.gap 323°
Corr. 0·487 11M/7stn Msd 0·2

85/921
**MAY 16 2324 00·6s 39·48S 175·63E 11km M=3·9**
0·3 0·02 0·03 2
Rsd 0·5s 12ph/10stn Dmin 24km Az.gap 160°
Corr. 0·164 11M/6stn Msd 0·2 4↑ 3↓

85/922
**MAY 18 0334 09·9s 37·88S 177·27E 33km M=4·2**
0·3 0·03 0·03 R
Rsd 0·7s 11ph/11stn Dmin 40km Az.gap 121°
Corr. 0·040 8M/5stn Msd 0·3 5↑ 4↓

85/923
**MAY 18 0417 13·1s 37·30S 177·73E 33km M=3·8**
0·5 0·04 0·04 R
Rsd 0·7s 9ph/9stn Dmin 54km Az.gap 181°
Corr. 0·337 10M/5stn Msd 0·1 6↓

85/924
**MAY 18 0603 27·4s 37·64S 179·91E 33km M=3·8**
1·5 0·11 0·13 R
Rsd 0·4s 6ph/3stn Dmin 120km Az.gap 329°
Corr. -0·072 7M/4stn Msd 0·1 1↓

85/925
**MAY 18 0710 35·0s 37·94S 176·63E 189km M=3·6**
3·0 0·14 0·12 23
Rsd 0·6s 6ph/5stn Dmin 34km Az.gap 212°
Corr. 0·527 6M/4stn Msd 0·3 2↑ 1↓

85/926
**MAY 18 1055 44·3s 38·82S 175·89E 124km M=3·6**
0·8 0·04 0·05 9
Rsd 0·7s 14ph/12stn Dmin 46km Az.gap 91°
Corr. -0·484 8M/4stn Msd 0·2 3↑ 5↓

85/927
**MAY 18 1319 10·9s 44·64S 168·19E 83km M=3·7**
0·9 0·05 0·06 11
Rsd 0·8s 9ph/8stn Dmin 22km Az.gap 175°
Corr. -0·365 8M/4stn Msd 0·2 1↑ 2↓

85/928
**MAY 19 0103 10·7s 39·32S 175·73E 33km M=3·6**
0·6 0·04 0·06 R
Rsd 0·7s 6ph/6stn Dmin 20km Az.gap 239°
Corr. 0·205 4M/2stn Msd 0·2 3↓

85/929
**MAY 19 0204 17·8s 41·85S 172·50E 0km M=3·8**
0·7 0·03 0·03 6
Rsd 0·7s 10ph/8stn Dmin 29km Az.gap 143°
Corr. -0·320 9M/6stn Msd 0·3 3↑ 1↓

85/930
**MAY 19 1047 26·6s 37·28S 177·11E 148km M=3·8**
0·8 0·04 0·04 8
Rsd 0·6s 12ph/10stn Dmin 29km Az.gap 162°
Corr. 0·166 9M/5stn Msd 0·2 3↓

85/931
**MAY 19 1130 21·9s 45·68S 167·05E 68km M=3·5**
0·3 0·01 0·01 8
Rsd 0·1s 6ph/5stn Dmin 131km Az.gap 243°
Corr. 0·037 5M/3stn Msd 0·3 3↑

85/932
**MAY 19 1754 52·9s 40·53S 177·05E 91km M=4·1**
0·6 0·03 0·04 11
Rsd 0·4s 10ph/13stn Dmin 81km Az.gap 210°
Corr. -0·600 11M/6stn Msd 0·4 3↑ 4↓

85/933
**MAY 20 0112 51·1s 37·53S 179·88W 33km M=4·2**
2·1 0·06 0·19 R
Rsd 0·4s 7ph/6stn Dmin 140km Az.gap 326°
Corr. 0·497 10M/5stn Msd 0·3 3↑ 1↓

85/934
**MAY 20 0744 07·9s 39·31S 178·83E 12km M=3·7**
1·1 0·05 0·11 R
Rsd 0·7s 9ph/9stn Dmin 101km Az.gap 250°
Corr. -0·602 8M/5stn Msd 0·2 3↑

85/935
**MAY 20 0928 32·6s 38·19S 176·05E 211km M=4·1**
1·0 0·05 0·05 9
Rsd 0·6s 13ph/11stn Dmin 40km Az.gap 111°
Corr. -0·563 8M/5stn Msd 0·3 7↑ 3↓

85/936
**MAY 20 0958 04·1s 39·50S 175·66E 0km M=3·6**
0·5 0·02 0·04 4
Rsd 0·6s 13ph/11stn Dmin 27km Az.gap 127°
Corr. -0·372 9M/5stn Msd 0·3 1↑ 4↓

85/937
**MAY 20 1151 30·1s 37·54S 177·83E 33km M=4·0**
0·3 0·03 0·03 R
Rsd 0·5s 9ph/9stn Dmin 65km Az.gap 161°
Corr. 0·174 12M/7stn Msd 0·2 3↑ 3↓

85/938
**MAY 20 2329 36·1s 37·29S 177·50E 5km M=3·6**
0·9 0·03 0·03 5
Rsd 0·4s 9ph/9stn Dmin 38km Az.gap 173°
Corr. 0·520 9M/6stn Msd 0·2

85/939
**MAY 21 1148 01·3s 37·98S 176·14E 213km M=4·0**
1·2 0·05 0·06 10
Rsd 0·3s 6ph/4stn Dmin 53km Az.gap 175°
Corr. 0·420 4M/2stn Msd 0·2 1↓

85/940
**MAY 21 1347 35·2s 37·20S 176·75E 215km M=3·9**
1·1 0·07 0·07 8
Rsd 0·3s 5ph/3stn Dmin 90km Az.gap 310°
Corr. -0·129 4M/2stn Msd 0·2

85/941
**MAY 21 1513 45·6s 43·40S 170·97E 12km M=4·0**
0·2 0·02 0·06 R
Rsd 0·4s 8ph/6stn Dmin 104km Az.gap 166°
Corr. -0·869 7M/5stn Msd 0·2 1↑

85/942
**MAY 22 0128 00·7s 37·23S 177·72E 228km M=4·0**
0·9 0·08 0·11 9
Rsd 0·3s 7ph/4stn Dmin 154km Az.gap 307°
Corr. -0·551 3M/2stn Msd 0·2

85/943
**MAY 22 0656 07·5s 37·62S 179·44W 33km M=5·1**
0·9 0·04 0·08 R
Rsd 0·4s 11ph/11stn Dmin 178km Az.gap 297°
Corr. 0·342 12M/7stn Msd 0·1 4↑ 4↓

85/944
**MAY 22 1733 53·1s 41·17S 174·32E 55km M=3·7**
0·3 0·03 0·02 4
Rsd 0·3s 10ph/8stn Dmin 5km Az.gap 117°
Corr. -0·373 5M/4stn Msd 0·4 1↑

85/945
**MAY 23 0014 43·4s 38·61S 175·82E 164km M=4·2**
1·5 0·07 0·06 14
Rsd 0·8s 9ph/7stn Dmin 70km Az.gap 110°
Corr. -0·215 5M/3stn Msd 0·3 3↑

85/946
**MAY 23 0026 30·2s 36·72S 177·31E 12km M=4·4**
0·5 0·04 0·05 R
Rsd 0·4s 9ph/7stn Dmin 90km Az.gap 236°
Corr. 0·740 8M/4stn Msd 0·3

85/947
**MAY 24 0007 40·3s 39·49S 175·69E 9km M=3·7**
0·3 0·01 0·05 2
Rsd 0·3s 9ph/8stn Dmin 34km Az.gap 164°
Corr. -0·087 3M/2stn Msd 0·4 1↑ 3↓

85/948
**MAY 24 0621 30·3s 42·20S 172·75E 7km M=3·9**
0·9 0·04 0·08 2
Rsd 0·3s 8ph/6stn Dmin 44km Az.gap 251°
Corr. 0·870 3M/3stn Msd 0·1 1↓

85/949
**MAY 24 1309 49·3s 37·32S 179·66W 33km M=4·5**
1·2 0·12 0·10 R
Rsd 0·4s 6ph/5stn Dmin 164km Az.gap 330°
Corr. -0·039 8M/6stn Msd 0·1

85/950
**MAY 24 1339 29·6s 37·96S 179·58W 33km M=4·4**
1·5 0·15 0·13 R
Rsd 0·5s 6ph/4stn Dmin 168km Az.gap 331°
Corr. 0·432 6M/3stn Msd 0·2

85/951
**MAY 24 2118 28·8s 37·65S 178·67E 33km M=3·9**
0·3 0·04 0·03 R
Rsd 0·2s 5ph/5stn Dmin 12km Az.gap 334°
Corr. -0·353 4M/3stn Msd 0·1 1↑

85/952
**MAY 25 0757 32·5s 35·79S 179·19E 33km M=4·3**
4·5 0·26 0·35 R
Rsd 0·8s 5ph/4stn Dmin 219km Az.gap 334°
Corr. 0·556 3M/2stn Msd 0·1

85/953
**MAY 26 0028 38·4s 40·39S 174·15E 96km M=3·2**
1·1 0·02 0·03 14
Rsd 0·3s 8ph/6stn Dmin 83km Az.gap 121°
Corr. -0·004 2M/1stn Msd 0·2 1↑

85/954
**MAY 26 0041 20·3s 44·44S 169·68E 12km M=3·5**
0·5 0·06 0·05 R
Rsd 0·8s 7ph/4stn Dmin 37km Az.gap 170°
Corr. -0·695 6M/3stn Msd 0·2 1↓

85/955
**MAY 26 1227 31·9s 37·40S 176·99E 12km M=3·4**
2·1 0·15 0·09 R
Rsd 1·0s 5ph/5stn Dmin 22km Az.gap 219°
Corr. -0·292 3M/2stn Msd 0·4

85/956
**MAY 26 1301 45·1s 37·54S 179·92W 33km M=4·5**
0·9 0·04 0·08 R
Rsd 0·2s 8ph/6stn Dmin 137km Az.gap 325°
Corr. 0·320 9M/5stn Msd 0·1 1↑

85/957
**MAY 27 0645 02·1s 35·09S 179·72E 12km M=5·3**
1·2 0·06 0·09 R
Rsd 0·5s 14ph/10stn Dmin 308km Az.gap 286°
Corr. 0·673 19M/13stn Msd 0·2

85/958
**MAY 27 1212 21·3s 44·93S 167·65E 104km M=3·8**
1·2 0·05 0·08 11
Rsd 0·5s 8ph/5stn Dmin 36km Az.gap 225°
Corr. -0·276 5M/3stn Msd 0·3 1↑

85/959
**MAY 27 2351 46·4s 37·44S 179·92W 33km M=4·4**
0·9 0·07 0·05 R
Rsd 0·2s 7ph/6stn Dmin 138km Az.gap 329°
Corr. 0·377 9M/6stn Msd 0·2

85/960
**MAY 28 0010 49·9s 37·46S 179·69W 33km M=4·1**
0·8 0·06 0·06 R
Rsd 0·3s 7ph/4stn Dmin 157km Az.gap 336°
Corr. 0·113 8M/4stn Msd 0·1

85/961
**MAY 28 0751 56·3s 45·72S 168·21E 33km M=3·4**
0·2 0·01 0·02 R
Rsd 0·3s 11ph/6stn Dmin 52km Az.gap 87°
Corr. -0·476 6M/4stn Msd 0·4

85/962
**MAY 28 0844 27·8s 38·05S 176·25E 5km M=2·6**
R R R R
Rsd 0·9s 2ph/2stn Dmin 30km Az.gap 210°
Corr. R 1M/1stn Msd ND
Felt Rotorua (33) MM V. This event was one in a group of at least 8 occurring between 01h 47m and 14h 48m.

85/963
**MAY 29 0918 11·6s 37·53S 179·84W 33km M=4·9**
0·7 0·05 0·06 R
Rsd 0·3s 9ph/6stn Dmin 144km Az.gap 327°
Corr. 0·187 20M/13stn Msd 0·2 1↓

85/964
**MAY 29 1027 49·7s 45·07S 167·73E 74km M=4·5**
0·8 0·04 0·06 10
Rsd 0·7s 9ph/6stn Dmin 46km Az.gap 187°
Corr. -0·356 7M/4stn Msd 0·3 5↓

85/965
**MAY 29 1455 35·5s 37·77S 179·85E 33km M=4·5**
2·0 0·08 0·19 R
Rsd 0·6s 8ph/7stn Dmin 115km Az.gap 316°
Corr. -0·011 13M/7stn Msd 0·2

85/966
**MAY 29 2146 30·8s 29·96S 178·57W 33km M=5·4**
2·4 1·02 2·59 R
Rsd 0·7s 8ph/4stn Dmin 1298kmAz.gap 358°
Corr. -0·986 2M/1stn Msd 0·6

85/967
**MAY 30 0745 19·5s 40·16S 176·32E 68km M=3·7**
0·3 0·02 0·04 5
Rsd 0·4s 12ph/9stn Dmin 80km Az.gap 170°
Corr. -0·694 6M/4stn Msd 0·1 3↑
Felt Mount Vernon (60) MM IV.

85/968
**MAY 31 0816 26·5s 40·06S 179·21W 33km M=4·1**
2·6 0·10 0·24 R
Rsd 1·0s 8ph/5stn Dmin 286km Az.gap 307°
Corr. 0·015 4M/2stn Msd 0·2

85/969
**MAY 31 0822 47·9s 37·76S 179·86W 33km M=4·3**
2·0 0·22 0·18 R
Rsd 0·9s 6ph/6stn Dmin 141km Az.gap 318°
Corr. -0·433 6M/4stn Msd 0·1

85/970
**MAY 31 1602 40·5s 37·91S 179·34W 33km M=4·0**
1·5 0·07 0·14 R
Rsd 0·4s 6ph/4stn Dmin 187km Az.gap 312°
Corr. -0·012 5M/3stn Msd 0·1

85/971
**MAY 31 1615 58·1s 37·97S 179·21W 33km M=4·0**
1·0 0·06 0·08 R
Rsd 0·3s 8ph/5stn Dmin 200km Az.gap 312°
Corr. -0·156 4M/2stn Msd 0·1

85/972
**MAY 31 1707 58·2s 44·67S 168·33E 61km M=4·0**
0·7 0·04 0·04 10
Rsd 0·6s 12ph/7stn Dmin 32km Az.gap 165°
Corr. -0·504 7M/4stn Msd 0·2 3↑ 1↓

85/973
**MAY 31 1944 22·2s 40·68S 175·60E 28km M=4·1**
0·4 0·04 0·05 4
Rsd 0·9s 12ph/10stn Dmin 12km Az.gap 115°
Corr. 0·000 5M/4stn Msd 0·4 2↑
Felt Pahiatua (62) MM V and Palmerston North (62).

85/974
**JUN 01 1818 50·7s 37·72S 179·87W 33km M=4·3**
0·9 0·10 0·08 R
Rsd 0·5s 8ph/6stn Dmin 140km Az.gap 329°
Corr. -0·343 8M/5stn Msd 0·1

85/975
**JUN 01 1928 53·3s 36·92S 177·24E 12km M=3·8**
0·4 0·02 0·02 R
Rsd 0·1s 5ph/3stn Dmin 120km Az.gap 287°
Corr. 0·657 4M/2stn Msd 0·3

85/976
**JUN 02 0828 40·4s 39·56S 174·04E 172km M=4·1**
1·0 0·11 0·06 16
Rsd 0·6s 10ph/7stn Dmin 162km Az.gap 222°
Corr. -0·582 4M/3stn Msd 0·4 6↑

85/977
**JUN 02 2126 13·9s 45·17S 167·54E 108km M=4·5**
0·6 0·03 0·05 8
Rsd 0·5s 8ph/5stn Dmin 62km Az.gap 221°
Corr. -0·236 4M/2stn Msd 0·3 1↑

85/978
**JUN 02 2154 41·1s 38·23S 176·00E 208km M=4·1**
1·3 0·07 0·10 12
Rsd 0·6s 8ph/6stn Dmin 45km Az.gap 141°
Corr. -0·564 4M/2stn Msd 0·2 2↓

85/979
**JUN 02 2302 05·6s 37·94S 176·50E 5km M=3·0**
ND ND ND R
Rsd ND 3ph/2stn Dmin 33km Az.gap 269°
Corr. ND 1M/1stn Msd ND
Felt Rotorua (33) MM 4.

85/980
**JUN 03 0219 10·5s 38·77S 175·19E 225km M=4·4**
1·2 0·05 0·06 11
Rsd 0·7s 12ph/9stn Dmin 98km Az.gap 160°
Corr. -0·386 8M/5stn Msd 0·3 4↑ 1↓

85/981
**JUN 03 0522 16·7s 40·22S 173·91E 124km M=3·6**
1·9 0·16 0·06 20
Rsd 0·7s 6ph/5stn Dmin 111km Az.gap 243°
Corr. -0·451 3M/2stn Msd 0·3 1↑ 3↓

85/982
**JUN 05 0141 31·0s 37·55S 179·77W 33km M=4·1**
1·2 0·06 0·11 R
Rsd 0·5s 9ph/6stn Dmin 149km Az.gap 319°
Corr. 0·030 7M/4stn Msd 0·2

85/983
**JUN 06 0320 22·7s 37·39S 177·35E 12km M=3·6**
0·8 0·05 0·05 R
Rsd 0·7s 7ph/7stn Dmin 21km Az.gap 161°
Corr. 0·049 5M/5stn Msd 0·5

85/984
**JUN 06 0729 35·7s 39·74S 174·42E 130km M=4·0**
0·5 0·03 0·04 4
Rsd 0·7s 22ph/18stn Dmin 59km Az.gap 109°
Corr. -0·546 10M/6stn Msd 0·3 7↑
Felt Wainuiomata (68) MM III.

85/985
**JUN 06 1301 31·3s 37·86S 177·24E 67km M=3·4**
0·9 0·03 0·04 9
Rsd 0·6s 10ph/7stn Dmin 26km Az.gap 114°
Corr. -0·037 6M/3stn Msd 0·1

85/986
**JUN 07 0006 51·4s 37·34S 176·12E 261km M=4·1**
1·3 0·09 0·13 11
Rsd 0·4s 8ph/6stn Dmin 104km Az.gap 269°
Corr. -0·035 8M/5stn Msd 0·3 1↑

85/987
**JUN 07 1023 02·8s 37·54S 178·23E 60km M=3·6**
0·8 0·04 0·05 9
Rsd 0·7s 11ph/8stn Dmin 33km Az.gap 210°
Corr. 0·185 7M/5stn Msd 0·2

85/988
**JUN 07 1540 31·3s 36·78S 177·57E 219km M=4·3**
1·2 0·08 0·10 11
Rsd 0·6s 10ph/6stn Dmin 134km Az.gap 290°
Corr. -0·189 9M/5stn Msd 0·2

85/989
**JUN 07 1549 44·0s 37·66S 179·43E 33km M=3·9**
0·6 0·04 0·06 R
Rsd 0·4s 10ph/7stn Dmin 78km Az.gap 314°
Corr. -0·027 12M/7stn Msd 0·1

85/990
**JUN 08 0815 15·9s 36·68S 177·94E 12km M=4·2**
1·7 0·11 0·11 R
Rsd 0·9s 10ph/6stn Dmin 125km Az.gap 233°
Corr. 0·758 13M/7stn Msd 0·2

85/991
**JUN 08 0822 54·3s 37·50S 179·77W 33km M=4·8**
0·7 0·03 0·06 R
Rsd 0·4s 12ph/10stn Dmin 150km Az.gap 301°
Corr. -0·187 20M/13stn Msd 0·2 1↑

85/992
**JUN 08 1334 07·7s 36·46S 177·88E 12km M=3·9**
2·9 0·19 0·15 R
Rsd 0·8s 6ph/5stn Dmin 149km Az.gap 241°
Corr. 0·727 8M/5stn Msd 0·2

85/993
**JUN 08 1502 05·5s 36·55S 177·74E 314km M=4·4**
0·7 0·07 0·06 8
Rsd 0·3s 10ph/7stn Dmin 145km Az.gap 280°
Corr. -0·136 11M/7stn Msd 0·2

85/994
**JUN 08 2234 13·7s 46·01S 167·18E 106km M=4·8**
0·4 0·02 0·04 4
Rsd 0·4s 11ph/11stn Dmin 37km Az.gap 212°
Corr. -0·105 10M/6stn Msd 0·3 1↑ 1↓

85/995
**JUN 09 0249 19·2s 37·44S 179·81W 33km M=4·2**
0·7 0·03 0·06 R
Rsd 0·4s 10ph/7stn Dmin 148km Az.gap 300°
Corr. 0·021 9M/5stn Msd 0·1

85/996
**JUN 09 0252 56·8s 37·34S 179·85E 33km M=3·8**
1·3 0·08 0·11 R
Rsd 0·5s 6ph/4stn Dmin 122km Az.gap 323°
Corr. -0·148 6M/3stn Msd 0·2

85/997
**JUN 09 0400 32·3s 44·14S 167·68E 12km M=3·9**
0·9 0·06 0·06 R
Rsd 0·7s 12ph/7stn Dmin 163km Az.gap 273°
Corr. -0·533 8M/5stn Msd 0·2

85/998
**JUN 09 0923 12·1s 37·45S 179·92E 33km M=3·8**
1·5 0·11 0·12 R
Rsd 0·6s 7ph/4stn Dmin 124km Az.gap 324°
Corr. 0·039 7M/4stn Msd 0·1

85/999
**JUN 09 0930 32·7s 36·95S 177·84E 123km M=4·0**
1·5 0·09 0·11 13
Rsd 0·9s 8ph/5stn Dmin 86km Az.gap 294°
Corr. 0·375 5M/3stn Msd 0·3

85/1000
**JUN 09 1340 15·1s 37·44S 179·73W 33km M=4·1**
0·9 0·03 0·08 R
Rsd 0·3s 10ph/8stn Dmin 155km Az.gap 305°
Corr. -0·177 8M/5stn Msd 0·2

85/1001
**JUN 09 1746 26·2s 37·39S 179·79E 33km M=3·7**
2·8 0·15 0·26 R
Rsd 1·0s 7ph/4stn Dmin 115km Az.gap 323°
Corr. -0·079 7M/4stn Msd 0·1

85/1002
**JUN 10 0304 56·0s 37·93S 176·45E 190km M=4·0**
1·4 0·07 0·08 11
Rsd 1·0s 9ph/6stn Dmin 80km Az.gap 172°
Corr. -0·395 5M/3stn Msd 0·1 1↓

85/1003
**JUN 10 0325 18·1s 44·74S 167·45E 1km M=3·8**
1·4 0·05 0·11 R
Rsd 0·7s 9ph/8stn Dmin 38km Az.gap 241°
Corr. -0·724 6M/5stn Msd 0·5

85/1004
**JUN 10 0423 11·5s 37·50S 179·76W 33km M=4·1**
1·4 0·07 0·13 R
Rsd 0·5s 9ph/7stn Dmin 151km Az.gap 328°
Corr. -0·104 10M/6stn Msd 0·3

85/1005
**JUN 10 1300 35·9s 41·28S 172·02E 1km M=3·3**
0·2 0·01 0·02 R
Rsd 0·2s 11ph/7stn Dmin 63km Az.gap 231°
Corr. -0·249 4M/3stn Msd 0·2
Felt Arapito (74) MM V.

85/1006
**JUN 10 1723 12·5s 36·78S 179·33W 319km M=4·2**
1·2 0·21 0·32 11
Rsd 0·5s 9ph/6stn Dmin 214km Az.gap 340°
Corr. -0·811 6M/4stn Msd 0·2

85/1007
**JUN 11 0355 42·2s 44·99S 167·68E 129km M=3·4**
1·1 0·05 0·09 7
Rsd 0·6s 8ph/5stn Dmin 40km Az.gap 217°
Corr. -0·151 4M/3stn Msd 0·2

85/1008
**JUN 11 0918 26·8s 36·74S 177·66E 269km M=4·2**
1·4 0·13 0·13 16
Rsd 0·8s 11ph/8stn Dmin 131km Az.gap 269°
Corr. -0·511 8M/5stn Msd 0·3

85/1009
**JUN 11 1245 15·8s 38·69S 175·76E 12km M=2·9**
0·4 0·02 0·05 R
Rsd 0·6s 9ph/6stn Dmin 31km Az.gap 138°
Corr. -0·226 3M/2stn Msd 0·2
Felt Waihora Road (40) MM IV.

85/1010
**JUN 11 1426 29·1s 38·18S 177·79E 20km M=3·4**
0·3 0·02 0·03 4
Rsd 0·6s 12ph/9stn Dmin 56km Az.gap 108°
Corr. -0·032 6M/4stn Msd 0·2

85/1011
**JUN 12 0204 07·6s 45·13S 167·67E 86km M=5·1**
0·6 0·03 0·05 8
Rsd 0·6s 10ph/12stn Dmin 55km Az.gap 193°
Corr. -0·267 11M/6stn Msd 0·3 1↑ 3↓
Felt Queenstown (132), Centre Island (148) MM V. Also felt Cromwell (133) MM IV, Alexandra, Clyde (133), Monowai (139), Dunedin (145).

85/1012
**JUN 12 1140 35·8s 41·29S 172·06E 1km M=3·2**
0·3 0·01 0·02 R
Rsd 0·3s 11ph/7stn Dmin 61km Az.gap 228°
Corr. -0·489 5M/4stn Msd 0·2
Felt Arapito (74) MM IV.

85/1013
**JUN 12 1455 51·4s 39·69S 174·49E 125km M=4·0**
0·4 0·02 0·04 4
Rsd 0·7s 27ph/18stn Dmin 57km Az.gap 101°
Corr. -0·605 11M/6stn Msd 0·3 6↑ 2↓

85/1014
**JUN 12 2200 17·7s 36·79S 177·33E 12km M=3·7**
0·4 0·02 0·04 R
Rsd 0·4s 11ph/9stn Dmin 83km Az.gap 203°
Corr. 0·545 7M/6stn Msd 0·3

85/1015
**JUN 12 2201 26·0s 36·82S 177·28E 12km M=3·8**
0·7 0·04 0·06 R
Rsd 0·7s 11ph/7stn Dmin 79km Az.gap 199°
Corr. 0·563 5M/3stn Msd 0·3

85/1016
**JUN 14 0725 05·3s 44·01S 168·60E 1km M=3·8**
0·6 0·03 0·03 R
Rsd 0·6s 11ph/8stn Dmin 91km Az.gap 199°
Corr. -0·365 11M/7stn Msd 0·2 1↑

85/1017
**JUN 14 2311 22·9s 37·26S 177·40E 181km M=3·7**
1·6 0·10 0·11 11
Rsd 0·7s 9ph/6stn Dmin 88km Az.gap 276°
Corr. 0·295 7M/4stn Msd 0·2

85/1018
**JUN 15 0327 22·3s 37·56S 179·95W 33km M=4·0**
0·7 0·04 0·07 R
Rsd 0·3s 10ph/7stn Dmin 133km Az.gap 328°
Corr. -0·269 7M/5stn Msd 0·2

85/1019
**JUN 15 0500 43·1s 37·28S 177·28E 145km M=4·0**
0·5 0·02 0·03 4
Rsd 0·3s 11ph/9stn Dmin 28km Az.gap 167°
Corr. 0·412 11M/7stn Msd 0·3 3↑

85/1020
**JUN 15 0619 03·0s 37·52S 179·80W 33km M=4·7**
1·3 0·04 0·12 R
Rsd 0·5s 11ph/8stn Dmin 147km Az.gap 303°
Corr. 0·046 10M/7stn Msd 0·2

85/1021
**JUN 15 2341 56·6s 39·67S 174·08E 193km M=4·1**
0·6 0·03 0·05 6
Rsd 0·6s 22ph/15stn Dmin 60km Az.gap 169°
Corr. -0·640 9M/6stn Msd 0·3

85/1022
**JUN 16 0329 19·3s 37·75S 177·32E 64km M=3·7**
0·6 0·03 0·03 5
Rsd 0·5s 14ph/14stn Dmin 28km Az.gap 112°
Corr. -0·005 9M/5stn Msd 0·3 1↑

85/1023
**JUN 16 0518 56·6s 37·95S 176·08E 222km M=4·1**
1·0 0·03 0·06 9
Rsd 0·6s 16ph/11stn Dmin 49km Az.gap 117°
Corr. -0·052 11M/7stn Msd 0·2 1↑ 1↓

85/1024
**JUN 16 2123 10·0s 36·84S 177·32E 12km M=3·7**
1·1 0·06 0·06 R
Rsd 0·7s 10ph/7stn Dmin 77km Az.gap 259°
Corr. -0·176 6M/4stn Msd 0·4

85/1025
**JUN 17 1646 40·6s 36·60S 177·69E 276km M=4·1**
1·1 0·09 0·10 11
Rsd 0·6s 12ph/8stn Dmin 143km Az.gap 276°
Corr. 0·065 10M/6stn Msd 0·2

85/1026
**JUN 17 2104 59·4s 39·04S 177·52E 31km M=3·5**
0·2 0·02 0·02 1
Rsd 0·4s 12ph/10stn Dmin 41km Az.gap 171°
Corr. -0·395 5M/3stn Msd 0·2 1↑

85/1027
**JUN 18 2235 35·4s 45·91S 166·98E 6km M=4·3**
1·6 0·04 0·13 6
Rsd 0·9s 11ph/7stn Dmin 46km Az.gap 246°
Corr. 0·135 7M/4stn Msd 0·2 1↑ 1↓

85/1028
**JUN 19 0046 10·3s 38·80S 175·53E 196km M=3·6**
2·1 0·10 0·35 17
Rsd 0·8s 7ph/5stn Dmin 42km Az.gap 331°
Corr. -0·125 2M/1stn Msd 0·2 1↑

85/1029
**JUN 19 1205 47·2s 44·92S 167·41E 12km M=3·7**
1·4 0·05 0·13 R
Rsd 0·8s 8ph/7stn Dmin 49km Az.gap 242°
Corr. -0·778 4M/3stn Msd 0·5 1↓

85/1030
**JUN 20 1848 54·4s 44·99S 167·57E 126km M=4·2**
1·2 0·05 0·10 8
Rsd 0·7s 10ph/6stn Dmin 45km Az.gap 217°
Corr. -0·651 4M/3stn Msd 0·2 1↑

85/1031
**JUN 20 2134 27·4s 45·17S 167·57E 85km M=4·7**
1·0 0·03 0·07 10
Rsd 0·6s 12ph/7stn Dmin 62km Az.gap 204°
Corr. -0·301 6M/4stn Msd 0·3 3↑ 3↓

85/1032
**JUN 21 1230 42·0s 38·52S 175·84E 201km M=4·1**
2·2 0·10 0·10 18
Rsd 0·8s 9ph/7stn Dmin 72km Az.gap 134°
Corr. 0·053 7M/4stn Msd 0·1 3↑

85/1033
**JUN 22 0018 46·8s 45·89S 167·13E 82km M=3·7**
0·3 0·01 0·03 2
Rsd 0·2s 8ph/6stn Dmin 34km Az.gap 239°
Corr. 0·075 4M/2stn Msd 0·3

85/1034
**JUN 22 1633 11·2s 39·36S 177·52E 5km M=4·4**
0·3 0·02 0·03 R
Rsd 0·5s 7ph/7stn Dmin 69km Az.gap 191°
Corr. -0·273 5M/4stn Msd 0·3 1↓
Felt Wairoa (53) MM 4.

85/1035
**JUN 23 0035 31·6s 38·37S 175·78E 178km M=4·4**
1·2 0·07 0·09 10
Rsd 1·0s 12ph/10stn Dmin 54km Az.gap 141°
Corr. -0·226 7M/4stn Msd 0·5 1↑ 1↓

85/1036
**JUN 24 0231 32·5s 37·63S 179·62W 33km M=4·6**
2·6 0·07 0·26 R
Rsd 0·8s 11ph/9stn Dmin 235km Az.gap 296°
Corr. 0·405 6M/5stn Msd 0·1

85/1037
**JUN 24 0238 07·2s 37·49S 179·69E 33km M=4·2**
2·0 0·07 0·19 R
Rsd 1·0s 9ph/6stn Dmin 194km Az.gap 298°
Corr. -0·017 4M/3stn Msd 0·2

85/1038
**JUN 24 1244 51·1s 37·53S 179·98W 33km M=4·4**
2·1 0·11 0·19 R
Rsd 0·9s 9ph/7stn Dmin 214km Az.gap 312°
Corr. 0·057 6M/5stn Msd 0·2
Felt Pikowai (27).

85/1039
**JUN 24 1246 01·0s 40·75S 172·66E 12km M=3·7**
1·7 0·07 0·14 R
Rsd 0·5s 9ph/6stn Dmin 38km Az.gap 282°
Corr. -0·873 4M/3stn Msd 0·4
Felt Bainham (72).

85/1040
**JUN 24 1625 16·0s 38·20S 179·36W 33km M=4·2**
1·9 0·11 0·16 R
Rsd 0·7s 7ph/5stn Dmin 233km Az.gap 319°
Corr. -0·067 3M/2stn Msd 0·1

85/1041
**JUN 24 1754 03·0s 37·72S 179·00W 33km M=5·1**
3·4 0·09 0·32 R
Rsd 1·0s 13ph/12stn Dmin 280km Az.gap 302°
Corr. 0·462 7M/5stn Msd 0·2 1↑

85/1042
**JUN 25 0621 17·5s 40·24S 176·48E 74km M=3·6**
0·7 0·04 0·07 9
Rsd 0·6s 10ph/8stn Dmin 82km Az.gap 198°
Corr. -0·803 3M/2stn Msd 0·1 2↑ 1↓

85/1043
**JUN 25 1802 47·0s 37·62S 179·96E 33km M=3·9**
3·1 0·13 0·29 R
Rsd 0·7s 8ph/6stn Dmin 204km Az.gap 328°
Corr. 0·032 4M/3stn Msd 0·1

85/1044
**JUN 25 1927 03·7s 42·75S 176·90E 33km M=4·5**
1·1 0·07 0·09 R
Rsd 0·6s 11ph/10stn Dmin 212km Az.gap 242°
Corr. -0·524 12M/10stn Msd 0·4

85/1045
**JUN 25 1957 21·5s 44·88S 167·89E 82km M=4·7**
0·4 0·02 0·03 4
Rsd 0·3s 8ph/6stn Dmin 23km Az.gap 190°
Corr. -0·202 9M/5stn Msd 0·2
Felt Queenstown (132). Maximum intensity MM V at Manapouri (139).

85/1046
**JUN 26 0057 34·2s 39·28S 175·00E 29km M=3·5**
0·2 0·01 0·02 1
Rsd 0·3s 8ph/5stn Dmin 48km Az.gap 116°
Corr. -0·030 6M/3stn Msd 0·4 2↑

85/1047
**JUN 27 0716 44·5s 39·90S 175·09E 85km M=3·4**
0·7 0·02 0·05 10
Rsd 0·4s 10ph/7stn Dmin 86km Az.gap 131°
Corr. 0·099 2M/1stn Msd 0·1 3↓

85/1048
**JUN 27 1717 15·1s 37·79S 176·73E 132km M=3·5**
ND ND ND ND
Rsd ND 4ph/3stn Dmin 31km Az.gap 288°
Corr. 0·000 2M/1stn Msd 0·1

85/1049
**JUN 28 0032 45·2s 40·47S 174·39E 33km M=3·4**
0·8 0·06 0·07 R
Rsd 0·7s 9ph/8stn Dmin 62km Az.gap 152°
Corr. -0·317 3M/2stn Msd 0·4 3↑

85/1050
**JUN 28 0343 45·5s 37·50S 179·71W 33km M=4·6**
1·2 0·06 0·11 R
Rsd 0·3s 8ph/6stn Dmin 176km Az.gap 329°
Corr. -0·016 6M/4stn Msd 0·2 1↑
This event, the event at 0351 hours and five much smaller events could be foreshocks of the ML 5·8 event at 1854 hours.

85/1051
**JUN 28 0351 09·8s 37·44S 179·36W 33km M=4·1**
6·8 0·27 0·64 R
Rsd 1·3s 6ph/5stn Dmin 207km Az.gap 326°
Corr. -0·215 3M/3stn Msd 0·1 1↓

85/1052
**JUN 28 0849 12·2s 43·49S 170·50E 12km M=3·7**
0·4 0·03 0·05 R
Rsd 0·4s 9ph/6stn Dmin 96km Az.gap 158°
Corr. -0·627 7M/4stn Msd 0·2
Felt Erehwon (107) MM IV.

85/1053
**JUN 28 1854 15·4s 37·82S 179·67E 33km M=5·8**
0·9 0·05 0·08 R
Rsd 1·0s 20ph/21stn Dmin 123km Az.gap 217°
Corr. 0·505 19M/12stn Msd 0·2 7↑ 9↓
Felt Bay of Plenty and East Cape MM IV.

85/1054
**JUN 29 1524 24·6s 37·18S 177·08E 12km M=4·0**
1·9 0·12 0·07 R
Rsd 0·9s 6ph/5stn Dmin 40km Az.gap 275°
Corr. 0·542 4M/3stn Msd 0·1

85/1055
**JUN 29 2209 16·8s 36·58S 177·20E 12km M=4·4**
0·7 0·05 0·06 R
Rsd 0·6s 8ph/7stn Dmin 105km Az.gap 239°
Corr. 0·645 5M/4stn Msd 0·2

85/1056
**JUN 30 0058 26·2s 35·39S 178·59E 33km M=4·1**
ND ND ND R
Rsd ND 3ph/2stn Dmin 322km Az.gap 342°
Corr. 0·283 3M/2stn Msd 0·2

85/1057
**JUN 30 0217 26·6s 38·65S 176·11E 5km M=3·2**
0·7 0·05 0·09 R
Rsd 0·8s 4ph/4stn Dmin 0km Az.gap 180°
Corr. 0·064 2M/2stn Msd 0·1
Felt Taupo (41) MM IV.

85/1058
**JUN 30 1103 48·5s 37·37S 176·94E 12km M=4·3**
0·6 0·05 0·04 R
Rsd 1·1s 9ph/8stn Dmin 28km Az.gap 151°
Corr. 0·064 8M/6stn Msd 0·2 2↑

85/1059
**JUN 30 1119 53·4s 49·08S 174·59E 33km M=4·3**
9·3 0·93 1·16 R
Rsd 2·0s 5ph/3stn Dmin 540km Az.gap 343°
Corr. 0·466 3M/2stn Msd 0·3

85/1060
**JUL 01 0314 18·0s 37·69S 179·85W 33km M=4·3**
0·8 0·05 0·07 R
Rsd 0·3s 8ph/5stn Dmin 142km Az.gap 331°
Corr. -0·347 5M/4stn Msd 0·1
This event was the largest of a group of four.

85/1061
**JUL 01 0314 32·7s 38·65S 175·41E 204km M=3·8**
1·0 0·04 0·16 9
Rsd 0·4s 9ph/7stn Dmin 60km Az.gap 170°
Corr. -0·024 2M/1stn Msd 0·1 1↑ 1↓

85/1062
**JUL 01 0757 56·9s 43·75S 169·69E 20km M=3·1**
0·7 0·05 0·09 8
Rsd 0·3s 8ph/4stn Dmin 72km Az.gap 277°
Corr. 0·650 2M/1stn Msd 0·3
Felt Paringa (103) MM IV.

85/1063
**JUL 01 1922 33·3s 36·50S 179·96W 137km M=4·8**
1·1 0·05 0·10 15
Rsd 0·4s 9ph/8stn Dmin 187km Az.gap 303°
Corr. 0·435 9M/6stn Msd 0·2

85/1064
**JUL 02 0242 51·4s 37·57S 179·60W 33km M=4·1**
1·8 0·09 0·15 R
Rsd 0·3s 5ph/4stn Dmin 164km Az.gap 335°
Corr. 0·536 7M/4stn Msd 0·2

85/1065
**JUL 02 0650 03·5s 39·63S 174·43E 124km M=4·2**
0·4 0·02 0·02 4
Rsd 0·3s 10ph/6stn Dmin 49km Az.gap 102°
Corr. -0·440 6M/4stn Msd 0·3 4↑

85/1066
**JUL 02 1718 00·9s 37·23S 179·86E 12km M=4·3**
2·6 0·14 0·24 R
Rsd 0·6s 7ph/6stn Dmin 127km Az.gap 324°
Corr. -0·012 8M/6stn Msd 0·3 1↓

85/1067
**JUL 02 2005 02·5s 39·33S 175·16E 36km M=3·8**
0·3 0·02 0·02 5
Rsd 0·4s 9ph/7stn Dmin 36km Az.gap 102°
Corr. 0·023 3M/2stn Msd 0·1 1↑ 1↓

85/1068
**JUL 03 2211 18·0s 39·53S 174·19E 167km M=3·9**
0·5 0·03 0·03 6
Rsd 0·2s 5ph/3stn Dmin 128km Az.gap 218°
Corr. -0·449 2M/1stn Msd 0·1

85/1069
**JUL 04 0524 21·8s 37·40S 176·63E 204km M=5·1**
0·7 0·03 0·04 6
Rsd 0·5s 13ph/12stn Dmin 52km Az.gap 140°
Corr. 0·297 6M/4stn Msd 0·2 6↑

85/1070
**JUL 04 1618 21·2s 41·65S 174·67E 31km M=3·8**
0·7 0·07 0·06 4
Rsd 1·0s 8ph/6stn Dmin 39km Az.gap 192°
Corr. -0·443 5M/3stn Msd 0·5 1↑

85/1071
**JUL 04 2038 59·2s 37·51S 179·58W 12km M=4·6**
1·3 0·04 0·12 R
Rsd 0·3s 7ph/6stn Dmin 167km Az.gap 311°
Corr. 0·047 8M/6stn Msd 0·2

85/1072
**JUL 04 2237 21·6s 35·17S 178·79E 203km M=4·5**
6·4 0·32 0·34 78
Rsd 1·1s 5ph/4stn Dmin 281km Az.gap 296°
Corr. 0·832 4M/2stn Msd 0·2

85/1073
**JUL 05 0059 04·3s 37·82S 176·40E 211km M=4·2**
5·0 0·24 0·16 40
Rsd 1·0s 6ph/5stn Dmin 55km Az.gap 209°
Corr. -0·468 4M/2stn Msd 0·3

85/1074
**JUL 05 0847 48·5s 39·56S 175·23E 33km M=3·8**
0·6 0·05 0·07 R
Rsd 1·1s 7ph/5stn Dmin 48km Az.gap 136°
Corr. -0·078 6M/5stn Msd 0·3 1↓

85/1075
**JUL 05 0923 39·9s 37·12S 179·93W 33km M=4·0**
4·8 0·20 0·47 R
Rsd 0·7s 4ph/3stn Dmin 149km Az.gap 336°
Corr. -0·092 3M/2stn Msd 0·2

85/1076
**JUL 05 2251 17·3s 37·57S 179·79W 33km M=5·0**
1·4 0·04 0·13 R
Rsd 0·4s 9ph/8stn Dmin 148km Az.gap 310°
Corr. -0·223 17M/12stn Msd 0·3 2↓

85/1077
**JUL 06 1720 07·7s 36·68S 177·64E 188km M=4·0**
0·8 0·08 0·07 9
Rsd 0·2s 6ph/5stn Dmin 156km Az.gap 298°
Corr. 0·444 4M/3stn Msd 0·3

85/1078
**JUL 06 1807 04·0s 38·46S 179·29E 12km M=3·5**
0·2 0·01 0·01 R
Rsd 0·0s 5ph/3stn Dmin 107km Az.gap 297°
Corr. -0·642 4M/2stn Msd 0·3

85/1079
**JUL 06 1816 13·4s 38·49S 179·34E 12km M=4·1**
0·8 0·03 0·07 R
Rsd 0·4s 6ph/5stn Dmin 112km Az.gap 295°
Corr. -0·582 5M/4stn Msd 0·1 1↓

85/1080
**JUL 06 1825 35·5s 38·50S 179·42E 12km M=3·7**
0·3 0·01 0·03 R
Rsd 0·1s 6ph/4stn Dmin 118km Az.gap 297°
Corr. -0·586 4M/2stn Msd 0·3

85/1081
**JUL 07 1427 50·4s 45·07S 167·57E 121km M=3·9**
0·7 0·04 0·05 6
Rsd 0·5s 11ph/6stn Dmin 52km Az.gap 210°
Corr. -0·332 6M/3stn Msd 0·1 2↑ 1↓

85/1082
**JUL 07 1625 36·2s 33·67S 178·60W 246km M=5·0**
2·1 0·11 0·19 33
Rsd 0·6s 11ph/8stn Dmin 515km Az.gap 306°
Corr. 0·621 8M/4stn Msd 0·2 1↑

85/1083
**JUL 08 0233 06·3s 38·58S 176·00E 273km M=4·1**
0·4 0·04 0·05 4
Rsd 0·3s 6ph/5stn Dmin 75km Az.gap 217°
Corr. -0·769 7M/4stn Msd 0·3

85/1084
**JUL 08 1803 08·1s 39·44S 175·69E 12km M=3·7**
0·2 0·02 0·03 R
Rsd 0·6s 13ph/10stn Dmin 30km Az.gap 91°
Corr. 0·045 10M/6stn Msd 0·3 1↑ 3↓

85/1085
**JUL 08 1908 39·4s 39·46S 175·69E 12km M=3·9**
0·2 0·01 0·03 R
Rsd 0·5s 11ph/10stn Dmin 31km Az.gap 92°
Corr. -0·104 8M/6stn Msd 0·3 1↑ 2↓

85/1086
**JUL 08 2021 18·7s 39·47S 175·71E 12km M=3·8**
0·2 0·01 0·02 R
Rsd 0·4s 8ph/7stn Dmin 33km Az.gap 169°
Corr. -0·183 6M/4stn Msd 0·2 1↑ 2↓

85/1087
**JUL 09 1519 27·4s 33·89S 178·85W 241km M=4·7**
3·1 0·36 0·42 77
Rsd 0·6s 7ph/5stn Dmin 483km Az.gap 340°
Corr. -0·206 7M/4stn Msd 0·2

85/1088
**JUL 10 0829 15·0s 39·68S 174·06E 167km M=3·8**
0·2 0·01 0·01 2
Rsd 0·1s 6ph/3stn Dmin 139km Az.gap 213°
Corr. -0·484 2M/1stn Msd 0·4 1↑

85/1089
**JUL 10 2335 09·4s 37·37S 177·60E 71km M=3·9**
1·6 0·10 0·05 15
Rsd 0·6s 7ph/6stn Dmin 40km Az.gap 230°
Corr. -0·101 6M/3stn Msd 0·2

85/1090
**JUL 11 2157 44·5s 37·82S 176·79E 175km M=4·2**
2·1 0·10 0·08 19
Rsd 0·9s 9ph/7stn Dmin 25km Az.gap 181°
Corr. -0·274 8M/4stn Msd 0·2 1↑

85/1091
**JUL 12 0015 33·5s 41·82S 174·04E 5km M=4·2**
0·3 0·02 0·03 R
Rsd 0·7s 11ph/7stn Dmin 17km Az.gap 141°
Corr. -0·418 16M/11stn Msd 0·2 2↑ 1↓

85/1092
**JUL 12 1903 53·3s 35·05S 179·91W 33km M=5·1**
4·1 0·21 0·30 R
Rsd 0·8s 10ph/9stn Dmin 325km Az.gap 304°
Corr. 0·825 11M/8stn Msd 0·3

85/1093
**JUL 13 1128 31·3s 37·65S 179·99W 33km M=4·4**
1·1 0·03 0·10 R
Rsd 0·2s 8ph/7stn Dmin 129km Az.gap 307°
Corr. 0·320 11M/6stn Msd 0·1

85/1094
**JUL 13 1618 40·0s 34·28S 179·41E 33km M=5·0**
10·2 0·67 0·59 R
Rsd 1·9s 6ph/5stn Dmin 386km Az.gap 331°
Corr. 0·620 11M/6stn Msd 0·3

85/1095
**JUL 13 2239 34·5s 45·08S 167·66E 88km M=3·6**
0·9 0·04 0·07 9
Rsd 0·6s 9ph/6stn Dmin 49km Az.gap 198°
Corr. -0·527 8M/4stn Msd 0·4 1↓

85/1096
**JUL 14 0620 06·5s 41·19S 172·89E 139km M=4·1**
1·0 0·06 0·07 8
Rsd 0·7s 10ph/8stn Dmin 17km Az.gap 127°
Corr. -0·327 3M/3stn Msd 0·3 1↑ 1↓

85/1097
**JUL 14 1809 59·4s 49·23S 165·29E 33km M=4·2**
2·6 0·20 0·37 R
Rsd 0·6s 6ph/4stn Dmin 333km Az.gap 343°
Corr. -0·396 6M/3stn Msd 0·2

85/1098
**JUL 15 0656 45·3s 42·80S 171·63E 12km M=3·5**
0·3 0·02 0·03 R
Rsd 0·4s 7ph/6stn Dmin 35km Az.gap 136°
Corr. 0·411 7M/5stn Msd 0·3

85/1099
**JUL 16 0903 12·5s 38·43S 176·15E 12km M=2·9**
0·2 0·02 0·03 R
Rsd 0·4s 4ph/3stn Dmin 23km Az.gap 135°
Corr. -0·105 1M/1stn Msd ND 1↑
Felt Waikite (33) along with shocks at 0819, 0905, 0907 and 0957.

85/1100
**JUL 16 1415 58·8s 38·42S 176·16E 12km M=3·4**
0·2 0·02 0·02 R
Rsd 0·3s 6ph/6stn Dmin 24km Az.gap 105°
Corr. -0·181 5M/4stn Msd 0·3
Felt Ngakuru (33) MM V. Largest event of a swarm beginning at 0458 and continuing for 15 hours.

85/1101
**JUL 16 2330 44·9s 38·30S 176·10E 12km**
R R R R
Rsd ND 1ph/1stn Dmin 36km Az.gap 360°
Corr. 0·000 0M/0stn Msd ND
Felt Ohakuri (33). Magnitude about 2·5.

85/1102
**JUL 17 0701 06·2s 45·92S 166·58E 12km M=3·4**
0·8 0·04 0·07 R
Rsd 0·4s 8ph/4stn Dmin 76km Az.gap 264°
Corr. -0·134 7M/3stn Msd 0·2

85/1103
**JUL 17 0830 08·7s 39·49S 175·70E 12km M=4·0**
0·2 0·01 0·02 R
Rsd 0·4s 16ph/15stn Dmin 35km Az.gap 90°
Corr. -0·184 14M/8stn Msd 0·3 2↑ 2↓
Felt Moawhango (58) MM V.

85/1104
**JUL 17 0920 03·8s 40·40S 176·40E 33km M=3·6**
0·3 0·03 0·05 R
Rsd 0·4s 9ph/9stn Dmin 58km Az.gap 159°
Corr. -0·782 6M/3stn Msd 0·2 2↑

85/1105
**JUL 17 2149 19·9s 37·26S 179·26W 12km M=4·1**
3·4 0·17 0·32 R
Rsd 0·6s 7ph/6stn Dmin 200km Az.gap 330°
Corr. 0·009 5M/3stn Msd 0·3

85/1106
**JUL 18 0709 43·7s 37·26S 176·98E 186km M=4·4**
1·8 0·10 0·08 12
Rsd 0·3s 7ph/6stn Dmin 80km Az.gap 270°
Corr. 0·629 4M/3stn Msd 0·1 1↑

85/1107
**JUL 18 2349 55·3s 43·68S 170·59E 12km M=3·6**
0·8 0·08 0·06 R
Rsd 0·5s 6ph/5stn Dmin 80km Az.gap 205°
Corr. -0·805 7M/4stn Msd 0·3 1↑
Felt Erewhon Station (107) MM IV.

85/1108
**JUL 19 1150 32·1s 39·05S 177·64E 34km M=3·2**
0·6 0·06 0·02 4
Rsd 0·3s 6ph/5stn Dmin 50km Az.gap 229°
Corr. -0·625 6M/3stn Msd 0·2 2↑
Foreshock of event at 1434.

85/1109
**JUL 19 1408 31·4s 38·07S 176·15E 203km M=4·0**
1·8 0·11 0·07 12
Rsd 0·6s 9ph/7stn Dmin 36km Az.gap 157°
Corr. 0·011 4M/2stn Msd 0·2

85/1110
**JUL 19 1433 59·4s 38·77S 177·42E 41km M=5·7**
0·8 0·04 0·08 13
Rsd 1·3s 17ph/17stn Dmin 24km Az.gap 128°
Corr. -0·227 3M/2stn Msd 0·2 2↑ 6↓
Felt widely in the eastern North Island from Whakatane (27) to Wellington (68). Maximum intensity MM V.

85/1111
**JUL 19 1438 53·5s 38·67S 177·39E 26km M=3·8**
0·3 0·03 0·03 3
Rsd 0·5s 8ph/7stn Dmin 26km Az.gap 120°
Corr. -0·183 3M/2stn Msd 0·1 1↓

85/1112
**JUL 19 1613 26·6s 38·80S 177·38E 52km M=3·9**
0·8 0·04 0·07 11
Rsd 1·1s 15ph/13stn Dmin 20km Az.gap 137°
Corr. -0·112 8M/4stn Msd 0·2 1↑ 3↓

85/1113
**JUL 19 1642 15·9s 38·78S 177·46E 67km M=4·6**
0·9 0·04 0·09 14
Rsd 1·2s 14ph/14stn Dmin 27km Az.gap 139°
Corr. -0·204 8M/5stn Msd 0·3 1↑ 8↓
Felt Wairoa (33) MM IV and Te Whaiti (42).

85/1114
**JUL 19 1650 27·1s 38·77S 177·50E 76km M=4·6**
1·1 0·04 0·10 15
Rsd 1·1s 13ph/14stn Dmin 30km Az.gap 138°
Corr. -0·087 6M/4stn Msd 0·3 1↑ 3↓
Felt Te Whaiti (42).

85/1115
**JUL 19 1722 17·9s 38·76S 177·42E 44km M=3·9**
0·6 0·04 0·05 7
Rsd 0·8s 13ph/12stn Dmin 24km Az.gap 134°
Corr. -0·123 7M/4stn Msd 0·3 3↓
Felt Te Whaiti (42).

85/1116
**JUL 19 1733 02·4s 38·74S 177·41E 37km M=3·7**
0·8 0·05 0·07 10
Rsd 1·1s 13ph/12stn Dmin 24km Az.gap 130°
Corr. -0·235 7M/4stn Msd 0·3 1↑ 2↓

85/1117
**JUL 19 1915 18·6s 38·75S 177·45E 48km M=3·9**
0·7 0·04 0·07 10
Rsd 1·1s 14ph/13stn Dmin 27km Az.gap 134°
Corr. -0·224 8M/4stn Msd 0·3 1↑ 3↓
Felt Te Whaiti (42).

85/1118
**JUL 19 2146 55·4s 38·73S 177·43E 38km M=3·7**
0·7 0·05 0·06 9
Rsd 1·0s 12ph/11stn Dmin 26km Az.gap 129°
Corr. -0·176 8M/4stn Msd 0·3 2↑ 1↓

85/1119
**JUL 20 0055 40·8s 38·68S 177·61E 71km M=4·2**
2·7 0·09 0·23 33
Rsd 2·0s 9ph/9stn Dmin 36km Az.gap 129°
Corr. -0·208 5M/4stn Msd 0·2
Readings poor due to coda of preceding small event.

85/1120
**JUL 20 0111 51·9s 38·54S 177·54E 48km M=4·5**
1·4 0·05 0·11 21
Rsd 1·2s 8ph/9stn Dmin 44km Az.gap 103°
Corr. -0·067 6M/4stn Msd 0·3 1↑ 3↓
Felt Gisborne (45) MM V.

85/1121
**JUL 20 0910 21·0s 36·91S 177·53E 247km M=4·4**
4·1 0·28 0·26 25
Rsd 0·8s 9ph/8stn Dmin 129km Az.gap 317°
Corr. 0·173 6M/3stn Msd 0·2 1↑

85/1122
**JUL 20 1022 20·1s 38·69S 177·37E 77km M=4·2**
1·9 0·08 0·20 25
Rsd 1·9s 9ph/9stn Dmin 23km Az.gap 121°
Corr. -0·229 3M/3stn Msd 0·3 2↑ 2↓

85/1123
**JUL 20 1814 49·8s 36·31S 178·36E 256km M=4·7**
2·4 0·13 0·15 18
Rsd 0·8s 13ph/13stn Dmin 154km Az.gap 300°
Corr. 0·114 8M/5stn Msd 0·1 2↑
Felt Wairoa (53) MM IV.

85/1124
**JUL 20 1911 22·5s 38·82S 177·41E 41km M=5·1**
0·9 0·07 0·10 17
Rsd 1·7s 12ph/13stn Dmin 23km Az.gap 142°
Corr. -0·498 5M/3stn Msd 0·4 1↑ 3↓
Felt from Whakatane (27) to Mahia Beach (54), maximum intensity MM IV.

85/1125
**JUL 20 1913 15·8s 38·73S 177·64E 19km M=4·8**
2·8 0·09 0·25 7
Rsd 0·6s 8ph/8stn Dmin 44km Az.gap 237°
Corr. -0·930 10M/7stn Msd 0·2 1↓
Felt Ormond (44) MM IV, Gisborne (44), and Mahia Beach (54). Readings poor due to coda of previous event.

85/1126
**JUL 20 2023 58·3s 38·75S 177·33E 42km M=4·0**
0·8 0·05 0·08 10
Rsd 1·3s 10ph/9stn Dmin 17km Az.gap 127°
Corr. -0·270 6M/3stn Msd 0·2 1↑ 2↓

85/1127
**JUL 22 0032 21·3s 38·84S 177·41E 39km M=3·4**
0·8 0·04 0·09 8
Rsd 0·8s 11ph/10stn Dmin 22km Az.gap 144°
Corr. -0·215 4M/2stn Msd 0·1 1↑ 2↓

85/1128
**JUL 22 1652 58·6s 36·92S 177·06E 239km M=4·6**
1·6 0·11 0·07 11
Rsd 0·5s 8ph/7stn Dmin 118km Az.gap 254°
Corr. -0·150 11M/7stn Msd 0·2 2↑

85/1129
**JUL 23 0152 34·2s 39·48S 175·70E 12km M=3·4**
0·4 0·02 0·09 R
Rsd 0·6s 9ph/8stn Dmin 35km Az.gap 158°
Corr. -0·018 3M/2stn Msd 0·3 2↑
Felt Moawhango (58) MM IV.

85/1130
**JUL 23 1003 09·8s 38·75S 177·46E 35km M=3·9**
0·9 0·05 0·08 15
Rsd 1·3s 13ph/13stn Dmin 27km Az.gap 134°
Corr. -0·187 8M/4stn Msd 0·2 2↓

85/1131
**JUL 24 0432 42·1s 41·23S 172·63E 208km M=4·1**
1·5 0·08 0·08 13
Rsd 0·6s 10ph/10stn Dmin 17km Az.gap 174°
Corr. -0·296 6M/4stn Msd 0·3 3↑ 1↓

85/1132
**JUL 24 1021 53·4s 44·78S 167·28E 33km M=3·5**
0·7 0·04 0·07 R
Rsd 0·3s 5ph/3stn Dmin 52km Az.gap 267°
Corr. -0·851 6M/3stn Msd 0·4 2↑

85/1133
**JUL 24 1132 22·8s 37·96S 179·44W 12km M=4·0**
2·4 0·16 0·21 R
Rsd 0·9s 8ph/7stn Dmin 179km Az.gap 310°
Corr. -0·108 6M/3stn Msd 0·1

85/1134
**JUL 24 1218 40·2s 46·79S 165·83E 12km M=3·4**
0·7 0·03 0·07 R
Rsd 0·2s 5ph/3stn Dmin 173km Az.gap 300°
Corr. 0·502 6M/3stn Msd 0·2

85/1135
**JUL 24 1319 46·1s 46·73S 165·91E 12km M=4·4**
0·9 0·05 0·08 R
Rsd 0·2s 5ph/4stn Dmin 164km Az.gap 298°
Corr. 0·846 11M/6stn Msd 0·2

85/1136
**JUL 25 0309 32·9s 38·79S 177·38E 56km M=4·5**
0·9 0·05 0·09 14
Rsd 1·2s 13ph/13stn Dmin 20km Az.gap 136°
Corr. -0·335 4M/2stn Msd 0·3 1↑ 2↓

85/1137
**JUL 25 0453 37·7s 39·48S 175·65E 12km M=4·1**
0·1 0·01 0·02 R
Rsd 0·3s 14ph/13stn Dmin 24km Az.gap 89°
Corr. -0·224 12M/8stn Msd 0·3 1↑ 4↓
Felt Moawhango (58) MM V.

85/1138
**JUL 25 1447 41·1s 40·72S 175·91E 33km M=3·9**
0·4 0·04 0·04 R
Rsd 0·7s 11ph/11stn Dmin 34km Az.gap 104°
Corr. -0·065 14M/9stn Msd 0·3 3↑ 1↓

85/1139
**JUL 25 1457 06·3s 39·54S 174·16E 216km M=4·1**
1·1 0·04 0·07 12
Rsd 0·5s 12ph/12stn Dmin 44km Az.gap 171°
Corr. -0·517 5M/5stn Msd 0·2 1↑

85/1140
**JUL 26 0724 13·7s 36·73S 177·43E 12km M=4·0**
3·9 0·25 0·18 R
Rsd 1·2s 5ph/4stn Dmin 91km Az.gap 305°
Corr. -0·110 6M/3stn Msd 0·1

85/1141
**JUL 27 1318 33·1s 38·63S 177·39E 28km M=3·5**
0·2 0·02 0·02 2
Rsd 0·4s 6ph/6stn Dmin 29km Az.gap 113°
Corr. -0·146 5M/3stn Msd 0·2 1↑ 2↓

85/1142
**JUL 27 2247 32·5s 38·75S 177·51E 48km M=3·7**
1·0 0·07 0·09 13
Rsd 1·4s 10ph/9stn Dmin 32km Az.gap 139°
Corr. -0·251 6M/3stn Msd 0·5 2↑ 1↓

85/1143
**JUL 28 0716 12·8s 38·74S 177·49E 73km M=3·7**
1·3 0·06 0·10 18
Rsd 1·1s 9ph/7stn Dmin 48km Az.gap 140°
Corr. 0·094 6M/3stn Msd 0·4 1↑

85/1144
**JUL 29 1134 48·9s 37·15S 177·56E 12km M=4·0**
1·3 0·10 0·07 R
Rsd 1·2s 10ph/9stn Dmin 53km Az.gap 188°
Corr. 0·259 10M/5stn Msd 0·3 3↑

85/1145
**JUL 29 1440 39·8s 38·62S 175·94E 150km M=4·4**
1·1 0·05 0·06 11
Rsd 0·9s 17ph/15stn Dmin 66km Az.gap 91°
Corr. -0·476 8M/5stn Msd 0·4 4↑ 1↓

85/1146
**JUL 30 0908 45·3s 37·50S 177·94E 86km M=3·7**
0·7 0·04 0·04 5
Rsd 0·6s 14ph/9stn Dmin 34km Az.gap 201°
Corr. 0·211 8M/4stn Msd 0·2 1↑ 1↓

85/1147
**JUL 30 1204 09·6s 38·74S 177·47E 33km M=4·2**
0·4 0·04 0·05 R
Rsd 0·9s 13ph/15stn Dmin 29km Az.gap 133°
Corr. -0·543 8M/6stn Msd 0·2 1↑ 1↓
Felt Te Whaiti (42) MM IV, Wairoa (53) MM III.

85/1148
**JUL 30 1529 55·1s 44·67S 168·12E 68km M=3·4**
0·7 0·03 0·04 6
Rsd 0·6s 12ph/7stn Dmin 16km Az.gap 168°
Corr. -0·512 4M/2stn Msd 0·2

85/1149
**JUL 31 0931 50·3s 41·52S 174·01E 4km M=2·8**
0·4 0·02 0·03 2
Rsd 0·5s 20ph/14stn Dmin 31km Az.gap 99°
Corr. -0·082 7M/4stn Msd 0·3 2↑ 2↓
Felt Blenheim (77) MM IV.

85/1150
**JUL 31 2220 24·4s 38·58S 175·97E 1km M=3·8**
0·2 0·01 0·02 R
Rsd 0·5s 13ph/13stn Dmin 13km Az.gap 113°
Corr. -0·176 6M/5stn Msd 0·2 1↑
Felt Taupo (41) MM V, Waihora Road (40) MM IV. Largest of minor swarm. Next largest shock at 22h 11m Mag 3·5.

85/1151
**AUG 01 1554 34·6s 38·83S 177·42E 33km M=3·4**
0·4 0·03 0·05 R
Rsd 1·0s 16ph/11stn Dmin 23km Az.gap 143°
Corr. -0·423 6M/4stn Msd 0·2

85/1152
**AUG 01 1647 32·6s 38·70S 177·49E 33km M=3·7**
0·4 0·05 0·05 R
Rsd 1·1s 14ph/10stn Dmin 32km Az.gap 128°
Corr. -0·327 7M/4stn Msd 0·3 2↑ 1↓

85/1153
**AUG 02 0939 30·2s 37·32S 177·46E 119km M=3·7**
0·7 0·03 0·03 6
Rsd 0·4s 10ph/6stn Dmin 80km Az.gap 225°
Corr. 0·013 8M/5stn Msd 0·2

85/1154
**AUG 02 1910 20·5s 42·36S 172·19E 1km M=4·7**
0·2 0·02 0·02 R
Rsd 0·6s 18ph/14stn Dmin 67km Az.gap 124°
Corr. -0·364 10M/8stn Msd 0·3 3↑ 2↓
Felt Murchison (80), Springs Junction (87) MM V. Westport (79), Dobson (85), Maruia (87) MM IV.

85/1155
**AUG 03 1126 39·3s 35·32S 179·02E 224km M=4·1**
0·5 0·06 0·07 11
Rsd 0·2s 10ph/7stn Dmin 261km Az.gap 327°
Corr. 0·114 7M/4stn Msd 0·2

85/1156
**AUG 04 0448 23·5s 38·18S 176·05E 199km M=3·5**
1·1 0·07 0·09 9
Rsd 0·8s 14ph/9stn Dmin 40km Az.gap 131°
Corr. -0·649 4M/2stn Msd 0·2

85/1157
**AUG 04 1557 42·1s 41·73S 172·30E 2km M=3·1**
0·4 0·01 0·02 2
Rsd 0·4s 11ph/6stn Dmin 46km Az.gap 167°
Corr. 0·036 5M/3stn Msd 0·1
Felt Murchison (80) MM IV.

85/1158
**AUG 06 0122 14·7s 39·06S 178·54E 25km M=3·6**
0·8 0·03 0·06 3
Rsd 0·5s 10ph/7stn Dmin 64km Az.gap 244°
Corr. -0·550 5M/3stn Msd 0·2

85/1159
**AUG 06 2245 50·3s 39·95S 176·82E 100km M=3·7**
0·5 0·02 0·04 9
Rsd 0·5s 16ph/12stn Dmin 117km Az.gap 169°
Corr. -0·742 7M/4stn Msd 0·2 1↓

85/1160
**AUG 07 1109 18·3s 37·70S 179·72W 33km M=4·6**
1·2 0·07 0·11 R
Rsd 0·8s 12ph/8stn Dmin 174km Az.gap 312°
Corr. -0·107 12M/7stn Msd 0·2

85/1161
**AUG 07 1748 55·7s 39·20S 176·17E 86km M=3·4**
0·3 0·02 0·02 4
Rsd 0·4s 19ph/14stn Dmin 49km Az.gap 124°
Corr. -0·498 7M/4stn Msd 0·3 1↑ 1↓

85/1162
**AUG 07 2213 00·8s 37·11S 177·54E 1km M=4·1**
1·0 0·06 0·02 R
Rsd 0·4s 8ph/7stn Dmin 56km Az.gap 247°
Corr. -0·364 7M/5stn Msd 0·4

85/1163
**AUG 09 1356 25·8s 37·86S 177·21E 67km M=3·7**
0·5 0·03 0·03 6
Rsd 0·6s 16ph/11stn Dmin 24km Az.gap 89°
Corr. -0·089 7M/4stn Msd 0·2 1↓

85/1164
**AUG 10 0048 34·9s 45·54S 166·64E 12km M=3·4**
1·6 0·04 0·13 R
Rsd 1·2s 10ph/5stn Dmin 75km Az.gap 263°
Corr. -0·247 4M/2stn Msd 0·2

85/1165
**AUG 10 1204 53·8s 40·39S 174·19E 67km M=3·5**
0·7 0·04 0·06 20
Rsd 0·9s 15ph/11stn Dmin 81km Az.gap 147°
Corr. -0·658 5M/3stn Msd 0·3

85/1166
**AUG 11 1426 49·2s 45·01S 167·65E 113km M=3·8**
0·8 0·04 0·06 6
Rsd 0·6s 11ph/6stn Dmin 44km Az.gap 203°
Corr. -0·587 7M/4stn Msd 0·3 1↑

85/1167
**AUG 11 1800 50·5s 42·20S 174·13E 21km M=4·0**
0·2 0·02 0·02 2
Rsd 0·5s 16ph/12stn Dmin 43km Az.gap 170°
Corr. -0·631 10M/7stn Msd 0·4 3↑

85/1168
**AUG 12 1247 22·9s 41·37S 173·82E 66km M=3·8**
0·4 0·03 0·02 6
Rsd 0·5s 16ph/14stn Dmin 42km Az.gap 131°
Corr. -0·362 5M/4stn Msd 0·3 1↑ 4↓

85/1169
**AUG 13 2151 48·8s 38·85S 177·30E 40km M=3·4**
0·2 0·01 0·02 2
Rsd 0·2s 6ph/7stn Dmin 13km Az.gap 130°
Corr. -0·331 8M/4stn Msd 0·3 2↓

85/1170
**AUG 14 2026 39·0s 40·13S 175·64E 33km M=4·0**
0·1 0·01 0·03 R
Rsd 0·4s 14ph/14stn Dmin 56km Az.gap 98°
Corr. -0·674 21M/12stn Msd 0·3 6↑ 2↓
Felt Sandon Road (62) MM IV.

85/1171
**AUG 14 2118 58·1s 37·73S 176·26E 312km M=4·1**
1·4 0·07 0·09 12
Rsd 0·5s 11ph/7stn Dmin 67km Az.gap 195°
Corr. -0·175 11M/6stn Msd 0·2 2↑

85/1172
**AUG 15 1005 28·6s 39·63S 174·12E 198km M=3·7**
0·9 0·05 0·08 11
Rsd 0·6s 10ph/8stn Dmin 137km Az.gap 199°
Corr. -0·673 10M/6stn Msd 0·3 3↑ 1↓

85/1173
**AUG 15 1619 12·4s 40·42S 176·76E 33km M=3·8**
0·5 0·05 0·08 R
Rsd 0·5s 11ph/11stn Dmin 70km Az.gap 191°
Corr. -0·891 23M/13stn Msd 0·3 5↑ 2↓

85/1174
**AUG 15 1639 41·4s 38·97S 175·23E 156km M=4·1**
0·6 0·03 0·05 5
Rsd 0·5s 20ph/11stn Dmin 40km Az.gap 152°
Corr. -0·583 14M/8stn Msd 0·4 3↑ 4↓

85/1175
**AUG 16 0307 46·5s 50·34S 164·49E 33km M=4·3**
1·6 0·18 0·40 R
Rsd 0·6s 8ph/4stn Dmin 467km Az.gap 348°
Corr. -0·752 8M/4stn Msd 0·2 1↓

85/1176
**AUG 16 0608 57·6s 50·07S 164·15E 33km M=3·9**
1·0 0·08 0·13 R
Rsd 0·2s 5ph/3stn Dmin 458km Az.gap 346°
Corr. -0·291 7M/3stn Msd 0·3

85/1177
**AUG 16 1442 03·9s 31·33S 178·84W 490km M=4·7**
2·3 0·26 0·42 49
Rsd 0·7s 8ph/6stn Dmin 743km Az.gap 345°
Corr. -0·189 10M/5stn Msd 0·3 1↓

85/1178
**AUG 16 2007 06·0s 37·12S 177·24E 196km M=3·8**
1·1 0·09 0·09 7
Rsd 0·5s 8ph/7stn Dmin 98km Az.gap 260°
Corr. -0·381 6M/4stn Msd 0·3

85/1179
**AUG 18 2142 39·8s 44·28S 169·87E 12km M=3·8**
0·3 0·02 0·02 R
Rsd 0·4s 11ph/7stn Dmin 20km Az.gap 207°
Corr. 0·029 14M/7stn Msd 0·3 1↑ 4↓

85/1180
**AUG 19 0719 33·1s 37·78S 175·75E 12km M=4·1**
0·9 0·06 0·07 R
Rsd 0·5s 7ph/6stn Dmin 167km Az.gap 232°
Corr. -0·564 7M/5stn Msd 0·3 1↑ 1↓

85/1181
**AUG 19 1033 27·0s 44·43S 168·12E 12km M=3·4**
0·5 0·04 0·04 R
Rsd 0·4s 8ph/6stn Dmin 31km Az.gap 234°
Corr. -0·649 12M/6stn Msd 0·3 3↑

85/1182
**AUG 19 1050 12·6s 38·13S 176·27E 183km M=4·6**
1·0 0·04 0·07 10
Rsd 0·8s 13ph/8stn Dmin 58km Az.gap 106°
Corr. -0·118 10M/6stn Msd 0·2 3↑ 2↓

85/1183
**AUG 19 2050 21·3s 44·40S 168·11E 12km M=3·6**
0·3 0·02 0·02 R
Rsd 0·2s 11ph/7stn Dmin 34km Az.gap 240°
Corr. -0·612 10M/6stn Msd 0·4 3↑

85/1184
**AUG 20 1001 26·1s 35·76S 178·53E 221km M=4·1**
0·6 0·04 0·07 8
Rsd 0·2s 7ph/5stn Dmin 205km Az.gap 319°
Corr. -0·596 7M/5stn Msd 0·2 1↑

85/1185
**AUG 21 0007 16·4s 45·13S 167·58E 114km M=4·2**
0·6 0·02 0·05 5
Rsd 0·4s 14ph/10stn Dmin 58km Az.gap 204°
Corr. -0·500 14M/7stn Msd 0·3 1↑ 1↓

85/1186
**AUG 21 0156 53·9s 40·84S 175·33E 12km M=3·8**
0·3 0·03 0·05 R
Rsd 0·3s 5ph/4stn Dmin 28km Az.gap 195°
Corr. -0·907 5M/3stn Msd 0·5 2↓

85/1187
**AUG 21 1409 51·2s 38·73S 177·31E 47km M=3·5**
0·4 0·03 0·05 6
Rsd 0·6s 8ph/7stn Dmin 17km Az.gap 124°
Corr. -0·652 7M/4stn Msd 0·2 1↑ 3↓

85/1188
**AUG 22 0143 37·5s 39·76S 176·19E 76km M=3·7**
0·8 0·02 0·05 9
Rsd 0·3s 6ph/7stn Dmin 59km Az.gap 144°
Corr. 0·210 8M/5stn Msd 0·3 2↓

85/1189
**AUG 22 1119 18·6s 39·25S 174·78E 12km M=3·4**
0·4 0·04 0·03 R
Rsd 0·7s 8ph/5stn Dmin 59km Az.gap 117°
Corr. -0·341 7M/4stn Msd 0·3 1↑

85/1190
**AUG 22 1548 56·4s 34·90S 179·53E 232km M=3·9**
0·9 0·07 0·13 17
Rsd 0·2s 6ph/6stn Dmin 319km Az.gap 331°
Corr. -0·478 7M/4stn Msd 0·2

85/1191
**AUG 22 1836 42·0s 38·83S 175·88E 133km M=3·7**
0·6 0·04 0·04 7
Rsd 0·4s 9ph/7stn Dmin 45km Az.gap 106°
Corr. -0·522 6M/3stn Msd 0·3 1↑ 2↓

85/1192
**AUG 23 2026 03·9s 41·85S 171·73E 12km M=3·4**
0·5 0·02 0·04 R
Rsd 0·5s 9ph/5stn Dmin 79km Az.gap 206°
Corr. -0·507 10M/6stn Msd 0·3 2↓

85/1193
**AUG 24 0839 03·0s 35·20S 179·53E 233km M=4·3**
0·8 0·05 0·12 12
Rsd 0·2s 6ph/7stn Dmin 288km Az.gap 330°
Corr. -0·733 11M/6stn Msd 0·4 1↑

85/1194
**AUG 24 2124 52·4s 38·16S 179·20W 33km M=3·8**
1·7 0·17 0·16 R
Rsd 0·5s 4ph/3stn Dmin 228km Az.gap 331°
Corr. -0·552 8M/5stn Msd 0·2

85/1195
**AUG 25 1254 40·6s 40·02S 174·98E 12km M=4·2**
0·2 0·02 0·03 R
Rsd 0·6s 15ph/15stn Dmin 79km Az.gap 80°
Corr. -0·303 25M/14stn Msd 0·4 5↑ 1↓
Felt Himitangi (61) MM IV, Ahuahu Valley and Wanganui (57).

85/1196
**AUG 26 0657 05·7s 34·75S 178·65W 33km M=4·5**
0·8 0·08 0·11 R
Rsd 0·4s 13ph/8stn Dmin 418km Az.gap 340°
Corr. -0·678 16M/10stn Msd 0·2 1↑

85/1197
**AUG 26 1350 57·7s 32·62S 179·35W 435km M=5·0**
1·3 0·18 0·28 30
Rsd 0·7s 9ph/7stn Dmin 592km Az.gap 342°
Corr. -0·446 10M/6stn Msd 0·3 1↑

85/1198
**AUG 26 1704 55·5s 49·66S 164·75E 33km M=4·2**
1·2 0·10 0·18 R
Rsd 0·6s 9ph/7stn Dmin 395km Az.gap 337°
Corr. -0·454 13M/6stn Msd 0·3 1↓

85/1199
**AUG 26 2303 39·7s 37·29S 176·70E 233km M=4·0**
1·0 0·08 0·05 7
Rsd 0·4s 10ph/7stn Dmin 125km Az.gap 229°
Corr. 0·004 9M/5stn Msd 0·2 1↑

85/1200
**AUG 27 1017 38·0s 44·68S 168·32E 72km M=3·6**
0·8 0·04 0·05 16
Rsd 0·6s 10ph/7stn Dmin 87km Az.gap 228°
Corr. -0·625 4M/3stn Msd 0·3

85/1201
**AUG 27 1507 21·8s 35·14S 178·79W 33km M=4·7**
1·3 0·10 0·14 R
Rsd 0·7s 7ph/6stn Dmin 377km Az.gap 313°
Corr. -0·275 8M/5stn Msd 0·2

85/1202
**AUG 27 2209 20·7s 37·73S 179·11E 12km M=3·9**
2·0 0·07 0·16 R
Rsd 0·5s 7ph/6stn Dmin 73km Az.gap 302°
Corr. 0·733 7M/4stn Msd 0·2

85/1203
**AUG 27 2333 50·9s 37·40S 176·31E 321km M=3·8**
3·6 0·31 0·12 15
Rsd 0·5s 8ph/8stn Dmin 89km Az.gap 229°
Corr. -0·537 1M/1stn Msd ND 1↓

85/1204
**AUG 28 1422 07·8s 38·14S 176·26E 161km M=3·7**
0·3 0·01 0·01 2
Rsd 0·2s 11ph/7stn Dmin 67km Az.gap 142°
Corr. -0·014 5M/3stn Msd 0·3

85/1205
**AUG 30 2103 01·0s 37·41S 179·70W 33km M=4·2**
0·3 0·02 0·03 R
Rsd 0·1s 5ph/4stn Dmin 178km Az.gap 332°
Corr. -0·390 8M/4stn Msd 0·2

85/1206
**AUG 31 0105 12·4s 37·47S 176·16E 2km M=3·5**
0·8 0·03 0·07 R
Rsd 0·5s 4ph/4stn Dmin 75km Az.gap 235°
Corr. 0·030 3M/3stn Msd 0·3 1↑
Felt Waihi (21) MM V and Karangahake (21) MM IV.

85/1207
**AUG 31 0216 13·8s 36·15S 179·56E 33km M=4·3**
1·6 0·09 0·19 R
Rsd 0·5s 4ph/3stn Dmin 196km Az.gap 326°
Corr. -0·041 3M/3stn Msd 0·3

85/1208
**AUG 31 1327 17·0s 39·82S 177·02E 28km M=3·9**
0·4 0·02 0·03 1
Rsd 0·3s 8ph/6stn Dmin 34km Az.gap 261°
Corr. -0·397 9M/6stn Msd 0·3 1↓

85/1209
**AUG 31 2151 47·9s 45·37S 167·12E 72km M=3·6**
0·7 0·03 0·07 4
Rsd 0·4s 13ph/8stn Dmin 56km Az.gap 243°
Corr. -0·807 7M/4stn Msd 0·3

85/1210
**SEP 01 1823 54·0s 37·75S 177·59E 33km M=3·8**
0·2 0·02 0·02 2
Rsd 0·4s 10ph/7stn Dmin 43km Az.gap 130°
Corr. 0·115 11M/6stn Msd 0·2 1↑ 1↓

85/1211
**SEP 02 2314 02·6s 38·21S 176·16E 163km M=4·2**
0·5 0·03 0·03 4
Rsd 0·3s 9ph/6stn Dmin 63km Az.gap 131°
Corr. -0·191 7M/4stn Msd 0·4

85/1212
**SEP 04 2130 27·4s 41·52S 174·23E 3km M=3·8**
0·2 0·01 0·01 1
Rsd 0·3s 15ph/13stn Dmin 26km Az.gap 99°
Corr. -0·578 5M/3stn Msd 0·3 5↑ 2↓

85/1213
**SEP 05 0537 19·7s 37·45S 179·69E 12km M=4·2**
0·6 0·04 0·04 R
Rsd 0·4s 10ph/5stn Dmin 124km Az.gap 325°
Corr. 0·035 9M/5stn Msd 0·2

85/1214
**SEP 05 0723 54·2s 37·38S 177·44E 133km M=3·8**
0·4 0·03 0·03 4
Rsd 0·4s 9ph/6stn Dmin 78km Az.gap 218°
Corr. -0·231 7M/4stn Msd 0·2

85/1215
**SEP 05 2228 08·2s 35·50S 179·23E 210km M=4·4**
1·1 0·14 0·32 17
Rsd 0·4s 5ph/4stn Dmin 247km Az.gap 342°
Corr. -0·832 7M/4stn Msd 0·2

85/1216
**SEP 06 0033 58·0s 40·95S 173·92E 33km M=3·6**
0·3 0·04 0·02 3
Rsd 0·7s 18ph/13stn Dmin 42km Az.gap 174°
Corr. -0·383 5M/3stn Msd 0·3 3↑

85/1217
**SEP 06 0414 12·3s 37·43S 179·92W 33km M=4·7**
0·6 0·07 0·05 R
Rsd 0·5s 10ph/6stn Dmin 158km Az.gap 330°
Corr. -0·328 10M/5stn Msd 0·2

85/1218
**SEP 06 1029 04·4s 37·07S 177·47E 160km M=3·8**
0·5 0·07 0·05 6
Rsd 0·5s 6ph/5stn Dmin 94km Az.gap 249°
Corr. -0·034 6M/3stn Msd 0·2

85/1219
**SEP 06 1227 42·8s 38·02S 176·16E 155km M=3·9**
0·7 0·05 0·05 6
Rsd 0·8s 12ph/8stn Dmin 56km Az.gap 157°
Corr. -0·208 10M/5stn Msd 0·3

85/1220
**SEP 06 1334 07·2s 38·21S 175·92E 203km M=4·3**
0·6 0·04 0·05 4
Rsd 0·6s 13ph/9stn Dmin 46km Az.gap 120°
Corr. -0·213 10M/5stn Msd 0·3

85/1221
**SEP 06 1419 07·7s 36·16S 179·17E 144km M=4·1**
0·8 0·11 0·19 12
Rsd 0·4s 8ph/5stn Dmin 178km Az.gap 337°
Corr. -0·783 7M/4stn Msd 0·1

85/1222
**SEP 07 0729 22·5s 37·41S 179·81E 33km M=4·0**
0·6 0·03 0·06 R
Rsd 0·2s 9ph/6stn Dmin 135km Az.gap 327°
Corr. -0·153 7M/4stn Msd 0·2

85/1223
**SEP 08 1132 21·1s 37·06S 177·93E 12km M=4·0**
0·7 0·05 0·04 R
Rsd 0·8s 12ph/8stn Dmin 69km Az.gap 266°
Corr. 0·268 10M/5stn Msd 0·1

85/1224
**SEP 08 1256 27·4s 38·75S 177·44E 33km M=3·5**
0·3 0·04 0·03 R
Rsd 0·9s 11ph/7stn Dmin 52km Az.gap 134°
Corr. -0·326 5M/3stn Msd 0·2

85/1225
**SEP 09 0218 38·3s 39·27S 174·69E 217km M=4·3**
0·9 0·05 0·06 7
Rsd 0·6s 13ph/9stn Dmin 51km Az.gap 117°
Corr. -0·224 5M/3stn Msd 0·2 2↑ 1↓

85/1226
**SEP 09 1114 19·3s 40·18S 173·71E 174km M=4·2**
0·7 0·03 0·04 7
Rsd 0·6s 15ph/11stn Dmin 106km Az.gap 159°
Corr. -0·315 5M/4stn Msd 0·3 1↑

85/1227
**SEP 09 1220 58·8s 39·85S 173·05E 25km M=3·5**
0·4 0·02 0·04 3
Rsd 0·6s 14ph/7stn Dmin 110km Az.gap 224°
Corr. -0·655 7M/4stn Msd 0·2

85/1228
**SEP 10 1021 13·5s 45·17S 167·55E 120km M=4·4**
0·8 0·04 0·07 6
Rsd 0·6s 12ph/6stn Dmin 62km Az.gap 207°
Corr. -0·568 11M/6stn Msd 0·3 2↑ 1↓

85/1229
**SEP 10 1532 55·1s 42·23S 172·68E 6km M=3·4**
0·3 0·01 0·02 2
Rsd 0·3s 13ph/11stn Dmin 49km Az.gap 110°
Corr. -0·105 9M/6stn Msd 0·2

85/1230
**SEP 10 1544 40·0s 37·28S 177·48E 205km M=3·8**
1·9 0·14 0·14 14
Rsd 1·1s 9ph/7stn Dmin 80km Az.gap 229°
Corr. 0·125 7M/4stn Msd 0·3

85/1231
**SEP 10 1838 49·2s 42·49S 173·97E 28km M=4·1**
0·3 0·02 0·03 2
Rsd 0·5s 14ph/13stn Dmin 23km Az.gap 175°
Corr. -0·450 13M/8stn Msd 0·3 3↑

85/1232
**SEP 11 0830 27·8s 47·96S 165·27E 33km M=4·5**
0·8 0·03 0·12 R
Rsd 0·6s 11ph/7stn Dmin 244km Az.gap 237°
Corr. -0·424 7M/4stn Msd 0·2

85/1233
**SEP 11 1101 49·2s 37·40S 179·92W 33km M=4·2**
0·8 0·06 0·07 R
Rsd 0·5s 12ph/8stn Dmin 159km Az.gap 324°
Corr. -0·080 12M/8stn Msd 0·2

85/1234
**SEP 11 1716 00·2s 38·06S 176·11E 204km M=3·9**
1·1 0·09 0·12 10
Rsd 1·0s 14ph/9stn Dmin 53km Az.gap 150°
Corr. -0·707 10M/6stn Msd 0·3

85/1235
**SEP 12 0332 00·0s 37·64S 179·24E 33km M=4·0**
0·7 0·03 0·06 R
Rsd 0·3s 8ph/6stn Dmin 83km Az.gap 310°
Corr. 0·418 6M/5stn Msd 0·2 1↓

85/1236
**SEP 12 1210 07·0s 39·93S 176·77E 33km M=3·7**
0·3 0·02 0·03 R
Rsd 0·5s 14ph/13stn Dmin 42km Az.gap 166°
Corr. -0·453 8M/5stn Msd 0·2 1↑
Felt Whakatu (60) MM IV.

85/1237
**SEP 12 1253 02·4s 45·43S 166·95E 33km M=5·2**
1·4 0·05 0·17 R
Rsd 0·7s 6ph/8stn Dmin 114km Az.gap 250°
Corr. -0·477 14M/9stn Msd 0·3 4↑ 2↓
Felt Fiordland to Gore. Maximum intensity MM V from Te Anau Downs (130) to Leasks Bay (158).

85/1238
**SEP 12 1453 16·8s 37·64S 179·28E 62km M=4·0**
1·3 0·06 0·13 13
Rsd 0·4s 7ph/8stn Dmin 87km Az.gap 305°
Corr. 0·183 6M/4stn Msd 0·2 1↓
P phases at HATZ, KETZ, NGZ, and CNZ fit P* velocities. Calculated focal depth probably too great.

85/1239
**SEP 12 1824 17·8s 45·35S 166·87E 32km M=3·6**
1·2 0·05 0·19 19
Rsd 0·7s 8ph/4stn Dmin 112km Az.gap 257°
Corr. -0·704 4M/2stn Msd 0·2
Largest of several aftershocks of event at 12h 53m.

85/1240
**SEP 13 2350 08·9s 42·70S 173·34E 52km M=3·4**
0·3 0·02 0·03 6
Rsd 0·6s 20ph/13stn Dmin 43km Az.gap 166°
Corr. -0·581 5M/3stn Msd 0·2 2↓

85/1241
**SEP 14 0254 19·5s 37·97S 177·09E 77km M=5·2**
0·7 0·03 0·03 11
Rsd 0·5s 9ph/12stn Dmin 50km Az.gap 98°
Corr. 0·062 4M/3stn Msd 0·2 6↑ 3↓
NEIS depth 107 km. Felt Opotiki (35) MM V.

85/1242
**SEP 14 1703 07·3s 44·29S 169·98E 12km M=3·5**
0·7 0·05 0·04 R
Rsd 0·8s 10ph/6stn Dmin 12km Az.gap 176°
Corr. -0·323 6M/3stn Msd 0·3 1↓

85/1243
**SEP 15 0158 48·8s 37·30S 176·80E 210km M=4·4**
0·4 0·03 0·02 3
Rsd 0·2s 13ph/8stn Dmin 78km Az.gap 227°
Corr. -0·226 11M/6stn Msd 0·4 1↓

85/1244
**SEP 15 0911 09·2s 40·43S 174·55E 62km M=3·5**
0·3 0·01 0·02 7
Rsd 0·3s 15ph/10stn Dmin 57km Az.gap 99°
Corr. -0·528 3M/2stn Msd 0·2 2↓

85/1245
**SEP 16 1255 40·2s 39·60S 173·36E 6km M=4·0**
0·8 0·03 0·05 6
Rsd 0·5s 18ph/12stn Dmin 73km Az.gap 208°
Corr. -0·823 5M/3stn Msd 0·5 2↓

85/1246
**SEP 16 2347 12·3s 37·76S 176·92E 7km M=4·8**
0·5 0·03 0·02 5
Rsd 0·5s 9ph/10stn Dmin 35km Az.gap 142°
Corr. -0·199 4M/3stn Msd 0·2 1↑
FELT Kopeopeo (27), Waimana (35) MM IV. Also felt Opotiki (35). WTZ Initial P down. WTZ aftershocks S-P 3 secs.

85/1247
**SEP 17 1608 37·4s 37·70S 176·94E 12km M=4·5**
0·5 0·04 0·04 R
Rsd 1·1s 12ph/11stn Dmin 29km Az.gap 151°
Corr. -0·405 5M/4stn Msd 0·2
Felt Opotiki (35) MM V. WTZ Initial P down. WTZ aftershocks S-P 3 secs.

85/1248
**SEP 18 0203 18·8s 37·95S 176·78E 112km M=4·0**
1·7 0·08 0·06 21
Rsd 1·1s 8ph/4stn Dmin 109km Az.gap 163°
Corr. -0·153 2M/1stn Msd 0·0

85/1249
**SEP 18 1944 05·3s 38·58S 177·36E 12km M=3·8**
0·4 0·03 0·04 R
Rsd 1·0s 10ph/11stn Dmin 58km Az.gap 106°
Corr. -0·419 6M/4stn Msd 0·1

85/1250
**SEP 19 0830 00·3s 40·42S 173·51E 167km M=4·0**
0·7 0·03 0·04 7
Rsd 0·6s 21ph/15stn Dmin 99km Az.gap 161°
Corr. -0·405 5M/3stn Msd 0·4 5↑ 1↓

85/1251
**SEP 19 1135 05·3s 41·65S 173·89E 12km M=3·8**
0·3 0·03 0·02 4
Rsd 0·5s 11ph/12stn Dmin 29km Az.gap 147°
Corr. -0·422 8M/6stn Msd 0·4 2↑ 1↓

85/1252
**SEP 20 0931 34·2s 47·36S 164·74E 33km M=3·6**
0·7 0·04 0·07 R
Rsd 0·4s 9ph/5stn Dmin 261km Az.gap 321°
Corr. 0·013 6M/3stn Msd 0·2

85/1253
**SEP 20 1303 02·4s 36·78S 177·55E 12km M=3·9**
1·0 0·06 0·04 R
Rsd 0·6s 10ph/6stn Dmin 89km Az.gap 270°
Corr. 0·341 4M/3stn Msd 0·3

85/1254
**SEP 21 0609 05·5s 37·55S 176·49E 234km M=4·2**
0·8 0·05 0·03 7
Rsd 0·4s 9ph/6stn Dmin 94km Az.gap 209°
Corr. -0·231 4M/3stn Msd 0·3

85/1255
**SEP 21 1155 01·4s 46·83S 165·53E 33km M=4·4**
0·7 0·03 0·08 R
Rsd 0·4s 10ph/6stn Dmin 197km Az.gap 240°
Corr. -0·142 6M/3stn Msd 0·0 1↑

85/1256
**SEP 21 1305 00·5s 38·21S 177·26E 42km M=4·1**
0·3 0·02 0·03 7
Rsd 0·5s 15ph/13stn Dmin 67km Az.gap 74°
Corr. -0·100 4M/3stn Msd 0·1 2↑ 3↓

85/1257
**SEP 21 1350 15·7s 46·79S 165·33E 33km M=5·1**
1·1 0·05 0·13 R
Rsd 1·0s 11ph/9stn Dmin 213km Az.gap 244°
Corr. -0·492 10M/6stn Msd 0·3 2↑

85/1258
**SEP 21 1512 01·9s 33·59S 178·35W 33km M=4·7**
0·8 0·10 0·19 R
Rsd 0·4s 13ph/10stn Dmin 538km Az.gap 342°
Corr. -0·838 9M/6stn Msd 0·2

85/1259
**SEP 22 0247 08·6s 46·96S 165·55E 12km M=4·3**
1·3 0·06 0·12 R
Rsd 0·8s 10ph/5stn Dmin 196km Az.gap 308°
Corr. 0·060 9M/5stn Msd 0·1

85/1260
**SEP 22 0515 38·9s 45·03S 167·63E 75km M=3·5**
0·6 0·02 0·04 6
Rsd 0·4s 14ph/7stn Dmin 46km Az.gap 205°
Corr. -0·437 8M/5stn Msd 0·2

85/1261
**SEP 22 2155 19·0s 42·18S 172·83E 72km M=4·7**
0·4 0·03 0·04 7
Rsd 0·8s 17ph/15stn Dmin 42km Az.gap 105°
Corr. -0·585 7M/4stn Msd 0·2 5↑ 4↓
Felt Cheviot (96) and Okuti Valley (110) MM IV. Also felt Christchurch (110).

85/1262
**SEP 23 1855 47·4s 45·07S 167·61E 116km M=3·9**
0·5 0·02 0·04 4
Rsd 0·4s 12ph/6stn Dmin 51km Az.gap 204°
Corr. -0·431 5M/3stn Msd 0·4 1↑

85/1263
**SEP 24 1154 08·2s 42·46S 173·95E 55km M=3·7**
0·3 0·02 0·03 5
Rsd 0·4s 13ph/10stn Dmin 21km Az.gap 176°
Corr. -0·534 3M/2stn Msd 0·1 5↑ 2↓

85/1264
**SEP 24 1218 50·5s 37·07S 177·42E 162km M=4·1**
0·6 0·06 0·04 5
Rsd 0·6s 11ph/9stn Dmin 54km Az.gap 247°
Corr. -0·110 6M/3stn Msd 0·1 2↓

85/1265
**SEP 24 1425 51·8s 37·39S 177·08E 206km M=3·9**
0·4 0·05 0·03 3
Rsd 0·4s 10ph/8stn Dmin 66km Az.gap 216°
Corr. -0·108 7M/4stn Msd 0·1 1↑

85/1266
**SEP 24 1527 25·7s 38·54S 178·84E 33km M=3·5**
0·5 0·02 0·05 R
Rsd 0·1s 4ph/3stn Dmin 72km Az.gap 286°
Corr. -0·911 4M/3stn Msd 0·3 1↓

85/1267
**SEP 24 1722 04·3s 37·94S 176·52E 5km M=2·5**
ND ND ND G
Rsd ND 3ph/2stn Dmin 33km Az.gap 271°
Corr. ND 1M/1stn Msd ND
Felt Rotorua (33), maximum intensity MM V.

85/1268
**SEP 25 0900 00·0s 38·08S 176·47E 157km M=3·8**
1·2 0·07 0·05 9
Rsd 0·6s 10ph/8stn Dmin 83km Az.gap 151°
Corr. -0·247 10M/5stn Msd 0·3 2↑

85/1269
**SEP 25 1239 01·2s 35·71S 179·67E 316km M=4·2**
1·0 0·21 0·24 15
Rsd 0·3s 6ph/4stn Dmin 348km Az.gap 341°
Corr. -0·730 7M/4stn Msd 0·1

85/1270
**SEP 25 1249 36·6s 38·90S 177·43E 28km M=3·5**
0·2 0·02 0·02 1
Rsd 0·3s 10ph/8stn Dmin 27km Az.gap 160°
Corr. -0·308 8M/4stn Msd 0·3 1↓

85/1271
**SEP 25 1433 49·2s 42·09S 173·88E 66km M=4·0**
0·4 0·03 0·02 6
Rsd 0·4s 12ph/8stn Dmin 47km Az.gap 154°
Corr. -0·415 3M/2stn Msd 0·1 3↑ 3↓

85/1272
**SEP 25 1912 37·4s 47·06S 165·59E 33km M=3·7**
0·7 0·04 0·06 R
Rsd 0·2s 4ph/3stn Dmin 193km Az.gap 309°
Corr. 0·639 4M/2stn Msd 0·1

85/1273
**SEP 26 0727 49·9s 34·64S 178·02W 33km M=7·0**
0·9 0·06 0·12 R
Rsd 1·4s 16ph/15stn Dmin 466km Az.gap 173°
Corr. -0·301 7M/5stn Msd 0·2 5↑ 7↓
Felt widely from Waihi (21) to Dunedin (145), and on Raoul Island. Maximum intensity MM V reported from isolated localities between Cape Runaway (29) and Maruia (87).

85/1274
**SEP 27 0311 54·2s 35·11S 178·35W 33km M=5·3**
2·0 0·14 0·15 R
Rsd 1·1s 12ph/11stn Dmin 408km Az.gap 259°
Corr. 0·136 14M/8stn Msd 0·3
Largest aftershock of the M=7·0 event of September 26 07h27m.

85/1275
**SEP 27 0321 10·4s 38·83S 177·38E 28km M=3·7**
0·3 0·03 0·03 2
Rsd 0·6s 11ph/9stn Dmin 20km Az.gap 149°
Corr. -0·040 8M/4stn Msd 0·3 1↑ 2↓

85/1276
**SEP 27 1142 01·0s 37·81S 176·27E 206km M=5·2**
0·8 0·05 0·05 7
Rsd 0·6s 16ph/13stn Dmin 51km Az.gap 170°
Corr. -0·428 6M/3stn Msd 0·2 8↑ 2↓

85/1277
**SEP 29 0406 02·2s 43·14S 173·32E 33km M=3·7**
0·3 0·02 0·04 R
Rsd 0·4s 8ph/6stn Dmin 74km Az.gap 207°
Corr. -0·692 12M/7stn Msd 0·3 1↑

85/1278
**SEP 30 0230 33·9s 39·20S 173·86E 10km M=3·4**
0·8 0·03 0·05 2
Rsd 0·5s 12ph/8stn Dmin 22km Az.gap 202°
Corr. -0·383 6M/3stn Msd 0·2 1↓

85/1279
**SEP 30 1018 52·8s 38·10S 177·87E 66km M=4·1**
0·7 0·02 0·04 9
Rsd 0·5s 12ph/9stn Dmin 62km Az.gap 133°
Corr. -0·149 6M/3stn Msd 0·3 1↑ 2↓

85/1280
**SEP 30 1502 26·5s 45·12S 167·63E 119km M=5·1**
0·7 0·03 0·04 6
Rsd 0·5s 12ph/8stn Dmin 55km Az.gap 198°
Corr. -0·433 6M/4stn Msd 0·4 4↑ 3↓
Felt MM V at Te Anau Downs (130) and Manapouri West Arm (138).

85/1281
**OCT 02 0654 40·3s 38·03S 176·28E 182km M=3·7**
0·9 0·05 0·05 7
Rsd 0·5s 13ph/9stn Dmin 30km Az.gap 156°
Corr. -0·445 9M/5stn Msd 0·3 1↑ 1↓

85/1282
**OCT 02 0906 09·5s 39·16S 178·20E 33km M=3·6**
1·0 0·07 0·05 R
Rsd 0·5s 7ph/5stn Dmin 59km Az.gap 290°
Corr. -0·495 7M/4stn Msd 0·2 1↑

85/1283
**OCT 03 0206 35·2s 41·52S 172·38E 8km M=3·6**
0·3 0·01 0·03 G
Rsd 0·5s 10ph/6stn Dmin 50km Az.gap 176°
Corr. -0·084 7M/4stn Msd 0·2 1↑ 2↓

85/1284
**OCT 03 2345 31·1s 37·45S 177·48E 89km M=4·5**
1·1 0·07 0·04 9
Rsd 0·6s 11ph/8stn Dmin 27km Az.gap 211°
Corr. 0·168 6M/3stn Msd 0·1 3↑ 4↓

85/1285
**OCT 04 1446 00·8s 38·58S 175·84E 178km M=3·7**
1·3 0·05 0·06 11
Rsd 0·7s 9ph/7stn Dmin 73km Az.gap 97°
Corr. -0·041 7M/4stn Msd 0·4 1↑ 1↓

85/1286
**OCT 05 0608 40·5s 46·25S 165·38E 33km M=3·6**
2·6 0·09 0·27 R
Rsd 0·5s 6ph/4stn Dmin 222km Az.gap 299°
Corr. 0·330 4M/2stn Msd 0·4

85/1287
**OCT 06 0953 32·5s 47·11S 166·47E 108km M=4·1**
0·5 0·02 0·05 3
Rsd 0·2s 8ph/5stn Dmin 127km Az.gap 303°
Corr. 0·500 6M/3stn Msd 0·2 2↑ 3↓

85/1288
**OCT 06 2300 40·3s 35·18S 178·11W 33km M=4·7**
1·5 0·14 0·15 G
Rsd 0·6s 10ph/7stn Dmin 419km Az.gap 341°
Corr. -0·558 10M/5stn Msd 0·2

85/1289
**OCT 07 0535 29·7s 38·77S 177·43E 40km M=3·4**
0·5 0·04 0·05 8
Rsd 0·8s 9ph/7stn Dmin 25km Az.gap 136°
Corr. -0·032 5M/3stn Msd 0·3 1↓

85/1290
**OCT 08 0225 15·1s 45·23S 167·23E 12km M=3·6**
1·3 0·04 0·16 R
Rsd 0·8s 8ph/6stn Dmin 66km Az.gap 241°
Corr. -0·655 6M/4stn Msd 0·3 1↑ 1↓
Two small foreshocks in the previous two hours.

85/1291
**OCT 08 0623 06·1s 42·25S 178·10E 12km M=3·9**
1·5 0·07 0·10 R
Rsd 0·7s 13ph/12stn Dmin 239km Az.gap 264°
Corr. -0·823 11M/6stn Msd 0·2 1↑

85/1292
**OCT 08 2143 02·4s 35·68S 178·04E 33km M=4·2**
5·1 0·36 0·21 R
Rsd 1·0s 6ph/6stn Dmin 214km Az.gap 326°
Corr. 0·513 7M/4stn Msd 0·2 1↓

85/1293
**OCT 09 0814 44·6s 44·40S 167·86E 5km M=4·0**
0·8 0·04 0·06 G
Rsd 0·5s 8ph/7stn Dmin 31km Az.gap 259°
Corr. -0·782 10M/5stn Msd 0·2 3↑ 1↓

85/1294
**OCT 09 2123 17·1s 34·64S 178·90W 33km M=4·7**
4·6 0·28 0·46 R
Rsd 0·8s 5ph/5stn Dmin 413km Az.gap 344°
Corr. 0·059 8M/4stn Msd 0·2 2↓

85/1295
**OCT 10 2346 42·2s 37·46S 178·30E 5km M=3·9**
2·9 0·15 0·19 G
Rsd 0·8s 11ph/9stn Dmin 16km Az.gap 274°
Corr. 0·934 3M/2stn Msd 0·2 1↑ 1↓

85/1296
**OCT 11 0455 20·7s 34·64S 178·31W 33km M=4·6**
3·4 0·19 0·40 R
Rsd 0·5s 5ph/4stn Dmin 448km Az.gap 345°
Corr. -0·237 5M/3stn Msd 0·1

85/1297
**OCT 12 1804 14·2s 36·79S 177·60E 12km M=4·1**
1·0 0·07 0·08 R
Rsd 1·0s 11ph/10stn Dmin 90km Az.gap 217°
Corr. 0·643 9M/5stn Msd 0·2 4↑ 2↓

85/1298
**OCT 14 0640 35·9s 40·50S 174·76E 33km M=4·2**
0·1 0·01 0·03 R
Rsd 0·5s 15ph/15stn Dmin 42km Az.gap 104°
Corr. -0·324 14M/8stn Msd 0·3 4↑ 6↓

85/1299
**OCT 14 2239 52·2s 45·35S 167·57E 12km M=3·7**
1·0 0·05 0·11 R
Rsd 1·0s 7ph/6stn Dmin 80km Az.gap 213°
Corr. -0·160 7M/4stn Msd 0·1 2↑ 3↓

85/1300
**OCT 15 0433 33·6s 40·93S 175·05E 8km M=3·4**
0·3 0·01 0·03 2
Rsd 0·5s 11ph/10stn Dmin 14km Az.gap 162°
Corr. -0·264 3M/2stn Msd 0·5 2↑ 3↓
Felt Waikanae (65). See also Wellington Net solution.

85/1301
**OCT 17 0141 54·8s 38·38S 177·90E 12km M=3·7**
0·1 0·01 0·01 R
Rsd 0·2s 8ph/8stn Dmin 31km Az.gap 137°
Corr. 0·036 5M/3stn Msd 0·2 2↑

85/1302
**OCT 17 0149 02·7s 38·34S 177·89E 12km M=3·7**
0·4 0·02 0·04 R
Rsd 0·8s 11ph/8stn Dmin 36km Az.gap 137°
Corr. -0·003 5M/3stn Msd 0·2 4↑

85/1303
**OCT 17 1541 50·9s 37·55S 177·01E 1km M=3·4**
0·5 0·04 0·03 G
Rsd 0·7s 10ph/7stn Dmin 16km Az.gap 188°
Corr. -0·499 3M/2stn Msd 0·1 1↑

85/1304
**OCT 19 0437 29·7s 39·33S 177·70E 33km M=4·5**
0·4 0·03 0·05 R
Rsd 0·6s 11ph/11stn Dmin 75km Az.gap 195°
Corr. -0·651 4M/3stn Msd 0·3 4↑ 4↓
Felt Patoka (52) and Wairoa (53) MM IV.
Also felt Mahia (54).

85/1305
**OCT 19 0819 11·9s 35·80S 178·55E 183km M=4·5**
1·1 0·14 0·10 20
Rsd 0·6s 9ph/7stn Dmin 200km Az.gap 318°
Corr. -0·139 4M/2stn Msd 0·2 1↑ 1↓

85/1306
**OCT 19 2043 00·7s 35·06S 178·30W 33km M=5·1**
0·6 0·04 0·05 R
Rsd 0·4s 12ph/9stn Dmin 415km Az.gap 260°
Corr. 0·611 8M/5stn Msd 0·2 1↑ 1↓
T-phase prominent on WIZ, less prominent on HBZ, discernible on WTZ.

85/1307
**OCT 20 0857 08·7s 38·36S 177·86E 4km M=3·7**
0·4 0·02 0·03 6
Rsd 0·5s 10ph/10stn Dmin 35km Az.gap 131°
Corr. -0·361 7M/4stn Msd 0·2 3↑ 2↓

85/1308
**OCT 20 1505 15·8s 37·40S 179·88W 33km M=4·0**
1·8 0·06 0·16 R
Rsd 0·3s 7ph/6stn Dmin 162km Az.gap 326°
Corr. 0·461 7M/4stn Msd 0·1 2↑

85/1309
**OCT 23 0111 42·2s 41·68S 174·15E 11km M=3·7**
0·2 0·02 0·01 2
Rsd 0·4s 11ph/10stn Dmin 10km Az.gap 117°
Corr. -0·358 8M/5stn Msd 0·3 4↑ 3↓

85/1310
**OCT 23 0302 15·0s 36·56S 177·74E 12km M=4·7**
0·8 0·06 0·03 R
Rsd 0·3s 8ph/8stn Dmin 118km Az.gap 285°
Corr. 0·676 10M/6stn Msd 0·3 2↑ 4↓

85/1311
**OCT 23 1530 03·5s 41·54S 174·59E 27km M=3·7**
0·1 0·01 0·01 1
Rsd 0·3s 15ph/13stn Dmin 28km Az.gap 156°
Corr. -0·368 7M/4stn Msd 0·2 1↑ 6↓

85/1312
**OCT 23 1646 56·0s 38·15S 176·26E 12km M=2·7**
0·2 0·03 0·02 R
Rsd 0·3s 6ph/5stn Dmin 24km Az.gap 144°
Corr. 0·555 4M/4stn Msd 0·3 1↓
Felt Rotorua (33) MM V.

85/1313
**OCT 24 0636 52·9s 45·13S 167·52E 109km M=3·8**
0·6 0·02 0·05 5
Rsd 0·4s 14ph/7stn Dmin 60km Az.gap 224°
Corr. -0·034 6M/3stn Msd 0·2 3↑ 1↓

85/1314
**OCT 24 0935 34·1s 37·26S 176·73E 208km M=4·7**
0·6 0·02 0·03 6
Rsd 0·3s 16ph/13stn Dmin 50km Az.gap 150°
Corr. 0·180 10M/6stn Msd 0·3 4↑ 3↓

85/1315
**OCT 25 0626 44·7s 35·04S 178·56W 220km M=4·2**
1·7 0·18 0·27 36
Rsd 0·6s 10ph/6stn Dmin 400km Az.gap 339°
Corr. -0·530 7M/4stn Msd 0·3

85/1316
**OCT 26 0719 18·1s 36·41S 177·66E 254km M=4·4**
0·7 0·10 0·06 10
Rsd 0·4s 9ph/6stn Dmin 130km Az.gap 289°
Corr. -0·017 6M/4stn Msd 0·3 2↑ 1↓

85/1317
**OCT 26 0921 54·2s 37·55S 177·47E 63km M=4·0**
0·5 0·04 0·02 5
Rsd 0·4s 10ph/7stn Dmin 25km Az.gap 180°
Corr. -0·149 6M/4stn Msd 0·1 2↑ 3↓

85/1318
**OCT 27 2157 14·5s 38·94S 175·77E 106km M=3·4**
0·6 0·02 0·03 5
Rsd 0·2s 7ph/5stn Dmin 30km Az.gap 133°
Corr. -0·038 6M/4stn Msd 0·3 1↑ 1↓

85/1319
**OCT 28 1559 55·6s 33·63S 179·46W 33km M=4·4**
1·7 0·11 0·20 R
Rsd 0·7s 13ph/9stn Dmin 484km Az.gap 324°
Corr. -0·212 11M/7stn Msd 0·2

85/1320
**OCT 31 1415 53·6s 37·57S 177·01E 9km M=3·7**
0·4 0·03 0·03 3
Rsd 0·5s 7ph/8stn Dmin 17km Az.gap 117°
Corr. -0·536 10M/5stn Msd 0·3 2↑ 3↓

85/1321
**NOV 01 0047 09·9s 47·24S 166·17E 12km M=3·9**
1·6 0·09 0·13 R
Rsd 0·4s 7ph/6stn Dmin 152km Az.gap 309°
Corr. 0·294 5M/3stn Msd 0·5

85/1322
**NOV 01 0423 51·0s 33·72S 179·41W 33km M=4·6**
2·1 0·15 0·35 R
Rsd 0·9s 9ph/6stn Dmin 477km Az.gap 339°
Corr. -0·574 9M/5stn Msd 0·5 1↑ 2↓

85/1323
**NOV 01 0804 22·3s 37·61S 176·34E 208km M=3·6**
0·9 0·06 0·06 8
Rsd 0·4s 8ph/5stn Dmin 71km Az.gap 206°
Corr. 0·015 8M/4stn Msd 0·3 1↑ 1↓

85/1324
**NOV 01 0816 12·5s 39·14S 175·15E 159km M=3·9**
0·4 0·02 0·03 4
Rsd 0·5s 19ph/11stn Dmin 35km Az.gap 151°
Corr. -0·580 9M/5stn Msd 0·3 3↑ 2↓

85/1325
**NOV 01 1444 19·4s 38·73S 177·10E 52km M=5·1**
0·4 0·02 0·04 10
Rsd 0·7s 11ph/15stn Dmin 10km Az.gap 69°
Corr. -0·140 1M/1stn Msd ND 3↑ 7↓
Felt MM V from Reporoa (33) to Gisborne (45).

85/1326
**NOV 02 0539 51·2s 37·73S 177·91E 94km M=3·6**
0·8 0·05 0·04 7
Rsd 0·5s 10ph/7stn Dmin 38km Az.gap 165°
Corr. -0·074 5M/3stn Msd 0·1 3↑

85/1327
**NOV 02 0658 31·6s 40·26S 175·19E 12km M=3·4**
0·1 0·01 0·03 R
Rsd 0·1s 6ph/4stn Dmin 119km Az.gap 172°
Corr. -0·835 5M/3stn Msd 0·3 1↓

85/1328
**NOV 02 0850 21·7s 38·70S 177·12E 40km M=3·4**
0·3 0·01 0·02 3
Rsd 0·3s 13ph/10stn Dmin 12km Az.gap 82°
Corr. 0·042 4M/2stn Msd 0·2 3↑

85/1329
**NOV 02 1821 29·3s 38·72S 177·11E 39km M=3·4**
0·4 0·02 0·03 5
Rsd 0·5s 10ph/8stn Dmin 11km Az.gap 89°
Corr. -0·068 5M/3stn Msd 0·1 2↑ 2↓

85/1330
**NOV 02 2215 43·3s 46·93S 165·24E 33km M=4·8**
2·7 0·15 0·25 R
Rsd 0·7s 8ph/6stn Dmin 218km Az.gap 325°
Corr. 0·543 14M/7stn Msd 0·3 3↑ 2↓

85/1331
**NOV 03 1102 29·4s 37·07S 177·14E 218km M=3·7**
1·5 0·08 0·05 11
Rsd 0·4s 10ph/8stn Dmin 102km Az.gap 244°
Corr. 0·127 7M/4stn Msd 0·3 1↑ 1↓

85/1332
**NOV 03 1111 26·4s 34·81S 178·22W 33km M=4·6**
1·2 0·15 0·14 R
Rsd 0·5s 12ph/10stn Dmin 439km Az.gap 340°
Corr. -0·672 13M/8stn Msd 0·2 1↓

85/1333
**NOV 03 1222 28·0s 33·71S 178·02W 33km M=4·7**
1·5 0·13 0·22 R
Rsd 0·5s 11ph/9stn Dmin 545km Az.gap 343°
Corr. -0·610 13M/9stn Msd 0·2

85/1334
**NOV 04 0806 38·3s 45·23S 167·24E 5km M=3·9**
0·7 0·02 0·08 R
Rsd 0·5s 12ph/7stn Dmin 66km Az.gap 241°
Corr. -0·534 12M/6stn Msd 0·3 4↑ 2↓
Felt Te Anau Downs (130) MM V.

85/1335
**NOV 04 1934 47·8s 36·71S 178·29E 33km M=3·9**
0·3 0·01 0·02 R
Rsd 0·2s 8ph/6stn Dmin 99km Az.gap 258°
Corr. 0·546 8M/4stn Msd 0·2 2↑ 2↓

85/1336
**NOV 06 0515 40·9s 38·73S 177·12E 48km M=3·5**
0·5 0·02 0·03 7
Rsd 0·7s 18ph/12stn Dmin 9km Az.gap 82°
Corr. -0·234 4M/2stn Msd 0·2

85/1337
**NOV 06 1138 29·6s 36·89S 177·59E 169km M=4·2**
0·6 0·05 0·04 5
Rsd 0·4s 13ph/8stn Dmin 79km Az.gap 265°
Corr. -0·108 4M/2stn Msd 0·2 1↓

85/1338
**NOV 07 1742 13·7s 38·20S 175·84E 207km M=4·4**
1·0 0·05 0·06 8
Rsd 0·7s 18ph/13stn Dmin 41km Az.gap 124°
Corr. -0·546 5M/3stn Msd 0·4

85/1339
**NOV 07 1912 32·7s 35·42S 178·77W 33km M=6·2**
4·5 0·19 0·34 R
Rsd 0·4s 12ph/16stn Dmin 357km Az.gap 315°
Corr. 0·953 7M/6stn Msd 0·3
USGS Epicentre 19h 12m 31·0s 35·26S 179·35W 44km Mag 6·2. Felt Patoka (52) MM IV, Te Whaiti (42) MM III. Also felt Gisborne (45) and Wellington (68).

85/1340
**NOV 08 1311 58·6s 36·57S 177·56E 199km M=4·3**
0·7 0·04 0·06 6
Rsd 0·5s 16ph/10stn Dmin 111km Az.gap 229°
Corr. 0·384 6M/4stn Msd 0·2

85/1341
**NOV 08 1320 32·9s 41·12S 172·76E 11km M=3·7**
0·7 0·03 0·05 6
Rsd 0·7s 11ph/10stn Dmin 4km Az.gap 113°
Corr. -0·485 6M/4stn Msd 0·2
Felt Cobb Dam (75).

85/1342
**NOV 08 1903 12·0s 45·18S 166·93E 40km M=3·8**
1·2 0·04 0·10 17
Rsd 0·8s 12ph/7stn Dmin 81km Az.gap 259°
Corr. -0·551 7M/4stn Msd 0·5

85/1343
**NOV 08 1941 18·3s 42·75S 171·61E 12km M=4·6**
0·2 0·02 0·03 R
Rsd 0·6s 12ph/11stn Dmin 30km Az.gap 111°
Corr. -0·294 8M/5stn Msd 0·3
Felt Ross (91), Inchbonnie (92) MM V; Greymouth (92), Arthurs Pass (93), Otira (93) MM IV. Also felt Hokitika (91).

85/1344
**NOV 10 0009 14·8s 37·31S 176·79E 200km M=4·2**
0·9 0·05 0·05 8
Rsd 0·6s 17ph/10stn Dmin 43km Az.gap 226°
Corr. -0·208 6M/4stn Msd 0·3

85/1345
**NOV 11 0127 19·6s 35·01S 179·12W 12km M=4·7**
0·8 0·06 0·10 R
Rsd 0·3s 12ph/9stn Dmin 369km Az.gap 337°
Corr. -0·446 10M/7stn Msd 0·2

85/1346
**NOV 11 1451 34·9s 38·62S 178·30E 26km M=3·6**
0·6 0·03 0·06 2
Rsd 0·4s 12ph/9stn Dmin 24km Az.gap 231°
Corr. -0·772 5M/3stn Msd 0·3
Felt Mahia Beach (54).

85/1347
**NOV 12 1626 34·2s 38·01S 176·78E 3km M=3·4**
0·8 0·05 0·07 10
Rsd 1·5s 10ph/7stn Dmin 19km Az.gap 119°
Corr. -0·475 7M/4stn Msd 0·3

85/1348
**NOV 12 2349 15·6s 38·42S 177·09E 33km M=3·4**
0·3 0·02 0·04 3
Rsd 0·9s 13ph/9stn Dmin 43km Az.gap 66°
Corr. -0·130 5M/4stn Msd 0·4 1↑

85/1349
**NOV 13 0549 29·6s 39·67S 173·46E 12km M=3·4**
0·5 0·03 0·04 R
Rsd 0·6s 19ph/12stn Dmin 70km Az.gap 203°
Corr. -0·586 6M/4stn Msd 0·3

85/1350
**NOV 13 0846 23·4s 38·04S 176·07E 278km M=4·3**
0·8 0·05 0·07 6
Rsd 0·6s 21ph/12stn Dmin 44km Az.gap 152°
Corr. -0·502 11M/6stn Msd 0·2 2↑

85/1351
**NOV 13 1247 52·7s 45·10S 167·59E 117km M=3·5**
0·3 0·01 0·02 2
Rsd 0·2s 11ph/6stn Dmin 54km Az.gap 205°
Corr. -0·448 6M/4stn Msd 0·1

85/1352
**NOV 13 1630 27·6s 37·70S 177·24E 1km M=3·6**
0·3 0·02 0·02 R
Rsd 0·6s 11ph/9stn Dmin 20km Az.gap 96°
Corr. -0·234 5M/4stn Msd 0·3

85/1353
**NOV 13 1654 21·7s 37·25S 177·51E 143km M=4·4**
0·7 0·05 0·04 4
Rsd 0·5s 17ph/10stn Dmin 42km Az.gap 233°
Corr. -0·083 9M/5stn Msd 0·2 4↑ 1↓

85/1354
**NOV 13 1849 06·0s 43·36S 171·91E 12km M=3·9**
0·3 0·02 0·03 R
Rsd 0·7s 12ph/9stn Dmin 64km Az.gap 103°
Corr. -0·212 8M/6stn Msd 0·3

85/1355
**NOV 14 0509 40·6s 37·45S 176·67E 200km M=4·1**
0·7 0·03 0·03 5
Rsd 0·4s 14ph/11stn Dmin 47km Az.gap 215°
Corr. -0·162 7M/5stn Msd 0·2

85/1356
**NOV 15 0305 28·8s 45·31S 167·34E 106km M=4·0**
0·8 0·03 0·06 8
Rsd 0·6s 12ph/6stn Dmin 85km Az.gap 231°
Corr. -0·289 8M/5stn Msd 0·3

85/1357
**NOV 15 1151 12·9s 39·12S 175·19E 156km M=3·9**
0·6 0·04 0·06 6
Rsd 0·9s 26ph/17stn Dmin 32km Az.gap 113°
Corr. -0·665 10M/6stn Msd 0·3 2↑ 3↓

85/1358
**NOV 16 1126 27·7s 48·13S 165·01E 33km M=3·8**
1·6 0·07 0·24 R
Rsd 1·2s 6ph/5stn Dmin 271km Az.gap 240°
Corr. -0·412 3M/2stn Msd 0·2

85/1359
**NOV 16 1531 19·5s 36·13S 179·35E 12km M=3·9**
4·9 0·21 0·40 R
Rsd 1·1s 8ph/7stn Dmin 188km Az.gap 325°
Corr. 0·336 5M/5stn Msd 0·2

85/1360
**NOV 16 1615 49·4s 35·99S 178·09E 12km M=4·0**
2·5 0·13 0·12 R
Rsd 0·9s 8ph/7stn Dmin 179km Az.gap 271°
Corr. 0·627 5M/5stn Msd 0·4

85/1361
**NOV 17 0523 13·5s 34·69S 179·79E 169km M=5·2**
1·1 0·07 0·11 24
Rsd 0·7s 15ph/11stn Dmin 349km Az.gap 289°
Corr. 0·541 12M/7stn Msd 0·2
USGS Epicentre 34·42S 179·64E 118km. Mag. 5·0.

85/1362
**NOV 17 1301 56·9s 38·16S 176·23E 1km M=2·1**
R R R R
Rsd 0·3s 3ph/2stn Dmin 26km Az.gap 184°
Corr. R 1M/1stn Msd ND
Felt Tihiotonga (33) MM IV.

85/1363
**NOV 18 0039 04·9s 35·31S 178·72W 33km M=5·1**
0·9 0·04 0·09 R
Rsd 0·5s 15ph/10stn Dmin 369km Az.gap 302°
Corr. -0·044 11M/8stn Msd 0·3

85/1364
**NOV 18 1050 22·3s 39·23S 174·89E 215km M=4·6**
0·6 0·04 0·07 5
Rsd 0·8s 19ph/13stn Dmin 57km Az.gap 115°
Corr. -0·620 9M/5stn Msd 0·3 6↑ 3↓

85/1365
**NOV 19 0959 16·6s 41·43S 172·21E 5km M=3·8**
0·9 0·04 0·08 R
Rsd 0·7s 7ph/6stn Dmin 58km Az.gap 201°
Corr. -0·573 2M/2stn Msd 0·1
Felt Cobb Dam (75).

85/1366
**NOV 19 1423 13·8s 37·03S 177·63E 33km M=4·2**
1·1 0·08 0·05 R
Rsd 0·7s 8ph/7stn Dmin 67km Az.gap 256°
Corr. 0·397 7M/4stn Msd 0·3 3↑

85/1367
**NOV 20 0637 43·5s 38·95S 176·48E 65km M=4·5**
0·4 0·03 0·04 9
Rsd 0·8s 14ph/12stn Dmin 34km Az.gap 110°
Corr. -0·425 5M/3stn Msd 0·2 4↑ 4↓
Felt Te Whaiti (42) MM IV.

85/1368
**NOV 20 1221 15·8s 41·11S 172·57E 5km M=3·9**
1·7 0·07 0·13 R
Rsd 0·7s 7ph/6stn Dmin 14km Az.gap 230°
Corr. -0·872 1M/1stn Msd ND 1↑
Felt Cobb River Power Station (75) MM V.

85/1369
**NOV 20 1353 34·1s 41·97S 172·78E 72km M=4·5**
0·5 0·04 0·05 7
Rsd 0·7s 9ph/7stn Dmin 19km Az.gap 117°
Corr. -0·609 1M/1stn Msd ND 1↑ 1↓
Felt Nelson (76).

85/1370
**NOV 20 1850 30·0s 41·08S 172·73E 5km**
R R R R
Rsd 0·5s 4ph/3stn Dmin 0km Az.gap 263°
Corr. R 0M/0stn Msd ND
Felt Cobb Dam (75). The magnitude of this event is less than 2·6.

85/1371
**NOV 21 0146 09·1s 35·61S 178·41E 223km M=4·5**
1·9 0·28 0·34 33
Rsd 0·7s 6ph/3stn Dmin 221km Az.gap 337°
Corr. -0·407 3M/2stn Msd 0·1

85/1372
**NOV 21 0627 28·2s 37·63S 178·10E 64km M=3·5**
1·0 0·03 0·05 11
Rsd 0·3s 5ph/4stn Dmin 18km Az.gap 161°
Corr. 0·666 4M/2stn Msd 0·2 1↑

85/1373
**NOV 21 1116 39·2s 38·70S 177·09E 33km M=3·6**
0·2 0·02 0·02 R
Rsd 0·4s 9ph/7stn Dmin 13km Az.gap 91°
Corr. -0·098 4M/2stn Msd 0·2 2↑ 1↓

85/1374
**NOV 22 0039 28·3s 38·30S 175·80E 176km M=4·6**
1·3 0·07 0·08 11
Rsd 0·9s 11ph/8stn Dmin 47km Az.gap 136°
Corr. -0·508 6M/4stn Msd 0·2 1↑ 3↓

85/1375
**NOV 22 0141 41·9s 34·27S 179·33E 33km M=5·1**
2·0 0·16 0·19 R
Rsd 0·9s 11ph/6stn Dmin 381km Az.gap 334°
Corr. -0·254 10M/8stn Msd 0·2 1↓

85/1376
**NOV 22 0151 38·7s 41·08S 172·73E 5km**
R R R R
Rsd 0·2s 2ph/2stn Dmin 0km Az.gap 263°
Corr. R 0M/0stn Msd ND
Felt Cobb Dam (75). The magnitude is less than 2·5.

85/1377
**NOV 22 0842 44·1s 39·49S 175·81E 5km M=3·9**
1·1 0·02 0·12 5
Rsd 0·4s 9ph/7stn Dmin 39km Az.gap 196°
Corr. -0·377 2M/1stn Msd 0·0 1↑ 1↓
Felt Moawhango (58) MM IV.

85/1378
**NOV 23 0244 23·2s 41·66S 178·14E 33km M=4·0**
1·5 0·11 0·11 R
Rsd 0·8s 7ph/6stn Dmin 227km Az.gap 284°
Corr. -0·418 4M/2stn Msd 0·1

85/1379
**NOV 23 0956 51·3s 38·78S 176·47E 71km M=3·8**
0·5 0·02 0·02 9
Rsd 0·4s 11ph/8stn Dmin 87km Az.gap 80°
Corr. -0·132 6M/3stn Msd 0·1

85/1380
**NOV 24 0240 43·4s 38·77S 177·11E 43km M=3·5**
0·6 0·04 0·05 7
Rsd 0·8s 11ph/8stn Dmin 5km Az.gap 103°
Corr. -0·281 5M/3stn Msd 0·1 2↓

85/1381
**NOV 24 0729 32·7s 34·51S 179·92W 33km M=4·8**
1·8 0·11 0·22 R
Rsd 0·5s 9ph/7stn Dmin 378km Az.gap 335°
Corr. -0·282 8M/5stn Msd 0·2

85/1382
**NOV 24 0910 47·8s 40·77S 176·45E 73km M=3·4**
0·2 0·01 0·04 2
Rsd 0·2s 6ph/6stn Dmin 24km Az.gap 256°
Corr. -0·236 2M/1stn Msd 0·3 2↓

85/1383
**NOV 25 0356 14·9s 40·38S 174·49E 91km M=3·8**
0·3 0·02 0·03 5
Rsd 0·3s 10ph/7stn Dmin 64km Az.gap 153°
Corr. -0·485 4M/3stn Msd 0·6 3↓

85/1384
**NOV 25 0447 23·4s 39·05S 176·75E 12km M=3·2**
4·7 0·23 0·43 R
Rsd 1·9s 4ph/3stn Dmin 73km Az.gap 322°
Corr. 0·136 1M/1stn Msd ND
Felt Waikite Valley (33) MM V.

85/1385
**NOV 25 1727 24·0s 36·87S 177·50E 12km M=4·3**
2·2 0·15 0·11 R
Rsd 1·0s 5ph/4stn Dmin 78km Az.gap 264°
Corr. 0·482 5M/3stn Msd 0·1

85/1386
**NOV 25 2325 54·3s 39·37S 178·00E 70km M=4·1**
2·9 0·14 0·18 28
Rsd 0·9s 6ph/5stn Dmin 81km Az.gap 257°
Corr. -0·808 3M/2stn Msd 0·1 2↑

85/1387
**NOV 26 0418 58·6s 36·77S 177·15E 33km M=4·0**
2·6 0·11 0·22 R
Rsd 0·6s 4ph/3stn Dmin 136km Az.gap 307°
Corr. -0·355 1M/1stn Msd ND

85/1388
**NOV 26 0435 23·7s 38·87S 175·93E 157km M=3·8**
0·4 0·04 0·13 3
Rsd 0·4s 9ph/7stn Dmin 14km Az.gap 236°
Corr. -0·739 2M/1stn Msd 0·3 1↓

85/1389
**NOV 26 0824 18·1s 34·77S 177·11E 12km M=5·1**
2·3 0·16 0·17 R
Rsd 0·6s 5ph/4stn Dmin 357km Az.gap 331°
Corr. 0·197 3M/2stn Msd 0·2

85/1390
**NOV 26 1728 19·5s 39·97S 177·21E 2km M=3·4**
0·9 0·02 0·09 3
Rsd 0·3s 7ph/5stn Dmin 57km Az.gap 245°
Corr. 0·198 4M/3stn Msd 0·3

85/1391
**NOV 27 0026 16·2s 37·10S 178·24E 12km M=4·7**
0·9 0·05 0·06 R
Rsd 0·5s 12ph/9stn Dmin 55km Az.gap 243°
Corr. 0·685 15M/9stn Msd 0·3 1↑

85/1392
**NOV 27 0200 26·7s 34·33S 178·82E 33km M=4·8**
12·5 0·71 0·91 R
Rsd 1·8s 6ph/5stn Dmin 366km Az.gap 313°
Corr. 0·721 3M/3stn Msd 0·2

85/1393
**NOV 27 0201 38·5s 36·98S 178·24E 12km M=5·0**
2·1 0·12 0·15 R
Rsd 0·7s 10ph/9stn Dmin 69km Az.gap 247°
Corr. 0·803 18M/11stn Msd 0·3 1↑

85/1394
**NOV 27 0257 21·2s 34·59S 178·93E 33km M=4·5**
1·7 0·10 0·27 R
Rsd 0·5s 4ph/3stn Dmin 339km Az.gap 345°
Corr. 0·086 3M/3stn Msd 0·1

85/1395
**NOV 27 0452 43·4s 36·02S 178·52E 33km M=4·5**
7·3 0·49 0·37 R
Rsd 1·4s 8ph/7stn Dmin 176km Az.gap 315°
Corr. 0·725 8M/4stn Msd 0·2 2↑

85/1396
**NOV 27 0551 14·3s 36·54S 178·35E 33km M=3·7**
1·8 0·12 0·09 R
Rsd 0·5s 7ph/6stn Dmin 117km Az.gap 304°
Corr. 0·401 1M/1stn Msd ND

85/1397
**NOV 27 1121 18·0s 39·99S 174·27E 12km M=3·5**
1·0 0·08 0·08 R
Rsd 0·5s 6ph/4stn Dmin 124km Az.gap 286°
Corr. -0·232 3M/2stn Msd 0·2

85/1398
**NOV 29 0150 12·4s 37·51S 176·62E 213km M=4·8**
1·0 0·04 0·05 9
Rsd 0·6s 14ph/11stn Dmin 50km Az.gap 129°
Corr. 0·145 9M/5stn Msd 0·3 3↑ 5↓

85/1399
**NOV 29 1418 06·5s 34·75S 178·57W 33km M=4·5**
0·7 0·05 0·09 R
Rsd 0·2s 9ph/7stn Dmin 423km Az.gap 339°
Corr. -0·366 7M/4stn Msd 0·1

85/1400
**NOV 29 1516 21·1s 36·02S 178·52E 33km M=4·2**
2·6 0·19 0·13 R
Rsd 0·5s 8ph/7stn Dmin 176km Az.gap 315°
Corr. 0·646 4M/4stn Msd 0·4

85/1401
**NOV 30 0323 54·0s 39·12S 173·90E 129km M=3·6**
1·3 0·07 0·10 19
Rsd 0·4s 8ph/5stn Dmin 151km Az.gap 246°
Corr. -0·749 1M/1stn Msd ND

85/1402
**NOV 30 0945 09·5s 32·46S 179·00W 33km M=5·0**
7·0 0·40 0·85 R
Rsd 1·1s 8ph/7stn Dmin 620km Az.gap 343°
Corr. 0·007 6M/4stn Msd 0·4
The USGS origin is 32·49S 179·65W.

85/1403
**NOV 30 1839 05·6s 43·71S 169·69E 5km M=3·6**
ND ND ND R
Rsd ND 3ph/2stn Dmin 76km Az.gap 281°
Corr. ND 2M/1stn Msd 0·0
Felt Mahitahi(104) MM IV.

85/1404
**NOV 30 2116 17·4s 37·05S 177·58E 141km M=3·9**
1·6 0·09 0·08 16
Rsd 0·6s 6ph/4stn Dmin 88km Az.gap 253°
Corr. 0·195 4M/2stn Msd 0·3 1↑

85/1405
**DEC 01 0817 18·6s 32·06S 179·29E 33km M=5·5**
R R R R
Rsd 1·5s 3ph/3stn Dmin 636km Az.gap 350°
Corr. R 2M/2stn Msd 0·4
Origin is fixed to coincide with the USGS origin.

85/1406
**DEC 01 1014 28·1s 36·59S 178·38E 33km M=4·0**
5·2 0·37 0·30 R
Rsd 1·0s 4ph/4stn Dmin 148km Az.gap 309°
Corr. 0·355 4M/4stn Msd 0·4

85/1407
**DEC 01 1105 01·8s 41·61S 174·60E 16km M=4·3**
0·4 0·04 0·03 5
Rsd 0·5s 9ph/8stn Dmin 40km Az.gap 149°
Corr. 0·011 8M/6stn Msd 0·4 2↑ 2↓
Felt at Wellington (68) MM IV, also felt Nelson (76) and Blenheim (77).

85/1408
**DEC 01 1749 06·1s 32·33S 179·50E 33km M=5·7**
R R R G
Rsd 2·0s 6ph/6stn Dmin 594km Az.gap 341°
Corr. R 3M/3stn Msd 0·2
The origin has been fixed to coincide with that given by the USGS. At least two other events associated with this event were detected but not located.

85/1409
**DEC 01 1920 17·6s 36·96S 177·39E 33km M=3·7**
1·9 0·14 0·12 R
Rsd 0·7s 5ph/4stn Dmin 65km Az.gap 295°
Corr. -0·141 3M/2stn Msd 0·3

85/1410
**DEC 02 0217 40·1s 42·62S 171·34E 30km M=3·4**
0·1 0·01 0·03 0
Rsd 0·1s 5ph/4stn Dmin 11km Az.gap 182°
Corr. -0·484 1M/1stn Msd ND

85/1411
**DEC 02 0424 57·4s 39·51S 177·16E 27km M=3·4**
0·5 0·03 0·05 2
Rsd 0·5s 10ph/8stn Dmin 30km Az.gap 179°
Corr. -0·625 4M/2stn Msd 0·3

85/1412
**DEC 02 0844 23·6s 35·36S 178·79E 33km M=4·4**
5·6 0·36 0·41 R
Rsd 1·1s 5ph/4stn Dmin 333km Az.gap 325°
Corr. 0·345 5M/3stn Msd 0·4

85/1413
**DEC 02 1326 51·1s 32·60S 179·79E 33km M=5·3**
R R R R
Rsd 1·0s 4ph/4stn Dmin 595km Az.gap 341°
Corr. R 3M/3stn Msd 0·2
The origin of this event has been fixed to coincide with that provided by the USGS.

85/1414
**DEC 02 1522 40·4s 32·38S 179·33E 33km M=5·4**
R R R R
Rsd 1·6s 4ph/4stn Dmin 603km Az.gap 341°
Corr. R 1M/1stn Msd ND
The origin of this event has been fixed to coincide with that provided by the USGS.

85/1415
**DEC 02 1709 44·8s 32·31S 178·32E 33km M=5·8**
R R R R
Rsd 1·5s 3ph/3stn Dmin 588km Az.gap 349°
Corr. R 3M/3stn Msd 0·9
The origin of this event has been fixed to coincide with that provided with the USGS.

85/1416
**DEC 02 1732 44·8s 39·47S 177·11E 23km M=4·0**
0·5 0·03 0·05 3
Rsd 0·7s 13ph/12stn Dmin 26km Az.gap 175°
Corr. -0·630 4M/3stn Msd 0·3 2↓

85/1417
**DEC 02 1856 01·4s 32·33S 178·43E 33km M=5·9**
R R R R
Rsd 2·0s 3ph/3stn Dmin 587km Az.gap 349°
Corr. R 2M/2stn Msd 0·1
The origin of this event has been fixed to coincide with that provided by the USGS.

85/1418
**DEC 02 1930 21·4s 32·67S 179·86E 33km M=5·2**
R R R R
Rsd 1·0s 3ph/3stn Dmin 591km Az.gap 350°
Corr. R 3M/3stn Msd 0·4
The origin of this event has been fixed to coincide with that provided by the USGS.

85/1419
**DEC 03 1121 24·4s 35·82S 177·75E 271km M=4·0**
1·8 0·22 0·23 21
Rsd 0·7s 7ph/4stn Dmin 204km Az.gap 324°
Corr. -0·397 6M/4stn Msd 0·2

85/1420
**DEC 04 0455 43·4s 38·26S 175·63E 294km M=4·2**
1·6 0·10 0·15 12
Rsd 0·8s 13ph/10stn Dmin 38km Az.gap 164°
Corr. -0·756 12M/7stn Msd 0·2 1↑ 1↓

85/1421
**DEC 04 0738 46·4s 39·75S 176·59E 33km M=3·4**
0·3 0·02 0·03 R
Rsd 0·5s 18ph/12stn Dmin 30km Az.gap 176°
Corr. -0·379 13M/7stn Msd 0·1 6↓

85/1422
**DEC 05 0908 09·4s 39·04S 174·71E 213km M=3·5**
1·0 0·10 0·11 15
Rsd 0·6s 8ph/6stn Dmin 59km Az.gap 204°
Corr. -0·790 6M/3stn Msd 0·4 1↑ 1↓

85/1423
**DEC 05 0958 22·8s 40·43S 176·25E 33km M=3·4**
0·5 0·03 0·05 R
Rsd 0·4s 14ph/9stn Dmin 53km Az.gap 194°
Corr. -0·806 15M/9stn Msd 0·3 3↑ 2↓

85/1424
**DEC 05 1214 31·2s 33·85S 179·52W 305km M=4·0**
1·1 0·16 0·25 12
Rsd 0·3s 8ph/6stn Dmin 460km Az.gap 344°
Corr. -0·907 7M/4stn Msd 0·4

85/1425
**DEC 05 1509 31·4s 41·87S 174·15E 57km M=3·4**
0·3 0·02 0·02 5
Rsd 0·3s 14ph/16stn Dmin 14km Az.gap 147°
Corr. -0·262 6M/4stn Msd 0·2 3↑ 4↓

85/1426
**DEC 05 1541 14·9s 37·98S 177·48E 33km M=3·6**
0·2 0·03 0·02 R
Rsd 0·6s 17ph/13stn Dmin 43km Az.gap 87°
Corr. -0·150 15M/8stn Msd 0·2 3↑ 3↓

85/1427
**DEC 05 2107 55·9s 39·21S 174·74E 200km M=3·7**
0·8 0·04 0·07 7
Rsd 0·3s 7ph/5stn Dmin 70km Az.gap 229°
Corr. -0·327 3M/2stn Msd 0·3 1↑ 1↓

85/1428
**DEC 06 0240 00·5s 49·38S 165·37E 33km M=4·0**
2·8 0·30 0·48 R
Rsd 0·6s 5ph/4stn Dmin 343km Az.gap 343°
Corr. -0·714 4M/3stn Msd 0·2

85/1429
**DEC 06 0343 41·7s 35·31S 178·62W 33km M=4·7**
0·8 0·07 0·09 R
Rsd 0·4s 18ph/9stn Dmin 375km Az.gap 339°
Corr. -0·427 18M/11stn Msd 0·3 1↓

85/1430
**DEC 07 1847 15·9s 41·10S 175·19E 19km M=3·6**
0·1 0·01 0·01 1
Rsd 0·2s 12ph/13stn Dmin 10km Az.gap 94°
Corr. 0·138 6M/4stn Msd 0·3 2↑ 4↓

85/1431
**DEC 07 1901 03·1s 38·83S 175·87E 117km M=3·5**
0·3 0·04 0·03 2
Rsd 0·3s 12ph/9stn Dmin 17km Az.gap 96°
Corr. -0·661 7M/4stn Msd 0·5 2↑ 3↓

85/1432
**DEC 07 2320 03·9s 44·34S 167·82E 12km M=3·4**
0·6 0·03 0·04 R
Rsd 0·2s 9ph/7stn Dmin 38km Az.gap 262°
Corr. -0·764 10M/7stn Msd 0·3 1↑ 1↓

85/1433
**DEC 07 2353 54·6s 46·04S 166·97E 12km M=3·4**
1·1 0·03 0·11 R
Rsd 0·6s 9ph/5stn Dmin 53km Az.gap 248°
Corr. -0·260 5M/3stn Msd 0·4

85/1434
**DEC 08 0245 12·0s 34·43S 179·03W 33km M=4·2**
1·4 0·09 0·18 R
Rsd 0·3s 5ph/3stn Dmin 426km Az.gap 339°
Corr. -0·383 9M/6stn Msd 0·2

85/1435
**DEC 09 0114 07·8s 45·85S 165·56E 33km M=3·8**
1·2 0·04 0·12 R
Rsd 0·6s 10ph/5stn Dmin 154km Az.gap 294°
Corr. -0·085 6M/4stn Msd 0·2 1↑ 2↓

85/1436
**DEC 09 0424 01·8s 34·68S 179·78E 33km M=4·1**
1·7 0·11 0·24 R
Rsd 0·7s 9ph/6stn Dmin 350km Az.gap 343°
Corr. -0·318 5M/3stn Msd 0·3 2↑

85/1437
**DEC 09 1733 07·7s 34·20S 179·61W 33km M=4·4**
1·9 0·13 0·24 R
Rsd 0·6s 9ph/8stn Dmin 421km Az.gap 338°
Corr. -0·217 9M/5stn Msd 0·3 1↑

85/1438
**DEC 10 1732 58·0s 35·37S 179·69E 33km M=4·7**
1·3 0·08 0·09 R
Rsd 0·4s 10ph/7stn Dmin 277km Az.gap 307°
Corr. 0·423 7M/5stn Msd 0·3 3↑ 3↓

85/1439
**DEC 10 2246 49·6s 36·32S 179·84E 33km M=3·7**
1·8 0·17 0·20 R
Rsd 0·6s 7ph/4stn Dmin 197km Az.gap 327°
Corr. -0·577 3M/2stn Msd 0·2

85/1440
**DEC 10 2331 59·9s 38·17S 177·77E 69km M=3·6**
0·4 0·01 0·02 4
Rsd 0·3s 13ph/9stn Dmin 57km Az.gap 121°
Corr. -0·138 5M/3stn Msd 0·4 4↑ 1↓

85/1441
**DEC 11 1521 13·7s 33·23S 178·44W 33km M=4·7**
3·2 0·13 0·28 R
Rsd 1·0s 9ph/8stn Dmin 567km Az.gap 309°
Corr. 0·589 10M/7stn Msd 0·3 1↑

85/1442
**DEC 11 1614 28·3s 38·95S 176·05E 110km M=4·0**
0·7 0·03 0·04 9
Rsd 0·8s 17ph/10stn Dmin 46km Az.gap 95°
Corr. -0·308 9M/5stn Msd 0·3 3↑ 5↓

85/1443
**DEC 12 0519 00·2s 38·81S 175·44E 105km M=3·7**
0·8 0·03 0·03 8
Rsd 0·6s 14ph/10stn Dmin 37km Az.gap 119°
Corr. -0·172 8M/5stn Msd 0·2 1↑ 4↓

85/1444
**DEC 12 1351 05·4s 40·28S 174·09E 97km M=3·5**
0·3 0·01 0·03 5
Rsd 0·3s 13ph/10stn Dmin 112km Az.gap 128°
Corr. -0·578 7M/5stn Msd 0·3 1↑ 1↓

85/1445
**DEC 12 1515 52·1s 33·34S 178·84W 296km M=4·8**
2·2 0·29 0·46 39
Rsd 0·6s 9ph/7stn Dmin 538km Az.gap 342°
Corr. -0·597 9M/6stn Msd 0·3 1↑

85/1446
**DEC 12 2155 41·4s 47·01S 165·54E 12km M=4·4**
1·2 0·05 0·12 R
Rsd 0·4s 8ph/4stn Dmin 196km Az.gap 308°
Corr. -0·016 11M/6stn Msd 0·2 2↑ 1↓

85/1447
**DEC 12 2246 13·1s 40·22S 173·64E 188km M=4·0**
1·2 0·04 0·07 11
Rsd 0·5s 9ph/5stn Dmin 112km Az.gap 162°
Corr. -0·473 4M/3stn Msd 0·4 4↑ 1↓

85/1448
**DEC 13 1312 57·1s 35·59S 179·55E 12km M=4·5**
3·3 0·13 0·28 R
Rsd 0·6s 11ph/11stn Dmin 249km Az.gap 281°
Corr. 0·869 13M/8stn Msd 0·3 1↑ 2↓

85/1449
**DEC 13 2238 58·0s 32·86S 179·85E 33km M=4·7**
3·0 0·20 0·28 R
Rsd 0·9s 11ph/9stn Dmin 544km Az.gap 340°
Corr. 0·019 7M/4stn Msd 0·3 3↓

85/1450
**DEC 14 0146 52·4s 36·56S 179·43E 12km M=4·5**
1·5 0·06 0·14 R
Rsd 0·6s 15ph/13stn Dmin 153km Az.gap 279°
Corr. 0·509 16M/10stn Msd 0·4 2↓

85/1451
**DEC 14 0325 59·6s 39·89S 174·15E 212km M=4·2**
0·7 0·04 0·06 6
Rsd 0·5s 17ph/10stn Dmin 69km Az.gap 134°
Corr. -0·763 5M/3stn Msd 0·3 4↑

85/1452
**DEC 14 0401 52·8s 33·01S 178·26W 12km M=5·0**
0·9 0·04 0·09 R
Rsd 0·4s 14ph/11stn Dmin 597km Az.gap 310°
Corr. 0·320 20M/12stn Msd 0·4 1↓

85/1453
**DEC 14 1213 02·2s 37·12S 176·70E 290km M=4·7**
1·2 0·09 0·07 8
Rsd 0·6s 16ph/11stn Dmin 99km Az.gap 242°
Corr. -0·111 7M/4stn Msd 0·2 5↑ 3↓

85/1454
**DEC 14 1448 35·1s 37·59S 177·17E 5km M=4·1**
0·8 0·06 0·06 R
Rsd 1·0s 9ph/8stn Dmin 46km Az.gap 136°
Corr. -0·287 6M/4stn Msd 0·2 1↑ 3↓

85/1455
**DEC 14 2152 58·8s 40·45S 173·45E 183km M=4·2**
0·6 0·03 0·05 6
Rsd 0·5s 15ph/10stn Dmin 93km Az.gap 163°
Corr. -0·514 6M/4stn Msd 0·3 4↑ 1↓

85/1456
**DEC 15 0416 10·7s 40·12S 174·97E 12km M=4·0**
0·1 0·01 0·03 R
Rsd 0·4s 14ph/12stn Dmin 83km Az.gap 100°
Corr. -0·399 16M/9stn Msd 0·4 7↑ 5↓
Felt Wanganui (57) and Lower Hutt (68).

85/1457
**DEC 15 0419 49·3s 40·12S 175·05E 12km M=3·8**
0·0 0·00 0·00 R
Rsd 0·1s 9ph/7stn Dmin 115km Az.gap 122°
Corr. -0·476 10M/7stn Msd 0·3 2↑ 2↓

85/1458
**DEC 17 1043 48·4s 37·62S 177·17E 12km M=3·5**
0·5 0·04 0·05 R
Rsd 0·9s 7ph/6stn Dmin 10km Az.gap 152°
Corr. -0·352 5M/3stn Msd 0·3 1↓

85/1459
**DEC 17 1228 36·9s 38·15S 176·66E 5km M=3·5**
0·3 0·03 0·03 R
Rsd 0·9s 10ph/8stn Dmin 16km Az.gap 110°
Corr. -0·153 6M/3stn Msd 0·3 1↑

85/1460
**DEC 17 1346 58·1s 38·13S 176·66E 5km M=3·7**
0·3 0·03 0·03 R
Rsd 0·8s 9ph/8stn Dmin 18km Az.gap 112°
Corr. -0·289 5M/3stn Msd 0·3 2↑ 1↓

85/1461
**DEC 18 0603 50·1s 37·75S 176·48E 311km M=4·8**
0·9 0·04 0·04 8
Rsd 0·4s 17ph/17stn Dmin 52km Az.gap 97°
Corr. -0·268 8M/5stn Msd 0·2 13↑ 8↓

85/1462
**DEC 20 0355 15·6s 35·34S 179·35E 307km M=4·4**
2·8 0·27 0·23 44
Rsd 0·4s 5ph/5stn Dmin 268km Az.gap 329°
Corr. -0·136 5M/3stn Msd 0·3

85/1463
**DEC 20 0641 50·2s 39·15S 174·88E 227km M=3·8**
1·2 0·04 0·04 10
Rsd 0·3s 8ph/7stn Dmin 58km Az.gap 124°
Corr. -0·318 5M/3stn Msd 0·2 2↓

85/1464
**DEC 20 0813 27·3s 39·11S 175·24E 165km M=3·9**
0·7 0·04 0·06 6
Rsd 0·6s 18ph/16stn Dmin 29km Az.gap 112°
Corr. -0·707 8M/4stn Msd 0·3 4↑ 5↓

85/1465
**DEC 20 1707 04·4s 37·39S 177·82E 98km M=3·7**
0·7 0·03 0·03 6
Rsd 0·3s 9ph/8stn Dmin 48km Az.gap 226°
Corr. 0·447 7M/4stn Msd 0·2 1↑ 1↓

85/1466
**DEC 20 1744 51·6s 37·71S 177·54E 33km M=3·8**
0·3 0·03 0·02 R
Rsd 0·5s 11ph/8stn Dmin 57km Az.gap 178°
Corr. -0·210 7M/4stn Msd 0·1 1↑ 2↓

85/1467
**DEC 20 1932 14·1s 39·42S 174·66E 163km M=3·6**
0·7 0·02 0·04 6
Rsd 0·3s 8ph/8stn Dmin 51km Az.gap 139°
Corr. -0·634 4M/2stn Msd 0·3 2↑ 2↓

85/1468
**DEC 20 2053 56·6s 47·05S 165·53E 12km M=3·8**
2·8 0·13 0·28 R
Rsd 0·6s 5ph/6stn Dmin 198km Az.gap 310°
Corr. 0·584 6M/3stn Msd 0·2 1↓

85/1469
**DEC 21 0827 46·5s 38·63S 175·79E 174km M=3·4**
0·8 0·04 0·05 8
Rsd 0·6s 13ph/11stn Dmin 27km Az.gap 100°
Corr. -0·654 6M/3stn Msd 0·3 2↑ 1↓

85/1470
**DEC 21 2002 37·1s 35·62S 179·23E 138km M=4·5**
1·6 0·09 0·13 17
Rsd 0·7s 13ph/9stn Dmin 235km Az.gap 299°
Corr. 0·534 5M/3stn Msd 0·4 8↑ 1↓

85/1471
**DEC 21 2340 07·4s 38·09S 176·36E 175km M=3·6**
1·8 0·10 0·08 15
Rsd 0·6s 12ph/10stn Dmin 56km Az.gap 149°
Corr. -0·638 7M/4stn Msd 0·4 3↓

85/1472
**DEC 22 1150 39·2s 33·81S 179·28W 191km M=4·7**
1·1 0·08 0·11 17
Rsd 0·2s 8ph/10stn Dmin 473km Az.gap 340°
Corr. 0·033 8M/4stn Msd 0·2 1↓

85/1473
**DEC 23 2059 38·2s 36·70S 177·11E 256km M=4·7**
1·4 0·05 0·06 13
Rsd 0·5s 13ph/13stn Dmin 92km Az.gap 204°
Corr. 0·389 6M/3stn Msd 0·4 6↑ 4↓

85/1474
**DEC 25 0319 06·8s 39·23S 173·90E 5km M=3·5**
1·2 0·07 0·10 R
Rsd 0·8s 8ph/7stn Dmin 18km Az.gap 233°
Corr. -0·637 6M/3stn Msd 0·3 2↓

85/1475
**DEC 25 0919 41·6s 40·31S 173·48E 153km M=3·8**
1·1 0·04 0·10 12
Rsd 0·4s 8ph/6stn Dmin 107km Az.gap 265°
Corr. -0·327 5M/3stn Msd 0·3 3↑ 3↓

85/1476
**DEC 26 0735 18·8s 40·13S 174·96E 5km M=3·9**
0·2 0·02 0·03 R
Rsd 0·7s 15ph/15stn Dmin 70km Az.gap 82°
Corr. -0·367 10M/5stn Msd 0·2 5↑ 4↓

85/1477
**DEC 26 2019 35·4s 35·54S 179·19W 33km M=4·1**
1·1 0·05 0·11 R
Rsd 0·2s 7ph/6stn Dmin 320km Az.gap 336°
Corr. 0·045 5M/3stn Msd 0·3

85/1478
**DEC 27 0038 40·9s 40·68S 176·13E 12km M=3·5**
0·5 0·03 0·05 R
Rsd 0·9s 8ph/10stn Dmin 26km Az.gap 138°
Corr. -0·043 4M/3stn Msd 0·1 2↓

85/1479
**DEC 27 1122 54·2s 46·14S 166·23E 33km M=3·4**
1·8 0·06 0·19 R
Rsd 0·6s 8ph/4stn Dmin 168km Az.gap 279°
Corr. 0·076 4M/2stn Msd 0·2

85/1480
**DEC 27 1333 58·2s 43·21S 171·49E 12km M=3·5**
0·4 0·03 0·04 R
Rsd 0·6s 10ph/8stn Dmin 77km Az.gap 116°
Corr. -0·298 11M/6stn Msd 0·4 1↑

85/1481
**DEC 27 1917 49·5s 37·17S 176·89E 200km M=4·2**
1·1 0·06 0·03 8
Rsd 0·3s 11ph/9stn Dmin 48km Az.gap 236°
Corr. -0·281 4M/2stn Msd 0·6 4↑ 3↓

85/1482
**DEC 27 2017 48·2s 38·42S 175·73E 184km M=3·6**
1·1 0·05 0·06 11
Rsd 0·5s 9ph/9stn Dmin 57km Az.gap 149°
Corr. -0·755 6M/3stn Msd 0·3 5↑ 3↓

85/1483
**DEC 27 2315 30·9s 41·11S 176·64E 12km M=3·8**
1·4 0·08 0·11 R
Rsd 0·8s 9ph/10stn Dmin 42km Az.gap 229°
Corr. -0·834 8M/6stn Msd 0·3 1↑ 4↓

85/1484
**DEC 28 0257 25·8s 38·73S 175·81E 177km M=3·7**
1·1 0·06 0·07 12
Rsd 0·7s 10ph/9stn Dmin 47km Az.gap 161°
Corr. -0·769 7M/4stn Msd 0·3 1↑ 5↓

85/1485
**DEC 29 0544 33·9s 41·47S 174·61E 7km M=3·7**
0·8 0·05 0·04 4
Rsd 0·9s 13ph/14stn Dmin 25km Az.gap 149°
Corr. -0·526 4M/2stn Msd 0·3 4↑ 1↓
Felt Wellington (68) and Marlborough Sounds (78).

85/1486
**DEC 29 0948 28·5s 38·77S 177·41E 31km M=3·6**
0·4 0·04 0·05 4
Rsd 0·9s 15ph/14stn Dmin 23km Az.gap 135°
Corr. -0·326 5M/3stn Msd 0·1 5↑ 3↓

85/1487
**DEC 29 1849 45·9s 37·63S 177·13E 147km M=4·5**
0·9 0·04 0·04 9
Rsd 0·7s 14ph/13stn Dmin 41km Az.gap 133°
Corr. 0·121 5M/3stn Msd 0·1 7↑ 1↓

85/1488
**DEC 29 2328 54·3s 39·10S 175·24E 161km M=4·0**
0·5 0·03 0·04 5
Rsd 0·6s 15ph/15stn Dmin 28km Az.gap 105°
Corr. -0·344 3M/2stn Msd 0·2 4↑ 3↓

85/1489
**DEC 30 1852 34·6s 47·57S 166·11E 12km M=3·7**
2·2 0·13 0·14 R
Rsd 0·6s 7ph/5stn Dmin 169km Az.gap 319°
Corr. 0·116 4M/2stn Msd 0·4

85/1490
**DEC 31 0245 18·0s 43·69S 170·67E 12km M=3·6**
0·6 0·05 0·07 R
Rsd 0·8s 10ph/7stn Dmin 82km Az.gap 142°
Corr. -0·373 8M/5stn Msd 0·3 1↑
Felt Erewhon Station (107) MM IV.

## LISTS OF ORIGINS AND MAGNITUDE DETERMINATIONS

### STANDARD NETWORK

A chronological list of the New Zealand earthquake origins determined from the data summarised in the preceding pages follows. A reference number at the beginning of each entry identifies the origin with the instrumental data summary, and also with the appropriate full listing of non-instrumental data (if there is any) that appears in a later section.

The letter "R" following a depth indicates that depth was not determined by computation, but by consideration of crustal phases, or that a depth was assigned of necessity to achieve convergence of the location algorithm. The letter "G" in the same position shows that a depth was determined on the basis of information not accessible to the location program.

The letter "F" following a magnitude indicates that at least one report of the earthquake being felt has been received by the Observatory.

| NUM | DATE | TIME | LAT | LONG | DEP | MAG |
|---|---|---|---|---|---|---|
| 1 | JAN 01 | 0002 04·3 | 36·92S | 177·36E | 12R | 4·0 |
| 2 | JAN 01 | 0012 31·6 | 37·01S | 177·36E | 12R | 3·8 |
| 3 | JAN 01 | 0057 58·7 | 37·01S | 177·42E | 12R | 4·5 |
| 4 | JAN 01 | 0102 46·7 | 38·31S | 176·11E | 161 | 4·1 |
| 5 | JAN 01 | 0114 48·4 | 37·05S | 177·40E | 12R | 3·9 |
| 6 | JAN 01 | 0156 40·1 | 37·05S | 177·23E | 12R | 3·8 |
| 7 | JAN 01 | 0226 10·0 | 36·73S | 177·46E | 12R | 3·7 |
| 8 | JAN 01 | 0354 10·6 | 37·34S | 177·23E | 12R | 3·4 |
| 9 | JAN 01 | 0414 35·4 | 36·80S | 177·46E | 12R | 4·1 |
| 10 | JAN 01 | 0437 23·1 | 36·69S | 177·48E | 12R | 4·4 |
| 11 | JAN 01 | 0512 46·6 | 36·58S | 177·50E | 12R | 5·1 |
| 12 | JAN 01 | 0550 23·9 | 37·02S | 177·35E | 12R | 3·7 |
| 13 | JAN 01 | 0607 49·2 | 37·05S | 177·41E | 12R | 3·7 |
| 14 | JAN 01 | 0611 57·1 | 37·25S | 177·34E | 12R | 4·0 |
| 15 | JAN 01 | 0621 43·2 | 37·25S | 177·32E | 12R | 3·8 |
| 16 | JAN 01 | 0722 46·1 | 36·39S | 177·55E | 12R | 4·2 |
| 17 | JAN 01 | 0729 42·5 | 37·28S | 177·33E | 12R | 4·2 |
| 18 | JAN 01 | 0735 06·9 | 36·94S | 177·53E | 12R | 4·4 |
| 19 | JAN 01 | 0755 38·5 | 36·84S | 177·39E | 12R | 4·1 |
| 20 | JAN 01 | 0932 04·5 | 36·79S | 177·62E | 12R | 4·5 |
| 21 | JAN 01 | 0938 53·5 | 36·74S | 177·55E | 12R | 4·1 |
| 22 | JAN 01 | 1002 00·0 | 37·23S | 177·24E | 12R | 3·4 |
| 23 | JAN 01 | 1002 53·4 | 37·03S | 177·36E | 12R | 4·1 |
| 24 | JAN 01 | 1117 01·2 | 36·78S | 177·43E | 12R | 3·9 |
| 25 | JAN 01 | 1215 04·7 | 36·77S | 177·44E | 12R | 4·5 |
| 26 | JAN 01 | 1220 53·0 | 36·72S | 177·42E | 12R | 4·2 |
| 27 | JAN 01 | 1233 13·5 | 36·76S | 177·45E | 12R | 4·0 |
| 28 | JAN 01 | 1236 28·9 | 36·84S | 177·42E | 12R | 3·9 |
| 29 | JAN 01 | 1309 21·2 | 36·55S | 177·49E | 12R | 3·9 |
| 30 | JAN 01 | 1315 11·1 | 36·74S | 177·46E | 12R | 4·0 |
| 31 | JAN 01 | 1332 50·5 | 36·60S | 177·52E | 12R | 4·5 |
| 32 | JAN 01 | 1350 07·1 | 36·81S | 177·49E | 12R | 3·9 |
| 33 | JAN 01 | 1355 13·2 | 36·61S | 177·48E | 12R | 4·1 |
| 34 | JAN 01 | 1406 40·7 | 36·80S | 177·44E | 12R | 4·1 |
| 35 | JAN 01 | 1408 05·9 | 36·83S | 177·54E | 12R | 4·7 |
| 36 | JAN 01 | 1410 26·4 | 36·80S | 177·50E | 12R | 4·4 |
| 37 | JAN 01 | 1423 30·8 | 36·80S | 177·45E | 12R | 3·9 |
| 38 | JAN 01 | 1429 14·9 | 36·73S | 177·59E | 12R | 4·3 |
| 39 | JAN 01 | 1534 27·7 | 36·77S | 177·46E | 12R | 4·8 |
| 40 | JAN 01 | 1640 24·9 | 36·60S | 177·48E | 12R | 5·0 |
| 41 | JAN 01 | 1648 07·0 | 36·54S | 177·51E | 12R | 5·0 |
| 42 | JAN 01 | 1704 17·9 | 36·61S | 177·53E | 12R | 4·7 |
| 43 | JAN 01 | 1729 01·7 | 36·72S | 177·51E | 12R | 4·3 |
| 44 | JAN 01 | 1732 27·7 | 36·82S | 177·38E | 12R | 3·8 |
| 45 | JAN 01 | 1747 31·9 | 36·89S | 177·45E | 12R | 4·0 |
| 46 | JAN 01 | 1800 38·6 | 36·69S | 177·49E | 12R | 4·4 |
| 47 | JAN 01 | 1814 49·8 | 36·72S | 177·51E | 12R | 4·9 |
| 48 | JAN 01 | 1821 10·8 | 36·63S | 177·44E | 12R | 3·8 |
| 49 | JAN 01 | 1823 33·8 | 36·72S | 177·51E | 12R | 4·1 |
| 50 | JAN 01 | 1850 19·2 | 37·14S | 177·35E | 12R | 3·8 |
| 51 | JAN 01 | 1856 20·3 | 36·76S | 177·50E | 12R | 4·2 |
| 52 | JAN 01 | 1910 48·8 | 36·82S | 177·50E | 12R | 4·0 |
| 53 | JAN 01 | 1913 00·8 | 36·80S | 177·50E | 12R | 3·8 |
| 54 | JAN 01 | 1951 21·8 | 36·64S | 177·54E | 12R | 3·9 |
| 55 | JAN 01 | 2040 53·1 | 36·83S | 177·48E | 12R | 4·2 |
| 56 | JAN 01 | 2053 22·3 | 36·66S | 177·53E | 12R | 3·9 |
| 57 | JAN 01 | 2057 52·2 | 36·65S | 177·49E | 12R | 4·6 |
| 58 | JAN 01 | 2136 33·4 | 37·00S | 177·43E | 12R | 4·4 |
| 59 | JAN 01 | 2140 16·6 | 36·65S | 177·54E | 12R | 4·4 |
| 60 | JAN 01 | 2151 33·6 | 36·92S | 177·52E | 12R | 4·3 |
| 61 | JAN 01 | 2248 10·2 | 36·82S | 177·39E | 12R | 4·3 |
| 62 | JAN 01 | 2248 44·4 | 36·83S | 177·38E | 12R | 4·7 |
| 63 | JAN 01 | 2251 54·4 | 36·91S | 177·26E | 12R | 4·3 |
| 64 | JAN 01 | 2255 34·1 | 36·86S | 177·34E | 12R | 4·1 |
| 65 | JAN 01 | 2257 51·1 | 36·92S | 177·32E | 12R | 3·9 |
| 66 | JAN 01 | 2258 53·8 | 36·85S | 177·38E | 12R | 4·4 |
| 67 | JAN 01 | 2310 01·4 | 36·71S | 177·52E | 12R | 4·2 |
| 68 | JAN 01 | 2321 09·5 | 36·84S | 177·35E | 12R | 3·9 |
| 69 | JAN 01 | 2341 48·7 | 39·23S | 174·80E | 188 | 4·1 |
| 70 | JAN 01 | 2346 16·3 | 36·92S | 177·30E | 12R | 4·1 |
| 71 | JAN 02 | 0013 49·0 | 36·99S | 177·24E | 12R | 4·0 |
| 72 | JAN 02 | 0117 23·7 | 36·97S | 177·24E | 12R | 4·1 |
| 73 | JAN 02 | 0136 36·1 | 36·90S | 177·50E | 12R | 4·1 |
| 74 | JAN 02 | 0142 32·7 | 36·71S | 177·62E | 12R | 4·0 |
| 75 | JAN 02 | 0249 37·8 | 37·24S | 177·34E | 12R | 3·4 |
| 76 | JAN 02 | 0528 49·1 | 37·10S | 177·43E | 12R | 3·6 |
| 77 | JAN 02 | 0531 45·3 | 36·73S | 177·48E | 12R | 3·9 |
| 78 | JAN 02 | 0557 21·3 | 37·33S | 177·24E | 12R | 3·6 |
| 79 | JAN 02 | 0732 05·2 | 37·13S | 177·35E | 12R | 3·9 |
| 80 | JAN 02 | 0808 52·1 | 37·16S | 177·35E | 12R | 3·7 |
| 81 | JAN 02 | 0818 07·2 | 36·77S | 177·47E | 12R | 4·2 |
| 82 | JAN 02 | 0835 01·9 | 36·90S | 177·34E | 12R | 4·1 |
| 83 | JAN 02 | 0844 20·5 | 37·22S | 177·28E | 12R | 4·0 |
| 84 | JAN 02 | 0853 00·0 | 36·85S | 177·27E | 12R | 4·1 |
| 85 | JAN 02 | 0858 34·8 | 36·84S | 177·45E | 12R | 4·0 |
| 86 | JAN 02 | 0914 05·7 | 36·98S | 177·33E | 12R | 4·2 |
| 87 | JAN 02 | 0938 59·8 | 37·08S | 177·37E | 12R | 3·7 |
| 88 | JAN 02 | 0942 45·5 | 37·08S | 177·31E | 12R | 3·6 |
| 89 | JAN 02 | 1112 39·5 | 37·02S | 177·41E | 12R | 3·7 |
| 90 | JAN 02 | 1114 38·5 | 37·10S | 177·43E | 12R | 3·5 |
| 91 | JAN 02 | 1116 36·2 | 44·31S | 168·62E | 5R | 4·4F |
| 92 | JAN 02 | 1218 56·0 | 37·03S | 177·37E | 12R | 4·1 |
| 93 | JAN 02 | 1253 35·6 | 36·71S | 177·54E | 12R | 3·7 |
| 94 | JAN 02 | 1259 01·5 | 36·64S | 177·55E | 12R | 5·4 |
| 95 | JAN 02 | 1307 35·9 | 36·76S | 177·52E | 12R | 4·6 |
| 96 | JAN 02 | 1313 51·7 | 36·95S | 177·39E | 12R | 3·8 |
| 97 | JAN 02 | 1326 35·3 | 36·90S | 177·44E | 12R | 4·2 |
| 98 | JAN 02 | 1339 54·4 | 36·62S | 177·58E | 12R | 5·3 |
| 99 | JAN 02 | 1343 57·5 | 37·55S | 177·34E | 12R | 3·6 |
| 100 | JAN 02 | 1400 06·5 | 36·62S | 177·64E | 12R | 4·2 |

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| 101 | JAN 02 | 1428 26·1 | 36·71S | 177·53E | 12R | 4·2 |
| 102 | JAN 02 | 1612 30·9 | 36·70S | 177·58E | 12R | 4·2 |
| 103 | JAN 02 | 1619 14·0 | 36·66S | 177·36E | 12R | 4·4 |
| 104 | JAN 02 | 1620 58·0 | 37·06S | 177·32E | 12R | 3·8 |
| 105 | JAN 02 | 1721 54·7 | 36·92S | 177·34E | 12R | 3·8 |
| 106 | JAN 02 | 1813 36·1 | 36·74S | 177·52E | 12R | 4·4 |
| 107 | JAN 02 | 2025 22·3 | 36·93S | 177·33E | 12R | 5·3 |
| 108 | JAN 02 | 2029 29·8 | 37·17S | 177·24E | 12R | 3·7 |
| 109 | JAN 02 | 2034 04·8 | 36·88S | 177·34E | 12R | 3·7 |
| 110 | JAN 02 | 2039 35·6 | 36·97S | 177·30E | 12R | 4·2 |
| 111 | JAN 02 | 2108 56·6 | 36·55S | 177·54E | 12R | 5·5 |
| 112 | JAN 02 | 2159 29·5 | 36·94S | 177·29E | 12R | 4·8 |
| 113 | JAN 02 | 2215 52·4 | 36·93S | 177·36E | 12R | 5·3 |
| 114 | JAN 03 | 0045 56·2 | 36·98S | 177·27E | 12R | 4·3 |
| 115 | JAN 03 | 0345 47·4 | 36·94S | 177·28E | 12R | 4·1 |
| 116 | JAN 03 | 0347 24·2 | 36·85S | 177·28E | 12R | 4·0 |
| 117 | JAN 03 | 0503 15·5 | 36·92S | 177·36E | 12R | 4·1 |
| 118 | JAN 03 | 0512 32·5 | 37·01S | 177·34E | 12R | 3·4 |
| 119 | JAN 03 | 0954 34·4 | 40·56S | 173·47E | 126 | 3·9 |
| 120 | JAN 03 | 1026 42·4 | 36·78S | 177·57E | 12R | 3·8 |
| 121 | JAN 03 | 1144 20·4 | 36·76S | 177·58E | 12R | 4·3 |
| 122 | JAN 03 | 1145 08·4 | 36·84S | 177·57E | 12R | 4·4 |
| 123 | JAN 03 | 1227 12·0 | 36·85S | 177·39E | 12R | 3·6 |
| 124 | JAN 03 | 1228 46·0 | 36·85S | 177·47E | 12R | 3·7 |
| 125 | JAN 03 | 1538 43·3 | 36·84S | 177·54E | 12R | 4·2 |
| 126 | JAN 03 | 1613 23·4 | 38·37S | 178·77E | 33R | 3·6 |
| 127 | JAN 03 | 1646 08·8 | 36·60S | 177·63E | 12R | 5·0 |
| 128 | JAN 03 | 1651 20·4 | 36·82S | 177·59E | 12R | 3·8 |
| 129 | JAN 03 | 2249 31·7 | 36·63S | 177·52E | 12R | 3·9 |
| 130 | JAN 04 | 0121 44·0 | 36·62S | 177·49E | 12R | 3·9 |
| 131 | JAN 04 | 0123 40·8 | 36·82S | 177·39E | 12R | 3·9 |
| 132 | JAN 04 | 0302 05·5 | 36·81S | 177·34E | 12R | 4·1 |
| 133 | JAN 04 | 0306 00·9 | 36·89S | 177·35E | 12R | 3·8 |
| 134 | JAN 04 | 0321 06·9 | 36·71S | 177·37E | 12R | 3·9 |
| 135 | JAN 04 | 0323 17·7 | 36·88S | 177·35E | 12R | 3·8 |
| 136 | JAN 04 | 0326 33·5 | 37·08S | 177·42E | 12R | 3·7 |
| 137 | JAN 04 | 0355 03·1 | 36·72S | 177·61E | 12R | 3·8 |
| 138 | JAN 04 | 0435 40·5 | 36·67S | 177·54E | 12R | 4·6 |
| 139 | JAN 04 | 0542 54·4 | 36·92S | 177·50E | 12R | 3·9 |
| 140 | JAN 04 | 0544 48·6 | 36·75S | 177·58E | 12R | 4·2 |
| 141 | JAN 04 | 0622 59·6 | 39·97S | 174·03E | 122 | 3·9 |
| 142 | JAN 04 | 0732 05·4 | 36·68S | 177·63E | 12R | 4·1 |
| 143 | JAN 04 | 0756 52·5 | 36·86S | 177·40E | 12R | 4·2 |
| 144 | JAN 04 | 1021 22·5 | 36·76S | 177·52E | 12R | 4·4 |
| 145 | JAN 04 | 1110 03·1 | 36·68S | 177·56E | 12R | 4·5 |
| 146 | JAN 04 | 1121 28·3 | 36·88S | 177·41E | 12R | 3·9 |
| 147 | JAN 04 | 1248 27·2 | 37·31S | 177·44E | 12R | 3·3 |
| 148 | JAN 04 | 1525 20·4 | 36·81S | 177·25E | 12R | 4·1 |
| 149 | JAN 04 | 1802 45·4 | 37·37S | 177·43E | 12R | 3·4 |
| 150 | JAN 04 | 2121 01·2 | 36·68S | 177·54E | 12R | 4·2 |
| 151 | JAN 04 | 2151 35·7 | 36·91S | 177·33E | 12R | 4·0 |
| 152 | JAN 04 | 2235 41·5 | 36·70S | 177·49E | 12R | 4·2 |
| 153 | JAN 04 | 2355 52·4 | 40·20S | 175·25E | 12R | 4·0F |
| 154 | JAN 05 | 0050 17·9 | 36·67S | 177·34E | 12R | 4·1 |
| 155 | JAN 05 | 0106 30·7 | 36·79S | 177·57E | 12R | 4·7 |
| 156 | JAN 05 | 0322 10·7 | 36·64S | 177·57E | 12R | 4·5 |
| 157 | JAN 05 | 0632 00·7 | 41·15S | 173·64E | 33R | 3·5 |
| 158 | JAN 05 | 0734 16·4 | 40·25S | 173·58E | 167 | 3·9 |
| 159 | JAN 05 | 0811 37·6 | 36·60S | 177·55E | 12R | 4·5 |
| 160 | JAN 05 | 0818 15·4 | 36·95S | 177·40E | 12R | 4·0 |
| 161 | JAN 05 | 0824 02·8 | 37·04S | 177·17E | 12R | 3·9 |
| 162 | JAN 05 | 0834 33·4 | 36·70S | 177·48E | 12R | 4·3 |
| 163 | JAN 05 | 0843 21·2 | 36·59S | 177·63E | 12R | 4·0 |
| 164 | JAN 05 | 0845 21·6 | 36·62S | 177·56E | 12R | 4·2 |
| 165 | JAN 05 | 0848 30·2 | 37·08S | 177·10E | 12R | 4·9F |
| 166 | JAN 05 | 0854 07·4 | 37·04S | 177·50E | 12R | 3·9 |
| 167 | JAN 05 | 0906 28·8 | 37·04S | 177·28E | 12R | 3·9 |
| 168 | JAN 05 | 0914 07·1 | 36·66S | 177·54E | 12R | 4·0 |
| 169 | JAN 05 | 0926 20·3 | 36·69S | 177·57E | 12R | 3·9 |
| 170 | JAN 05 | 0942 33·0 | 36·81S | 177·50E | 12R | 4·0 |
| 171 | JAN 05 | 0958 58·0 | 37·09S | 177·34E | 12R | 3·9 |
| 172 | JAN 05 | 1016 41·1 | 36·75S | 177·40E | 12R | 3·9 |
| 173 | JAN 05 | 1100 54·3 | 36·61S | 177·57E | 12R | 4·9 |
| 174 | JAN 05 | 1109 41·9 | 36·81S | 177·47E | 12R | 4·2 |
| 175 | JAN 05 | 1300 16·7 | 36·98S | 177·31E | 12R | 4·0 |
| 176 | JAN 05 | 1342 10·6 | 36·91S | 177·50E | 12R | 3·8 |
| 177 | JAN 05 | 1416 09·1 | 36·86S | 177·56E | 12R | 4·0 |
| 178 | JAN 05 | 1543 06·6 | 36·58S | 177·61E | 12R | 4·2 |
| 179 | JAN 05 | 1625 51·8 | 38·17S | 176·60E | 2R | 4·2F |
| 180 | JAN 05 | 1853 08·6 | 36·71S | 177·55E | 12R | 4·0 |
| 181 | JAN 05 | 1857 27·4 | 36·59S | 177·59E | 12R | 4·8 |
| 182 | JAN 05 | 2011 32·7 | 38·15S | 176·63E | 2R | 4·3F |
| 183 | JAN 05 | 2320 27·9 | 36·80S | 177·42E | 12R | 4·0 |
| 184 | JAN 06 | 0419 02·8 | 37·26S | 177·03E | 12R | 3·7 |
| 185 | JAN 06 | 0449 03·4 | 36·91S | 177·06E | 12R | 4·5 |
| 186 | JAN 06 | 0512 55·0 | 36·72S | 177·50E | 12R | 3·9 |
| 187 | JAN 06 | 0514 41·9 | 37·17S | 177·24E | 12R | 3·5 |
| 188 | JAN 06 | 0554 17·8 | 37·15S | 177·03E | 12R | 4·4 |
| 189 | JAN 06 | 0623 02·1 | 36·86S | 177·01E | 12R | 4·1 |
| 190 | JAN 06 | 0845 15·8 | 37·22S | 177·20E | 12R | 4·0 |
| 191 | JAN 06 | 0935 31·5 | 38·15S | 176·61E | 2R | 4·3F |
| 192 | JAN 06 | 0937 29·0 | 36·85S | 177·46E | 12R | 4·7 |
| 193 | JAN 06 | 0951 15·1 | 36·75S | 177·44E | 12R | 3·9 |
| 194 | JAN 06 | 0951 33·8 | 37·67S | 176·31E | 288 | 4·2 |
| 195 | JAN 06 | 1025 26·7 | 36·95S | 177·02E | 12R | 3·7 |
| 196 | JAN 06 | 1045 46·9 | 37·21S | 177·15E | 12R | 3·6 |
| 197 | JAN 06 | 1115 05·3 | 36·80S | 177·43E | 12R | 3·9 |
| 198 | JAN 06 | 1535 57·2 | 36·60S | 177·53E | 12R | 4·1 |
| 199 | JAN 06 | 1546 04·9 | 36·96S | 177·37E | 12R | 3·8 |
| 200 | JAN 06 | 1601 22·9 | 37·25S | 177·32E | 12R | 3·6 |

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| 201 | JAN 06 | 1611 00·6 | 36·74S | 177·42E | 12R | 4·0 |
| 202 | JAN 06 | 1613 32·5 | 36·85S | 177·49E | 12R | 3·8 |
| 203 | JAN 06 | 1620 33·8 | 36·80S | 177·53E | 12R | 3·8 |
| 204 | JAN 06 | 1635 55·9 | 36·76S | 177·53E | 12R | 4·4 |
| 205 | JAN 06 | 1640 28·1 | 36·75S | 177·54E | 12R | 4·2 |
| 206 | JAN 06 | 1709 53·8 | 36·59S | 177·61E | 12R | 5·1 |
| 207 | JAN 06 | 1721 11·7 | 36·77S | 177·47E | 12R | 4·1 |
| 208 | JAN 06 | 1733 23·1 | 36·90S | 177·45E | 12R | 4·1 |
| 209 | JAN 06 | 1743 38·3 | 36·75S | 177·52E | 12R | 4·6 |
| 210 | JAN 06 | 1759 59·8 | 36·83S | 177·47E | 12R | 4·3 |
| 211 | JAN 06 | 1808 44·4 | 36·78S | 177·52E | 12R | 4·3 |
| 212 | JAN 06 | 1820 19·6 | 36·68S | 177·39E | 12R | 4·0 |
| 213 | JAN 06 | 1824 23·9 | 36·82S | 177·44E | 12R | 3·7 |
| 214 | JAN 06 | 1825 41·1 | 36·66S | 177·44E | 12R | 4·2 |
| 215 | JAN 06 | 1829 04·8 | 36·72S | 177·47E | 12R | 4·1 |
| 216 | JAN 06 | 1832 05·5 | 36·61S | 177·57E | 12R | 5·6 |
| 217 | JAN 06 | 1836 53·8 | 36·88S | 177·43E | 12R | 4·4 |
| 218 | JAN 06 | 1840 48·4 | 36·82S | 177·49E | 12R | 4·6 |
| 219 | JAN 06 | 1845 20·7 | 36·64S | 177·62E | 12R | 5·2 |
| 220 | JAN 06 | 1849 07·3 | 36·65S | 177·42E | 12R | 4·0 |
| 221 | JAN 06 | 1850 30·1 | 36·80S | 177·40E | 12R | 3·8 |
| 222 | JAN 06 | 1852 18·4 | 36·66S | 177·52E | 12R | 4·4 |
| 223 | JAN 06 | 1859 34·3 | 36·69S | 177·57E | 12R | 3·8 |
| 224 | JAN 06 | 1904 20·0 | 36·75S | 177·44E | 12R | 4·4 |
| 225 | JAN 06 | 1910 43·0 | 36·70S | 177·53E | 12R | 3·9 |
| 226 | JAN 06 | 1914 44·5 | 36·60S | 177·54E | 12R | 3·9 |
| 227 | JAN 06 | 1917 27·8 | 36·70S | 177·45E | 12R | 4·1 |
| 228 | JAN 06 | 1918 47·9 | 37·08S | 177·48E | 12R | 4·4 |
| 229 | JAN 06 | 1921 04·3 | 36·61S | 177·49E | 12R | 4·7 |
| 230 | JAN 06 | 1925 02·2 | 36·67S | 177·47E | 12R | 3·8 |
| 231 | JAN 06 | 1928 33·0 | 36·69S | 177·41E | 12R | 3·9 |
| 232 | JAN 06 | 1929 28·1 | 36·66S | 177·53E | 12R | 4·1 |
| 233 | JAN 06 | 1930 47·3 | 36·63S | 177·53E | 12R | 5·5 |
| 234 | JAN 06 | 1939 55·8 | 36·68S | 177·55E | 12R | 4·1 |
| 235 | JAN 06 | 1941 35·5 | 36·55S | 177·60E | 12R | 4·3 |
| 236 | JAN 06 | 1953 41·8 | 36·67S | 177·29E | 12R | 4·3 |
| 237 | JAN 06 | 1957 49·0 | 37·08S | 177·33E | 12R | 3·7 |
| 238 | JAN 06 | 1958 27·4 | 36·95S | 177·50E | 12R | 4·2 |
| 239 | JAN 06 | 2004 57·7 | 36·65S | 177·36E | 12R | 4·0 |
| 240 | JAN 06 | 2023 38·5 | 36·92S | 177·52E | 12R | 3·9 |
| 241 | JAN 06 | 2032 29·9 | 36·79S | 177·49E | 12R | 4·6 |
| 242 | JAN 06 | 2039 31·5 | 36·58S | 177·62E | 12R | 4·3 |
| 243 | JAN 06 | 2058 19·2 | 36·60S | 177·57E | 12R | 4·7 |
| 244 | JAN 06 | 2107 37·0 | 37·02S | 177·53E | 12R | 3·8 |
| 245 | JAN 06 | 2111 49·9 | 36·57S | 177·49E | 12R | 4·2 |
| 246 | JAN 06 | 2121 34·3 | 36·70S | 177·44E | 12R | 4·1 |
| 247 | JAN 06 | 2131 14·4 | 36·86S | 177·47E | 12R | 4·2 |
| 248 | JAN 06 | 2153 51·0 | 36·69S | 177·43E | 12R | 3·9 |
| 249 | JAN 06 | 2158 14·1 | 36·69S | 177·39E | 12R | 4·2 |
| 250 | JAN 06 | 2158 56·0 | 37·17S | 177·25E | 12R | 3·9 |
| 251 | JAN 06 | 2204 13·9 | 36·64S | 177·67E | 12R | 3·8 |
| 252 | JAN 06 | 2207 07·8 | 36·72S | 177·48E | 12R | 3·9 |
| 253 | JAN 06 | 2209 51·8 | 36·75S | 177·53E | 12R | 3·9 |
| 254 | JAN 06 | 2218 43·9 | 36·77S | 177·45E | 12R | 4·1 |
| 255 | JAN 06 | 2227 23·3 | 36·77S | 177·42E | 12R | 3·9 |
| 256 | JAN 06 | 2234 03·7 | 36·97S | 177·32E | 12R | 3·7 |
| 257 | JAN 06 | 2235 33·8 | 36·84S | 177·40E | 12R | 3·7 |
| 258 | JAN 06 | 2236 25·5 | 36·90S | 177·40E | 12R | 3·8 |
| 259 | JAN 06 | 2238 46·6 | 36·57S | 177·31E | 12R | 4·4 |
| 260 | JAN 06 | 2242 08·7 | 36·69S | 177·49E | 12R | 4·0 |
| 261 | JAN 06 | 2258 44·0 | 36·78S | 177·41E | 12R | 4·3 |
| 262 | JAN 06 | 2303 02·5 | 36·78S | 177·55E | 12R | 4·1 |
| 263 | JAN 06 | 2311 30·9 | 36·69S | 177·34E | 12R | 3·9 |
| 264 | JAN 06 | 2334 28·9 | 36·91S | 177·47E | 12R | 4·2 |
| 265 | JAN 06 | 2342 34·8 | 36·57S | 177·56E | 12R | 4·4 |
| 266 | JAN 07 | 0157 04·8 | 37·01S | 177·18E | 12R | 3·5 |
| 267 | JAN 07 | 0353 41·6 | 36·72S | 177·46E | 12R | 4·3 |
| 268 | JAN 07 | 0443 14·5 | 36·64S | 177·42E | 12R | 4·0 |
| 269 | JAN 07 | 0506 32·3 | 36·81S | 177·50E | 12R | 3·8 |
| 270 | JAN 07 | 0545 59·5 | 36·79S | 177·38E | 12R | 4·1 |
| 271 | JAN 07 | 0704 48·4 | 36·83S | 177·41E | 12R | 3·9 |
| 272 | JAN 07 | 0727 47·9 | 36·64S | 177·55E | 12R | 4·3 |
| 273 | JAN 07 | 0730 08·5 | 36·76S | 177·38E | 12R | 4·4 |
| 274 | JAN 07 | 0843 59·1 | 36·70S | 177·47E | 12R | 4·1 |
| 275 | JAN 07 | 1000 45·9 | 40·41S | 173·52E | 124 | 3·7 |
| 276 | JAN 07 | 1031 53·9 | 36·70S | 177·50E | 12R | 4·1 |
| 277 | JAN 07 | 1104 22·2 | 36·74S | 177·41E | 12R | 4·2 |
| 278 | JAN 07 | 1340 19·3 | 41·73S | 173·69E | 31 | 3·4 |
| 279 | JAN 07 | 1537 51·0 | 36·61S | 177·60E | 12R | 3·7 |
| 280 | JAN 07 | 1545 22·8 | 36·79S | 177·45E | 12R | 4·1 |
| 281 | JAN 07 | 1851 37·6 | 36·69S | 177·36E | 12R | 3·9 |
| 282 | JAN 07 | 2353 47·6 | 42·39S | 172·93E | 19 | 4·1 |
| 283 | JAN 08 | 0042 36·0 | 42·41S | 172·95E | 16 | 3·9 |
| 284 | JAN 08 | 0045 11·8 | 36·95S | 177·33E | 12R | 3·8 |
| 285 | JAN 08 | 0048 14·1 | 36·59S | 177·52E | 12R | 4·9 |
| 286 | JAN 08 | 0152 35·3 | 36·78S | 177·45E | 12R | 4·5 |
| 287 | JAN 08 | 0621 52·0 | 44·42S | 168·08E | 12R | 3·4 |
| 288 | JAN 08 | 0636 03·3 | 36·61S | 177·43E | 12R | 4·8 |
| 289 | JAN 08 | 0647 36·2 | 36·67S | 177·40E | 12R | 4·3 |
| 290 | JAN 08 | 0651 46·8 | 36·87S | 177·64E | 12R | 4·1 |
| 291 | JAN 08 | 0700 02·9 | 36·74S | 177·55E | 12R | 4·5 |
| 292 | JAN 08 | 0718 18·8 | 36·72S | 177·53E | 12R | 3·8 |
| 293 | JAN 08 | 0721 32·4 | 36·78S | 177·44E | 12R | 4·3 |
| 294 | JAN 08 | 0724 17·5 | 36·77S | 177·37E | 12R | 4·2 |
| 295 | JAN 08 | 0741 46·6 | 36·54S | 177·62E | 12R | 5·6 |
| 296 | JAN 08 | 0747 40·8 | 36·61S | 177·71E | 12R | 3·8 |
| 297 | JAN 08 | 0748 47·8 | 36·88S | 177·64E | 12R | 4·6 |
| 298 | JAN 08 | 0753 50·3 | 36·83S | 177·45E | 12R | 4·7 |
| 299 | JAN 08 | 0804 58·0 | 36·68S | 177·38E | 12R | 4·4 |
| 300 | JAN 08 | 0814 07·9 | 38·86S | 177·86E | 32 | 4·0 |

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| 301 | JAN 08 | 0920 01·1 | 36·88S | 177·42E | 12R | 4·0 |
| 302 | JAN 08 | 0957 30·7 | 36·57S | 177·61E | 12R | 5·3 |
| 303 | JAN 08 | 1003 41·7 | 36·75S | 177·37E | 12R | 3·9 |
| 304 | JAN 08 | 1021 11·2 | 46·53S | 166·13E | 12R | 4·0 |
| 305 | JAN 08 | 1122 26·3 | 36·60S | 177·66E | 12R | 5·0 |
| 306 | JAN 08 | 1131 36·1 | 36·96S | 177·39E | 12R | 3·8 |
| 307 | JAN 08 | 1211 39·3 | 37·10S | 177·37E | 12R | 5·2 |
| 308 | JAN 08 | 1258 00·2 | 37·34S | 177·33E | 12R | 3·4 |
| 309 | JAN 08 | 1432 34·8 | 36·63S | 177·45E | 12R | 4·7 |
| 310 | JAN 09 | 0037 13·3 | 36·98S | 177·38E | 12R | 3·5 |
| 311 | JAN 09 | 0039 42·1 | 36·56S | 177·53E | 12R | 3·9 |
| 312 | JAN 09 | 0137 48·6 | 36·71S | 177·54E | 12R | 3·8 |
| 313 | JAN 09 | 0323 14·5 | 36·63S | 177·47E | 12R | 4·1 |
| 314 | JAN 09 | 0411 04·7 | 36·49S | 177·62E | 12R | 4·9 |
| 315 | JAN 09 | 0617 05·7 | 37·07S | 177·07E | 12R | 3·6 |
| 316 | JAN 09 | 0629 52·4 | 40·91S | 173·52E | 131 | 4·0F |
| 317 | JAN 09 | 1028 40·4 | 36·79S | 177·34E | 12R | 4·5 |
| 318 | JAN 09 | 1037 40·2 | 36·99S | 177·28E | 12R | 3·8 |
| 319 | JAN 09 | 1111 11·6 | 36·90S | 177·37E | 12R | 3·8 |
| 320 | JAN 09 | 1238 32·8 | 36·99S | 177·14E | 12R | 4·0 |
| 321 | JAN 09 | 1303 13·3 | 36·74S | 177·56E | 12R | 4·8 |
| 322 | JAN 09 | 1350 16·9 | 40·00S | 176·67E | 66 | 4·1F |
| 323 | JAN 09 | 1358 40·1 | 36·97S | 177·13E | 12R | 3·7 |
| 324 | JAN 09 | 1503 19·3 | 42·05S | 172·09E | 12R | 3·6 |
| 325 | JAN 09 | 1512 12·9 | 36·88S | 177·37E | 12R | 3·9 |
| 326 | JAN 09 | 1738 15·1 | 41·04S | 176·32E | 26 | 3·4F |
| 327 | JAN 09 | 1954 30·7 | 36·99S | 177·26E | 12R | 3·8 |
| 328 | JAN 09 | 2030 31·5 | 36·93S | 177·27E | 12R | 3·7 |
| 329 | JAN 09 | 2313 08·5 | 37·15S | 177·41E | 12R | 3·7 |
| 330 | JAN 10 | 0022 36·1 | 42·51S | 173·58E | 27 | 4·0 |
| 331 | JAN 10 | 0256 09·3 | 36·77S | 177·51E | 12R | 3·8 |
| 332 | JAN 10 | 0257 04·2 | 37·03S | 177·25E | 12R | 3·8 |
| 333 | JAN 10 | 0545 58·5 | 36·61S | 177·46E | 12R | 4·3 |
| 334 | JAN 10 | 0605 21·0 | 40·68S | 176·37E | 65 | 4·1 |
| 335 | JAN 10 | 0759 46·0 | 36·64S | 177·40E | 12R | 4·1 |
| 336 | JAN 10 | 0815 18·9 | 36·61S | 177·44E | 12R | 3·9 |
| 337 | JAN 10 | 0818 31·3 | 36·67S | 177·38E | 12R | 4·4 |
| 338 | JAN 10 | 0833 48·1 | 36·59S | 177·49E | 12R | 4·0 |
| 339 | JAN 10 | 0844 39·5 | 36·66S | 177·39E | 12R | 4·2 |
| 340 | JAN 10 | 0847 01·9 | 36·70S | 177·39E | 12R | 4·2 |
| 341 | JAN 10 | 0857 01·4 | 36·61S | 177·38E | 12R | 4·8 |
| 342 | JAN 10 | 0900 36·1 | 36·78S | 177·36E | 12R | 4·0 |
| 343 | JAN 10 | 0914 31·4 | 36·86S | 177·42E | 12R | 4·1 |
| 344 | JAN 10 | 0915 20·6 | 36·91S | 177·39E | 12R | 4·5 |
| 345 | JAN 10 | 0923 09·3 | 36·74S | 177·39E | 12R | 3·9 |
| 346 | JAN 10 | 0930 25·7 | 36·72S | 177·41E | 12R | 3·9 |
| 347 | JAN 10 | 0935 46·2 | 36·75S | 177·45E | 12R | 4·1 |
| 348 | JAN 10 | 0940 55·4 | 36·80S | 177·30E | 12R | 4·0 |
| 349 | JAN 10 | 0953 24·6 | 36·70S | 177·41E | 12R | 4·1 |
| 350 | JAN 10 | 1000 40·7 | 36·71S | 177·41E | 12R | 3·7 |
| 351 | JAN 10 | 1004 02·3 | 36·70S | 177·32E | 12R | 4·0 |
| 352 | JAN 10 | 1007 57·1 | 36·96S | 177·20E | 12R | 3·9 |
| 353 | JAN 10 | 1009 15·2 | 37·07S | 176·99E | 12R | 3·8 |
| 354 | JAN 10 | 1025 07·0 | 36·70S | 177·40E | 12R | 4·3 |
| 355 | JAN 10 | 1030 09·8 | 36·80S | 177·28E | 12R | 4·0 |
| 356 | JAN 10 | 1043 06·8 | 36·64S | 177·39E | 12R | 4·8 |
| 357 | JAN 10 | 1045 33·0 | 36·86S | 177·40E | 12R | 4·4 |
| 358 | JAN 10 | 1048 20·7 | 36·66S | 177·50E | 12R | 4·0 |
| 359 | JAN 10 | 1055 00·0 | 36·82S | 177·49E | 12R | 4·1 |
| 360 | JAN 10 | 1100 33·2 | 36·70S | 177·40E | 12R | 4·1 |
| 361 | JAN 10 | 1105 33·1 | 36·95S | 177·25E | 12R | 3·6 |
| 362 | JAN 10 | 1107 26·9 | 36·69S | 177·36E | 12R | 4·2 |
| 363 | JAN 10 | 1117 23·0 | 36·86S | 177·44E | 12R | 3·9 |
| 364 | JAN 10 | 1120 25·7 | 36·58S | 177·47E | 12R | 4·3 |
| 365 | JAN 10 | 1125 16·5 | 37·29S | 177·15E | 12R | 3·5 |
| 366 | JAN 10 | 1125 50·0 | 36·88S | 177·47E | 12R | 3·8 |
| 367 | JAN 10 | 1132 54·8 | 36·85S | 177·47E | 12R | 4·0 |
| 368 | JAN 10 | 1136 26·8 | 36·94S | 177·13E | 12R | 3·8 |
| 369 | JAN 10 | 1143 31·4 | 36·56S | 177·55E | 12R | 5·2 |
| 370 | JAN 10 | 1155 49·2 | 36·59S | 177·48E | 12R | 4·3 |
| 371 | JAN 10 | 1201 03·8 | 36·63S | 177·36E | 12R | 3·9 |
| 372 | JAN 10 | 1202 53·6 | 36·64S | 177·39E | 12R | 4·5 |
| 373 | JAN 10 | 1205 29·1 | 36·74S | 177·42E | 12R | 3·8 |
| 374 | JAN 10 | 1217 39·0 | 36·57S | 177·51E | 12R | 5·2 |
| 375 | JAN 10 | 1230 55·4 | 36·65S | 177·56E | 12R | 4·0 |
| 376 | JAN 10 | 1235 44·3 | 22·68S | 176·62W | 182R | 5·7 |
| 377 | JAN 10 | 1236 52·6 | 36·42S | 177·67E | 12R | 4·6 |
| 378 | JAN 10 | 1250 17·2 | 36·81S | 177·64E | 12R | 4·1 |
| 379 | JAN 10 | 1301 00·6 | 36·71S | 177·36E | 12R | 4·2 |
| 380 | JAN 10 | 1315 48·9 | 36·63S | 177·44E | 12R | 3·9 |
| 381 | JAN 10 | 1328 21·7 | 36·51S | 177·49E | 12R | 4·2 |
| 382 | JAN 10 | 1331 56·5 | 36·65S | 177·50E | 12R | 4·0 |
| 383 | JAN 10 | 1343 44·4 | 36·53S | 177·56E | 12R | 4·7 |
| 384 | JAN 10 | 1352 38·9 | 36·66S | 177·35E | 12R | 4·2 |
| 385 | JAN 10 | 1406 24·8 | 36·54S | 177·47E | 12R | 4·3 |
| 386 | JAN 10 | 1406 48·2 | 36·60S | 177·40E | 12R | 4·4 |
| 387 | JAN 10 | 1409 04·2 | 36·69S | 177·50E | 12R | 4·1 |
| 388 | JAN 10 | 1411 00·5 | 36·75S | 177·36E | 12R | 3·8 |
| 389 | JAN 10 | 1415 12·9 | 36·48S | 177·55E | 12R | 5·0 |
| 390 | JAN 10 | 1420 50·1 | 36·60S | 177·44E | 12R | 4·2 |
| 391 | JAN 10 | 1428 08·4 | 36·53S | 177·47E | 12R | 4·8 |
| 392 | JAN 10 | 1444 18·2 | 36·51S | 177·50E | 12R | 4·4 |
| 393 | JAN 10 | 1446 46·7 | 36·63S | 177·46E | 12R | 4·2 |
| 394 | JAN 10 | 1448 57·2 | 36·92S | 177·32E | 12R | 3·9 |
| 395 | JAN 10 | 1504 28·6 | 35·78S | 178·16E | 313 | 4·6 |
| 396 | JAN 10 | 1530 46·8 | 36·45S | 177·61E | 12R | 5·6 |
| 397 | JAN 10 | 1538 36·6 | 36·98S | 177·26E | 12R | 3·9 |
| 398 | JAN 10 | 1539 44·0 | 36·76S | 177·36E | 12R | 4·3 |
| 399 | JAN 10 | 1546 27·8 | 36·92S | 177·38E | 12R | 3·9 |
| 400 | JAN 10 | 1730 50·9 | 36·80S | 177·33E | 12R | 3·8 |

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| 401 | JAN 10 | 1824 21·1 | 37·01S | 177·50E | 12R | 4·4 |
| 402 | JAN 10 | 1833 57·3 | 38·03S | 178·21E | 23 | 3·9 |
| 403 | JAN 10 | 1845 41·7 | 37·16S | 177·33E | 12R | 4·2 |
| 404 | JAN 10 | 2139 01·6 | 36·93S | 177·34E | 12R | 5·0 |
| 405 | JAN 10 | 2314 49·2 | 36·94S | 177·36E | 12R | 3·7 |
| 406 | JAN 10 | 2321 34·1 | 36·79S | 177·40E | 12R | 3·9 |
| 407 | JAN 10 | 2327 39·2 | 36·87S | 177·09E | 12R | 3·8 |
| 408 | JAN 11 | 0017 51·4 | 36·39S | 177·35E | 12R | 4·2 |
| 409 | JAN 11 | 0030 58·3 | 36·95S | 177·26E | 12R | 3·7 |
| 410 | JAN 11 | 0034 20·2 | 36·91S | 177·37E | 12R | 4·8 |
| 411 | JAN 11 | 0310 58·3 | 36·89S | 177·42E | 12R | 4·1 |
| 412 | JAN 11 | 0450 09·2 | 36·50S | 177·62E | 12R | 5·3 |
| 413 | JAN 11 | 0600 45·5 | 36·95S | 177·34E | 12R | 4·1 |
| 414 | JAN 11 | 0604 45·7 | 36·90S | 177·28E | 12R | 4·0 |
| 415 | JAN 11 | 0759 32·1 | 36·62S | 177·41E | 12R | 3·9 |
| 416 | JAN 11 | 1324 19·3 | 36·63S | 177·38E | 12R | 4·0 |
| 417 | JAN 11 | 1426 41·5 | 36·63S | 177·42E | 12R | 4·0 |
| 418 | JAN 11 | 1536 12·6 | 37·02S | 177·25E | 12R | 4·6 |
| 419 | JAN 11 | 1630 10·2 | 36·92S | 177·37E | 12R | 4·0 |
| 420 | JAN 12 | 0036 47·1 | 43·64S | 170·61E | 12R | 3·6 |
| 421 | JAN 12 | 0813 53·5 | 36·88S | 177·30E | 12R | 3·7 |
| 422 | JAN 12 | 0941 44·3 | 38·93S | 175·66E | 5 | 3·5F |
| 423 | JAN 12 | 0948 19·0 | 38·96S | 175·72E | 4 | 3·5F |
| 424 | JAN 12 | 1431 59·7 | 36·69S | 177·44E | 12R | 4·0 |
| 425 | JAN 12 | 1628 00·2 | 36·81S | 177·40E | 12R | 3·6 |
| 426 | JAN 12 | 1823 47·7 | 36·61S | 177·44E | 12R | 4·5 |
| 427 | JAN 12 | 1905 58·0 | 36·47S | 177·55E | 12R | 4·6 |
| 428 | JAN 12 | 2258 11·0 | 36·61S | 177·52E | 12R | 4·2 |
| 429 | JAN 12 | 2335 14·3 | 37·00S | 177·35E | 12R | 3·7 |
| 430 | JAN 13 | 0108 24·2 | 36·42S | 177·50E | 12R | 5·5 |
| 431 | JAN 13 | 0205 48·3 | 39·09S | 174·62E | 28 | 4·0 |
| 432 | JAN 13 | 0432 55·9 | 36·79S | 177·40E | 12R | 3·8 |
| 433 | JAN 13 | 0959 58·2 | 36·76S | 177·50E | 12R | 4·0 |
| 434 | JAN 13 | 1452 03·5 | 36·63S | 177·45E | 12R | 4·1 |
| 435 | JAN 13 | 1455 25·3 | 36·80S | 177·38E | 12R | 4·3 |
| 436 | JAN 13 | 1459 31·4 | 36·89S | 177·49E | 12R | 4·3 |
| 437 | JAN 13 | 1501 52·2 | 36·88S | 177·45E | 12R | 4·0 |
| 438 | JAN 13 | 1502 34·8 | 37·25S | 177·11E | 12R | 4·2 |
| 439 | JAN 13 | 1513 00·9 | 36·75S | 177·37E | 12R | 3·9 |
| 440 | JAN 13 | 1517 19·2 | 36·69S | 177·48E | 12R | 3·8 |
| 441 | JAN 13 | 1520 44·6 | 36·77S | 177·44E | 12R | 3·7 |
| 442 | JAN 13 | 1525 03·4 | 36·81S | 177·48E | 12R | 4·4 |
| 443 | JAN 13 | 1525 34·0 | 36·70S | 177·40E | 12R | 4·8 |
| 444 | JAN 13 | 1536 18·5 | 36·86S | 177·34E | 12R | 3·8 |
| 445 | JAN 13 | 1541 51·4 | 36·68S | 177·56E | 12R | 3·8 |
| 446 | JAN 13 | 1547 10·7 | 36·81S | 177·47E | 12R | 4·1 |
| 447 | JAN 13 | 1548 09·2 | 37·10S | 177·50E | 12R | 4·4 |
| 448 | JAN 13 | 1601 00·6 | 36·74S | 177·37E | 12R | 5·4 |
| 449 | JAN 13 | 1607 45·3 | 36·80S | 177·48E | 12R | 4·1 |
| 450 | JAN 13 | 1608 57·3 | 36·84S | 177·44E | 12R | 4·4 |
| 451 | JAN 13 | 1610 54·7 | 37·02S | 177·21E | 12R | 3·8 |
| 452 | JAN 13 | 1615 56·8 | 36·79S | 177·41E | 12R | 3·9 |
| 453 | JAN 13 | 1629 16·2 | 36·70S | 177·56E | 12R | 4·5 |
| 454 | JAN 13 | 1631 48·2 | 36·71S | 177·47E | 12R | 4·0 |
| 455 | JAN 13 | 1633 17·1 | 36·77S | 177·40E | 12R | 3·8 |
| 456 | JAN 13 | 1635 28·7 | 36·95S | 177·42E | 12R | 4·3 |
| 457 | JAN 13 | 1700 44·1 | 36·98S | 177·26E | 12R | 3·6 |
| 458 | JAN 13 | 1708 47·8 | 36·83S | 177·44E | 12R | 4·0 |
| 459 | JAN 13 | 1717 11·9 | 36·93S | 177·53E | 12R | 4·0 |
| 460 | JAN 13 | 1722 42·7 | 36·83S | 177·43E | 12R | 4·2 |
| 461 | JAN 13 | 1724 38·5 | 36·49S | 177·58E | 12R | 4·0 |
| 462 | JAN 13 | 1745 48·1 | 36·73S | 177·53E | 12R | 3·8 |
| 463 | JAN 13 | 1748 09·2 | 36·90S | 177·55E | 12R | 3·8 |
| 464 | JAN 13 | 1756 54·1 | 36·81S | 177·44E | 12R | 4·0 |
| 465 | JAN 13 | 1805 05·9 | 36·65S | 177·58E | 12R | 4·8 |
| 466 | JAN 13 | 1812 06·7 | 36·66S | 177·52E | 12R | 4·1 |
| 467 | JAN 13 | 1841 27·8 | 36·74S | 177·50E | 12R | 4·2 |
| 468 | JAN 13 | 1846 20·8 | 36·75S | 177·47E | 12R | 4·2 |
| 469 | JAN 13 | 1901 41·0 | 35·94S | 177·44E | 12R | 4·3 |
| 470 | JAN 13 | 1955 59·1 | 36·46S | 176·68E | 12R | 4·3 |
| 471 | JAN 13 | 2035 01·8 | 36·66S | 177·58E | 12R | 3·9 |
| 472 | JAN 13 | 2045 31·0 | 36·53S | 177·48E | 12R | 4·6 |
| 473 | JAN 13 | 2134 59·8 | 36·82S | 177·38E | 12R | 3·7 |
| 474 | JAN 13 | 2304 18·0 | 36·65S | 177·55E | 12R | 4·2 |
| 475 | JAN 14 | 0031 56·2 | 39·54S | 176·17E | 12R | 3·8 |
| 476 | JAN 14 | 0256 15·0 | 36·70S | 177·49E | 12R | 4·1 |
| 477 | JAN 14 | 0423 58·2 | 36·64S | 177·40E | 12R | 3·9 |
| 478 | JAN 14 | 0446 42·5 | 36·58S | 177·39E | 12R | 5·2 |
| 479 | JAN 14 | 0453 51·0 | 36·78S | 177·37E | 12R | 4·0 |
| 480 | JAN 14 | 0457 52·7 | 36·46S | 177·54E | 12R | 4·2 |
| 481 | JAN 14 | 0510 45·5 | 36·81S | 177·50E | 12R | 3·7 |
| 482 | JAN 14 | 0541 52·7 | 37·12S | 177·59E | 12R | 3·4 |
| 483 | JAN 14 | 1353 01·1 | 36·81S | 177·45E | 12R | 3·6 |
| 484 | JAN 14 | 1520 15·6 | 36·96S | 177·29E | 12R | 3·7 |
| 485 | JAN 14 | 1607 41·5 | 36·85S | 177·53E | 12R | 3·6 |
| 486 | JAN 14 | 1741 51·2 | 36·51S | 177·47E | 12R | 4·3 |
| 487 | JAN 14 | 1811 23·8 | 36·84S | 177·52E | 12R | 3·9 |
| 488 | JAN 14 | 1905 04·1 | 36·67S | 177·45E | 12R | 3·8 |
| 489 | JAN 14 | 1911 16·4 | 37·53S | 178·70E | 24 | 4·4 |
| 490 | JAN 14 | 2046 22·3 | 36·55S | 177·50E | 12R | 4·3 |
| 491 | JAN 14 | 2215 02·2 | 37·04S | 177·37E | 12R | 3·8 |
| 492 | JAN 14 | 2257 12·7 | 38·43S | 176·40E | 84 | 3·4 |
| 493 | JAN 14 | 2315 54·3 | 36·67S | 177·52E | 12R | 3·9 |
| 494 | JAN 15 | 0426 03·5 | 36·83S | 177·42E | 12R | 3·8 |
| 495 | JAN 15 | 0827 52·0 | 36·92S | 177·45E | 12R | 4·0 |
| 496 | JAN 15 | 0845 22·6 | 36·89S | 177·45E | 12R | 4·0 |
| 497 | JAN 15 | 0854 49·0 | 36·88S | 177·43E | 12R | 4·0 |
| 498 | JAN 15 | 0900 49·7 | 36·99S | 177·36E | 12R | 3·6 |
| 499 | JAN 15 | 0902 30·1 | 36·78S | 177·50E | 12R | 4·0 |
| 500 | JAN 15 | 0906 56·4 | 36·68S | 177·47E | 12R | 4·3 |

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| 501 | JAN 15 | 0926 00·9 | 36·89S | 177·51E | 12R | 3·8 |
| 502 | JAN 15 | 0928 42·9 | 36·91S | 177·49E | 12R | 4·0 |
| 503 | JAN 15 | 0929 19·0 | 36·91S | 177·49E | 12R | 4·4 |
| 504 | JAN 15 | 0932 39·5 | 37·04S | 177·29E | 12R | 3·8 |
| 505 | JAN 15 | 0941 36·5 | 36·60S | 177·45E | 12R | 4·3 |
| 506 | JAN 15 | 0945 28·1 | 36·65S | 177·43E | 12R | 3·9 |
| 507 | JAN 15 | 0950 50·3 | 36·83S | 177·43E | 12R | 3·8 |
| 508 | JAN 15 | 1513 19·6 | 39·17S | 174·89E | 212 | 4·5 |
| 509 | JAN 16 | 0249 37·4 | 39·89S | 174·47E | 103 | 4·1 |
| 510 | JAN 16 | 0949 30·1 | 36·88S | 177·39E | 12R | 3·9 |
| 511 | JAN 16 | 1445 44·8 | 36·97S | 177·46E | 12R | 3·8 |
| 512 | JAN 16 | 1520 51·2 | 37·05S | 177·45E | 12R | 3·7 |
| 513 | JAN 16 | 1536 40·8 | 36·98S | 177·47E | 12R | 4·2 |
| 514 | JAN 16 | 1543 29·4 | 36·89S | 177·48E | 12R | 4·2 |
| 515 | JAN 16 | 1554 07·8 | 36·77S | 177·50E | 12R | 4·3 |
| 516 | JAN 16 | 1559 58·6 | 36·83S | 177·46E | 12R | 4·1 |
| 517 | JAN 16 | 1611 56·4 | 36·96S | 177·45E | 12R | 3·8 |
| 518 | JAN 16 | 1615 07·5 | 36·94S | 177·42E | 12R | 4·0 |
| 519 | JAN 16 | 1625 58·4 | 36·64S | 177·42E | 12R | 3·9 |
| 520 | JAN 16 | 1636 11·6 | 36·77S | 177·45E | 12R | 3·8 |
| 521 | JAN 16 | 1637 12·9 | 36·88S | 177·45E | 12R | 4·1 |
| 522 | JAN 16 | 1639 28·5 | 36·92S | 177·44E | 12R | 3·7 |
| 523 | JAN 16 | 1641 17·8 | 36·83S | 177·85E | 12R | 3·6 |
| 524 | JAN 16 | 1700 58·7 | 36·88S | 177·51E | 12R | 3·8 |
| 525 | JAN 16 | 1706 40·2 | 38·23S | 179·42E | 33R | 4·0 |
| 526 | JAN 16 | 1716 07·4 | 36·63S | 177·51E | 12R | 4·3 |
| 527 | JAN 16 | 1723 06·8 | 36·51S | 177·38E | 12R | 4·0 |
| 528 | JAN 16 | 1812 25·9 | 36·88S | 177·44E | 12R | 3·6 |
| 529 | JAN 16 | 1821 24·5 | 36·80S | 177·48E | 12R | 3·8 |
| 530 | JAN 16 | 2020 38·9 | 36·89S | 177·51E | 12R | 3·8 |
| 531 | JAN 16 | 2114 08·1 | 36·86S | 177·46E | 12R | 3·8 |
| 532 | JAN 16 | 2356 19·9 | 37·01S | 177·51E | 12R | 3·5 |
| 533 | JAN 17 | 0525 00·6 | 36·89S | 177·41E | 12R | 3·9 |
| 534 | JAN 17 | 0710 41·6 | 36·71S | 177·51E | 12R | 4·5 |
| 535 | JAN 17 | 0713 47·3 | 36·73S | 177·33E | 12R | 4·1 |
| 536 | JAN 17 | 0722 06·5 | 36·94S | 177·47E | 12R | 3·9 |
| 537 | JAN 17 | 0745 21·0 | 36·84S | 177·40E | 12R | 3·9 |
| 538 | JAN 17 | 1725 55·4 | 36·75S | 177·46E | 12R | 4·5 |
| 539 | JAN 17 | 1731 57·8 | 36·89S | 177·44E | 12R | 4·0 |
| 540 | JAN 17 | 1737 55·8 | 36·85S | 177·43E | 12R | 4·0 |
| 541 | JAN 17 | 1822 55·3 | 36·74S | 177·41E | 12R | 4·9 |
| 542 | JAN 18 | 1654 52·0 | 36·90S | 177·39E | 12R | 3·9 |
| 543 | JAN 18 | 1721 29·5 | 36·56S | 177·46E | 12R | 4·7 |
| 544 | JAN 18 | 1733 06·4 | 36·68S | 177·46E | 12R | 4·2 |
| 545 | JAN 18 | 1752 19·9 | 36·34S | 177·37E | 12R | 4·3 |
| 546 | JAN 18 | 1900 48·5 | 36·85S | 177·34E | 12R | 4·1 |
| 547 | JAN 18 | 2132 23·5 | 36·50S | 177·50E | 12R | 4·3 |
| 548 | JAN 18 | 2133 53·4 | 37·10S | 177·42E | 12R | 3·9 |
| 549 | JAN 18 | 2135 18·3 | 36·83S | 177·49E | 12R | 4·1 |
| 550 | JAN 18 | 2135 53·9 | 36·46S | 177·36E | 12R | 4·9 |
| 551 | JAN 18 | 2203 11·4 | 36·57S | 177·44E | 12R | 4·2 |
| 552 | JAN 18 | 2319 03·3 | 36·65S | 177·45E | 12R | 4·4 |
| 553 | JAN 18 | 2334 06·9 | 36·86S | 177·54E | 12R | 3·8 |
| 554 | JAN 18 | 2344 07·3 | 36·84S | 177·08E | 12R | 3·8 |
| 555 | JAN 19 | 0109 28·3 | 36·56S | 177·49E | 12R | 3·9 |
| 556 | JAN 19 | 0112 23·3 | 36·49S | 177·32E | 12R | 4·0 |
| 557 | JAN 19 | 0128 05·2 | 36·58S | 177·47E | 12R | 4·1 |
| 558 | JAN 19 | 0137 09·8 | 36·48S | 177·41E | 12R | 3·9 |
| 559 | JAN 19 | 0145 51·2 | 36·45S | 177·45E | 12R | 3·9 |
| 560 | JAN 19 | 0148 39·1 | 36·77S | 177·55E | 12R | 4·3 |
| 561 | JAN 19 | 0159 58·8 | 36·58S | 177·37E | 12R | 3·8 |
| 562 | JAN 19 | 0207 21·8 | 36·73S | 177·46E | 12R | 4·1 |
| 563 | JAN 19 | 0537 24·7 | 36·54S | 177·51E | 12R | 4·0 |
| 564 | JAN 19 | 0910 10·9 | 36·68S | 177·48E | 12R | 4·1 |
| 565 | JAN 19 | 1948 18·1 | 37·00S | 178·20E | 98 | 4·5 |
| 566 | JAN 20 | 0843 29·9 | 36·96S | 177·23E | 12R | 3·9 |
| 567 | JAN 20 | 1608 07·8 | 36·60S | 177·48E | 12R | 3·9 |
| 568 | JAN 20 | 1901 00·9 | 36·67S | 177·35E | 12R | 4·1 |
| 569 | JAN 20 | 1917 24·8 | 36·67S | 177·55E | 12R | 4·5 |
| 570 | JAN 20 | 1918 39·7 | 36·55S | 177·51E | 12R | 4·7 |
| 571 | JAN 20 | 1944 02·0 | 37·31S | 177·54E | 12R | 4·0 |
| 572 | JAN 20 | 1959 07·0 | 36·88S | 177·46E | 12R | 4·3 |
| 573 | JAN 21 | 0103 24·6 | 36·89S | 177·27E | 12R | 3·8 |
| 574 | JAN 21 | 0405 38·0 | 36·71S | 177·55E | 12R | 3·9 |
| 575 | JAN 21 | 0432 04·4 | 36·69S | 177·07E | 12R | 4·0 |
| 576 | JAN 21 | 0503 35·7 | 36·58S | 177·50E | 12R | 3·8 |
| 577 | JAN 21 | 0504 45·5 | 36·71S | 177·26E | 12R | 4·0 |
| 578 | JAN 21 | 0534 43·9 | 37·06S | 177·29E | 12R | 3·9 |
| 579 | JAN 21 | 0554 07·5 | 36·82S | 177·40E | 12R | 4·3 |
| 580 | JAN 21 | 0600 50·0 | 36·53S | 177·52E | 12R | 4·7 |
| 581 | JAN 21 | 0904 52·7 | 45·21S | 166·78E | 12R | 3·9 |
| 582 | JAN 21 | 1000 43·2 | 36·72S | 177·43E | 12R | 4·0 |
| 583 | JAN 21 | 1005 24·7 | 36·67S | 177·55E | 12R | 3·7 |
| 584 | JAN 21 | 1154 55·5 | 36·63S | 177·44E | 12R | 4·0 |
| 585 | JAN 21 | 1352 28·1 | 39·25S | 175·46E | 89 | 3·7 |
| 586 | JAN 21 | 1653 48·8 | 38·14S | 176·61E | 12R | 3·4 |
| 587 | JAN 21 | 1803 11·9 | 36·64S | 177·59E | 12R | 4·3 |
| 588 | JAN 21 | 1904 37·6 | 36·92S | 177·20E | 12R | 3·8 |
| 589 | JAN 21 | 1936 17·7 | 36·60S | 177·52E | 12R | 4·8 |
| 590 | JAN 21 | 1937 51·5 | 36·60S | 177·52E | 12R | 4·9 |
| 591 | JAN 21 | 1938 46·9 | 37·90S | 176·74E | 12R | 4·4 |
| 592 | JAN 21 | 2124 10·1 | 36·48S | 177·42E | 12R | 4·0 |
| 593 | JAN 22 | 0315 47·6 | 36·53S | 177·43E | 12R | 4·1 |
| 594 | JAN 22 | 0406 13·4 | 45·16S | 166·78E | 12R | 3·7 |
| 595 | JAN 22 | 0426 05·9 | 40·87S | 172·85E | 1R | 4·3F |
| 596 | JAN 22 | 2147 31·2 | 37·62S | 176·92E | 113 | 4·0 |
| 597 | JAN 23 | 0605 30·7 | 36·71S | 177·49E | 12R | 3·7 |
| 598 | JAN 23 | 0606 36·9 | 36·68S | 177·50E | 12R | 4·0 |
| 599 | JAN 23 | 1902 04·0 | 38·00S | 177·47E | 40 | 5·5F |
| 600 | JAN 24 | 0229 04·6 | 38·09S | 177·65E | 95 | 4·0 |

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| 601 | JAN 24 | 0733 33·0 | 36·91S | 177·23E | 12R | 3·7 |
| 602 | JAN 25 | 1254 12·5 | 38·29S | 176·23E | 147 | 4·0 |
| 603 | JAN 25 | 1821 52·8 | 39·03S | 175·57E | 128 | 3·5 |
| 604 | JAN 25 | 2101 20·1 | 38·15S | 178·49E | 71 | 3·0 |
| 605 | JAN 26 | 0619 24·7 | 36·87S | 177·28E | 12R | 4·2 |
| 606 | JAN 26 | 1942 21·5 | 36·89S | 177·47E | 12R | 4·2 |
| 607 | JAN 26 | 1947 20·0 | 36·87S | 177·42E | 12R | 4·1 |
| 608 | JAN 26 | 2104 43·6 | 36·64S | 177·53E | 12R | 4·2 |
| 609 | JAN 26 | 2105 44·5 | 36·46S | 177·70E | 12R | 4·3 |
| 610 | JAN 27 | 0019 50·7 | 43·93S | 168·88E | 12R | 4·0 |
| 611 | JAN 27 | 0830 38·3 | 34·36S | 179·59E | 285 | 5·4 |
| 612 | JAN 27 | 1623 10·8 | 35·51S | 179·26W | 12R | 4·5 |
| 613 | JAN 28 | 0106 03·3 | 38·93S | 178·28E | 21 | 4·0F |
| 614 | JAN 28 | 1551 55·9 | 44·98S | 167·68E | 127 | 3·9 |
| 615 | JAN 28 | 2341 37·8 | 36·21S | 177·76E | 12R | 4·2 |
| 616 | JAN 29 | 1653 22·9 | 37·04S | 177·38E | 12R | 3·7 |
| 617 | JAN 30 | 0900 46·0 | 45·10S | 166·82E | 12R | 3·9 |
| 618 | JAN 30 | 1132 07·5 | 43·59S | 170·55E | 12R | 3·9F |
| 619 | JAN 30 | 1728 44·5 | 42·39S | 174·22E | 36 | 4·0F |
| 620 | JAN 30 | 1755 08·1 | 37·28S | 176·88E | 222 | 4·2 |
| 621 | JAN 30 | 1819 43·3 | 39·75S | 174·03E | 229 | 3·6 |
| 622 | JAN 30 | 1940 36·6 | 42·42S | 172·98E | 12R | 4·0 |
| 623 | JAN 30 | 2350 00·8 | 44·38S | 167·96E | 12R | 4·0 |
| 624 | JAN 31 | 0433 01·5 | 46·11S | 165·05E | 33R | 6·0F |
| 625 | JAN 31 | 1102 46·2 | 35·02S | 178·73E | 249 | 4·3 |
| 626 | JAN 31 | 2028 48·8 | 36·97S | 179·50W | 33R | 4·3 |
| 627 | JAN 31 | 2103 32·3 | 37·04S | 179·46W | 33R | 4·0 |
| 628 | JAN 31 | 2313 14·4 | 38·10S | 176·30E | 12R | F |
| 629 | FEB 01 | 2228 58·4 | 37·70S | 176·92E | 5R | 3·6 |
| 630 | FEB 02 | 1150 37·2 | 40·39S | 174·92E | 33R | 4·1 |
| 631 | FEB 03 | 1513 29·6 | 37·03S | 177·40E | 12R | 3·7 |
| 632 | FEB 03 | 1634 04·5 | 36·60S | 178·15E | 12R | 3·8 |
| 633 | FEB 04 | 0718 32·2 | 38·29S | 178·58E | 12R | 4·2 |
| 634 | FEB 04 | 1035 38·7 | 36·79S | 177·41E | 12R | 4·7 |
| 635 | FEB 04 | 1040 29·0 | 36·89S | 177·32E | 12R | 4·0 |
| 636 | FEB 04 | 1124 57·3 | 29·45S | 178·08W | 455 | 5·8 |
| 637 | FEB 04 | 1257 22·2 | 38·23S | 176·49E | 156 | 3·6 |
| 638 | FEB 04 | 1402 07·4 | 36·74S | 177·23E | 12R | 3·7 |
| 639 | FEB 05 | 0742 03·1 | 38·19S | 176·06E | 5R | 2·1F |
| 640 | FEB 05 | 0748 27·9 | 37·59S | 177·84E | 206 | 3·6 |
| 641 | FEB 05 | 1505 09·4 | 37·12S | 177·29E | 12R | 3·5 |
| 642 | FEB 06 | 0152 13·2 | 39·74S | 174·08E | 209 | 3·9 |
| 643 | FEB 06 | 0407 29·3 | 37·20S | 177·19E | 12R | 3·8 |
| 644 | FEB 06 | 0435 41·9 | 37·16S | 177·27E | 12R | 3·9 |
| 645 | FEB 07 | 0456 49·7 | 37·07S | 177·20E | 12R | 3·8 |
| 646 | FEB 07 | 1557 33·5 | 33·77S | 179·89E | 349 | 4·4 |
| 647 | FEB 07 | 1944 40·3 | 36·81S | 177·96E | 33R | 3·7 |
| 648 | FEB 07 | 2058 54·6 | 43·69S | 170·65E | 12R | 4·4F |
| 649 | FEB 07 | 2116 49·8 | 37·07S | 177·10E | 12R | 3·7 |
| 650 | FEB 08 | 1031 33·6 | 36·78S | 177·26E | 12R | 4·1 |
| 651 | FEB 08 | 1216 27·2 | 37·81S | 176·96E | 155 | 3·4 |
| 652 | FEB 09 | 0336 19·8 | 37·06S | 177·26E | 12R | 3·9 |
| 653 | FEB 09 | 1107 44·5 | 37·04S | 177·31E | 12R | 4·5 |
| 654 | FEB 10 | 1814 22·9 | 36·89S | 177·50E | 12R | 4·0 |
| 655 | FEB 11 | 0824 13·6 | 37·06S | 177·25E | 12R | 3·9 |
| 656 | FEB 11 | 0946 19·4 | 37·11S | 177·24E | 12R | 3·8 |
| 657 | FEB 11 | 1104 32·8 | 44·69S | 167·96E | 12R | 3·6 |
| 658 | FEB 11 | 1729 53·9 | 37·40S | 177·17E | 12R | 3·6 |
| 659 | FEB 12 | 0358 27·2 | 37·18S | 177·29E | 12R | 4·2 |
| 660 | FEB 13 | 1354 04·4 | 32·28S | 179·50W | 549 | 5·1 |
| 661 | FEB 13 | 2339 21·7 | 40·04S | 173·00E | 12R | 3·7 |
| 662 | FEB 13 | 2342 34·9 | 36·38S | 179·45E | 136 | 4·5 |
| 663 | FEB 14 | 0028 49·9 | 36·34S | 179·54E | 137 | 5·0 |
| 664 | FEB 14 | 1026 34·7 | 37·12S | 177·54E | 12R | 3·8 |
| 665 | FEB 15 | 0343 23·5 | 38·28S | 179·61W | 33R | 4·1 |
| 666 | FEB 15 | 1253 26·5 | 44·72S | 167·95E | 12R | 4·6F |
| 667 | FEB 17 | 0031 33·3 | 37·77S | 177·05E | 5R | 3·8 |
| 668 | FEB 18 | 0519 00·6 | 42·31S | 173·15E | 12R | 3·6 |
| 669 | FEB 18 | 1119 28·3 | 36·83S | 177·52E | 12R | 4·2 |
| 670 | FEB 20 | 2020 20·8 | 39·06S | 175·26E | 153 | 3·9 |
| 671 | FEB 20 | 2126 43·6 | 38·07S | 176·17E | 185 | 3·9 |
| 672 | FEB 20 | 2238 54·8 | 37·90S | 179·86W | 33R | 4·2 |
| 673 | FEB 23 | 0724 56·3 | 35·99S | 178·19E | 12R | 4·3 |
| 674 | FEB 23 | 0808 42·0 | 37·00S | 177·52E | 12R | 3·7 |
| 675 | FEB 24 | 0421 51·4 | 38·44S | 175·58E | 183 | 4·2 |
| 676 | FEB 24 | 1601 25·5 | 36·99S | 177·36E | 12R | 3·8 |
| 677 | FEB 24 | 1652 27·6 | 41·16S | 173·43E | 96 | 3·8 |
| 678 | FEB 25 | 0015 20·2 | 38·64S | 175·75E | 172 | 4·4 |
| 679 | FEB 25 | 0311 59·9 | 42·69S | 167·30E | 12R | 4·0 |
| 680 | FEB 25 | 0744 44·0 | 42·83S | 166·43E | 5R | 4·0 |
| 681 | FEB 25 | 0945 53·9 | 36·92S | 177·17E | 5R | 4·2 |
| 682 | FEB 25 | 1259 55·2 | 45·37S | 166·76E | 5R | 4·8 |
| 683 | FEB 25 | 1441 07·0 | 37·97S | 176·29E | 182 | 3·7 |
| 684 | FEB 26 | 0905 45·9 | 36·97S | 177·37E | 12R | 3·9 |
| 685 | FEB 26 | 1150 43·5 | 44·59S | 168·92E | 12R | 3·5F |
| 686 | FEB 26 | 1200 27·0 | 36·76S | 177·20E | 12R | 4·8 |
| 687 | FEB 26 | 1239 17·8 | 36·73S | 177·18E | 12R | 4·2 |
| 688 | FEB 26 | 1244 57·6 | 38·45S | 175·97E | 161 | 4·1 |
| 689 | FEB 26 | 1333 01·4 | 36·89S | 177·25E | 12R | 4·0 |
| 690 | FEB 26 | 1340 38·5 | 36·92S | 177·16E | 12R | 3·9 |
| 691 | FEB 26 | 1407 41·1 | 36·86S | 177·24E | 12R | 4·2 |
| 692 | FEB 26 | 1409 50·7 | 36·84S | 177·27E | 12R | 4·0 |
| 693 | FEB 26 | 1416 37·5 | 36·76S | 177·23E | 12R | 4·5 |
| 694 | FEB 26 | 1630 45·9 | 36·94S | 177·39E | 12R | 4·3 |
| 695 | FEB 26 | 1720 25·5 | 36·83S | 177·13E | 12R | 3·9 |
| 696 | FEB 26 | 2054 27·9 | 36·81S | 177·24E | 12R | 4·0 |
| 697 | FEB 27 | 0626 57·5 | 42·00S | 174·05E | 12R | 4·5 |
| 698 | FEB 27 | 0641 14·1 | 42·04S | 174·10E | 12R | 3·4 |
| 699 | FEB 28 | 1829 16·3 | 37·11S | 177·36E | 12R | 3·8 |
| 700 | MAR 01 | 1922 14·6 | 36·91S | 177·24E | 12R | 4·1 |

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| 701 | MAR 01 | 2108 35·0 | 41·70S | 177·64E | 33R | 4·0 |
| 702 | MAR 02 | 0403 54·8 | 38·73S | 176·06E | 171 | 3·9 |
| 703 | MAR 02 | 1708 10·2 | 40·35S | 177·02E | 45 | 3·5F |
| 704 | MAR 02 | 1746 11·3 | 40·16S | 174·95E | 12R | 3·9 |
| 705 | MAR 02 | 1848 58·5 | 38·19S | 175·88E | 270 | 4·7 |
| 706 | MAR 03 | 2030 23·8 | 40·71S | 174·52E | 68 | 3·4 |
| 707 | MAR 04 | 1355 39·6 | 39·34S | 176·22E | 78 | 3·5 |
| 708 | MAR 04 | 1553 04·6 | 39·83S | 174·03E | 114 | 3·7 |
| 709 | MAR 04 | 1844 04·0 | 40·49S | 178·73W | 33R | 4·1 |
| 710 | MAR 05 | 1348 03·1 | 42·88S | 171·57E | 12R | 3·5 |
| 711 | MAR 06 | 0141 06·1 | 45·47S | 164·82E | 12R | 4·3 |
| 712 | MAR 06 | 1118 00·1 | 46·25S | 165·69E | 12R | 4·5 |
| 713 | MAR 06 | 1823 56·1 | 38·93S | 175·46E | 144 | 4·1 |
| 714 | MAR 07 | 0051 09·5 | 36·58S | 176·72E | 12R | 4·2 |
| 715 | MAR 07 | 0757 26·4 | 40·59S | 173·31E | 178 | 5·5F |
| 716 | MAR 08 | 1422 18·7 | 43·29S | 170·49E | 12R | 4·0F |
| 717 | MAR 08 | 1630 28·4 | 36·73S | 177·60E | 12R | 3·9 |
| 718 | MAR 08 | 2323 55·8 | 37·44S | 177·54E | 132 | 4·3 |
| 719 | MAR 09 | 0121 17·6 | 33·11S | 178·61W | 33R | 5·5 |
| 720 | MAR 09 | 0154 06·3 | 33·21S | 178·45W | 33R | 5·4 |
| 721 | MAR 09 | 0803 54·2 | 49·13S | 165·30E | 12R | 4·1 |
| 722 | MAR 09 | 2045 15·4 | 39·30S | 175·09E | 126 | 3·8 |
| 723 | MAR 10 | 0905 51·7 | 46·86S | 165·56E | 89 | 4·4 |
| 724 | MAR 10 | 2224 36·9 | 42·43S | 174·21E | 12R | 2·9F |
| 725 | MAR 10 | 2357 41·0 | 42·32S | 173·97E | 14 | 4·3F |
| 726 | MAR 12 | 0000 30·2 | 41·03S | 174·55E | 36 | 3·4 |
| 727 | MAR 12 | 0800 47·9 | 37·82S | 176·70E | 12R | 3·6F |
| 728 | MAR 14 | 0226 07·4 | 45·08S | 167·56E | 98 | 4·0 |
| 729 | MAR 14 | 0507 08·8 | 46·26S | 165·78E | 12R | 3·7 |
| 730 | MAR 14 | 1958 21·1 | 45·28S | 167·32E | 98 | 3·5 |
| 731 | MAR 15 | 1151 11·6 | 37·84S | 176·31E | 198 | 3·6 |
| 732 | MAR 16 | 1155 37·8 | 38·13S | 176·38E | 169 | 4·1 |
| 733 | MAR 17 | 0608 49·0 | 46·79S | 164·99E | 12R | 4·1 |
| 734 | MAR 17 | 1331 48·7 | 36·09S | 178·32E | 208 | 3·9 |
| 735 | MAR 17 | 1646 38·7 | 38·98S | 176·53E | 84 | 3·6 |
| 736 | MAR 17 | 1737 41·1 | 37·33S | 176·52E | 360 | 4·6 |
| 737 | MAR 18 | 0157 03·4 | 41·29S | 175·16E | 22 | 3·7F |
| 738 | MAR 18 | 1348 12·8 | 35·93S | 178·51E | 218 | 4·0 |
| 739 | MAR 18 | 1450 06·9 | 50·81S | 163·08E | 12R | 4·2 |
| 740 | MAR 18 | 1929 12·9 | 45·06S | 167·64E | 120 | 3·8 |
| 741 | MAR 19 | 1124 14·4 | 45·09S | 167·50E | 106 | 4·0 |
| 742 | MAR 20 | 0520 55·2 | 37·18S | 179·23E | 273 | 3·8 |
| 743 | MAR 20 | 0740 36·5 | 39·62S | 175·77E | 12R | 3·4F |
| 744 | MAR 20 | 2049 48·5 | 36·84S | 177·22E | 12R | 3·7 |
| 745 | MAR 21 | 0632 57·5 | 35·99S | 178·41E | 245 | 3·8 |
| 746 | MAR 21 | 1320 03·6 | 38·46S | 175·79E | 163 | 3·5 |
| 747 | MAR 21 | 2026 33·3 | 45·98S | 166·41E | 12R | 3·7 |
| 748 | MAR 21 | 2219 37·5 | 33·01S | 178·84W | 33R | 4·7 |
| 749 | MAR 21 | 2259 00·8 | 46·30S | 165·48E | 12R | 4·1 |
| 750 | MAR 21 | 2359 09·7 | 38·63S | 176·06E | 5R | 3·1F |
| 751 | MAR 22 | 1913 03·0 | 46·39S | 165·78E | 12R | 4·7 |
| 752 | MAR 22 | 2202 43·9 | 46·66S | 167·18E | 12R | 3·7 |
| 753 | MAR 23 | 0212 48·3 | 40·42S | 175·73E | 12R | 3·5 |
| 754 | MAR 23 | 0707 31·7 | 41·03S | 174·23E | 50 | 3·6 |
| 755 | MAR 23 | 1200 28·6 | 45·16S | 166·46E | 12R | 3·7 |
| 756 | MAR 23 | 2232 12·6 | 36·19S | 177·88E | 246 | 5·2 |
| 757 | MAR 24 | 1416 00·6 | 37·41S | 176·70E | 206 | 3·6 |
| 758 | MAR 25 | 1337 15·6 | 43·30S | 171·51E | 12R | 2·5F |
| 759 | MAR 25 | 1802 31·7 | 44·23S | 169·85E | 12R | 3·7F |
| 760 | MAR 25 | 2315 40·3 | 41·84S | 171·79E | 12R | 3·4 |
| 761 | MAR 25 | 2353 12·4 | 39·42S | 176·81E | 61 | 3·2F |
| 762 | MAR 26 | 0233 19·4 | 37·47S | 176·87E | 12R | 3·8 |
| 763 | MAR 26 | 0422 54·8 | 40·35S | 175·45E | 12R | 3·8F |
| 764 | MAR 26 | 0734 00·5 | 37·59S | 176·59E | 12R | 4·1 |
| 765 | MAR 26 | 1403 36·2 | 40·62S | 176·48E | 59 | 3·5 |
| 766 | MAR 26 | 1901 41·0 | 36·90S | 177·45E | 220 | 4·4 |
| 767 | MAR 27 | 0440 39·5 | 37·20S | 177·44E | 33R | 4·5 |
| 768 | MAR 27 | 0505 26·4 | 37·13S | 177·47E | 12R | 3·9 |
| 769 | MAR 27 | 1340 47·0 | 39·32S | 175·23E | 164 | 3·6 |
| 770 | MAR 27 | 2140 14·1 | 37·69S | 176·57E | 227 | 4·4 |
| 771 | MAR 27 | 2227 14·2 | 38·23S | 176·02E | 204 | 4·1 |
| 772 | MAR 28 | 0754 16·7 | 37·24S | 176·55E | 318 | 4·0 |
| 773 | MAR 28 | 0911 10·3 | 43·57S | 170·59E | 12R | 3·9 |
| 774 | MAR 28 | 1026 11·6 | 35·88S | 179·44W | 137 | 4·8 |
| 775 | MAR 28 | 1833 12·6 | 43·36S | 170·98E | 12R | 3·8 |
| 776 | MAR 29 | 0209 18·3 | 38·05S | 176·25E | 5R | 2·6F |
| 777 | MAR 29 | 0637 59·6 | 40·46S | 175·66E | 12R | 3·8 |
| 778 | MAR 29 | 0815 41·9 | 43·20S | 172·51E | 33R | 3·7 |
| 779 | MAR 29 | 1357 49·7 | 44·78S | 166·73E | 5R | 3·8 |
| 780 | MAR 29 | 1548 20·2 | 43·53S | 172·56E | 12R | 3·8F |
| 781 | MAR 30 | 0155 22·4 | 41·75S | 174·72E | 11 | 4·0F |
| 782 | MAR 30 | 1202 00·7 | 36·65S | 177·96E | 12R | 4·1 |
| 783 | MAR 30 | 1223 08·4 | 37·11S | 177·41E | 12R | 4·0 |
| 784 | MAR 31 | 0920 12·3 | 40·61S | 174·52E | 80 | 3·7 |
| 785 | MAR 31 | 2143 19·0 | 35·04S | 179·82W | 292 | 4·9 |
| 786 | APR 01 | 0134 12·1 | 42·10S | 173·87E | 12R | 3·8 |
| 787 | APR 01 | 0339 07·1 | 38·28S | 176·48E | 12R | 3·0F |
| 788 | APR 01 | 0344 57·1 | 37·57S | 177·47E | 93 | 3·7 |
| 789 | APR 02 | 1800 58·4 | 38·84S | 175·11E | 239 | 3·8 |
| 790 | APR 03 | 1119 56·6 | 45·05S | 166·93E | 5R | 3·8 |
| 791 | APR 03 | 1753 00·8 | 38·43S | 175·74E | 184 | 4·5 |
| 792 | APR 03 | 1812 28·0 | 33·06S | 178·56W | 33R | 5·5 |
| 793 | APR 04 | 1639 36·0 | 40·35S | 174·08E | 108 | 3·5 |
| 794 | APR 04 | 1732 42·5 | 37·76S | 177·50E | 51 | 5·0F |
| 795 | APR 05 | 0630 36·8 | 39·78S | 174·04E | 127 | 3·5 |
| 796 | APR 05 | 1003 19·1 | 40·69S | 176·52E | 74 | 4·1 |
| 797 | APR 05 | 1027 03·6 | 44·35S | 167·90E | 5R | 4·1 |
| 798 | APR 05 | 1814 06·0 | 38·51S | 175·91E | 6 | 3·3F |
| 799 | APR 06 | 0218 54·8 | 49·31S | 165·25E | 143 | 4·9 |
| 800 | APR 06 | 1436 07·4 | 38·02S | 176·14E | 188 | 4·0 |

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| 801 | APR 06 | 1936 54·4 | 46·01S | 166·83E | 123 | 3·7 |
| 802 | APR 06 | 2207 25·6 | 37·31S | 177·16E | 120 | 3·9 |
| 803 | APR 07 | 1156 50·0 | 41·03S | 175·82E | 2 | 4·4F |
| 804 | APR 07 | 1222 10·5 | 38·27S | 175·66E | 196 | 3·9 |
| 805 | APR 07 | 1642 27·7 | 36·71S | 177·63E | 171 | 5·3 |
| 806 | APR 08 | 0232 10·5 | 37·50S | 176·24E | 295 | 4·1 |
| 807 | APR 10 | 0620 47·3 | 41·22S | 172·56E | 211 | 3·8 |
| 808 | APR 10 | 0626 59·9 | 36·97S | 177·32E | 12R | 3·7 |
| 809 | APR 10 | 1728 55·8 | 41·41S | 172·65E | 203 | 3·9 |
| 810 | APR 11 | 1155 10·6 | 35·75S | 179·55E | 192 | 6·1F |
| 811 | APR 11 | 1544 52·6 | 38·90S | 175·39E | 132 | 3·4 |
| 812 | APR 11 | 1657 18·0 | 37·76S | 177·29E | 100 | 3·7F |
| 813 | APR 11 | 2311 05·6 | 31·94S | 178·16W | 33R | 4·8 |
| 814 | APR 13 | 1133 51·0 | 40·18S | 174·43E | 33R | 3·4 |
| 815 | APR 13 | 2304 07·7 | 37·69S | 177·14E | 172 | 3·6 |
| 816 | APR 14 | 1218 54·6 | 37·49S | 176·78E | 169 | 3·6 |
| 817 | APR 14 | 1913 57·3 | 38·53S | 175·96E | 162 | 4·2 |
| 818 | APR 14 | 2006 33·8 | 38·77S | 176·03E | 109 | 4·5F |
| 819 | APR 15 | 1500 03·5 | 34·74S | 179·77W | 346 | 4·3 |
| 820 | APR 15 | 2043 42·9 | 33·31S | 179·24E | 297 | 4·9 |
| 821 | APR 16 | 0425 31·2 | 40·64S | 172·55E | 12R | 3·8 |
| 822 | APR 16 | 2205 48·5 | 31·56S | 179·76W | 503 | 6·0 |
| 823 | APR 17 | 0724 52·3 | 34·90S | 179·15E | 290 | 4·3 |
| 824 | APR 17 | 1555 45·6 | 31·69S | 179·91W | 509 | 4·9 |
| 825 | APR 17 | 1606 29·2 | 38·25S | 175·87E | 179 | 4·7 |
| 826 | APR 18 | 1951 47·3 | 38·73S | 176·07E | 117 | 4·0 |
| 827 | APR 18 | 2325 07·8 | 37·79S | 179·26E | 12R | 4·2 |
| 828 | APR 19 | 1612 31·3 | 42·06S | 173·85E | 58 | 3·3F |
| 829 | APR 20 | 0318 53·5 | 44·53S | 167·89E | 5R | 4·6F |
| 830 | APR 20 | 0340 59·2 | 44·60S | 167·94E | 5R | 3·7 |
| 831 | APR 20 | 0447 57·0 | 44·63S | 167·96E | 5R | 3·7 |
| 832 | APR 20 | 0729 00·2 | 37·35S | 176·57E | 253 | 4·0 |
| 833 | APR 20 | 1041 57·6 | 39·00S | 175·46E | 139 | 3·9 |
| 834 | APR 20 | 1642 24·2 | 33·15S | 176·92W | 275 | 4·5 |
| 835 | APR 20 | 1706 11·1 | 40·49S | 174·91E | 12R | 3·9F |
| 836 | APR 21 | 1238 42·5 | 39·42S | 174·53E | 205 | 3·5 |
| 837 | APR 21 | 1256 27·7 | 38·43S | 175·88E | 172 | 3·6 |
| 838 | APR 22 | 0313 43·9 | 38·79S | 175·66E | 143 | 3·6 |
| 839 | APR 24 | 1535 06·5 | 38·51S | 177·84E | 12R | 3·6F |
| 840 | APR 24 | 2032 01·7 | 38·50S | 177·87E | 12R | 3·5 |
| 841 | APR 25 | 0152 47·3 | 44·69S | 166·76E | 59 | 3·8 |
| 842 | APR 25 | 0659 19·8 | 39·49S | 174·85E | 33R | 3·9 |
| 843 | APR 25 | 1925 16·1 | 50·37S | 163·12E | 33R | 5·3 |
| 844 | APR 25 | 2327 07·5 | 40·15S | 174·97E | 16 | 5·0F |
| 845 | APR 25 | 2331 10·0 | 40·13S | 174·95E | 12R | 3·8 |
| 846 | APR 25 | 2338 54·0 | 39·15S | 175·76E | 94 | 4·1 |
| 847 | APR 26 | 0432 13·4 | 38·48S | 176·14E | 3 | 3·4 |
| 848 | APR 26 | 0648 09·5 | 40·14S | 174·89E | 12R | 4·4F |
| 849 | APR 26 | 1405 01·1 | 40·14S | 174·89E | 12R | 4·3 |
| 850 | APR 26 | 1746 24·4 | 38·83S | 175·62E | 156 | 4·5 |
| 851 | APR 26 | 1902 19·2 | 45·35S | 167·42E | 101 | 4·1 |
| 852 | APR 28 | 1819 40·3 | 37·73S | 176·47E | 12R | 3·9 |
| 853 | APR 28 | 1928 34·9 | 37·98S | 176·13E | 210 | 4·5 |
| 854 | APR 28 | 2300 56·4 | 37·58S | 176·54E | 12R | 5·0F |
| 855 | APR 28 | 2329 20·0 | 37·61S | 176·56E | 12R | 3·9 |
| 856 | APR 29 | 0543 44·2 | 37·57S | 176·56E | 12R | 3·6 |
| 857 | APR 29 | 1415 22·5 | 37·60S | 176·56E | 12R | 3·8 |
| 858 | MAY 01 | 0312 55·6 | 38·04S | 176·21E | 208 | 4·9 |
| 859 | MAY 02 | 1456 07·2 | 38·93S | 175·70E | 130 | 3·9 |
| 860 | MAY 03 | 0411 58·5 | 40·78S | 172·44E | 12R | 3·3F |
| 861 | MAY 04 | 0813 05·2 | 40·52S | 176·40E | 80 | 3·7 |
| 862 | MAY 04 | 1056 40·7 | 41·20S | 173·79E | 56 | 3·5 |
| 863 | MAY 04 | 1353 33·4 | 40·15S | 175·09E | 26 | 3·6 |
| 864 | MAY 04 | 2128 46·0 | 37·17S | 177·02E | 242 | 4·2 |
| 865 | MAY 05 | 0813 46·6 | 39·58S | 177·20E | 67 | 4·2F |
| 866 | MAY 05 | 1200 37·1 | 37·74S | 177·61E | 45 | 3·7 |
| 867 | MAY 06 | 1710 05·2 | 37·69S | 179·73E | 33R | 5·9F |
| 868 | MAY 06 | 1723 23·6 | 37·25S | 179·96E | 33R | 4·3 |
| 869 | MAY 06 | 1748 09·4 | 37·41S | 179·89E | 33R | 4·4F |
| 870 | MAY 06 | 1822 02·7 | 37·44S | 179·86E | 33R | 4·0 |
| 871 | MAY 06 | 1849 34·2 | 37·02S | 179·99W | 33R | 4·3 |
| 872 | MAY 06 | 2007 56·5 | 37·37S | 179·74W | 33R | 3·8 |
| 873 | MAY 06 | 2107 24·7 | 37·44S | 179·92W | 33R | 3·9 |
| 874 | MAY 07 | 0226 02·8 | 37·83S | 179·98W | 33R | 3·9 |
| 875 | MAY 07 | 0255 16·4 | 37·45S | 179·75W | 33R | 4·0 |
| 876 | MAY 07 | 0444 16·6 | 39·01S | 174·92E | 250 | 4·2 |
| 877 | MAY 07 | 0634 45·2 | 37·26S | 179·72W | 33R | 3·9 |
| 878 | MAY 07 | 0727 28·9 | 37·85S | 179·61W | 33R | 3·7 |
| 879 | MAY 07 | 0801 20·8 | 37·49S | 179·78W | 33R | 4·0 |
| 880 | MAY 07 | 0818 16·0 | 37·65S | 179·30W | 33R | 3·8 |
| 881 | MAY 07 | 0837 33·1 | 37·25S | 179·90W | 33R | 4·2 |
| 882 | MAY 07 | 1222 51·0 | 37·48S | 179·70W | 33R | 4·1 |
| 883 | MAY 07 | 1228 42·5 | 37·59S | 179·63W | 33R | 3·9 |
| 884 | MAY 07 | 1229 21·8 | 37·49S | 179·95W | 33R | 4·1 |
| 885 | MAY 07 | 1255 04·1 | 37·56S | 179·60E | 33R | 3·7 |
| 886 | MAY 07 | 1323 04·9 | 37·70S | 179·76W | 33R | 3·8 |
| 887 | MAY 07 | 1504 21·4 | 37·34S | 179·96W | 33R | 4·0 |
| 888 | MAY 07 | 1912 07·5 | 37·54S | 179·59W | 33R | 4·1 |
| 889 | MAY 08 | 0356 20·5 | 37·59S | 179·77W | 33R | 4·0 |
| 890 | MAY 08 | 0855 24·1 | 37·36S | 177·25E | 12R | 4·2 |
| 891 | MAY 08 | 1107 37·6 | 37·42S | 179·81E | 33R | 3·5 |
| 892 | MAY 08 | 1631 10·9 | 36·87S | 177·26E | 33R | 4·5 |
| 893 | MAY 08 | 1637 34·4 | 37·46S | 179·92E | 33R | 3·7 |
| 894 | MAY 08 | 2005 06·1 | 33·61S | 177·80W | 423 | 5·7 |
| 895 | MAY 08 | 2309 56·0 | 36·23S | 178·70E | 138 | 5·0 |
| 896 | MAY 09 | 0346 53·9 | 38·78S | 175·88E | 152 | 3·8 |
| 897 | MAY 09 | 0442 11·0 | 37·57S | 179·88E | 33R | 3·6 |
| 898 | MAY 09 | 0700 44·4 | 37·22S | 177·17E | 33R | 3·8 |
| 899 | MAY 09 | 1238 26·1 | 37·57S | 179·99W | 33R | 4·6 |
| 900 | MAY 09 | 1628 55·0 | 37·27S | 179·72E | 33R | 3·7 |

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|---|---|---|---|---|---|---|
| 901 | MAY 09 | 2217 26·1 | 41·33S | 174·47E | 28 | 3·9F |
| 902 | MAY 10 | 0819 48·7 | 42·63S | 173·43E | 56 | 3·7 |
| 903 | MAY 10 | 0939 03·3 | 37·50S | 179·78W | 33R | 3·6 |
| 904 | MAY 10 | 1055 22·3 | 37·51S | 179·77W | 33R | 3·8 |
| 905 | MAY 10 | 2227 42·0 | 40·15S | 175·03E | 33R | 3·5 |
| 906 | MAY 11 | 0426 21·2 | 38·17S | 177·62E | 49 | 3·7 |
| 907 | MAY 12 | 0044 54·8 | 39·82S | 177·05E | 44 | 3·4 |
| 908 | MAY 12 | 1117 35·3 | 37·60S | 179·72W | 33R | 3·8 |
| 909 | MAY 13 | 0712 57·0 | 37·73S | 179·46W | 33R | 4·2 |
| 910 | MAY 13 | 0928 12·1 | 39·09S | 174·95E | 217 | 3·9 |
| 911 | MAY 13 | 1214 46·4 | 37·50S | 179·75E | 33R | 3·6 |
| 912 | MAY 13 | 1530 35·2 | 38·93S | 175·95E | 128 | 3·9 |
| 913 | MAY 13 | 2125 52·9 | 41·05S | 174·25E | 51 | 4·0F |
| 914 | MAY 13 | 2322 57·1 | 37·61S | 179·80W | 33R | 4·5 |
| 915 | MAY 15 | 1238 10·7 | 39·45S | 174·40E | 229 | 4·2 |
| 916 | MAY 15 | 1320 00·8 | 33·68S | 178·95W | 33R | 5·2 |
| 917 | MAY 15 | 2112 32·7 | 38·18S | 179·23E | 33R | 3·7 |
| 918 | MAY 15 | 2143 57·6 | 37·53S | 179·46E | 33R | 3·7 |
| 919 | MAY 16 | 1654 20·7 | 37·74S | 179·80E | 33R | 3·8 |
| 920 | MAY 16 | 1944 23·5 | 37·30S | 179·80W | 33R | 4·0 |
| 921 | MAY 16 | 2324 00·6 | 39·48S | 175·63E | 11 | 3·9 |
| 922 | MAY 18 | 0334 09·9 | 37·88S | 177·27E | 33R | 4·2 |
| 923 | MAY 18 | 0417 13·1 | 37·30S | 177·73E | 33R | 3·8 |
| 924 | MAY 18 | 0603 27·4 | 37·64S | 179·91E | 33R | 3·8 |
| 925 | MAY 18 | 0710 35·0 | 37·94S | 176·63E | 189 | 3·6 |
| 926 | MAY 18 | 1055 44·3 | 38·82S | 175·89E | 124 | 3·6 |
| 927 | MAY 18 | 1319 10·9 | 44·64S | 168·19E | 83 | 3·7 |
| 928 | MAY 19 | 0103 10·7 | 39·32S | 175·73E | 33R | 3·6 |
| 929 | MAY 19 | 0204 17·8 | 41·85S | 172·50E | 0 | 3·8 |
| 930 | MAY 19 | 1047 26·6 | 37·28S | 177·11E | 148 | 3·8 |
| 931 | MAY 19 | 1130 21·9 | 45·68S | 167·05E | 68 | 3·5 |
| 932 | MAY 19 | 1754 52·9 | 40·53S | 177·05E | 91 | 4·1 |
| 933 | MAY 20 | 0112 51·1 | 37·53S | 179·88W | 33R | 4·2 |
| 934 | MAY 20 | 0744 07·9 | 39·31S | 178·83E | 12R | 3·7 |
| 935 | MAY 20 | 0928 32·6 | 38·19S | 176·05E | 211 | 4·1 |
| 936 | MAY 20 | 0958 04·1 | 39·50S | 175·66E | 0 | 3·6 |
| 937 | MAY 20 | 1151 30·1 | 37·54S | 177·83E | 33R | 4·0 |
| 938 | MAY 20 | 2329 36·1 | 37·29S | 177·50E | 5 | 3·6 |
| 939 | MAY 21 | 1148 01·3 | 37·98S | 176·14E | 213 | 4·0 |
| 940 | MAY 21 | 1347 35·2 | 37·20S | 176·75E | 215 | 3·9 |
| 941 | MAY 21 | 1513 45·6 | 43·40S | 170·97E | 12R | 4·0 |
| 942 | MAY 22 | 0128 00·7 | 37·23S | 177·72E | 228 | 4·0 |
| 943 | MAY 22 | 0656 07·5 | 37·62S | 179·44W | 33R | 5·1 |
| 944 | MAY 22 | 1733 53·1 | 41·17S | 174·32E | 55 | 3·7 |
| 945 | MAY 23 | 0014 43·4 | 38·61S | 175·82E | 164 | 4·2 |
| 946 | MAY 23 | 0026 30·2 | 36·72S | 177·31E | 12R | 4·4 |
| 947 | MAY 24 | 0007 40·3 | 39·49S | 175·69E | 9 | 3·7 |
| 948 | MAY 24 | 0621 30·3 | 42·20S | 172·75E | 7 | 3·9 |
| 949 | MAY 24 | 1309 49·3 | 37·32S | 179·66W | 33R | 4·5 |
| 950 | MAY 24 | 1339 29·6 | 37·96S | 179·58W | 33R | 4·4 |
| 951 | MAY 24 | 2118 28·8 | 37·65S | 178·67E | 33R | 3·9 |
| 952 | MAY 25 | 0757 32·5 | 35·79S | 179·19E | 33R | 4·3 |
| 953 | MAY 26 | 0028 38·4 | 40·39S | 174·15E | 96 | 3·2 |
| 954 | MAY 26 | 0041 20·3 | 44·44S | 169·68E | 12R | 3·5 |
| 955 | MAY 26 | 1227 31·9 | 37·40S | 176·99E | 12R | 3·4 |
| 956 | MAY 26 | 1301 45·1 | 37·54S | 179·92W | 33R | 4·5 |
| 957 | MAY 27 | 0645 02·1 | 35·09S | 179·72E | 12R | 5·3 |
| 958 | MAY 27 | 1212 21·3 | 44·93S | 167·65E | 104 | 3·8 |
| 959 | MAY 27 | 2351 46·4 | 37·44S | 179·92W | 33R | 4·4 |
| 960 | MAY 28 | 0010 49·9 | 37·46S | 179·69W | 33R | 4·1 |
| 961 | MAY 28 | 0751 56·3 | 45·72S | 168·21E | 33R | 3·4 |
| 962 | MAY 28 | 0844 27·8 | 38·05S | 176·25E | 5R | 2·6F |
| 963 | MAY 29 | 0918 11·6 | 37·53S | 179·84W | 33R | 4·9 |
| 964 | MAY 29 | 1027 49·7 | 45·07S | 167·73E | 74 | 4·5 |
| 965 | MAY 29 | 1455 35·5 | 37·77S | 179·85E | 33R | 4·5 |
| 966 | MAY 29 | 2146 30·8 | 29·96S | 178·57W | 33R | 5·4 |
| 967 | MAY 30 | 0745 19·5 | 40·16S | 176·32E | 68 | 3·7F |
| 968 | MAY 31 | 0816 26·5 | 40·06S | 179·21W | 33R | 4·1 |
| 969 | MAY 31 | 0822 47·9 | 37·76S | 179·86W | 33R | 4·3 |
| 970 | MAY 31 | 1602 40·5 | 37·91S | 179·34W | 33R | 4·0 |
| 971 | MAY 31 | 1615 58·1 | 37·97S | 179·21W | 33R | 4·0 |
| 972 | MAY 31 | 1707 58·2 | 44·67S | 168·33E | 61 | 4·0 |
| 973 | MAY 31 | 1944 22·2 | 40·68S | 175·60E | 28 | 4·1F |
| 974 | JUN 01 | 1818 50·7 | 37·72S | 179·87W | 33R | 4·3 |
| 975 | JUN 01 | 1928 53·3 | 36·92S | 177·24E | 12R | 3·8 |
| 976 | JUN 02 | 0828 40·4 | 39·56S | 174·04E | 172 | 4·1 |
| 977 | JUN 02 | 2126 13·9 | 45·17S | 167·54E | 108 | 4·5 |
| 978 | JUN 02 | 2154 41·1 | 38·23S | 176·00E | 208 | 4·1 |
| 979 | JUN 02 | 2302 05·6 | 37·94S | 176·50E | 5R | 3·0F |
| 980 | JUN 03 | 0219 10·5 | 38·77S | 175·19E | 225 | 4·4 |
| 981 | JUN 03 | 0522 16·7 | 40·22S | 173·91E | 124 | 3·6 |
| 982 | JUN 05 | 0141 31·0 | 37·55S | 179·77W | 33R | 4·1 |
| 983 | JUN 06 | 0320 22·7 | 37·39S | 177·35E | 12R | 3·6 |
| 984 | JUN 06 | 0729 35·7 | 39·74S | 174·42E | 130 | 4·0F |
| 985 | JUN 06 | 1301 31·3 | 37·86S | 177·24E | 67 | 3·4 |
| 986 | JUN 07 | 0006 51·4 | 37·34S | 176·12E | 261 | 4·1 |
| 987 | JUN 07 | 1023 02·8 | 37·54S | 178·23E | 60 | 3·6 |
| 988 | JUN 07 | 1540 31·3 | 36·78S | 177·57E | 219 | 4·3 |
| 989 | JUN 07 | 1549 44·0 | 37·66S | 179·43E | 33R | 3·9 |
| 990 | JUN 08 | 0815 15·9 | 36·68S | 177·94E | 12R | 4·2 |
| 991 | JUN 08 | 0822 54·3 | 37·50S | 179·77W | 33R | 4·8 |
| 992 | JUN 08 | 1334 07·7 | 36·46S | 177·88E | 12R | 3·9 |
| 993 | JUN 08 | 1502 05·5 | 36·55S | 177·74E | 314 | 4·4 |
| 994 | JUN 08 | 2234 13·7 | 46·01S | 167·18E | 106 | 4·8 |
| 995 | JUN 09 | 0249 19·2 | 37·44S | 179·81W | 33R | 4·2 |
| 996 | JUN 09 | 0252 56·8 | 37·34S | 179·85E | 33R | 3·8 |
| 997 | JUN 09 | 0400 32·3 | 44·14S | 167·68E | 12R | 3·9 |
| 998 | JUN 09 | 0923 12·1 | 37·45S | 179·92E | 33R | 3·8 |
| 999 | JUN 09 | 0930 32·7 | 36·95S | 177·84E | 123 | 4·0 |
| 1000 | JUN 09 | 1340 15·1 | 37·44S | 179·73W | 33R | 4·1 |

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|---|---|---|---|---|---|---|
| 1001 | JUN 09 | 1746 26·2 | 37·39S | 179·79E | 33R | 3·7 |
| 1002 | JUN 10 | 0304 56·0 | 37·93S | 176·45E | 190 | 4·0 |
| 1003 | JUN 10 | 0325 18·1 | 44·74S | 167·45E | 1R | 3·8 |
| 1004 | JUN 10 | 0423 11·5 | 37·50S | 179·76W | 33R | 4·1 |
| 1005 | JUN 10 | 1300 35·9 | 41·28S | 172·02E | 1R | 3·3F |
| 1006 | JUN 10 | 1723 12·5 | 36·78S | 179·33W | 319 | 4·2 |
| 1007 | JUN 11 | 0355 42·2 | 44·99S | 167·68E | 129 | 3·4 |
| 1008 | JUN 11 | 0918 26·8 | 36·74S | 177·66E | 269 | 4·2 |
| 1009 | JUN 11 | 1245 15·8 | 38·69S | 175·76E | 12R | 2·9F |
| 1010 | JUN 11 | 1426 29·1 | 38·18S | 177·79E | 20 | 3·4 |
| 1011 | JUN 12 | 0204 07·6 | 45·13S | 167·67E | 86 | 5·1F |
| 1012 | JUN 12 | 1140 35·8 | 41·29S | 172·06E | 1R | 3·2F |
| 1013 | JUN 12 | 1455 51·4 | 39·69S | 174·49E | 125 | 4·0 |
| 1014 | JUN 12 | 2200 17·7 | 36·79S | 177·33E | 12R | 3·7 |
| 1015 | JUN 12 | 2201 26·0 | 36·82S | 177·28E | 12R | 3·8 |
| 1016 | JUN 14 | 0725 05·3 | 44·01S | 168·60E | 1R | 3·8 |
| 1017 | JUN 14 | 2311 22·9 | 37·26S | 177·40E | 181 | 3·7 |
| 1018 | JUN 15 | 0327 22·3 | 37·56S | 179·95W | 33R | 4·0 |
| 1019 | JUN 15 | 0500 43·1 | 37·28S | 177·28E | 145 | 4·0 |
| 1020 | JUN 15 | 0619 03·0 | 37·52S | 179·80W | 33R | 4·7 |
| 1021 | JUN 15 | 2341 56·6 | 39·67S | 174·08E | 193 | 4·1 |
| 1022 | JUN 16 | 0329 19·3 | 37·75S | 177·32E | 64 | 3·7 |
| 1023 | JUN 16 | 0518 56·6 | 37·95S | 176·08E | 222 | 4·1 |
| 1024 | JUN 16 | 2123 10·0 | 36·84S | 177·32E | 12R | 3·7 |
| 1025 | JUN 17 | 1646 40·6 | 36·60S | 177·69E | 276 | 4·1 |
| 1026 | JUN 17 | 2104 59·4 | 39·04S | 177·52E | 31 | 3·5 |
| 1027 | JUN 18 | 2235 35·4 | 45·91S | 166·98E | 6 | 4·3 |
| 1028 | JUN 19 | 0046 10·3 | 38·80S | 175·53E | 196 | 3·6 |
| 1029 | JUN 19 | 1205 47·2 | 44·92S | 167·41E | 12R | 3·7 |
| 1030 | JUN 20 | 1848 54·4 | 44·99S | 167·57E | 126 | 4·2 |
| 1031 | JUN 20 | 2134 27·4 | 45·17S | 167·57E | 85 | 4·7 |
| 1032 | JUN 21 | 1230 42·0 | 38·52S | 175·84E | 201 | 4·1 |
| 1033 | JUN 22 | 0018 46·8 | 45·89S | 167·13E | 82 | 3·7 |
| 1034 | JUN 22 | 1633 11·2 | 39·36S | 177·52E | 5R | 4·4F |
| 1035 | JUN 23 | 0035 31·6 | 38·37S | 175·78E | 178 | 4·4 |
| 1036 | JUN 24 | 0231 32·5 | 37·63S | 179·62W | 33R | 4·6 |
| 1037 | JUN 24 | 0238 07·2 | 37·49S | 179·69E | 33R | 4·2 |
| 1038 | JUN 24 | 1244 51·1 | 37·53S | 179·98W | 33R | 4·4F |
| 1039 | JUN 24 | 1246 01·0 | 40·75S | 172·66E | 12R | 3·7F |
| 1040 | JUN 24 | 1625 16·0 | 38·20S | 179·36W | 33R | 4·2 |
| 1041 | JUN 24 | 1754 03·0 | 37·72S | 179·00W | 33R | 5·1 |
| 1042 | JUN 25 | 0621 17·5 | 40·24S | 176·48E | 74 | 3·6 |
| 1043 | JUN 25 | 1802 47·0 | 37·62S | 179·96E | 33R | 3·9 |
| 1044 | JUN 25 | 1927 03·7 | 42·75S | 176·90E | 33R | 4·5 |
| 1045 | JUN 25 | 1957 21·5 | 44·88S | 167·89E | 82 | 4·7F |
| 1046 | JUN 26 | 0057 34·2 | 39·28S | 175·00E | 29 | 3·5 |
| 1047 | JUN 27 | 0716 44·5 | 39·90S | 175·09E | 85 | 3·4 |
| 1048 | JUN 27 | 1717 15·1 | 37·79S | 176·73E | 132 | 3·5 |
| 1049 | JUN 28 | 0032 45·2 | 40·47S | 174·39E | 33R | 3·4 |
| 1050 | JUN 28 | 0343 45·5 | 37·50S | 179·71W | 33R | 4·6 |
| 1051 | JUN 28 | 0351 09·8 | 37·44S | 179·36W | 33R | 4·1 |
| 1052 | JUN 28 | 0849 12·2 | 43·49S | 170·50E | 12R | 3·7F |
| 1053 | JUN 28 | 1854 15·4 | 37·82S | 179·67E | 33R | 5·8F |
| 1054 | JUN 29 | 1524 24·6 | 37·18S | 177·08E | 12R | 4·0 |
| 1055 | JUN 29 | 2209 16·8 | 36·58S | 177·20E | 12R | 4·4 |
| 1056 | JUN 30 | 0058 26·2 | 35·39S | 178·59E | 33R | 4·1 |
| 1057 | JUN 30 | 0217 26·6 | 38·65S | 176·11E | 5R | 3·2F |
| 1058 | JUN 30 | 1103 48·5 | 37·37S | 176·94E | 12R | 4·3 |
| 1059 | JUN 30 | 1119 53·4 | 49·08S | 174·59E | 33R | 4·3 |
| 1060 | JUL 01 | 0314 18·0 | 37·69S | 179·85W | 33R | 4·3 |
| 1061 | JUL 01 | 0314 32·7 | 38·65S | 175·41E | 204 | 3·8 |
| 1062 | JUL 01 | 0757 56·9 | 43·75S | 169·69E | 20 | 3·1F |
| 1063 | JUL 01 | 1922 33·3 | 36·50S | 179·96W | 137 | 4·8 |
| 1064 | JUL 02 | 0242 51·4 | 37·57S | 179·60W | 33R | 4·1 |
| 1065 | JUL 02 | 0650 03·5 | 39·63S | 174·43E | 124 | 4·2 |
| 1066 | JUL 02 | 1718 00·9 | 37·23S | 179·86E | 12R | 4·3 |
| 1067 | JUL 02 | 2005 02·5 | 39·33S | 175·16E | 36 | 3·8 |
| 1068 | JUL 03 | 2211 18·0 | 39·53S | 174·19E | 167 | 3·9 |
| 1069 | JUL 04 | 0524 21·8 | 37·40S | 176·63E | 204 | 5·1 |
| 1070 | JUL 04 | 1618 21·2 | 41·65S | 174·67E | 31 | 3·8 |
| 1071 | JUL 04 | 2038 59·2 | 37·51S | 179·58W | 12R | 4·6 |
| 1072 | JUL 04 | 2237 21·6 | 35·17S | 178·79E | 203 | 4·5 |
| 1073 | JUL 05 | 0059 04·3 | 37·82S | 176·40E | 211 | 4·2 |
| 1074 | JUL 05 | 0847 48·5 | 39·56S | 175·23E | 33R | 3·8 |
| 1075 | JUL 05 | 0923 39·9 | 37·12S | 179·93W | 33R | 4·0 |
| 1076 | JUL 05 | 2251 17·3 | 37·57S | 179·79W | 33R | 5·0 |
| 1077 | JUL 06 | 1720 07·7 | 36·68S | 177·64E | 188 | 4·0 |
| 1078 | JUL 06 | 1807 04·0 | 38·46S | 179·29E | 12R | 3·5 |
| 1079 | JUL 06 | 1816 13·4 | 38·49S | 179·34E | 12R | 4·1 |
| 1080 | JUL 06 | 1825 35·5 | 38·50S | 179·42E | 12R | 3·7 |
| 1081 | JUL 07 | 1427 50·4 | 45·07S | 167·57E | 121 | 3·9 |
| 1082 | JUL 07 | 1625 36·2 | 33·67S | 178·60W | 246 | 5·0 |
| 1083 | JUL 08 | 0233 06·3 | 38·58S | 176·00E | 273 | 4·1 |
| 1084 | JUL 08 | 1803 08·1 | 39·44S | 175·69E | 12R | 3·7 |
| 1085 | JUL 08 | 1908 39·4 | 39·46S | 175·69E | 12R | 3·9 |
| 1086 | JUL 08 | 2021 18·7 | 39·47S | 175·71E | 12R | 3·8 |
| 1087 | JUL 09 | 1519 27·4 | 33·89S | 178·85W | 241 | 4·7 |
| 1088 | JUL 10 | 0829 15·0 | 39·68S | 174·06E | 167 | 3·8 |
| 1089 | JUL 10 | 2335 09·4 | 37·37S | 177·60E | 71 | 3·9 |
| 1090 | JUL 11 | 2157 44·5 | 37·82S | 176·79E | 175 | 4·2 |
| 1091 | JUL 12 | 0015 33·5 | 41·82S | 174·04E | 5R | 4·2 |
| 1092 | JUL 12 | 1903 53·3 | 35·05S | 179·91W | 33R | 5·1 |
| 1093 | JUL 13 | 1128 31·3 | 37·65S | 179·99W | 33R | 4·4 |
| 1094 | JUL 13 | 1618 40·0 | 34·28S | 179·41E | 33R | 5·0 |
| 1095 | JUL 13 | 2239 34·5 | 45·08S | 167·66E | 88 | 3·6 |
| 1096 | JUL 14 | 0620 06·5 | 41·19S | 172·89E | 139 | 4·1 |
| 1097 | JUL 14 | 1809 59·4 | 49·23S | 165·29E | 33R | 4·2 |
| 1098 | JUL 15 | 0656 45·3 | 42·80S | 171·63E | 12R | 3·5 |
| 1099 | JUL 16 | 0903 12·5 | 38·43S | 176·15E | 12R | 2·9F |
| 1100 | JUL 16 | 1415 58·8 | 38·42S | 176·16E | 12R | 3·4F |

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| 1101 | JUL 16 | 2330 44·9 | 38·30S | 176·10E | 12R | F |
| 1102 | JUL 17 | 0701 06·2 | 45·92S | 166·58E | 12R | 3·4 |
| 1103 | JUL 17 | 0830 08·7 | 39·49S | 175·70E | 12R | 4·0F |
| 1104 | JUL 17 | 0920 03·8 | 40·40S | 176·40E | 33R | 3·6 |
| 1105 | JUL 17 | 2149 19·9 | 37·26S | 179·26W | 12R | 4·1 |
| 1106 | JUL 18 | 0709 43·7 | 37·26S | 176·98E | 186 | 4·4 |
| 1107 | JUL 18 | 2349 55·3 | 43·68S | 170·59E | 12R | 3·6F |
| 1108 | JUL 19 | 1150 32·1 | 39·05S | 177·64E | 34 | 3·2 |
| 1109 | JUL 19 | 1408 31·4 | 38·07S | 176·15E | 203 | 4·0 |
| 1110 | JUL 19 | 1433 59·4 | 38·77S | 177·42E | 41 | 5·7F |
| 1111 | JUL 19 | 1438 53·5 | 38·67S | 177·39E | 26 | 3·8 |
| 1112 | JUL 19 | 1613 26·6 | 38·80S | 177·38E | 52 | 3·9 |
| 1113 | JUL 19 | 1642 15·9 | 38·78S | 177·46E | 67 | 4·6F |
| 1114 | JUL 19 | 1650 27·1 | 38·77S | 177·50E | 76 | 4·6F |
| 1115 | JUL 19 | 1722 17·9 | 38·76S | 177·42E | 44 | 3·9F |
| 1116 | JUL 19 | 1733 02·4 | 38·74S | 177·41E | 37 | 3·7 |
| 1117 | JUL 19 | 1915 18·6 | 38·75S | 177·45E | 48 | 3·9F |
| 1118 | JUL 19 | 2146 55·4 | 38·73S | 177·43E | 38 | 3·7 |
| 1119 | JUL 20 | 0055 40·8 | 38·68S | 177·61E | 71 | 4·2 |
| 1120 | JUL 20 | 0111 51·9 | 38·54S | 177·54E | 48 | 4·5F |
| 1121 | JUL 20 | 0910 21·0 | 36·91S | 177·53E | 247 | 4·4 |
| 1122 | JUL 20 | 1022 20·1 | 38·69S | 177·37E | 77 | 4·2 |
| 1123 | JUL 20 | 1814 49·8 | 36·31S | 178·36E | 256 | 4·7F |
| 1124 | JUL 20 | 1911 22·5 | 38·82S | 177·41E | 41 | 5·1F |
| 1125 | JUL 20 | 1913 15·8 | 38·73S | 177·64E | 19 | 4·8F |
| 1126 | JUL 20 | 2023 58·3 | 38·75S | 177·33E | 42 | 4·0 |
| 1127 | JUL 22 | 0032 21·3 | 38·84S | 177·41E | 39 | 3·4 |
| 1128 | JUL 22 | 1652 58·6 | 36·92S | 177·06E | 239 | 4·6 |
| 1129 | JUL 23 | 0152 34·2 | 39·48S | 175·70E | 12R | 3·4F |
| 1130 | JUL 23 | 1003 09·8 | 38·75S | 177·46E | 35 | 3·9 |
| 1131 | JUL 24 | 0432 42·1 | 41·23S | 172·63E | 208 | 4·1 |
| 1132 | JUL 24 | 1021 53·4 | 44·78S | 167·28E | 33R | 3·5 |
| 1133 | JUL 24 | 1132 22·8 | 37·96S | 179·44W | 12R | 4·0 |
| 1134 | JUL 24 | 1218 40·2 | 46·79S | 165·83E | 12R | 3·4 |
| 1135 | JUL 24 | 1319 46·1 | 46·73S | 165·91E | 12R | 4·4 |
| 1136 | JUL 25 | 0309 32·9 | 38·79S | 177·38E | 56 | 4·5 |
| 1137 | JUL 25 | 0453 37·7 | 39·48S | 175·65E | 12R | 4·1F |
| 1138 | JUL 25 | 1447 41·1 | 40·72S | 175·91E | 33R | 3·9 |
| 1139 | JUL 25 | 1457 06·3 | 39·54S | 174·16E | 216 | 4·1 |
| 1140 | JUL 26 | 0724 13·7 | 36·73S | 177·43E | 12R | 4·0 |
| 1141 | JUL 27 | 1318 33·1 | 38·63S | 177·39E | 28 | 3·5 |
| 1142 | JUL 27 | 2247 32·5 | 38·75S | 177·51E | 48 | 3·7 |
| 1143 | JUL 28 | 0716 12·8 | 38·74S | 177·49E | 73 | 3·7 |
| 1144 | JUL 29 | 1134 48·9 | 37·15S | 177·56E | 12R | 4·0 |
| 1145 | JUL 29 | 1440 39·8 | 38·62S | 175·94E | 150 | 4·4 |
| 1146 | JUL 30 | 0908 45·3 | 37·50S | 177·94E | 86 | 3·7 |
| 1147 | JUL 30 | 1204 09·6 | 38·74S | 177·47E | 33R | 4·2F |
| 1148 | JUL 30 | 1529 55·1 | 44·67S | 168·12E | 68 | 3·4 |
| 1149 | JUL 31 | 0931 50·3 | 41·52S | 174·01E | 4 | 2·8F |
| 1150 | JUL 31 | 2220 24·4 | 38·58S | 175·97E | 1R | 3·8F |
| 1151 | AUG 01 | 1554 34·6 | 38·83S | 177·42E | 33R | 3·4 |
| 1152 | AUG 01 | 1647 32·6 | 38·70S | 177·49E | 33R | 3·7 |
| 1153 | AUG 02 | 0939 30·2 | 37·32S | 177·46E | 119 | 3·7 |
| 1154 | AUG 02 | 1910 20·5 | 42·36S | 172·19E | 1R | 4·7F |
| 1155 | AUG 03 | 1126 39·3 | 35·32S | 179·02E | 224 | 4·1 |
| 1156 | AUG 04 | 0448 23·5 | 38·18S | 176·05E | 199 | 3·5 |
| 1157 | AUG 04 | 1557 42·1 | 41·73S | 172·30E | 2 | 3·1F |
| 1158 | AUG 06 | 0122 14·7 | 39·06S | 178·54E | 25 | 3·6 |
| 1159 | AUG 06 | 2245 50·3 | 39·95S | 176·82E | 100 | 3·7 |
| 1160 | AUG 07 | 1109 18·3 | 37·70S | 179·72W | 33R | 4·6 |
| 1161 | AUG 07 | 1748 55·7 | 39·20S | 176·17E | 86 | 3·4 |
| 1162 | AUG 07 | 2213 00·8 | 37·11S | 177·54E | 1R | 4·1 |
| 1163 | AUG 09 | 1356 25·8 | 37·86S | 177·21E | 67 | 3·7 |
| 1164 | AUG 10 | 0048 34·9 | 45·54S | 166·64E | 12R | 3·4 |
| 1165 | AUG 10 | 1204 53·8 | 40·39S | 174·19E | 67 | 3·5 |
| 1166 | AUG 11 | 1426 49·2 | 45·01S | 167·65E | 113 | 3·8 |
| 1167 | AUG 11 | 1800 50·5 | 42·20S | 174·13E | 21 | 4·0 |
| 1168 | AUG 12 | 1247 22·9 | 41·37S | 173·82E | 66 | 3·8 |
| 1169 | AUG 13 | 2151 48·8 | 38·85S | 177·30E | 40 | 3·4 |
| 1170 | AUG 14 | 2026 39·0 | 40·13S | 175·64E | 33R | 4·0F |
| 1171 | AUG 14 | 2118 58·1 | 37·73S | 176·26E | 312 | 4·1 |
| 1172 | AUG 15 | 1005 28·6 | 39·63S | 174·12E | 198 | 3·7 |
| 1173 | AUG 15 | 1619 12·4 | 40·42S | 176·76E | 33R | 3·8 |
| 1174 | AUG 15 | 1639 41·4 | 38·97S | 175·23E | 156 | 4·1 |
| 1175 | AUG 16 | 0307 46·5 | 50·34S | 164·49E | 33R | 4·3 |
| 1176 | AUG 16 | 0608 57·6 | 50·07S | 164·15E | 33R | 3·9 |
| 1177 | AUG 16 | 1442 03·9 | 31·33S | 178·84W | 490 | 4·7 |
| 1178 | AUG 16 | 2007 06·0 | 37·12S | 177·24E | 196 | 3·8 |
| 1179 | AUG 18 | 2142 39·8 | 44·28S | 169·87E | 12R | 3·8 |
| 1180 | AUG 19 | 0719 33·1 | 37·78S | 175·75E | 12R | 4·1 |
| 1181 | AUG 19 | 1033 27·0 | 44·43S | 168·12E | 12R | 3·4 |
| 1182 | AUG 19 | 1050 12·6 | 38·13S | 176·27E | 183 | 4·6 |
| 1183 | AUG 19 | 2050 21·3 | 44·40S | 168·11E | 12R | 3·6 |
| 1184 | AUG 20 | 1001 26·1 | 35·76S | 178·53E | 221 | 4·1 |
| 1185 | AUG 21 | 0007 16·4 | 45·13S | 167·58E | 114 | 4·2 |
| 1186 | AUG 21 | 0156 53·9 | 40·84S | 175·33E | 12R | 3·8 |
| 1187 | AUG 21 | 1409 51·2 | 38·73S | 177·31E | 47 | 3·5 |
| 1188 | AUG 22 | 0143 37·5 | 39·76S | 176·19E | 76 | 3·7 |
| 1189 | AUG 22 | 1119 18·6 | 39·25S | 174·78E | 12R | 3·4 |
| 1190 | AUG 22 | 1548 56·4 | 34·90S | 179·53E | 232 | 3·9 |
| 1191 | AUG 22 | 1836 42·0 | 38·83S | 175·88E | 133 | 3·7 |
| 1192 | AUG 23 | 2026 03·9 | 41·85S | 171·73E | 12R | 3·4 |
| 1193 | AUG 24 | 0839 03·0 | 35·20S | 179·53E | 233 | 4·3 |
| 1194 | AUG 24 | 2124 52·4 | 38·16S | 179·20W | 33R | 3·8 |
| 1195 | AUG 25 | 1254 40·6 | 40·02S | 174·98E | 12R | 4·2F |
| 1196 | AUG 26 | 0657 05·7 | 34·75S | 178·65W | 33R | 4·5 |
| 1197 | AUG 26 | 1350 57·7 | 32·62S | 179·35W | 435 | 5·0 |
| 1198 | AUG 26 | 1704 55·5 | 49·66S | 164·75E | 33R | 4·2 |
| 1199 | AUG 26 | 2303 39·7 | 37·29S | 176·70E | 233 | 4·0 |
| 1200 | AUG 27 | 1017 38·0 | 44·68S | 168·32E | 72 | 3·6 |

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| 1201 | AUG 27 | 1507 21·8 | 35·14S | 178·79W | 33R | 4·7 |
| 1202 | AUG 27 | 2209 20·7 | 37·73S | 179·11E | 12R | 3·9 |
| 1203 | AUG 27 | 2333 50·9 | 37·40S | 176·31E | 321 | 3·8 |
| 1204 | AUG 28 | 1422 07·8 | 38·14S | 176·26E | 161 | 3·7 |
| 1205 | AUG 30 | 2103 01·0 | 37·41S | 179·70W | 33R | 4·2 |
| 1206 | AUG 31 | 0105 12·4 | 37·47S | 176·16E | 2R | 3·5F |
| 1207 | AUG 31 | 0216 13·8 | 36·15S | 179·56E | 33R | 4·3 |
| 1208 | AUG 31 | 1327 17·0 | 39·82S | 177·02E | 28 | 3·9 |
| 1209 | AUG 31 | 2151 47·9 | 45·37S | 167·12E | 72 | 3·6 |
| 1210 | SEP 01 | 1823 54·0 | 37·75S | 177·59E | 33 | 3·8 |
| 1211 | SEP 02 | 2314 02·6 | 38·21S | 176·16E | 163 | 4·2 |
| 1212 | SEP 04 | 2130 27·4 | 41·52S | 174·23E | 3 | 3·8 |
| 1213 | SEP 05 | 0537 19·7 | 37·45S | 179·69E | 12R | 4·2 |
| 1214 | SEP 05 | 0723 54·2 | 37·38S | 177·44E | 133 | 3·8 |
| 1215 | SEP 05 | 2228 08·2 | 35·50S | 179·23E | 210 | 4·4 |
| 1216 | SEP 06 | 0033 58·0 | 40·95S | 173·92E | 33 | 3·6 |
| 1217 | SEP 06 | 0414 12·3 | 37·43S | 179·92W | 33R | 4·7 |
| 1218 | SEP 06 | 1029 04·4 | 37·07S | 177·47E | 160 | 3·8 |
| 1219 | SEP 06 | 1227 42·8 | 38·02S | 176·16E | 155 | 3·9 |
| 1220 | SEP 06 | 1334 07·2 | 38·21S | 175·92E | 203 | 4·3 |
| 1221 | SEP 06 | 1419 07·7 | 36·16S | 179·17E | 144 | 4·1 |
| 1222 | SEP 07 | 0729 22·5 | 37·41S | 179·81E | 33R | 4·0 |
| 1223 | SEP 08 | 1132 21·1 | 37·06S | 177·93E | 12R | 4·0 |
| 1224 | SEP 08 | 1256 27·4 | 38·75S | 177·44E | 33R | 3·5 |
| 1225 | SEP 09 | 0218 38·3 | 39·27S | 174·69E | 217 | 4·3 |
| 1226 | SEP 09 | 1114 19·3 | 40·18S | 173·71E | 174 | 4·2 |
| 1227 | SEP 09 | 1220 58·8 | 39·85S | 173·05E | 25 | 3·5 |
| 1228 | SEP 10 | 1021 13·5 | 45·17S | 167·55E | 120 | 4·4 |
| 1229 | SEP 10 | 1532 55·1 | 42·23S | 172·68E | 6 | 3·4 |
| 1230 | SEP 10 | 1544 40·0 | 37·28S | 177·48E | 205 | 3·8 |
| 1231 | SEP 10 | 1838 49·2 | 42·49S | 173·97E | 28 | 4·1 |
| 1232 | SEP 11 | 0830 27·8 | 47·96S | 165·27E | 33R | 4·5 |
| 1233 | SEP 11 | 1101 49·2 | 37·40S | 179·92W | 33R | 4·2 |
| 1234 | SEP 11 | 1716 00·2 | 38·06S | 176·11E | 204 | 3·9 |
| 1235 | SEP 12 | 0332 00·0 | 37·64S | 179·24E | 33R | 4·0 |
| 1236 | SEP 12 | 1210 07·0 | 39·93S | 176·77E | 33R | 3·7F |
| 1237 | SEP 12 | 1253 02·4 | 45·43S | 166·95E | 33R | 5·2F |
| 1238 | SEP 12 | 1453 16·8 | 37·64S | 179·28E | 62 | 4·0 |
| 1239 | SEP 12 | 1824 17·8 | 45·35S | 166·87E | 32 | 3·6 |
| 1240 | SEP 13 | 2350 08·9 | 42·70S | 173·34E | 52 | 3·4 |
| 1241 | SEP 14 | 0254 19·5 | 37·97S | 177·09E | 77 | 5·2F |
| 1242 | SEP 14 | 1703 07·3 | 44·29S | 169·98E | 12R | 3·5 |
| 1243 | SEP 15 | 0158 48·8 | 37·30S | 176·80E | 210 | 4·4 |
| 1244 | SEP 15 | 0911 09·2 | 40·43S | 174·55E | 62 | 3·5 |
| 1245 | SEP 16 | 1255 40·2 | 39·60S | 173·36E | 6 | 4·0 |
| 1246 | SEP 16 | 2347 12·3 | 37·76S | 176·92E | 7 | 4·8F |
| 1247 | SEP 17 | 1608 37·4 | 37·70S | 176·94E | 12R | 4·5F |
| 1248 | SEP 18 | 0203 18·8 | 37·95S | 176·78E | 112 | 4·0 |
| 1249 | SEP 18 | 1944 05·3 | 38·58S | 177·36E | 12R | 3·8 |
| 1250 | SEP 19 | 0830 00·3 | 40·42S | 173·51E | 167 | 4·0 |
| 1251 | SEP 19 | 1135 05·3 | 41·65S | 173·89E | 12 | 3·8 |
| 1252 | SEP 20 | 0931 34·2 | 47·36S | 164·74E | 33R | 3·6 |
| 1253 | SEP 20 | 1303 02·4 | 36·78S | 177·55E | 12R | 3·9 |
| 1254 | SEP 21 | 0609 05·5 | 37·55S | 176·49E | 234 | 4·2 |
| 1255 | SEP 21 | 1155 01·4 | 46·83S | 165·53E | 33R | 4·4 |
| 1256 | SEP 21 | 1305 00·5 | 38·21S | 177·26E | 42 | 4·1 |
| 1257 | SEP 21 | 1350 15·7 | 46·79S | 165·33E | 33R | 5·1 |
| 1258 | SEP 21 | 1512 01·9 | 33·59S | 178·35W | 33R | 4·7 |
| 1259 | SEP 22 | 0247 08·6 | 46·96S | 165·55E | 12R | 4·3 |
| 1260 | SEP 22 | 0515 38·9 | 45·03S | 167·63E | 75 | 3·5 |
| 1261 | SEP 22 | 2155 19·0 | 42·18S | 172·83E | 72 | 4·7F |
| 1262 | SEP 23 | 1855 47·4 | 45·07S | 167·61E | 116 | 3·9 |
| 1263 | SEP 24 | 1154 08·2 | 42·46S | 173·95E | 55 | 3·7 |
| 1264 | SEP 24 | 1218 50·5 | 37·07S | 177·42E | 162 | 4·1 |
| 1265 | SEP 24 | 1425 51·8 | 37·39S | 177·08E | 206 | 3·9 |
| 1266 | SEP 24 | 1527 25·7 | 38·54S | 178·84E | 33R | 3·5 |
| 1267 | SEP 24 | 1722 04·3 | 37·94S | 176·52E | 5G | 2·5F |
| 1268 | SEP 25 | 0900 00·0 | 38·08S | 176·47E | 157 | 3·8 |
| 1269 | SEP 25 | 1239 01·2 | 35·71S | 179·67E | 316 | 4·2 |
| 1270 | SEP 25 | 1249 36·6 | 38·90S | 177·43E | 28 | 3·5 |
| 1271 | SEP 25 | 1433 49·2 | 42·09S | 173·88E | 66 | 4·0 |
| 1272 | SEP 25 | 1912 37·4 | 47·06S | 165·59E | 33R | 3·7 |
| 1273 | SEP 26 | 0727 49·9 | 34·64S | 178·02W | 33R | 7·0F |
| 1274 | SEP 27 | 0311 54·2 | 35·11S | 178·35W | 33R | 5·3 |
| 1275 | SEP 27 | 0321 10·4 | 38·83S | 177·38E | 28 | 3·7 |
| 1276 | SEP 27 | 1142 01·0 | 37·81S | 176·27E | 206 | 5·2 |
| 1277 | SEP 29 | 0406 02·2 | 43·14S | 173·32E | 33R | 3·7 |
| 1278 | SEP 30 | 0230 33·9 | 39·20S | 173·86E | 10 | 3·4 |
| 1279 | SEP 30 | 1018 52·8 | 38·10S | 177·87E | 66 | 4·1 |
| 1280 | SEP 30 | 1502 26·5 | 45·12S | 167·63E | 119 | 5·1F |
| 1281 | OCT 02 | 0654 40·3 | 38·03S | 176·28E | 182 | 3·7 |
| 1282 | OCT 02 | 0906 09·5 | 39·16S | 178·20E | 33R | 3·6 |
| 1283 | OCT 03 | 0206 35·2 | 41·52S | 172·38E | 8G | 3·6 |
| 1284 | OCT 03 | 2345 31·1 | 37·45S | 177·48E | 89 | 4·5 |
| 1285 | OCT 04 | 1446 00·8 | 38·58S | 175·84E | 178 | 3·7 |
| 1286 | OCT 05 | 0608 40·5 | 46·25S | 165·38E | 33R | 3·6 |
| 1287 | OCT 06 | 0953 32·5 | 47·11S | 166·47E | 108 | 4·1 |
| 1288 | OCT 06 | 2300 40·3 | 35·18S | 178·11W | 33G | 4·7 |
| 1289 | OCT 07 | 0535 29·7 | 38·77S | 177·43E | 40 | 3·4 |
| 1290 | OCT 08 | 0225 15·1 | 45·23S | 167·23E | 12R | 3·6 |
| 1291 | OCT 08 | 0623 06·1 | 42·25S | 178·10E | 12R | 3·9 |
| 1292 | OCT 08 | 2143 02·4 | 35·68S | 178·04E | 33R | 4·2 |
| 1293 | OCT 09 | 0814 44·6 | 44·40S | 167·86E | 5G | 4·0 |
| 1294 | OCT 09 | 2123 17·1 | 34·64S | 178·90W | 33R | 4·7 |
| 1295 | OCT 10 | 2346 42·2 | 37·46S | 178·30E | 5G | 3·9 |
| 1296 | OCT 11 | 0455 20·7 | 34·64S | 178·31W | 33R | 4·6 |
| 1297 | OCT 12 | 1804 14·2 | 36·79S | 177·60E | 12R | 4·1 |
| 1298 | OCT 14 | 0640 35·9 | 40·50S | 174·76E | 33R | 4·2 |
| 1299 | OCT 14 | 2239 52·2 | 45·35S | 167·57E | 12R | 3·7 |
| 1300 | OCT 15 | 0433 33·6 | 40·93S | 175·05E | 8 | 3·4F |

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| 1301 | OCT 17 | 0141 54·8 | 38·38S | 177·90E | 12R | 3·7 |
| 1302 | OCT 17 | 0149 02·7 | 38·34S | 177·89E | 12R | 3·7 |
| 1303 | OCT 17 | 1541 50·9 | 37·55S | 177·01E | 1G | 3·4 |
| 1304 | OCT 19 | 0437 29·7 | 39·33S | 177·70E | 33R | 4·5F |
| 1305 | OCT 19 | 0819 11·9 | 35·80S | 178·55E | 183 | 4·5 |
| 1306 | OCT 19 | 2043 00·7 | 35·06S | 178·30W | 33R | 5·1 |
| 1307 | OCT 20 | 0857 08·7 | 38·36S | 177·86E | 4 | 3·7 |
| 1308 | OCT 20 | 1505 15·8 | 37·40S | 179·88W | 33R | 4·0 |
| 1309 | OCT 23 | 0111 42·2 | 41·68S | 174·15E | 11 | 3·7 |
| 1310 | OCT 23 | 0302 15·0 | 36·56S | 177·74E | 12R | 4·7 |
| 1311 | OCT 23 | 1530 03·5 | 41·54S | 174·59E | 27 | 3·7 |
| 1312 | OCT 23 | 1646 56·0 | 38·15S | 176·26E | 12R | 2·7F |
| 1313 | OCT 24 | 0636 52·9 | 45·13S | 167·52E | 109 | 3·8 |
| 1314 | OCT 24 | 0935 34·1 | 37·26S | 176·73E | 208 | 4·7 |
| 1315 | OCT 25 | 0626 44·7 | 35·04S | 178·56W | 220 | 4·2 |
| 1316 | OCT 26 | 0719 18·1 | 36·41S | 177·66E | 254 | 4·4 |
| 1317 | OCT 26 | 0921 54·2 | 37·55S | 177·47E | 63 | 4·0 |
| 1318 | OCT 27 | 2157 14·5 | 38·94S | 175·77E | 106 | 3·4 |
| 1319 | OCT 28 | 1559 55·6 | 33·63S | 179·46W | 33R | 4·4 |
| 1320 | OCT 31 | 1415 53·6 | 37·57S | 177·01E | 9 | 3·7 |
| 1321 | NOV 01 | 0047 09·9 | 47·24S | 166·17E | 12R | 3·9 |
| 1322 | NOV 01 | 0423 51·0 | 33·72S | 179·41W | 33R | 4·6 |
| 1323 | NOV 01 | 0804 22·3 | 37·61S | 176·34E | 208 | 3·6 |
| 1324 | NOV 01 | 0816 12·5 | 39·14S | 175·15E | 159 | 3·9 |
| 1325 | NOV 01 | 1444 19·4 | 38·73S | 177·10E | 52 | 5·1F |
| 1326 | NOV 02 | 0539 51·2 | 37·73S | 177·91E | 94 | 3·6 |
| 1327 | NOV 02 | 0658 31·6 | 40·26S | 175·19E | 12R | 3·4 |
| 1328 | NOV 02 | 0850 21·7 | 38·70S | 177·12E | 40 | 3·4 |
| 1329 | NOV 02 | 1821 29·3 | 38·72S | 177·11E | 39 | 3·4 |
| 1330 | NOV 02 | 2215 43·3 | 46·93S | 165·24E | 33R | 4·8 |
| 1331 | NOV 03 | 1102 29·4 | 37·07S | 177·14E | 218 | 3·7 |
| 1332 | NOV 03 | 1111 26·4 | 34·81S | 178·22W | 33R | 4·6 |
| 1333 | NOV 03 | 1222 28·0 | 33·71S | 178·02W | 33R | 4·7 |
| 1334 | NOV 04 | 0806 38·3 | 45·23S | 167·24E | 5R | 3·9F |
| 1335 | NOV 04 | 1934 47·8 | 36·71S | 178·29E | 33R | 3·9 |
| 1336 | NOV 06 | 0515 40·9 | 38·73S | 177·12E | 48 | 3·5 |
| 1337 | NOV 06 | 1138 29·6 | 36·89S | 177·59E | 169 | 4·2 |
| 1338 | NOV 07 | 1742 13·7 | 38·20S | 175·84E | 207 | 4·4 |
| 1339 | NOV 07 | 1912 32·7 | 35·42S | 178·77W | 33R | 6·2F |
| 1340 | NOV 08 | 1311 58·6 | 36·57S | 177·56E | 199 | 4·3 |
| 1341 | NOV 08 | 1320 32·9 | 41·12S | 172·76E | 11 | 3·7F |
| 1342 | NOV 08 | 1903 12·0 | 45·18S | 166·93E | 40 | 3·8 |
| 1343 | NOV 08 | 1941 18·3 | 42·75S | 171·61E | 12R | 4·6F |
| 1344 | NOV 10 | 0009 14·8 | 37·31S | 176·79E | 200 | 4·2 |
| 1345 | NOV 11 | 0127 19·6 | 35·01S | 179·12W | 12R | 4·7 |
| 1346 | NOV 11 | 1451 34·9 | 38·62S | 178·30E | 26 | 3·6F |
| 1347 | NOV 12 | 1626 34·2 | 38·01S | 176·78E | 3 | 3·4 |
| 1348 | NOV 12 | 2349 15·6 | 38·42S | 177·09E | 33 | 3·4 |
| 1349 | NOV 13 | 0549 29·6 | 39·67S | 173·46E | 12R | 3·4 |
| 1350 | NOV 13 | 0846 23·4 | 38·04S | 176·07E | 278 | 4·3 |
| 1351 | NOV 13 | 1247 52·7 | 45·10S | 167·59E | 117 | 3·5 |
| 1352 | NOV 13 | 1630 27·6 | 37·70S | 177·24E | 1R | 3·6 |
| 1353 | NOV 13 | 1654 21·7 | 37·25S | 177·51E | 143 | 4·4 |
| 1354 | NOV 13 | 1849 06·0 | 43·36S | 171·91E | 12R | 3·9 |
| 1355 | NOV 14 | 0509 40·6 | 37·45S | 176·67E | 200 | 4·1 |
| 1356 | NOV 15 | 0305 28·8 | 45·31S | 167·34E | 106 | 4·0 |
| 1357 | NOV 15 | 1151 12·9 | 39·12S | 175·19E | 156 | 3·9 |
| 1358 | NOV 16 | 1126 27·7 | 48·13S | 165·01E | 33R | 3·8 |
| 1359 | NOV 16 | 1531 19·5 | 36·13S | 179·35E | 12R | 3·9 |
| 1360 | NOV 16 | 1615 49·4 | 35·99S | 178·09E | 12R | 4·0 |
| 1361 | NOV 17 | 0523 13·5 | 34·69S | 179·79E | 169 | 5·2 |
| 1362 | NOV 17 | 1301 56·9 | 38·16S | 176·23E | 1R | 2·1F |
| 1363 | NOV 18 | 0039 04·9 | 35·31S | 178·72W | 33R | 5·1 |
| 1364 | NOV 18 | 1050 22·3 | 39·23S | 174·89E | 215 | 4·6 |
| 1365 | NOV 19 | 0959 16·6 | 41·43S | 172·21E | 5R | 3·8F |
| 1366 | NOV 19 | 1423 13·8 | 37·03S | 177·63E | 33R | 4·2 |
| 1367 | NOV 20 | 0637 43·5 | 38·95S | 176·48E | 65 | 4·5F |
| 1368 | NOV 20 | 1221 15·8 | 41·11S | 172·57E | 5R | 3·9F |
| 1369 | NOV 20 | 1353 34·1 | 41·97S | 172·78E | 72 | 4·5F |
| 1370 | NOV 20 | 1850 30·0 | 41·08S | 172·73E | 5R | F |
| 1371 | NOV 21 | 0146 09·1 | 35·61S | 178·41E | 223 | 4·5 |
| 1372 | NOV 21 | 0627 28·2 | 37·63S | 178·10E | 64 | 3·5 |
| 1373 | NOV 21 | 1116 39·2 | 38·70S | 177·09E | 33R | 3·6 |
| 1374 | NOV 22 | 0039 28·3 | 38·30S | 175·80E | 176 | 4·6 |
| 1375 | NOV 22 | 0141 41·9 | 34·27S | 179·33E | 33R | 5·1 |
| 1376 | NOV 22 | 0151 38·7 | 41·08S | 172·73E | 5R | F |
| 1377 | NOV 22 | 0842 44·1 | 39·49S | 175·81E | 5 | 3·9F |
| 1378 | NOV 23 | 0244 23·2 | 41·66S | 178·14E | 33R | 4·0 |
| 1379 | NOV 23 | 0956 51·3 | 38·78S | 176·47E | 71 | 3·8 |
| 1380 | NOV 24 | 0240 43·4 | 38·77S | 177·11E | 43 | 3·5 |
| 1381 | NOV 24 | 0729 32·7 | 34·51S | 179·92W | 33R | 4·8 |
| 1382 | NOV 24 | 0910 47·8 | 40·77S | 176·45E | 73 | 3·4 |
| 1383 | NOV 25 | 0356 14·9 | 40·38S | 174·49E | 91 | 3·8 |
| 1384 | NOV 25 | 0447 23·4 | 39·05S | 176·75E | 12R | 3·2F |
| 1385 | NOV 25 | 1727 24·0 | 36·87S | 177·50E | 12R | 4·3 |
| 1386 | NOV 25 | 2325 54·3 | 39·37S | 178·00E | 70 | 4·1 |
| 1387 | NOV 26 | 0418 58·6 | 36·77S | 177·15E | 33R | 4·0 |
| 1388 | NOV 26 | 0435 23·7 | 38·87S | 175·93E | 157 | 3·8 |
| 1389 | NOV 26 | 0824 18·1 | 34·77S | 177·11E | 12R | 5·1 |
| 1390 | NOV 26 | 1728 19·5 | 39·97S | 177·21E | 2 | 3·4 |
| 1391 | NOV 27 | 0026 16·2 | 37·10S | 178·24E | 12R | 4·7 |
| 1392 | NOV 27 | 0200 26·7 | 34·33S | 178·82E | 33R | 4·8 |
| 1393 | NOV 27 | 0201 38·5 | 36·98S | 178·24E | 12R | 5·0 |
| 1394 | NOV 27 | 0257 21·2 | 34·59S | 178·93E | 33R | 4·5 |
| 1395 | NOV 27 | 0452 43·4 | 36·02S | 178·52E | 33R | 4·5 |
| 1396 | NOV 27 | 0551 14·3 | 36·54S | 178·35E | 33R | 3·7 |
| 1397 | NOV 27 | 1121 18·0 | 39·99S | 174·27E | 12R | 3·5 |
| 1398 | NOV 29 | 0150 12·4 | 37·51S | 176·62E | 213 | 4·8 |
| 1399 | NOV 29 | 1418 06·5 | 34·75S | 178·57W | 33R | 4·5 |
| 1400 | NOV 29 | 1516 21·1 | 36·02S | 178·52E | 33R | 4·2 |

| NUM | DATE | TIME | LAT | LONG | DEP | MAG |
|---|---|---|---|---|---|---|
| 1401 | NOV 30 | 0323 54·0 | 39·12S | 173·90E | 129 | 3·6 |
| 1402 | NOV 30 | 0945 09·5 | 32·46S | 179·00W | 33R | 5·0 |
| 1403 | NOV 30 | 1839 05·6 | 43·71S | 169·69E | 5R | 3·6F |
| 1404 | NOV 30 | 2116 17·4 | 37·05S | 177·58E | 141 | 3·9 |
| 1405 | DEC 01 | 0817 18·6 | 32·06S | 179·29E | 33R | 5·5 |
| 1406 | DEC 01 | 1014 28·1 | 36·59S | 178·38E | 33R | 4·0 |
| 1407 | DEC 01 | 1105 01·8 | 41·61S | 174·60E | 16 | 4·3F |
| 1408 | DEC 01 | 1749 06·1 | 32·33S | 179·50E | 33G | 5·7 |
| 1409 | DEC 01 | 1920 17·6 | 36·96S | 177·39E | 33R | 3·7 |
| 1410 | DEC 02 | 0217 40·1 | 42·62S | 171·34E | 30 | 3·4 |
| 1411 | DEC 02 | 0424 57·4 | 39·51S | 177·16E | 27 | 3·4 |
| 1412 | DEC 02 | 0844 23·6 | 35·36S | 178·79E | 33R | 4·4 |
| 1413 | DEC 02 | 1326 51·1 | 32·60S | 179·79E | 33R | 5·3 |
| 1414 | DEC 02 | 1522 40·4 | 32·38S | 179·33E | 33R | 5·4 |
| 1415 | DEC 02 | 1709 44·8 | 32·31S | 178·32E | 33R | 5·8 |
| 1416 | DEC 02 | 1732 44·8 | 39·47S | 177·11E | 23 | 4·0 |
| 1417 | DEC 02 | 1856 01·4 | 32·33S | 178·43E | 33R | 5·9 |
| 1418 | DEC 02 | 1930 21·4 | 32·67S | 179·86E | 33R | 5·2 |
| 1419 | DEC 03 | 1121 24·4 | 35·82S | 177·75E | 271 | 4·0 |
| 1420 | DEC 04 | 0455 43·4 | 38·26S | 175·63E | 294 | 4·2 |
| 1421 | DEC 04 | 0738 46·4 | 39·75S | 176·59E | 33R | 3·4 |
| 1422 | DEC 05 | 0908 09·4 | 39·04S | 174·71E | 213 | 3·5 |
| 1423 | DEC 05 | 0958 22·8 | 40·43S | 176·25E | 33R | 3·4 |
| 1424 | DEC 05 | 1214 31·2 | 33·85S | 179·52W | 305 | 4·0 |
| 1425 | DEC 05 | 1509 31·4 | 41·87S | 174·15E | 57 | 3·4 |
| 1426 | DEC 05 | 1541 14·9 | 37·98S | 177·48E | 33R | 3·6 |
| 1427 | DEC 05 | 2107 55·9 | 39·21S | 174·74E | 200 | 3·7 |
| 1428 | DEC 06 | 0240 00·5 | 49·38S | 165·37E | 33R | 4·0 |
| 1429 | DEC 06 | 0343 41·7 | 35·31S | 178·62W | 33R | 4·7 |
| 1430 | DEC 07 | 1847 15·9 | 41·10S | 175·19E | 19 | 3·6 |
| 1431 | DEC 07 | 1901 03·1 | 38·83S | 175·87E | 117 | 3·5 |
| 1432 | DEC 07 | 2320 03·9 | 44·34S | 167·82E | 12R | 3·4 |
| 1433 | DEC 07 | 2353 54·6 | 46·04S | 166·97E | 12R | 3·4 |
| 1434 | DEC 08 | 0245 12·0 | 34·43S | 179·03W | 33R | 4·2 |
| 1435 | DEC 09 | 0114 07·8 | 45·85S | 165·56E | 33R | 3·8 |
| 1436 | DEC 09 | 0424 01·8 | 34·68S | 179·78E | 33R | 4·1 |
| 1437 | DEC 09 | 1733 07·7 | 34·20S | 179·61W | 33R | 4·4 |
| 1438 | DEC 10 | 1732 58·0 | 35·37S | 179·69E | 33R | 4·7 |
| 1439 | DEC 10 | 2246 49·6 | 36·32S | 179·84E | 33R | 3·7 |
| 1440 | DEC 10 | 2331 59·9 | 38·17S | 177·77E | 69 | 3·6 |
| 1441 | DEC 11 | 1521 13·7 | 33·23S | 178·44W | 33R | 4·7 |
| 1442 | DEC 11 | 1614 28·3 | 38·95S | 176·05E | 110 | 4·0 |
| 1443 | DEC 12 | 0519 00·2 | 38·81S | 175·44E | 105 | 3·7 |
| 1444 | DEC 12 | 1351 05·4 | 40·28S | 174·09E | 97 | 3·5 |
| 1445 | DEC 12 | 1515 52·1 | 33·34S | 178·84W | 296 | 4·8 |
| 1446 | DEC 12 | 2155 41·4 | 47·01S | 165·54E | 12R | 4·4 |
| 1447 | DEC 12 | 2246 13·1 | 40·22S | 173·64E | 188 | 4·0 |
| 1448 | DEC 13 | 1312 57·1 | 35·59S | 179·55E | 12R | 4·5 |
| 1449 | DEC 13 | 2238 58·0 | 32·86S | 179·85E | 33R | 4·7 |
| 1450 | DEC 14 | 0146 52·4 | 36·56S | 179·43E | 12R | 4·5 |
| 1451 | DEC 14 | 0325 59·6 | 39·89S | 174·15E | 212 | 4·2 |
| 1452 | DEC 14 | 0401 52·8 | 33·01S | 178·26W | 12R | 5·0 |
| 1453 | DEC 14 | 1213 02·2 | 37·12S | 176·70E | 290 | 4·7 |
| 1454 | DEC 14 | 1448 35·1 | 37·59S | 177·17E | 5R | 4·1 |
| 1455 | DEC 14 | 2152 58·8 | 40·45S | 173·45E | 183 | 4·2 |
| 1456 | DEC 15 | 0416 10·7 | 40·12S | 174·97E | 12R | 4·0F |
| 1457 | DEC 15 | 0419 49·3 | 40·12S | 175·05E | 12R | 3·8 |
| 1458 | DEC 17 | 1043 48·4 | 37·62S | 177·17E | 12R | 3·5 |
| 1459 | DEC 17 | 1228 36·9 | 38·15S | 176·66E | 5R | 3·5 |
| 1460 | DEC 17 | 1346 58·1 | 38·13S | 176·66E | 5R | 3·7 |
| 1461 | DEC 18 | 0603 50·1 | 37·75S | 176·48E | 311 | 4·8 |
| 1462 | DEC 20 | 0355 15·6 | 35·34S | 179·35E | 307 | 4·4 |
| 1463 | DEC 20 | 0641 50·2 | 39·15S | 174·88E | 227 | 3·8 |
| 1464 | DEC 20 | 0813 27·3 | 39·11S | 175·24E | 165 | 3·9 |
| 1465 | DEC 20 | 1707 04·4 | 37·39S | 177·82E | 98 | 3·7 |
| 1466 | DEC 20 | 1744 51·6 | 37·71S | 177·54E | 33R | 3·8 |
| 1467 | DEC 20 | 1932 14·1 | 39·42S | 174·66E | 163 | 3·6 |
| 1468 | DEC 20 | 2053 56·6 | 47·05S | 165·53E | 12R | 3·8 |
| 1469 | DEC 21 | 0827 46·5 | 38·63S | 175·79E | 174 | 3·4 |
| 1470 | DEC 21 | 2002 37·1 | 35·62S | 179·23E | 138 | 4·5 |
| 1471 | DEC 21 | 2340 07·4 | 38·09S | 176·36E | 175 | 3·6 |
| 1472 | DEC 22 | 1150 39·2 | 33·81S | 179·28W | 191 | 4·7 |
| 1473 | DEC 23 | 2059 38·2 | 36·70S | 177·11E | 256 | 4·7 |
| 1474 | DEC 25 | 0319 06·8 | 39·23S | 173·90E | 5R | 3·5 |
| 1475 | DEC 25 | 0919 41·6 | 40·31S | 173·48E | 153 | 3·8 |
| 1476 | DEC 26 | 0735 18·8 | 40·13S | 174·96E | 5R | 3·9 |
| 1477 | DEC 26 | 2019 35·4 | 35·54S | 179·19W | 33R | 4·1 |
| 1478 | DEC 27 | 0038 40·9 | 40·68S | 176·13E | 12R | 3·5 |
| 1479 | DEC 27 | 1122 54·2 | 46·14S | 166·23E | 33R | 3·4 |
| 1480 | DEC 27 | 1333 58·2 | 43·21S | 171·49E | 12R | 3·5 |
| 1481 | DEC 27 | 1917 49·5 | 37·17S | 176·89E | 200 | 4·2 |
| 1482 | DEC 27 | 2017 48·2 | 38·42S | 175·73E | 184 | 3·6 |
| 1483 | DEC 27 | 2315 30·9 | 41·11S | 176·64E | 12R | 3·8 |
| 1484 | DEC 28 | 0257 25·8 | 38·73S | 175·81E | 177 | 3·7 |
| 1485 | DEC 29 | 0544 33·9 | 41·47S | 174·61E | 7 | 3·7F |
| 1486 | DEC 29 | 0948 28·5 | 38·77S | 177·41E | 31 | 3·6 |
| 1487 | DEC 29 | 1849 45·9 | 37·63S | 177·13E | 147 | 4·5 |
| 1488 | DEC 29 | 2328 54·3 | 39·10S | 175·24E | 161 | 4·0 |
| 1489 | DEC 30 | 1852 34·6 | 47·57S | 166·11E | 12R | 3·7 |
| 1490 | DEC 31 | 0245 18·0 | 43·69S | 170·67E | 12R | 3·6F |

## WELLINGTON NETWORK

The origins listed in this section have been determined from data provided by stations of the Wellington Network, details of which are given in an earlier section of this Report. For some large events, an alternative solution, found using stations of the standard network, may also exist. Because of the close spacing of the stations of the Wellington Network, and the well-constrained velocity-structure in the region, the origins that follow are to be preferred for most studies of tectonic setting and structure, but for statistical work involving a larger part of the country, the results from the standard network will provide more homogeneous data.

The velocity/depth structure used to determine the origins is:

| Depth km | P-velocity km/s | S-velocity km/s |
|---|---|---|
| 0·0 - 0·4 | 4·40 | 2·54 |
| 0·4 - 5·0 | 5·63 | 3·16 |
| 5·0 - 15·0 | 5·77 | 3·49 |
| 15·0 - 25·0 | 6·39 | 3·50 |
| 25·0 - 35·0 | 6·79 | 3·92 |
| 35·0 - 45·0 | 8·07 | 4·80 |
| 45·0 - | 8·77 | 4·86 |

This structure is the outcome of inversion of arrival time data from the network by R. Robinson, whose work also showed that the introduction of station delay terms, which are added to the raw arrival times, improves the consistency of results.

The program used for determining the origins is the same as that used for the standard network, except for the use of the above crustal model and more stringent convergence criteria. The format of the presentation is basically similar to that used in the list of origins derived from standard network data, but additional columns provide for listing here the number of phases read (NP), the number of stations that recorded the shock (NS), the standard error of residuals (S.E.), the distance in kilometres from the epicentre to the nearest recording station (DM) and the greatest angular gap (in degrees) in azimuthal distribution of these stations about the epicentre (GAP).

As has now become established practice, the less well recorded shocks were not processed to yield origins, but a magnitude threshold of about $M_L$ 2·3 was used to decide which shocks were worthy of analysis.

| NUM | DATE | TIME | LAT | LONG | DEP | MAG | NP | NS | S.E. | DM | GAP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W/001 | JAN 01 | 0648 19·5 | 41·538S | 174·081E | 45·0 | 2·7 | 11 | 10 | 0·19 | 26 | 230 |
| W/002 | JAN 01 | 1948 34·8 | 40·583S | 175·296E | 29·8 | 2·8 | 11 | 10 | 0·18 | 45 | 295 |
| W/003 | JAN 02 | 0712 45·5 | 41·604S | 174·665E | 32·9 | 3·3 | 12 | 12 | 0·16 | 28 | 177 |
| W/004 | JAN 02 | 2347 01·0 | 41·590S | 174·794E | 28·8 | 2·5 | 12 | 10 | 0·12 | 21 | 247 |
| W/005 | JAN 04 | 0434 14·7 | 41·537S | 174·271E | 29·0 | 2·6 | 11 | 10 | 0·21 | 24 | 170 |
| W/006 | JAN 04 | 2326 57·8 | 41·596S | 174·794E | 28·1 | 2·2 | 11 | 10 | 0·15 | 22 | 248 |
| W/007 | JAN 05 | 0631 58·8 | 41·336S | 173·588E | 86·9 | 3·3 | 9 | 9 | 0·12 | 59 | 330 |
| W/008 | JAN 05 | 1646 05·9 | 40·664S | 175·470E | 29·5 | 2·3 | 9 | 7 | 0·16 | 52 | 292 |
| W/009 | JAN 05 | 1720 54·3 | 40·742S | 174·253E | 50·8 | 2·4 | 9 | 8 | 0·11 | 52 | 286 |
| W/010 | JAN 06 | 0540 18·0 | 40·980S | 173·865E | 69·9 | 3·0 | 8 | 8 | 0·15 | 43 | 315 |
| W/011 | JAN 06 | 1156 25·9 | 41·322S | 174·197E | 44·2 | 3·1 | 11 | 10 | 0·17 | 14 | 211 |
| W/012 | JAN 06 | 2126 48·4 | 41·680S | 174·250E | 14·4 | 2·2 | 12 | 10 | 0·19 | 8 | 163 |
| W/013 | JAN 07 | 0336 49·1 | 40·508S | 174·657E | 5·0 | 3·0 | 11 | 10 | 0·41 | 45 | 258 |
| W/014 | JAN 08 | 2321 29·3 | 40·968S | 175·164E | 29·4 | 2·4 | 14 | 10 | 0·11 | 18 | 189 |
| W/015 | JAN 09 | 1943 03·5 | 40·914S | 175·196E | 29·9 | 2·3 | 12 | 10 | 0·09 | 24 | 214 |
| W/016 | JAN 10 | 0253 32·0 | 42·006S | 174·196E | 13·3 | 2·6 | 8 | 6 | 0·09 | 28 | 325 |
| W/017 | JAN 10 | 1441 54·8 | 41·822S | 174·555E | 28·6 | 2·4 | 8 | 7 | 0·21 | 29 | 229 |
| W/018 | JAN 10 | 1556 11·2 | 41·205S | 173·978E | 57·7 | 2·5 | 8 | 7 | 0·09 | 25 | 318 |
| W/019 | JAN 10 | 1732 59·3 | 41·408S | 175·856E | 28·2 | 2·5 | 10 | 9 | 0·21 | 32 | 315 |
| W/020 | JAN 10 | 2152 49·3 | 41·807S | 174·542E | 26·9 | 2·3 | 11 | 10 | 0·25 | 28 | 229 |
| W/021 | JAN 11 | 1944 12·7 | 41·646S | 173·958E | 12·8 | 2·4 | 9 | 8 | 0·17 | 25 | 270 |
| W/022 | JAN 12 | 0811 43·4 | 41·072S | 175·035E | 27·3 | 2·3 | 11 | 10 | 0·09 | 5 | 128 |
| W/023 | JAN 12 | 1359 18·2 | 41·080S | 173·721E | 82·7 | 2·8 | 10 | 9 | 0·24 | 49 | 286 |
| W/024 | JAN 12 | 1512 36·1 | 41·734S | 174·494E | 32·3 | 2·3 | 9 | 8 | 0·18 | 23 | 212 |
| W/025 | JAN 13 | 1426 58·3 | 41·012S | 175·607E | 28·8 | 3·0 | 11 | 10 | 0·13 | 19 | 271 |
| W/026 | JAN 14 | 1219 27·1 | 41·600S | 174·666E | 31·7 | 2·9 | 12 | 11 | 0·22 | 27 | 177 |
| W/027 | JAN 14 | 1613 38·9 | 41·121S | 173·954E | 56·9 | 2·6 | 10 | 9 | 0·27 | 29 | 268 |
| W/028 | JAN 14 | 1822 42·9 | 41·548S | 174·205E | 5·0 | 2·3 | 11 | 10 | 0·38 | 23 | 192 |
| W/029 | JAN 15 | 0552 49·5 | 41·280S | 175·297E | 26·9 | 2·4 | 11 | 10 | 0·17 | 16 | 87 |
| W/030 | JAN 15 | 1804 09·0 | 40·570S | 174·586E | 19·9 | 2·4 | 8 | 7 | 0·13 | 43 | 291 |
| W/031 | JAN 16 | 0031 46·1 | 41·235S | 175·165E | 25·1 | 2·2 | 11 | 9 | 0·13 | 15 | 103 |
| W/032 | JAN 16 | 0735 28·2 | 40·539S | 174·278E | 55·2 | 2·5 | 7 | 5 | 0·24 | 65 | 304 |
| W/033 | JAN 16 | 1021 02·4 | 41·884S | 174·472E | 24·4 | 2·4 | 8 | 7 | 0·20 | 26 | 253 |
| W/034 | JAN 18 | 0333 56·0 | 41·291S | 174·817E | 22·6 | 2·7 | 11 | 10 | 0·08 | 7 | 103 |
| W/035 | JAN 20 | 1400 60·0 | 41·144S | 174·644E | 53·6 | 2·4 | 12 | 9 | 0·06 | 11 | 140 |
| W/036 | JAN 21 | 0251 42·4 | 41·034S | 174·435E | 44·4 | 2·8 | 10 | 9 | 0·11 | 24 | 211 |
| W/037 | JAN 22 | 1808 37·3 | 40·695S | 174·393E | 57·0 | 2·7 | 8 | 7 | 0·10 | 48 | 283 |
| W/038 | JAN 23 | 1428 18·9 | 40·567S | 174·079E | 78·0 | 2·9 | 6 | 6 | 0·06 | 74 | 308 |
| W/039 | JAN 23 | 1620 48·6 | 41·672S | 174·195E | 10·5 | 2·2 | 8 | 6 | 0·13 | 9 | 200 |
| W/040 | JAN 23 | 1948 01·4 | 41·678S | 174·143E | 12·2 | 2·6 | 9 | 7 | 0·19 | 10 | 229 |
| W/041 | JAN 25 | 0257 16·4 | 40·783S | 175·512E | 29·9 | 2·4 | 7 | 6 | 0·18 | 42 | 281 |
| W/042 | JAN 25 | 0452 10·3 | 41·667S | 174·990E | 28·1 | 2·7 | 10 | 9 | 0·06 | 30 | 210 |
| W/043 | JAN 25 | 0518 14·9 | 41·670S | 174·992E | 25·5 | 2·3 | 7 | 7 | 0·05 | 31 | 272 |
| W/044 | JAN 26 | 1417 23·9 | 41·324S | 175·114E | 25·5 | 2·3 | 13 | 10 | 0·17 | 12 | 142 |
| W/045 | JAN 27 | 1509 03·7 | 40·612S | 174·676E | 26·6 | 2·7 | 10 | 10 | 0·10 | 34 | 284 |
| W/046 | JAN 27 | 1511 56·2 | 40·860S | 175·788E | 32·3 | 2·4 | 7 | 6 | 0·14 | 41 | 296 |
| W/047 | JAN 27 | 2034 11·4 | 41·177S | 173·891E | 58·3 | 2·4 | 6 | 5 | 0·14 | 33 | 331 |
| W/048 | JAN 29 | 0910 29·7 | 41·195S | 174·785E | 29·2 | 2·3 | 12 | 10 | 0·07 | 8 | 109 |
| W/049 | JAN 31 | 1753 29·7 | 41·652S | 174·577E | 31·9 | 2·6 | 12 | 11 | 0·21 | 32 | 184 |
| W/050 | FEB 01 | 0707 46·6 | 40·704S | 174·739E | 16·1 | 2·4 | 9 | 8 | 0·10 | 23 | 274 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| W/051 | FEB 03 | 1153 59·7 | 41·517S | 175·594E | 13·1 | 2·6 | 10 | 10 | 0·28 | 19 | 292 |
| W/052 | FEB 04 | 1603 44·1 | 41·203S | 175·620E | 15·5 | 2·5 | 12 | 9 | 0·20 | 11 | 271 |
| W/053 | FEB 07 | 0115 34·7 | 40·988S | 175·457E | 26·2 | 2·5 | 8 | 8 | 0·06 | 19 | 242 |
| W/054 | FEB 09 | 0528 54·3 | 41·302S | 174·096E | 51·3 | 3·4 | 11 | 11 | 0·31 | 18 | 246 |
| W/055 | FEB 09 | 1122 00·6 | 41·128S | 174·055E | 61·1 | 2·6 | 7 | 6 | 0·17 | 21 | 311 |
| W/056 | FEB 10 | 0724 20·3 | 41·012S | 175·496E | 12·4 | 2·2 | 8 | 7 | 0·12 | 16 | 250 |
| W/057 | FEB 12 | 0817 57·4 | 41·443S | 174·277E | 33·9 | 2·6 | 8 | 7 | 0·18 | 25 | 271 |
| W/058 | FEB 12 | 1410 25·4 | 40·986S | 174·808E | 48·2 | 2·5 | 10 | 10 | 0·07 | 16 | 153 |
| W/059 | FEB 13 | 0128 04·8 | 40·943S | 175·030E | 30·2 | 3·6 | 12 | 12 | 0·08 | 13 | 169 |
| W/060 | FEB 16 | 2343 49·4 | 41·396S | 175·096E | 20·5 | 3·4 | 12 | 12 | 0·07 | 13 | 139 |
| W/061 | FEB 17 | 1544 42·8 | 41·049S | 174·435E | 58·9 | 2·4 | 9 | 8 | 0·05 | 23 | 207 |
| W/062 | FEB 18 | 0940 21·1 | 41·025S | 174·350E | 40·2 | 2·3 | 8 | 7 | 0·26 | 22 | 233 |
| W/063 | FEB 19 | 0747 46·6 | 41·606S | 174·657E | 33·1 | 2·9 | 12 | 11 | 0·15 | 28 | 255 |
| W/064 | FEB 19 | 0840 24·1 | 41·730S | 174·499E | 33·8 | 2·2 | 6 | 5 | 0·10 | 47 | 301 |
| W/065 | FEB 19 | 1159 06·2 | 40·891S | 175·645E | 11·7 | 2·2 | 6 | 5 | 0·18 | 32 | 289 |
| W/066 | FEB 22 | 0329 24·6 | 40·829S | 174·734E | 49·0 | 2·5 | 11 | 9 | 0·08 | 16 | 242 |
| W/067 | FEB 24 | 2113 14·1 | 41·806S | 174·504E | 31·4 | 2·5 | 9 | 9 | 0·27 | 25 | 225 |
| W/068 | FEB 24 | 2345 50·1 | 42·082S | 174·134E | 31·7 | 3·0 | 12 | 11 | 0·19 | 37 | 312 |
| W/069 | FEB 25 | 0159 35·7 | 40·776S | 174·574E | 42·3 | 2·3 | 9 | 8 | 0·07 | 30 | 262 |
| W/070 | FEB 26 | 0943 22·6 | 41·107S | 174·235E | 46·7 | 2·7 | 9 | 8 | 0·12 | 12 | 244 |
| W/071 | FEB 26 | 1359 19·1 | 41·016S | 174·843E | 49·0 | 2·3 | 14 | 10 | 0·08 | 18 | 134 |
| W/072 | FEB 27 | 0613 01·3 | 41·722S | 174·456E | 28·5 | 2·1 | 9 | 7 | 0·14 | 20 | 216 |
| W/073 | FEB 27 | 0626 56·0 | 42·058S | 173·870E | 19·8 | 4·0 | 12 | 12 | 0·34 | 45 | 319 |
| W/074 | FEB 27 | 0904 11·9 | 40·944S | 174·366E | 40·6 | 2·2 | 9 | 8 | 0·17 | 31 | 245 |
| W/075 | FEB 27 | 2208 15·9 | 41·073S | 174·616E | 55·9 | 2·5 | 11 | 10 | 0·06 | 19 | 166 |
| W/076 | FEB 28 | 1527 38·6 | 41·424S | 174·972E | 26·2 | 2·1 | 9 | 8 | 0·09 | 9 | 192 |
| W/077 | MAR 01 | 0414 47·7 | 41·945S | 175·249E | 32·3 | 2·4 | 11 | 9 | 0·12 | 58 | 299 |
| W/078 | MAR 01 | 0821 24·6 | 40·941S | 174·760E | 58·6 | 2·4 | 10 | 9 | 0·04 | 15 | 183 |
| W/079 | MAR 02 | 1012 16·6 | 40·821S | 174·228E | 55·6 | 2·3 | 8 | 8 | 0·20 | 44 | 280 |
| W/080 | MAR 03 | 1123 30·0 | 40·703S | 175·376E | 24·2 | 2·3 | 8 | 7 | 0·13 | 52 | 290 |
| W/081 | MAR 03 | 2030 24·4 | 40·670S | 174·502E | 69·1 | 3·2 | 12 | 12 | 0·10 | 41 | 285 |
| W/082 | MAR 05 | 0145 56·3 | 41·656S | 174·578E | 31·8 | 2·8 | 13 | 12 | 0·19 | 32 | 184 |
| W/083 | MAR 06 | 1852 35·9 | 41·087S | 174·480E | 39·7 | 2·5 | 9 | 10 | 0·14 | 22 | 222 |
| W/084 | MAR 08 | 0344 58·8 | 41·245S | 174·084E | 52·6 | 2·9 | 7 | 6 | 0·11 | 16 | 323 |
| W/085 | MAR 08 | 1214 06·2 | 40·886S | 175·858E | 33·9 | 2·4 | 8 | 7 | 0·25 | 43 | 300 |
| W/086 | MAR 09 | 1201 22·0 | 41·450S | 174·150E | 20·5 | 2·9 | 11 | 10 | 0·27 | 28 | 211 |
| W/087 | MAR 10 | 2322 43·1 | 41·165S | 175·288E | 27·0 | 2·6 | 11 | 11 | 0·07 | 18 | 132 |
| W/088 | MAR 12 | 0000 29·7 | 40·976S | 174·512E | 45·7 | 3·7 | 11 | 11 | 0·09 | 33 | 213 |
| W/089 | MAR 12 | 0646 06·3 | 41·574S | 174·209E | 14·6 | 2·4 | 10 | 9 | 0·36 | 20 | 190 |
| W/090 | MAR 12 | 0813 57·6 | 41·576S | 174·210E | 14·4 | 2·2 | 10 | 9 | 0·35 | 19 | 190 |
| W/091 | MAR 13 | 1204 17·6 | 40·678S | 174·368E | 50·5 | 2·5 | 7 | 7 | 0·04 | 50 | 287 |
| W/092 | MAR 13 | 1701 03·0 | 41·538S | 174·337E | 26·3 | 2·4 | 8 | 7 | 0·09 | 36 | 271 |
| W/093 | MAR 16 | 0939 11·4 | 40·389S | 174·190E | 38·7 | 2·5 | 8 | 6 | 0·15 | 81 | 313 |
| W/094 | MAR 17 | 0730 28·8 | 40·558S | 174·390E | 72·2 | 3·4 | 11 | 11 | 0·07 | 56 | 298 |
| W/095 | MAR 17 | 1011 56·9 | 41·319S | 175·096E | 22·9 | 2·2 | 12 | 11 | 0·24 | 10 | 111 |
| W/096 | MAR 18 | 0157 03·0 | 41·298S | 175·161E | 25·6 | 3·6 | 12 | 12 | 0·18 | 14 | 86 |
| W/097 | MAR 18 | 0833 43·8 | 41·329S | 175·099E | 25·6 | 2·2 | 12 | 11 | 0·16 | 11 | 116 |
| W/098 | MAR 18 | 1352 22·3 | 41·237S | 175·309E | 27·2 | 3·1 | 11 | 11 | 0·08 | 18 | 101 |
| W/099 | MAR 18 | 2000 36·4 | 41·148S | 175·134E | 19·4 | 2·4 | 8 | 8 | 0·13 | 7 | 124 |
| W/100 | MAR 19 | 0604 10·4 | 40·486S | 174·399E | 21·9 | 2·5 | 9 | 7 | 0·17 | 60 | 302 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| W/101 | MAR 22 | 0520 47·6 | 41·674S | 174·496E | 30·7 | 2·3 | 8 | 8 | 0·14 | 43 | 284 |
| W/102 | MAR 22 | 0830 22·9 | 40·429S | 174·852E | 42·8 | 3·2 | 10 | 10 | 0·24 | 49 | 297 |
| W/103 | MAR 22 | 2005 24·8 | 41·159S | 174·462E | 35·5 | 2·2 | 8 | 7 | 0·08 | 17 | 160 |
| W/104 | MAR 22 | 2251 56·7 | 40·468S | 174·301E | 32·7 | 2·6 | 10 | 7 | 0·11 | 68 | 310 |
| W/105 | MAR 23 | 0707 31·8 | 40·968S | 174·204E | 50·9 | 3·9 | 12 | 12 | 0·15 | 28 | 260 |
| W/106 | MAR 23 | 2333 00·3 | 40·580S | 174·316E | 5·0 | 2·5 | 8 | 7 | 0·32 | 59 | 299 |
| W/107 | MAR 24 | 0340 31·2 | 41·759S | 174·218E | 14·4 | 2·5 | 11 | 10 | 0·18 | 1 | 286 |
| W/108 | MAR 24 | 1957 58·6 | 41·115S | 174·500E | 34·2 | 2·7 | 10 | 10 | 0·11 | 22 | 171 |
| W/109 | MAR 24 | 2004 37·1 | 41·216S | 173·976E | 61·4 | 2·4 | 5 | 4 | 0·06 | 25 | 332 |
| W/110 | MAR 26 | 1259 35·0 | 41·394S | 175·091E | 20·4 | 2·6 | 11 | 10 | 0·10 | 14 | 162 |
| W/111 | MAR 27 | 2117 39·1 | 41·118S | 174·591E | 33·9 | 2·8 | 10 | 10 | 0·08 | 16 | 156 |
| W/112 | MAR 28 | 0037 41·4 | 40·989S | 174·364E | 63·0 | 2·4 | 7 | 6 | 0·07 | 26 | 236 |
| W/113 | MAR 28 | 1126 34·0 | 40·883S | 175·541E | 26·2 | 2·3 | 10 | 9 | 0·11 | 31 | 274 |
| W/114 | MAR 29 | 0017 58·2 | 41·642S | 174·349E | 51·3 | 2·9 | 13 | 12 | 0·17 | 16 | 150 |
| W/115 | MAR 29 | 0816 17·6 | 41·225S | 173·964E | 61·2 | 3·1 | 12 | 12 | 0·22 | 26 | 264 |
| W/116 | MAR 29 | 2236 10·9 | 41·336S | 174·839E | 29·1 | 2·8 | 11 | 11 | 0·12 | 8 | 124 |
| W/117 | MAR 30 | 0155 24·3 | 41·600S | 174·687E | 33·3 | 3·7 | 12 | 12 | 0·14 | 26 | 178 |
| W/118 | MAR 30 | 0157 51·2 | 41·555S | 174·680E | 32·9 | 2·3 | 10 | 8 | 0·27 | 29 | 245 |
| W/119 | MAR 31 | 0628 55·3 | 41·249S | 175·168E | 22·0 | 2·2 | 9 | 8 | 0·10 | 18 | 101 |
| W/120 | MAR 31 | 0920 13·4 | 40·468S | 174·487E | 53·6 | 3·7 | 8 | 8 | 0·21 | 57 | 300 |
| W/121 | MAR 31 | 1637 20·3 | 40·819S | 175·521E | 27·4 | 2·5 | 8 | 8 | 0·09 | 38 | 278 |
| W/122 | MAR 31 | 2305 53·7 | 40·707S | 174·830E | 37·0 | 2·5 | 10 | 9 | 0·25 | 19 | 272 |
| W/123 | APR 01 | 1718 35·8 | 41·036S | 174·189E | 44·7 | 2·6 | 10 | 10 | 0·15 | 21 | 273 |
| W/124 | APR 03 | 2219 07·5 | 41·180S | 174·268E | 40·6 | 2·5 | 10 | 8 | 0·13 | 4 | 233 |
| W/125 | APR 05 | 1003 29·1 | 40·964S | 175·746E | 37·6 | 2·9 | 8 | 8 | 0·26 | 30 | 288 |
| W/126 | APR 05 | 1003 37·1 | 40·979S | 175·727E | 39·1 | 3·6 | 2 | 2 | 0·03 | 63 | 332 |
| W/127 | APR 06 | 2250 14·5 | 40·677S | 174·629E | 7·7 | 2·2 | 8 | 6 | 0·11 | 32 | 280 |
| W/128 | APR 07 | 0415 39·3 | 41·168S | 174·600E | 18·0 | 2·2 | 11 | 10 | 0·18 | 11 | 139 |
| W/129 | APR 07 | 1156 50·6 | 41·006S | 175·789E | 16·3 | 3·8 | 11 | 11 | 0·21 | 30 | 291 |
| W/130 | APR 08 | 1028 11·4 | 40·910S | 174·657E | 52·5 | 3·1 | 9 | 9 | 0·03 | 22 | 214 |
| W/131 | APR 09 | 1347 50·2 | 41·040S | 175·591E | 25·6 | 2·6 | 10 | 8 | 0·13 | 15 | 266 |
| W/132 | APR 10 | 0608 26·3 | 41·289S | 175·164E | 24·1 | 2·5 | 10 | 10 | 0·06 | 14 | 87 |
| W/133 | APR 10 | 1041 09·0 | 40·963S | 174·071E | 58·7 | 3·2 | 8 | 8 | 0·14 | 33 | 293 |
| W/134 | APR 11 | 1405 50·7 | 41·235S | 175·185E | 25·4 | 2·4 | 12 | 8 | 0·08 | 17 | 102 |
| W/135 | APR 12 | 1430 10·2 | 41·767S | 174·487E | 34·9 | 3·1 | 11 | 10 | 0·16 | 23 | 213 |
| W/136 | APR 12 | 2045 02·6 | 40·610S | 174·657E | 74·1 | 2·5 | 10 | 7 | 0·12 | 35 | 285 |
| W/137 | APR 13 | 0355 16·2 | 41·214S | 173·777E | 63·1 | 2·5 | 7 | 6 | 0·15 | 42 | 279 |
| W/138 | APR 13 | 0937 07·6 | 41·720S | 174·900E | 33·5 | 2·4 | 8 | 7 | 0·12 | 35 | 224 |
| W/139 | APR 15 | 1115 47·7 | 40·776S | 174·282E | 5·0 | 2·5 | 8 | 8 | 0·25 | 49 | 280 |
| W/140 | APR 15 | 1659 35·3 | 41·238S | 173·641E | 93·7 | 3·3 | 10 | 10 | 0·10 | 53 | 289 |
| W/141 | APR 15 | 1735 23·4 | 40·777S | 174·148E | 62·8 | 2·7 | 8 | 7 | 0·11 | 50 | 291 |
| W/142 | APR 16 | 0004 54·1 | 40·436S | 174·973E | 8·8 | 2·6 | 8 | 7 | 0·20 | 48 | 297 |
| W/143 | APR 17 | 1224 12·6 | 40·549S | 175·489E | 41·6 | 3·2 | 9 | 10 | 0·18 | 60 | 305 |
| W/144 | APR 17 | 1430 53·4 | 40·684S | 174·634E | 5·0 | 2·2 | 6 | 5 | 0·04 | 60 | 295 |
| W/145 | APR 17 | 2214 53·2 | 40·816S | 175·224E | 29·2 | 2·7 | 10 | 8 | 0·22 | 27 | 251 |
| W/146 | APR 18 | 1606 29·2 | 40·596S | 175·008E | 9·8 | 2·6 | 8 | 7 | 0·14 | 57 | 285 |
| W/147 | APR 19 | 0151 34·3 | 40·890S | 174·958E | 33·8 | 2·3 | 11 | 8 | 0·07 | 5 | 176 |
| W/148 | APR 19 | 1926 51·5 | 41·069S | 174·798E | 54·8 | 2·4 | 10 | 7 | 0·08 | 20 | 210 |
| W/149 | APR 19 | 1958 56·2 | 41·010S | 174·718E | 33·9 | 2·8 | 9 | 8 | 0·08 | 23 | 232 |
| W/150 | APR 20 | 1706 08·8 | 40·398S | 174·780E | 5·0 | 3·9 | 10 | 9 | 0·23 | 83 | 299 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| W/151 | APR 21 | 0920 46·8 | 40·743S | 174·901E | 33·5 | 3·0 | 10 | 10 | 0·05 | 13 | 268 |
| W/152 | APR 22 | 0021 00·6 | 40·678S | 174·626E | 5·0 | 2·6 | 7 | 6 | 0·11 | 32 | 280 |
| W/153 | APR 22 | 1337 07·1 | 41·012S | 174·521E | 42·2 | 2·8 | 7 | 6 | 0·05 | 29 | 201 |
| W/154 | APR 24 | 1407 04·8 | 41·057S | 174·763E | 29·0 | 2·3 | 6 | 6 | 0·11 | 20 | 143 |
| W/155 | APR 24 | 2104 07·8 | 41·238S | 174·976E | 25·5 | 2·1 | 9 | 7 | 0·15 | 16 | 139 |
| W/156 | APR 25 | 1029 36·5 | 41·242S | 173·982E | 56·1 | 2·6 | 7 | 6 | 0·28 | 25 | 261 |
| W/157 | APR 27 | 2056 10·8 | 41·619S | 174·655E | 32·7 | 2·3 | 11 | 10 | 0·19 | 30 | 257 |
| W/158 | APR 28 | 2221 42·0 | 40·744S | 174·801E | 34·1 | 2·6 | 8 | 7 | 0·16 | 16 | 268 |
| W/159 | APR 29 | 0814 32·8 | 41·329S | 173·917E | 56·0 | 2·6 | 9 | 8 | 0·31 | 33 | 267 |
| W/160 | APR 29 | 0903 50·3 | 41·397S | 174·579E | 29·5 | 2·2 | 11 | 10 | 0·14 | 20 | 216 |
| W/161 | APR 30 | 0651 45·2 | 40·603S | 174·456E | 66·3 | 2·6 | 7 | 5 | 0·11 | 48 | 292 |
| W/162 | MAY 01 | 1322 12·4 | 40·822S | 175·241E | 31·8 | 2·2 | 10 | 9 | 0·14 | 28 | 250 |
| W/163 | MAY 02 | 0459 46·8 | 41·192S | 174·605E | 55·4 | 2·5 | 10 | 10 | 0·04 | 10 | 130 |
| W/164 | MAY 04 | 0320 50·1 | 41·731S | 174·554E | 26·9 | 2·2 | 8 | 7 | 0·13 | 28 | 228 |
| W/165 | MAY 04 | 1056 38·6 | 41·185S | 173·693E | 82·4 | 3·3 | 8 | 8 | 0·07 | 49 | 326 |
| W/166 | MAY 04 | 1109 47·2 | 41·060S | 173·686E | 71·3 | 2·8 | 8 | 6 | 0·25 | 52 | 289 |
| W/167 | MAY 05 | 2143 49·9 | 41·037S | 174·616E | 34·9 | 2·2 | 7 | 6 | 0·06 | 23 | 177 |
| W/168 | MAY 06 | 0711 35·1 | 41·651S | 174·164E | 13·5 | 2·5 | 11 | 9 | 0·18 | 12 | 212 |
| W/169 | MAY 06 | 1420 51·3 | 41·578S | 174·307E | 3·0 | 2·1 | 8 | 7 | 0·20 | 21 | 155 |
| W/170 | MAY 06 | 2007 55·6 | 41·057S | 175·556E | 11·0 | 2·1 | 5 | 5 | 0·02 | 12 | 260 |
| W/171 | MAY 08 | 1814 33·4 | 41·284S | 175·204E | 17·4 | 2·3 | 10 | 9 | 0·07 | 16 | 92 |
| W/172 | MAY 09 | 2217 25·4 | 41·210S | 174·450E | 34·0 | 4·1 | 12 | 11 | 0·10 | 15 | 137 |
| W/173 | MAY 09 | 2350 09·9 | 41·202S | 174·447E | 33·8 | 2·4 | 9 | 9 | 0·08 | 14 | 142 |
| W/174 | MAY 10 | 1229 18·9 | 41·737S | 174·453E | 31·7 | 2·3 | 10 | 8 | 0·12 | 20 | 202 |
| W/175 | MAY 11 | 2216 36·3 | 40·634S | 174·620E | 5·0 | 2·2 | 7 | 6 | 0·17 | 36 | 284 |
| W/176 | MAY 12 | 1304 48·9 | 40·497S | 174·862E | 18·5 | 2·8 | 10 | 8 | 0·11 | 70 | 292 |
| W/177 | MAY 12 | 2046 43·4 | 40·636S | 174·623E | 10·7 | 2·2 | 6 | 5 | 0·17 | 35 | 292 |
| W/178 | MAY 13 | 0622 32·4 | 40·674S | 174·631E | 5·0 | 2·5 | 10 | 8 | 0·13 | 32 | 281 |
| W/179 | MAY 13 | 2125 53·0 | 40·952S | 174·193E | 49·6 | 4·0 | 11 | 10 | 0·22 | 30 | 274 |
| W/180 | MAY 14 | 0028 16·3 | 41·053S | 174·151E | 57·6 | 2·7 | 7 | 7 | 0·22 | 21 | 282 |
| W/181 | MAY 14 | 0135 31·4 | 41·775S | 174·068E | 38·6 | 2·9 | 11 | 11 | 0·27 | 13 | 298 |
| W/182 | MAY 14 | 0432 36·0 | 41·371S | 174·505E | 23·3 | 2·2 | 7 | 6 | 0·11 | 23 | 237 |
| W/183 | MAY 14 | 0645 45·3 | 40·950S | 174·257E | 50·8 | 2·8 | 5 | 5 | 0·24 | 29 | 288 |
| W/184 | MAY 14 | 1732 02·7 | 40·550S | 174·522E | 62·8 | 3·5 | 5 | 5 | 0·05 | 77 | 308 |
| W/185 | MAY 15 | 0401 27·2 | 41·626S | 173·961E | 27·6 | 2·4 | 5 | 4 | 0·22 | 53 | 324 |
| W/186 | MAY 17 | 1115 19·1 | 41·025S | 174·531E | 42·7 | 2·3 | 7 | 6 | 0·03 | 27 | 195 |
| W/187 | MAY 17 | 1137 20·6 | 41·769S | 174·504E | 32·8 | 2·5 | 10 | 8 | 0·19 | 24 | 213 |
| W/188 | MAY 18 | 1251 39·4 | 41·573S | 174·684E | 29·4 | 2·2 | 12 | 10 | 0·16 | 24 | 172 |
| W/189 | MAY 20 | 0234 27·8 | 41·065S | 174·857E | 30·5 | 2·3 | 12 | 9 | 0·12 | 18 | 121 |
| W/190 | MAY 22 | 0604 44·2 | 41·008S | 173·713E | 55·1 | 2·7 | 7 | 7 | 0·23 | 52 | 325 |
| W/191 | MAY 22 | 0734 46·5 | 41·267S | 174·281E | 38·6 | 2·3 | 10 | 8 | 0·21 | 6 | 248 |
| W/192 | MAY 22 | 1201 22·8 | 41·710S | 174·472E | 29·8 | 2·2 | 9 | 8 | 0·25 | 22 | 203 |
| W/193 | MAY 22 | 1733 53·7 | 41·019S | 174·263E | 50·1 | 3·6 | 11 | 10 | 0·18 | 22 | 276 |
| W/194 | MAY 24 | 0206 28·2 | 40·936S | 175·652E | 23·8 | 2·2 | 7 | 6 | 0·05 | 28 | 280 |
| W/195 | MAY 24 | 0214 21·0 | 40·967S | 174·038E | 55·8 | 2·5 | 7 | 6 | 0·21 | 34 | 297 |
| W/196 | MAY 25 | 1241 52·0 | 41·048S | 174·628E | 32·6 | 2·4 | 9 | 8 | 0·16 | 22 | 172 |
| W/197 | MAY 26 | 0940 33·8 | 40·919S | 174·854E | 59·8 | 2·8 | 10 | 9 | 0·05 | 8 | 162 |
| W/198 | MAY 26 | 1116 58·5 | 41·496S | 175·685E | 28·1 | 2·3 | 9 | 8 | 0·12 | 23 | 305 |
| W/199 | MAY 26 | 1705 16·7 | 41·760S | 174·498E | 31·4 | 2·4 | 7 | 7 | 0·15 | 23 | 220 |
| W/200 | MAY 27 | 0722 17·0 | 41·638S | 175·389E | 14·0 | 2·6 | 12 | 10 | 0·20 | 27 | 284 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| W/201 | MAY 27 | 2125 01·1 | 40·875S | 174·715E | 12·0 | 2·1 | 8 | 7 | 0·13 | 17 | 222 |
| W/202 | MAY 29 | 1149 41·3 | 41·759S | 173·642E | 58·2 | 3·1 | 11 | 11 | 0·22 | 48 | 312 |
| W/203 | MAY 30 | 1327 15·6 | 40·992S | 174·502E | 5·0 | 2·5 | 9 | 9 | 0·11 | 31 | 210 |
| W/204 | MAY 31 | 1200 38·0 | 41·213S | 174·049E | 56·2 | 2·7 | 7 | 6 | 0·11 | 19 | 327 |
| W/205 | JUN 01 | 0319 33·5 | 41·169S | 174·497E | 60·4 | 2·5 | 9 | 8 | 0·06 | 19 | 151 |
| W/206 | JUN 02 | 0726 42·8 | 41·334S | 174·614E | 31·4 | 2·3 | 8 | 8 | 0·10 | 14 | 194 |
| W/207 | JUN 02 | 0748 13·7 | 41·089S | 174·752E | 30·7 | 2·1 | 10 | 9 | 0·10 | 16 | 137 |
| W/208 | JUN 02 | 2222 31·8 | 41·549S | 175·630E | 26·9 | 2·5 | 10 | 7 | 0·09 | 24 | 302 |
| W/209 | JUN 04 | 0944 43·0 | 40·977S | 175·267E | 19·2 | 2·2 | 9 | 8 | 0·16 | 22 | 203 |
| W/210 | JUN 05 | 0108 12·3 | 41·528S | 175·029E | 24·4 | 2·6 | 8 | 8 | 0·03 | 22 | 234 |
| W/211 | JUN 05 | 1650 52·0 | 40·640S | 174·632E | 5·0 | 2·3 | 7 | 5 | 0·21 | 34 | 292 |
| W/212 | JUN 07 | 0056 30·8 | 41·094S | 174·547E | 39·3 | 2·7 | 11 | 10 | 0·09 | 20 | 170 |
| W/213 | JUN 07 | 0240 26·5 | 41·692S | 174·236E | 15·2 | 2·3 | 9 | 7 | 0·13 | 7 | 171 |
| W/214 | JUN 08 | 0805 00·1 | 41·708S | 174·114E | 16·5 | 2·5 | 9 | 7 | 0·26 | 10 | 255 |
| W/215 | JUN 08 | 1021 04·9 | 41·378S | 174·166E | 18·1 | 2·3 | 10 | 9 | 0·18 | 21 | 213 |
| W/216 | JUN 08 | 1302 41·1 | 40·997S | 174·464E | 59·0 | 2·4 | 7 | 6 | 0·06 | 29 | 216 |
| W/217 | JUN 12 | 0005 15·9 | 41·687S | 174·543E | 28·2 | 2·2 | 7 | 6 | 0·14 | 41 | 295 |
| W/218 | JUN 13 | 0121 55·4 | 41·302S | 174·405E | 38·0 | 2·7 | 9 | 8 | 0·14 | 15 | 211 |
| W/219 | JUN 13 | 1731 50·3 | 41·563S | 174·070E | 43·3 | 2·9 | 11 | 11 | 0·21 | 24 | 234 |
| W/220 | JUN 14 | 0213 01·2 | 41·367S | 175·107E | 26·3 | 2·8 | 10 | 10 | 0·04 | 14 | 140 |
| W/221 | JUN 14 | 1620 54·3 | 41·598S | 174·652E | 33·5 | 2·4 | 13 | 10 | 0·11 | 28 | 176 |
| W/222 | JUN 14 | 2141 58·0 | 41·556S | 174·387E | 31·6 | 2·4 | 9 | 8 | 0·10 | 26 | 134 |
| W/223 | JUN 14 | 2158 08·3 | 41·411S | 174·995E | 25·3 | 3·7 | 11 | 10 | 0·08 | 10 | 178 |
| W/224 | JUN 15 | 0118 30·0 | 41·424S | 174·468E | 55·1 | 2·9 | 14 | 11 | 0·12 | 28 | 120 |
| W/225 | JUN 15 | 0143 09·1 | 40·994S | 174·794E | 52·9 | 2·5 | 11 | 9 | 0·06 | 18 | 153 |
| W/226 | JUN 17 | 0317 34·0 | 40·775S | 174·796E | 41·9 | 2·5 | 10 | 8 | 0·08 | 14 | 264 |
| W/227 | JUN 17 | 1002 20·0 | 41·169S | 174·143E | 44·3 | 2·6 | 8 | 7 | 0·14 | 12 | 309 |
| W/228 | JUN 17 | 1343 59·0 | 41·120S | 175·406E | 30·4 | 2·2 | 12 | 9 | 0·07 | 9 | 175 |
| W/229 | JUN 18 | 0821 56·9 | 40·564S | 174·823E | 28·1 | 2·6 | 10 | 9 | 0·11 | 34 | 287 |
| W/230 | JUN 18 | 0829 11·9 | 40·561S | 174·835E | 28·3 | 2·3 | 8 | 7 | 0·10 | 34 | 287 |
| W/231 | JUN 18 | 2039 57·0 | 40·850S | 174·858E | 4·1 | 2·0 | 7 | 7 | 0·14 | 5 | 239 |
| W/232 | JUN 18 | 2120 32·0 | 40·801S | 174·373E | 50·4 | 3·0 | 11 | 10 | 0·14 | 46 | 269 |
| W/233 | JUN 18 | 2157 15·2 | 41·004S | 175·582E | 29·5 | 2·6 | 10 | 9 | 0·11 | 19 | 268 |
| W/234 | JUN 20 | 0535 57·2 | 40·671S | 174·385E | 51·2 | 2·5 | 7 | 5 | 0·04 | 49 | 287 |
| W/235 | JUN 21 | 1544 10·0 | 41·607S | 174·650E | 31·1 | 2·3 | 13 | 10 | 0·17 | 29 | 177 |
| W/236 | JUN 23 | 0540 30·7 | 40·962S | 175·409E | 22·4 | 2·3 | 8 | 7 | 0·11 | 23 | 236 |
| W/237 | JUN 24 | 1242 46·6 | 40·853S | 174·788E | 11·9 | 2·5 | 8 | 7 | 0·22 | 11 | 230 |
| W/238 | JUN 24 | 1809 15·0 | 40·912S | 174·243E | 70·0 | 2·5 | 8 | 6 | 0·07 | 34 | 270 |
| W/239 | JUN 27 | 0405 42·4 | 40·591S | 174·062E | 65·7 | 2·5 | 6 | 5 | 0·12 | 71 | 308 |
| W/240 | JUN 27 | 1424 41·4 | 40·612S | 174·403E | 5·0 | 2·3 | 6 | 5 | 0·25 | 51 | 294 |
| W/241 | JUN 28 | 0032 43·7 | 40·438S | 174·278E | 29·8 | 3·0 | 6 | 5 | 0·19 | 71 | 312 |
| W/242 | JUN 28 | 2153 02·8 | 40·990S | 175·588E | 29·2 | 3·3 | 9 | 9 | 0·11 | 20 | 269 |
| W/243 | JUN 30 | 0107 08·2 | 41·011S | 174·195E | 48·4 | 2·9 | 8 | 8 | 0·18 | 23 | 256 |
| W/244 | JUL 01 | 1519 24·5 | 41·579S | 174·415E | 14·2 | 2·5 | 10 | 9 | 0·22 | 25 | 145 |
| W/245 | JUL 02 | 0526 38·7 | 41·373S | 175·115E | 27·2 | 2·2 | 9 | 8 | 0·07 | 13 | 169 |
| W/246 | JUL 02 | 0601 02·6 | 41·068S | 174·869E | 28·2 | 2·3 | 12 | 9 | 0·12 | 17 | 117 |
| W/247 | JUL 02 | 1841 09·9 | 41·021S | 174·012E | 61·3 | 2·7 | 8 | 7 | 0·28 | 31 | 269 |
| W/248 | JUL 03 | 1100 19·1 | 41·407S | 174·620E | 21·9 | 2·4 | 10 | 10 | 0·22 | 18 | 215 |
| W/249 | JUL 04 | 0818 43·3 | 40·936S | 174·954E | 29·3 | 3·1 | 10 | 10 | 0·08 | 9 | 142 |
| W/250 | JUL 04 | 1618 21·2 | 41·664S | 174·594E | 32·8 | 3·3 | 12 | 11 | 0·16 | 33 | 187 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| W/251 | JUL 05 | 1256 56·4 | 40·708S | 174·787E | 39·5 | 2·5 | 11 | 8 | 0·16 | 20 | 273 |
| W/252 | JUL 05 | 1832 37·2 | 41·018S | 174·645E | 37·0 | 2·5 | 11 | 10 | 0·09 | 24 | 178 |
| W/253 | JUL 08 | 2114 59·3 | 41·539S | 174·319E | 29·2 | 2·3 | 7 | 6 | 0·07 | 36 | 273 |
| W/254 | JUL 08 | 2248 55·8 | 41·401S | 174·889E | 25·7 | 2·1 | 10 | 9 | 0·07 | 2 | 145 |
| W/255 | JUL 09 | 1334 04·0 | 41·583S | 174·499E | 57·2 | 2·4 | 8 | 8 | 0·36 | 37 | 261 |
| W/256 | JUL 12 | 1206 53·8 | 41·026S | 175·498E | 11·8 | 2·1 | 8 | 7 | 0·06 | 15 | 249 |
| W/257 | JUL 12 | 1504 22·8 | 40·656S | 173·968E | 81·4 | 3·1 | 9 | 9 | 0·09 | 67 | 309 |
| W/258 | JUL 13 | 2302 33·2 | 40·728S | 173·851E | 55·3 | 3·3 | 7 | 7 | 0·38 | 65 | 313 |
| W/259 | JUL 14 | 0217 14·1 | 41·033S | 174·877E | 30·0 | 2·3 | 11 | 9 | 0·11 | 18 | 121 |
| W/260 | JUL 14 | 1725 23·5 | 41·344S | 174·914E | 25·7 | 2·4 | 11 | 9 | 0·13 | 8 | 99 |
| W/261 | JUL 15 | 0025 25·6 | 40·847S | 175·793E | 32·4 | 2·3 | 10 | 9 | 0·18 | 43 | 297 |
| W/262 | JUL 16 | 0237 25·0 | 41·665S | 174·342E | 11·5 | 2·3 | 9 | 8 | 0·26 | 14 | 156 |
| W/263 | JUL 16 | 1049 46·5 | 41·804S | 174·491E | 34·6 | 2·4 | 12 | 10 | 0·14 | 24 | 225 |
| W/264 | JUL 18 | 0305 49·9 | 40·979S | 174·399E | 52·1 | 2·6 | 7 | 7 | 0·09 | 28 | 232 |
| W/265 | JUL 20 | 0337 39·6 | 40·719S | 174·595E | 72·0 | 2·7 | 8 | 7 | 0·07 | 31 | 275 |
| W/266 | JUL 21 | 1948 57·9 | 41·005S | 174·479E | 46·2 | 2·4 | 8 | 7 | 0·09 | 29 | 211 |
| W/267 | JUL 23 | 0114 11·7 | 41·751S | 174·429E | 30·8 | 2·7 | 12 | 10 | 0·21 | 18 | 206 |
| W/268 | JUL 24 | 0550 43·4 | 40·709S | 174·689E | 34·7 | 2·6 | 8 | 7 | 0·20 | 26 | 274 |
| W/269 | JUL 26 | 1222 14·4 | 40·849S | 174·969E | 36·4 | 2·5 | 12 | 9 | 0·17 | 5 | 236 |
| W/270 | JUL 27 | 0617 45·1 | 41·662S | 174·615E | 31·5 | 2·3 | 7 | 6 | 0·14 | 35 | 293 |
| W/271 | JUL 27 | 0618 57·8 | 41·650S | 174·622E | 33·7 | 3·5 | 11 | 11 | 0·17 | 34 | 185 |
| W/272 | JUL 28 | 1541 22·4 | 41·609S | 174·659E | 33·2 | 2·8 | 11 | 10 | 0·15 | 28 | 178 |
| W/273 | JUL 30 | 0127 35·1 | 40·886S | 175·425E | 26·4 | 2·4 | 10 | 9 | 0·06 | 31 | 255 |
| W/274 | JUL 31 | 0931 49·1 | 41·558S | 173·928E | 13·8 | 2·8 | 10 | 9 | 0·27 | 32 | 265 |
| W/275 | JUL 31 | 1310 31·1 | 41·548S | 173·949E | 14·7 | 2·3 | 9 | 8 | 0·18 | 32 | 261 |
| W/276 | AUG 01 | 0631 07·9 | 41·043S | 174·671E | 55·7 | 2·5 | 11 | 10 | 0·03 | 21 | 166 |
| W/277 | AUG 01 | 2026 30·7 | 41·547S | 173·866E | 13·7 | 2·6 | 9 | 8 | 0·23 | 37 | 275 |
| W/278 | AUG 02 | 0603 10·9 | 40·782S | 174·635E | 45·2 | 2·5 | 7 | 6 | 0·06 | 25 | 259 |
| W/279 | AUG 02 | 1139 09·7 | 41·061S | 175·380E | 25·4 | 2·2 | 9 | 8 | 0·04 | 15 | 198 |
| W/280 | AUG 02 | 2154 54·7 | 41·247S | 175·048E | 8·8 | 3·1 | 10 | 10 | 0·11 | 5 | 80 |
| W/281 | AUG 04 | 0955 03·8 | 41·627S | 174·640E | 34·0 | 2·8 | 13 | 11 | 0·16 | 31 | 181 |
| W/282 | AUG 04 | 1525 13·6 | 41·649S | 174·622E | 32·7 | 2·3 | 11 | 10 | 0·13 | 34 | 184 |
| W/283 | AUG 06 | 0241 57·5 | 41·506S | 174·128E | 33·9 | 2·6 | 10 | 10 | 0·18 | 28 | 216 |
| W/284 | AUG 08 | 0244 30·1 | 41·546S | 174·825E | 34·1 | 2·3 | 11 | 9 | 0·07 | 16 | 239 |
| W/285 | AUG 08 | 0535 02·4 | 41·094S | 174·139E | 60·2 | 2·8 | 7 | 7 | 0·06 | 18 | 290 |
| W/286 | AUG 08 | 0539 07·6 | 41·093S | 174·094E | 64·4 | 2·4 | 7 | 6 | 0·09 | 20 | 299 |
| W/287 | AUG 09 | 0335 54·6 | 41·581S | 173·945E | 22·1 | 2·5 | 7 | 6 | 0·28 | 30 | 264 |
| W/288 | AUG 10 | 1348 23·0 | 40·679S | 174·373E | 59·4 | 2·9 | 9 | 9 | 0·11 | 50 | 286 |
| W/289 | AUG 10 | 2042 39·0 | 40·915S | 175·213E | 30·7 | 2·5 | 10 | 9 | 0·10 | 25 | 215 |
| W/290 | AUG 12 | 0100 18·4 | 41·241S | 173·862E | 56·7 | 2·5 | 7 | 6 | 0·11 | 35 | 333 |
| W/291 | AUG 12 | 1247 23·7 | 41·425S | 173·805E | 65·8 | 3·6 | 12 | 11 | 0·16 | 46 | 280 |
| W/292 | AUG 13 | 0810 05·0 | 40·931S | 174·893E | 9·1 | 2·7 | 10 | 10 | 0·15 | 8 | 133 |
| W/293 | AUG 15 | 1150 37·6 | 41·345S | 175·044E | 25·7 | 2·1 | 11 | 10 | 0·10 | 9 | 128 |
| W/294 | AUG 21 | 0156 51·5 | 40·989S | 175·630E | 26·1 | 3·5 | 9 | 8 | 0·16 | 22 | 274 |
| W/295 | AUG 21 | 1515 28·5 | 40·706S | 175·007E | 32·6 | 2·2 | 6 | 5 | 0·05 | 19 | 296 |
| W/296 | AUG 22 | 1231 54·9 | 41·180S | 174·556E | 60·0 | 2·9 | 9 | 9 | 0·04 | 14 | 140 |
| W/297 | AUG 22 | 1648 02·0 | 40·793S | 174·975E | 33·5 | 2·4 | 8 | 7 | 0·10 | 10 | 262 |
| W/298 | AUG 22 | 1744 50·9 | 41·515S | 174·576E | 33·0 | 3·2 | 11 | 10 | 0·14 | 27 | 149 |
| W/299 | AUG 26 | 0209 32·7 | 41·940S | 174·143E | 12·7 | 2·8 | 12 | 11 | 0·39 | 22 | 307 |
| W/300 | AUG 27 | 0440 54·4 | 41·792S | 174·490E | 33·7 | 2·3 | 11 | 9 | 0·13 | 23 | 220 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| W/301 | AUG 27 | 1918 21·0 | 41·653S | 174·212E | 14·0 | 2·4 | 11 | 11 | 0·21 | 11 | 188 |
| W/302 | AUG 28 | 0810 02·0 | 41·953S | 175·183E | 32·2 | 3·0 | 11 | 11 | 0·20 | 59 | 264 |
| W/303 | AUG 29 | 0448 42·0 | 41·138S | 174·579E | 35·4 | 2·9 | 10 | 10 | 0·06 | 15 | 151 |
| W/304 | AUG 31 | 1200 18·7 | 40·418S | 174·943E | 43·0 | 2·8 | 9 | 9 | 0·17 | 50 | 298 |
| W/305 | SEP 01 | 0350 43·9 | 41·683S | 174·257E | 11·2 | 2·3 | 11 | 10 | 0·17 | 8 | 158 |
| W/306 | SEP 01 | 0654 03·4 | 41·686S | 174·212E | 13·7 | 3·3 | 10 | 10 | 0·21 | 7 | 189 |
| W/307 | SEP 01 | 0909 53·3 | 41·712S | 174·827E | 32·8 | 2·3 | 13 | 10 | 0·13 | 34 | 210 |
| W/308 | SEP 01 | 1501 13·6 | 40·851S | 174·714E | 12·6 | 2·6 | 9 | 8 | 0·19 | 17 | 233 |
| W/309 | SEP 02 | 1101 30·9 | 41·039S | 175·202E | 24·6 | 2·5 | 13 | 9 | 0·17 | 14 | 170 |
| W/310 | SEP 03 | 0455 08·3 | 40·541S | 175·632E | 30·1 | 2·7 | 8 | 6 | 0·24 | 70 | 309 |
| W/311 | SEP 04 | 1403 49·5 | 41·817S | 174·485E | 35·1 | 3·0 | 10 | 9 | 0·14 | 23 | 229 |
| W/312 | SEP 04 | 2130 26·3 | 41·520S | 174·118E | 10·6 | 3·7 | 11 | 10 | 0·19 | 27 | 241 |
| W/313 | SEP 05 | 2016 28·9 | 41·501S | 174·233E | 22·4 | 2·3 | 7 | 6 | 0·22 | 28 | 282 |
| W/314 | SEP 05 | 2258 35·3 | 41·221S | 176·091E | 25·1 | 2·7 | 10 | 8 | 0·16 | 50 | 321 |
| W/315 | SEP 06 | 0033 57·1 | 41·138S | 173·928E | 71·4 | 3·6 | 10 | 10 | 0·09 | 30 | 319 |
| W/316 | SEP 06 | 0046 21·0 | 41·140S | 173·751E | 82·6 | 2·8 | 8 | 7 | 0·09 | 45 | 325 |
| W/317 | SEP 06 | 0556 40·1 | 41·230S | 174·035E | 60·8 | 2·5 | 7 | 6 | 0·06 | 20 | 328 |
| W/318 | SEP 06 | 1201 03·2 | 41·522S | 174·122E | 10·6 | 2·8 | 10 | 10 | 0·23 | 27 | 239 |
| W/319 | SEP 07 | 0756 00·8 | 40·831S | 175·220E | 31·5 | 2·2 | 8 | 7 | 0·36 | 26 | 245 |
| W/320 | SEP 07 | 1339 12·2 | 41·542S | 174·567E | 30·7 | 2·3 | 13 | 10 | 0·15 | 29 | 154 |
| W/321 | SEP 07 | 1505 56·5 | 40·628S | 174·355E | 17·8 | 2·9 | 9 | 9 | 0·20 | 54 | 293 |
| W/322 | SEP 07 | 1958 19·2 | 41·639S | 174·590E | 30·7 | 2·2 | 13 | 9 | 0·17 | 33 | 181 |
| W/323 | SEP 09 | 0843 32·0 | 41·074S | 173·958E | 66·1 | 2·4 | 9 | 7 | 0·23 | 31 | 270 |
| W/324 | SEP 10 | 0009 40·7 | 41·201S | 174·634E | 34·7 | 2·2 | 8 | 7 | 0·07 | 7 | 128 |
| W/325 | SEP 10 | 0103 52·9 | 41·624S | 175·163E | 38·5 | 3·0 | 12 | 11 | 0·10 | 24 | 217 |
| W/326 | SEP 11 | 2307 32·3 | 40·867S | 174·701E | 13·5 | 2·6 | 10 | 10 | 0·16 | 18 | 226 |
| W/327 | SEP 12 | 0843 45·9 | 41·347S | 173·942E | 52·6 | 2·5 | 9 | 8 | 0·29 | 32 | 264 |
| W/328 | SEP 13 | 0241 35·2 | 41·035S | 174·508E | 63·4 | 2·5 | 8 | 8 | 0·09 | 28 | 224 |
| W/329 | SEP 15 | 0855 24·8 | 40·623S | 174·314E | 58·1 | 2·7 | 7 | 6 | 0·05 | 57 | 295 |
| W/330 | SEP 15 | 1046 41·7 | 40·747S | 175·115E | 33·0 | 2·9 | 10 | 10 | 0·17 | 21 | 272 |
| W/331 | SEP 18 | 0317 32·3 | 40·976S | 174·746E | 54·0 | 2·3 | 11 | 9 | 0·05 | 19 | 172 |
| W/332 | SEP 18 | 1019 40·4 | 40·895S | 174·241E | 49·0 | 2·3 | 7 | 6 | 0·17 | 36 | 272 |
| W/333 | SEP 18 | 1432 33·8 | 41·717S | 174·473E | 32·4 | 2·3 | 11 | 10 | 0·18 | 22 | 194 |
| W/334 | SEP 19 | 1135 03·7 | 41·673S | 173·780E | 17·9 | 3·7 | 11 | 10 | 0·27 | 37 | 295 |
| W/335 | SEP 20 | 0534 08·8 | 40·491S | 174·392E | 43·1 | 2·5 | 6 | 6 | 0·23 | 60 | 302 |
| W/336 | SEP 20 | 2127 35·6 | 40·423S | 174·947E | 5·1 | 2·4 | 9 | 8 | 0·18 | 49 | 297 |
| W/337 | SEP 20 | 2132 56·9 | 41·849S | 174·074E | 8·9 | 3·1 | 10 | 10 | 0·28 | 16 | 308 |
| W/338 | SEP 21 | 2101 38·3 | 41·682S | 174·230E | 13·0 | 3·1 | 12 | 11 | 0·20 | 8 | 176 |
| W/339 | SEP 25 | 0430 11·1 | 41·668S | 173·856E | 30·5 | 2·5 | 7 | 6 | 0·18 | 61 | 323 |
| W/340 | SEP 25 | 0739 59·0 | 41·561S | 174·347E | 18·5 | 2·8 | 9 | 9 | 0·22 | 24 | 144 |
| W/341 | SEP 26 | 0409 20·0 | 41·299S | 175·208E | 24·6 | 2·4 | 10 | 7 | 0·20 | 14 | 192 |
| W/342 | SEP 26 | 2222 50·7 | 40·923S | 175·517E | 24·3 | 2·8 | 9 | 8 | 0·07 | 26 | 266 |
| W/343 | SEP 27 | 0608 27·7 | 41·201S | 174·452E | 33·3 | 2·8 | 11 | 10 | 0·11 | 15 | 142 |
| W/344 | SEP 29 | 2219 31·3 | 40·366S | 174·633E | 5·0 | 2·8 | 8 | 7 | 0·35 | 60 | 302 |
| W/345 | SEP 30 | 1111 40·5 | 40·983S | 175·938E | 27·6 | 2·8 | 9 | 8 | 0·23 | 58 | 304 |
| W/346 | OCT 02 | 0552 26·1 | 41·301S | 174·721E | 30·2 | 3·1 | 12 | 11 | 0·09 | 4 | 151 |
| W/347 | OCT 03 | 1555 11·8 | 40·479S | 174·499E | 54·6 | 2·6 | 10 | 8 | 0·22 | 55 | 299 |
| W/348 | OCT 03 | 1933 21·4 | 40·998S | 174·928E | 48·3 | 2·5 | 11 | 10 | 0·02 | 15 | 116 |
| W/349 | OCT 03 | 2101 28·9 | 41·541S | 174·565E | 28·3 | 2·3 | 15 | 11 | 0·24 | 30 | 154 |
| W/350 | OCT 03 | 2118 20·1 | 41·540S | 174·570E | 30·6 | 2·7 | 11 | 10 | 0·19 | 29 | 154 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| W/351 | OCT 06 | 0709 39·7 | 41·694S | 174·522E | 33·6 | 3·0 | 9 | 9 | 0·16 | 26 | 192 |
| W/352 | OCT 09 | 0111 32·7 | 41·731S | 174·161E | 16·3 | 2·5 | 10 | 9 | 0·25 | 5 | 254 |
| W/353 | OCT 12 | 0157 07·8 | 40·427S | 174·545E | 64·2 | 2·3 | 6 | 4 | 0·16 | 58 | 314 |
| W/354 | OCT 13 | 1307 24·7 | 40·501S | 174·434E | 69·6 | 2·9 | 7 | 7 | 0·07 | 57 | 305 |
| W/355 | OCT 13 | 1534 02·1 | 40·902S | 175·531E | 25·6 | 2·2 | 8 | 7 | 0·13 | 45 | 271 |
| W/356 | OCT 14 | 0409 41·3 | 40·823S | 174·583E | 46·7 | 2·7 | 10 | 8 | 0·20 | 28 | 248 |
| W/357 | OCT 14 | 0640 34·2 | 40·377S | 174·804E | 34·9 | 3·8 | 10 | 9 | 0·26 | 55 | 307 |
| W/358 | OCT 14 | 1825 30·1 | 41·613S | 173·718E | 47·4 | 2·6 | 9 | 8 | 0·36 | 44 | 297 |
| W/359 | OCT 15 | 0433 33·6 | 40·902S | 175·005E | 9·3 | 3·3 | 8 | 8 | 0·20 | 9 | 222 |
| W/360 | OCT 15 | 1319 29·4 | 40·379S | 174·826E | 43·0 | 2·8 | 6 | 5 | 0·15 | 54 | 320 |
| W/361 | OCT 17 | 1833 58·5 | 41·205S | 175·839E | 25·2 | 2·3 | 10 | 7 | 0·10 | 36 | 303 |
| W/362 | OCT 17 | 1854 12·2 | 41·727S | 175·404E | 31·1 | 2·3 | 10 | 8 | 0·10 | 36 | 293 |
| W/363 | OCT 18 | 1657 41·8 | 41·108S | 174·771E | 52·7 | 2·7 | 10 | 10 | 0·04 | 15 | 130 |
| W/364 | OCT 19 | 1008 57·7 | 41·009S | 175·620E | 29·3 | 2·3 | 10 | 8 | 0·14 | 42 | 272 |
| W/365 | OCT 19 | 1528 13·2 | 40·771S | 174·999E | 21·2 | 2·3 | 9 | 9 | 0·14 | 13 | 278 |
| W/366 | OCT 19 | 2337 23·0 | 41·166S | 174·545E | 33·8 | 2·4 | 10 | 9 | 0·16 | 15 | 146 |
| W/367 | OCT 20 | 0502 12·2 | 40·720S | 174·442E | 5·0 | 2·2 | 5 | 6 | 0·23 | 43 | 278 |
| W/368 | OCT 20 | 1844 05·6 | 41·501S | 173·927E | 44·8 | 3·5 | 10 | 10 | 0·32 | 37 | 264 |
| W/369 | OCT 21 | 1337 36·8 | 41·495S | 173·964E | 41·9 | 3·1 | 10 | 10 | 0·27 | 35 | 256 |
| W/370 | OCT 22 | 1826 43·6 | 41·349S | 173·816E | 56·7 | 2·5 | 6 | 5 | 0·13 | 41 | 325 |
| W/371 | OCT 23 | 0111 40·4 | 41·735S | 174·051E | 19·2 | 3·6 | 10 | 10 | 0·31 | 14 | 281 |
| W/372 | OCT 23 | 0200 47·3 | 41·716S | 174·110E | 14·4 | 2·3 | 7 | 5 | 0·10 | 10 | 260 |
| W/373 | OCT 23 | 1530 03·0 | 41·547S | 174·569E | 30·9 | 3·5 | 10 | 10 | 0·17 | 30 | 156 |
| W/374 | OCT 23 | 2228 26·1 | 41·148S | 175·666E | 24·3 | 2·3 | 10 | 8 | 0·06 | 29 | 277 |
| W/375 | OCT 24 | 0714 42·9 | 41·197S | 174·564E | 34·6 | 2·2 | 10 | 7 | 0·09 | 12 | 133 |
| W/376 | OCT 24 | 1425 56·8 | 40·412S | 174·847E | 44·5 | 2·4 | 5 | 4 | 0·03 | 50 | 319 |
| W/377 | OCT 25 | 0331 29·1 | 40·426S | 174·603E | 76·5 | 3·3 | 10 | 10 | 0·07 | 55 | 300 |
| W/378 | OCT 25 | 1251 33·1 | 40·984S | 175·580E | 30·2 | 3·1 | 9 | 8 | 0·10 | 21 | 269 |
| W/379 | OCT 25 | 2057 36·7 | 41·285S | 173·911E | 63·6 | 2·7 | 6 | 6 | 0·19 | 32 | 331 |
| W/380 | OCT 26 | 0137 27·2 | 40·701S | 174·968E | 33·1 | 2·5 | 8 | 8 | 0·18 | 19 | 274 |
| W/381 | OCT 26 | 0235 55·0 | 41·585S | 174·428E | 19·4 | 2·6 | 7 | 6 | 0·27 | 43 | 267 |
| W/382 | OCT 27 | 0623 53·6 | 40·747S | 175·450E | 25·4 | 2·1 | 6 | 5 | 0·11 | 46 | 281 |
| W/383 | OCT 27 | 1212 00·9 | 41·830S | 173·776E | 39·4 | 2·5 | 6 | 5 | 0·24 | 80 | 328 |
| W/384 | OCT 27 | 2159 12·3 | 40·997S | 174·552E | 37·3 | 2·7 | 11 | 11 | 0·10 | 29 | 200 |
| W/385 | OCT 28 | 1412 54·3 | 41·599S | 174·413E | 16·7 | 2·5 | 12 | 10 | 0·18 | 23 | 149 |
| W/386 | OCT 29 | 1948 51·8 | 41·353S | 174·860E | 31·0 | 2·8 | 12 | 11 | 0·08 | 6 | 68 |
| W/387 | OCT 29 | 2300 07·7 | 41·617S | 174·393E | 18·4 | 2·2 | 11 | 10 | 0·20 | 21 | 152 |
| W/388 | NOV 02 | 1533 08·8 | 40·917S | 175·690E | 30·4 | 2·8 | 10 | 9 | 0·14 | 31 | 285 |
| W/389 | NOV 02 | 1928 29·4 | 41·164S | 175·062E | 6·1 | 2·1 | 10 | 9 | 0·17 | 6 | 84 |
| W/390 | NOV 02 | 1943 54·4 | 41·544S | 174·574E | 28·9 | 2·6 | 13 | 11 | 0·21 | 29 | 155 |
| W/391 | NOV 04 | 0204 03·2 | 40·895S | 174·488E | 67·1 | 2·6 | 7 | 7 | 0·03 | 36 | 238 |
| W/392 | NOV 04 | 2012 26·3 | 40·565S | 174·337E | 58·9 | 3·2 | 9 | 10 | 0·19 | 59 | 300 |
| W/393 | NOV 05 | 2325 23·9 | 40·595S | 174·669E | 26·5 | 2·6 | 7 | 6 | 0·08 | 36 | 300 |
| W/394 | NOV 06 | 0212 28·0 | 40·879S | 175·805E | 32·2 | 2·5 | 9 | 9 | 0·20 | 40 | 296 |
| W/395 | NOV 07 | 0549 25·1 | 41·137S | 173·933E | 62·1 | 2·6 | 7 | 7 | 0·10 | 30 | 324 |
| W/396 | NOV 07 | 0641 17·7 | 41·121S | 174·736E | 58·8 | 3·1 | 11 | 11 | 0·04 | 13 | 132 |
| W/397 | NOV 07 | 1827 57·5 | 41·178S | 174·700E | 38·0 | 3·0 | 11 | 10 | 0·08 | 6 | 123 |
| W/398 | NOV 08 | 1444 32·9 | 40·605S | 174·404E | 53·3 | 2·6 | 7 | 6 | 0·08 | 52 | 295 |
| W/399 | NOV 08 | 1809 17·8 | 41·719S | 174·479E | 29·0 | 2·5 | 11 | 11 | 0·26 | 22 | 196 |
| W/400 | NOV 09 | 0251 10·3 | 40·458S | 174·833E | 34·0 | 2·5 | 8 | 7 | 0·16 | 46 | 295 |

| NUM | DATE | TIME | LAT | LONG | DEP | MAG | NP | NS | S.E. | DM | GAP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W/401 | NOV 10 | 1247 37·2 | 41·728S | 174·067E | 18·2 | 2·4 | 12 | 11 | 0·29 | 13 | 275 |
| W/402 | NOV 11 | 1527 27·0 | 40·538S | 175·417E | 27·6 | 2·8 | 9 | 8 | 0·25 | 56 | 302 |
| W/403 | NOV 11 | 1923 23·5 | 40·715S | 175·123E | 32·0 | 2·6 | 9 | 8 | 0·12 | 24 | 275 |
| W/404 | NOV 13 | 0118 39·8 | 41·297S | 175·288E | 27·1 | 2·2 | 11 | 10 | 0·12 | 14 | 83 |
| W/405 | NOV 14 | 0011 57·8 | 40·885S | 175·496E | 24·8 | 2·4 | 12 | 9 | 0·14 | 31 | 266 |
| W/406 | NOV 17 | 2053 20·7 | 41·443S | 174·478E | 17·0 | 2·1 | 7 | 6 | 0·32 | 30 | 242 |
| W/407 | NOV 18 | 0635 14·0 | 41·093S | 174·726E | 52·6 | 2·5 | 10 | 10 | 0·06 | 16 | 142 |
| W/408 | NOV 18 | 1607 58·5 | 41·552S | 173·998E | 39·6 | 2·4 | 10 | 10 | 0·29 | 29 | 251 |
| W/409 | NOV 19 | 1947 29·1 | 41·631S | 173·973E | 33·8 | 2·4 | 9 | 7 | 0·10 | 24 | 266 |
| W/410 | NOV 19 | 2202 29·3 | 40·850S | 174·779E | 65·8 | 2·3 | 9 | 8 | 0·04 | 11 | 232 |
| W/411 | NOV 20 | 1133 20·3 | 41·531S | 174·540E | 19·7 | 2·1 | 10 | 10 | 0·22 | 31 | 149 |
| W/412 | NOV 21 | 0146 50·1 | 41·112S | 174·123E | 51·3 | 3·5 | 11 | 11 | 0·20 | 17 | 254 |
| W/413 | NOV 21 | 1226 57·8 | 40·685S | 174·109E | 71·6 | 2·6 | 7 | 7 | 0·11 | 60 | 300 |
| W/414 | NOV 21 | 1238 02·2 | 41·538S | 174·353E | 32·7 | 2·3 | 10 | 10 | 0·15 | 26 | 144 |
| W/415 | NOV 22 | 0038 31·0 | 41·084S | 174·865E | 41·8 | 2·3 | 8 | 7 | 0·12 | 17 | 115 |
| W/416 | NOV 22 | 0129 07·1 | 41·092S | 174·482E | 42·2 | 2·7 | 8 | 8 | 0·08 | 22 | 183 |
| W/417 | NOV 22 | 1130 12·2 | 40·573S | 175·501E | 31·8 | 3·2 | 9 | 8 | 0·14 | 59 | 303 |
| W/418 | NOV 22 | 2209 01·7 | 41·033S | 174·849E | 52·0 | 2·3 | 11 | 8 | 0·10 | 20 | 129 |
| W/419 | NOV 23 | 1629 32·8 | 40·850S | 174·819E | 17·8 | 2·9 | 9 | 9 | 0·14 | 8 | 233 |
| W/420 | NOV 24 | 0419 51·6 | 40·770S | 174·761E | 67·3 | 2·4 | 10 | 9 | 0·08 | 16 | 266 |
| W/421 | NOV 29 | 1725 10·0 | 41·232S | 175·149E | 23·0 | 3·0 | 9 | 9 | 0·10 | 14 | 101 |
| W/422 | NOV 30 | 0351 10·7 | 41·449S | 174·510E | 22·4 | 2·3 | 9 | 9 | 0·16 | 27 | 236 |
| W/423 | NOV 30 | 0358 44·9 | 40·690S | 174·763E | 27·2 | 2·3 | 8 | 7 | 0·07 | 23 | 275 |
| W/424 | DEC 01 | 0159 49·3 | 41·399S | 174·634E | 21·2 | 2·1 | 8 | 7 | 0·14 | 17 | 234 |
| W/425 | DEC 01 | 1105 01·9 | 41·544S | 174·564E | 31·7 | 4·1 | 10 | 10 | 0·20 | 33 | 154 |
| W/426 | DEC 01 | 1325 20·5 | 41·479S | 174·454E | 33·1 | 2·2 | 9 | 9 | 0·13 | 32 | 248 |
| W/427 | DEC 02 | 0008 46·1 | 40·406S | 174·691E | 18·8 | 2·9 | 9 | 9 | 0·25 | 54 | 300 |
| W/428 | DEC 02 | 0818 07·6 | 40·612S | 175·366E | 27·5 | 2·4 | 10 | 8 | 0·23 | 47 | 295 |
| W/429 | DEC 02 | 1659 45·1 | 41·245S | 174·654E | 33·2 | 1·9 | 7 | 7 | 0·07 | 3 | 172 |
| W/430 | DEC 03 | 1805 13·0 | 40·578S | 174·615E | 70·2 | 2·5 | 9 | 8 | 0·09 | 40 | 289 |
| W/431 | DEC 04 | 0242 20·2 | 41·279S | 174·397E | 20·8 | 2·3 | 9 | 7 | 0·13 | 13 | 209 |
| W/432 | DEC 04 | 1819 51·4 | 41·378S | 174·293E | 34·3 | 2·2 | 7 | 7 | 0·14 | 18 | 277 |
| W/433 | DEC 05 | 1509 32·5 | 41·895S | 174·163E | 43·1 | 3·5 | 10 | 10 | 0·22 | 17 | 305 |
| W/434 | DEC 05 | 1643 13·8 | 41·549S | 174·564E | 32·4 | 2·2 | 10 | 9 | 0·15 | 37 | 156 |
| W/435 | DEC 06 | 0554 59·9 | 41·219S | 174·616E | 56·2 | 2·4 | 12 | 9 | 0·09 | 7 | 150 |
| W/436 | DEC 06 | 1459 56·0 | 40·927S | 175·692E | 27·2 | 2·7 | 11 | 9 | 0·12 | 30 | 284 |
| W/437 | DEC 07 | 0259 11·4 | 41·365S | 174·737E | 35·3 | 2·1 | 10 | 8 | 0·10 | 13 | 194 |
| W/438 | DEC 07 | 1120 03·5 | 41·766S | 174·477E | 32·1 | 2·5 | 9 | 8 | 0·15 | 60 | 283 |
| W/439 | DEC 07 | 1847 15·4 | 41·097S | 175·186E | 23·1 | 3·4 | 9 | 9 | 0·09 | 10 | 147 |
| W/440 | DEC 07 | 2125 30·4 | 41·036S | 174·801E | 53·6 | 2·3 | 9 | 7 | 0·08 | 21 | 140 |
| W/441 | DEC 08 | 0304 03·1 | 41·189S | 174·326E | 34·7 | 2·4 | 7 | 7 | 0·13 | 5 | 177 |
| W/442 | DEC 08 | 0612 14·1 | 41·712S | 174·273E | 23·1 | 2·4 | 11 | 9 | 0·28 | 6 | 157 |
| W/443 | DEC 08 | 1649 48·4 | 40·936S | 174·429E | 67·1 | 2·6 | 9 | 9 | 0·06 | 33 | 236 |
| W/444 | DEC 10 | 0935 38·4 | 40·659S | 174·269E | 57·9 | 2·5 | 7 | 7 | 0·19 | 59 | 294 |
| W/445 | DEC 10 | 1406 02·5 | 40·501S | 174·822E | 37·8 | 2·6 | 7 | 6 | 0·16 | 41 | 292 |
| W/446 | DEC 12 | 1831 46·2 | 40·644S | 174·751E | 27·2 | 2·4 | 7 | 6 | 0·09 | 28 | 280 |
| W/447 | DEC 13 | 2223 55·2 | 40·633S | 175·268E | 29·7 | 2·3 | 7 | 6 | 0·13 | 40 | 289 |
| W/448 | DEC 14 | 0143 06·3 | 41·611S | 174·629E | 31·1 | 2·2 | 7 | 6 | 0·08 | 43 | 270 |
| W/449 | DEC 14 | 1043 01·5 | 41·796S | 174·511E | 33·3 | 3·0 | 11 | 11 | 0·23 | 25 | 222 |
| W/450 | DEC 14 | 1325 01·9 | 40·388S | 174·385E | 18·9 | 2·7 | 7 | 7 | 0·21 | 69 | 307 |

| NUM | DATE | TIME | LAT | LONG | DEP | MAG | NP | NS | S.E. | DM | GAP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W/451 | DEC 15 | 1541 04·5 | 41·520S | 174·633E | 51·1 | 2·4 | 11 | 9 | 0·15 | 23 | 241 |
| W/452 | DEC 15 | 2222 12·7 | 41·712S | 174·467E | 30·4 | 2·3 | 10 | 10 | 0·19 | 21 | 192 |
| W/453 | DEC 16 | 0432 16·6 | 40·770S | 174·728E | 42·8 | 2·4 | 8 | 7 | 0·12 | 19 | 266 |
| W/454 | DEC 17 | 1304 22·0 | 40·442S | 175·019E | 6·2 | 2·3 | 7 | 6 | 0·18 | 48 | 297 |
| W/455 | DEC 18 | 0420 04·9 | 40·871S | 175·211E | 29·5 | 2·2 | 9 | 7 | 0·28 | 25 | 231 |
| W/456 | DEC 19 | 0240 59·9 | 40·884S | 174·985E | 32·8 | 2·6 | 12 | 9 | 0·10 | 7 | 195 |
| W/457 | DEC 20 | 2241 56·9 | 41·719S | 174·214E | 33·6 | 2·6 | 8 | 7 | 0·26 | 4 | 189 |
| W/458 | DEC 21 | 1008 48·9 | 41·158S | 175·073E | 2·2 | 2·7 | 11 | 11 | 0·13 | 5 | 95 |
| W/459 | DEC 21 | 1155 46·3 | 41·243S | 175·182E | 25·3 | 2·0 | 9 | 8 | 0·08 | 16 | 99 |
| W/460 | DEC 21 | 1303 58·5 | 40·869S | 174·703E | 13·6 | 2·8 | 10 | 10 | 0·17 | 18 | 225 |
| W/461 | DEC 21 | 1458 41·5 | 41·194S | 175·799E | 23·3 | 2·8 | 10 | 9 | 0·22 | 25 | 298 |
| W/462 | DEC 21 | 1519 35·6 | 41·541S | 173·768E | 83·3 | 3·3 | 11 | 11 | 0·08 | 44 | 288 |
| W/463 | DEC 21 | 1541 35·1 | 41·047S | 175·290E | 10·2 | 2·1 | 9 | 8 | 0·17 | 20 | 183 |
| W/464 | DEC 22 | 1351 05·0 | 41·582S | 173·925E | 13·2 | 2·4 | 8 | 7 | 0·21 | 31 | 268 |
| W/465 | DEC 23 | 1455 35·9 | 41·672S | 173·861E | 17·6 | 2·6 | 8 | 7 | 0·29 | 31 | 287 |
| W/466 | DEC 23 | 1518 16·8 | 41·546S | 174·566E | 30·5 | 2·3 | 13 | 10 | 0·17 | 30 | 155 |
| W/467 | DEC 25 | 1443 04·7 | 41·057S | 174·683E | 59·9 | 2·4 | 9 | 7 | 0·02 | 20 | 159 |
| W/468 | DEC 25 | 1633 29·9 | 40·883S | 175·467E | 23·2 | 2·2 | 11 | 9 | 0·23 | 31 | 262 |
| W/469 | DEC 26 | 2147 26·9 | 41·634S | 174·482E | 32·7 | 3·0 | 10 | 9 | 0·21 | 26 | 169 |
| W/470 | DEC 27 | 0401 53·4 | 41·071S | 174·404E | 39·3 | 2·5 | 8 | 8 | 0·10 | 19 | 208 |
| W/471 | DEC 27 | 1024 35·8 | 41·360S | 174·776E | 26·5 | 2·0 | 11 | 8 | 0·15 | 10 | 167 |
| W/472 | DEC 27 | 1853 17·8 | 41·105S | 174·661E | 57·3 | 2·5 | 9 | 7 | 0·07 | 15 | 148 |
| W/473 | DEC 28 | 0122 21·4 | 40·576S | 174·787E | 28·3 | 2·3 | 8 | 7 | 0·13 | 34 | 286 |
| W/474 | DEC 29 | 0109 03·4 | 41·105S | 174·845E | 25·9 | 2·2 | 10 | 9 | 0·08 | 18 | 116 |
| W/475 | DEC 29 | 0544 34·4 | 41·382S | 174·584E | 21·4 | 3·7 | 11 | 11 | 0·27 | 19 | 120 |
| W/476 | DEC 29 | 0633 56·8 | 41·367S | 174·595E | 19·9 | 2·2 | 10 | 10 | 0·23 | 17 | 201 |
| W/477 | DEC 29 | 0809 20·8 | 41·801S | 174·506E | 33·4 | 2·6 | 10 | 9 | 0·14 | 25 | 227 |
| W/478 | DEC 30 | 0603 39·0 | 41·381S | 174·596E | 19·8 | 2·2 | 12 | 10 | 0·27 | 18 | 207 |
| W/479 | DEC 30 | 0848 00·3 | 41·057S | 174·261E | 47·5 | 2·6 | 9 | 9 | 0·13 | 17 | 246 |

## NON-INSTRUMENTAL DATA

### THE FELT REPORTING SYSTEM

The Observatory has recruited a network of about 500 voluntary observers spread throughout the country, who use a standard form to describe the effects of any earthquake they feel. The Observatory also collects casual reports from newspapers, meteorological observers, postmasters and members of the local public. For large earthquakes, or ones with features of special interest, questionnaires are issued and assessed.

Several difficulties arise in assessing the distribution of felt intensity. The population of the country is very unevenly spread, and the observers' personal circumstances may prevent them from feeling a shock that has been noticed by others. These problems also affect lists of earthquakes felt in particular localities. It may reasonably assumed that a strong earthquake reported from one township was felt in another nearby, even though the Observatory has received no report. However, an index of this kind must summarise data and not deductions, so the following scheme is used.

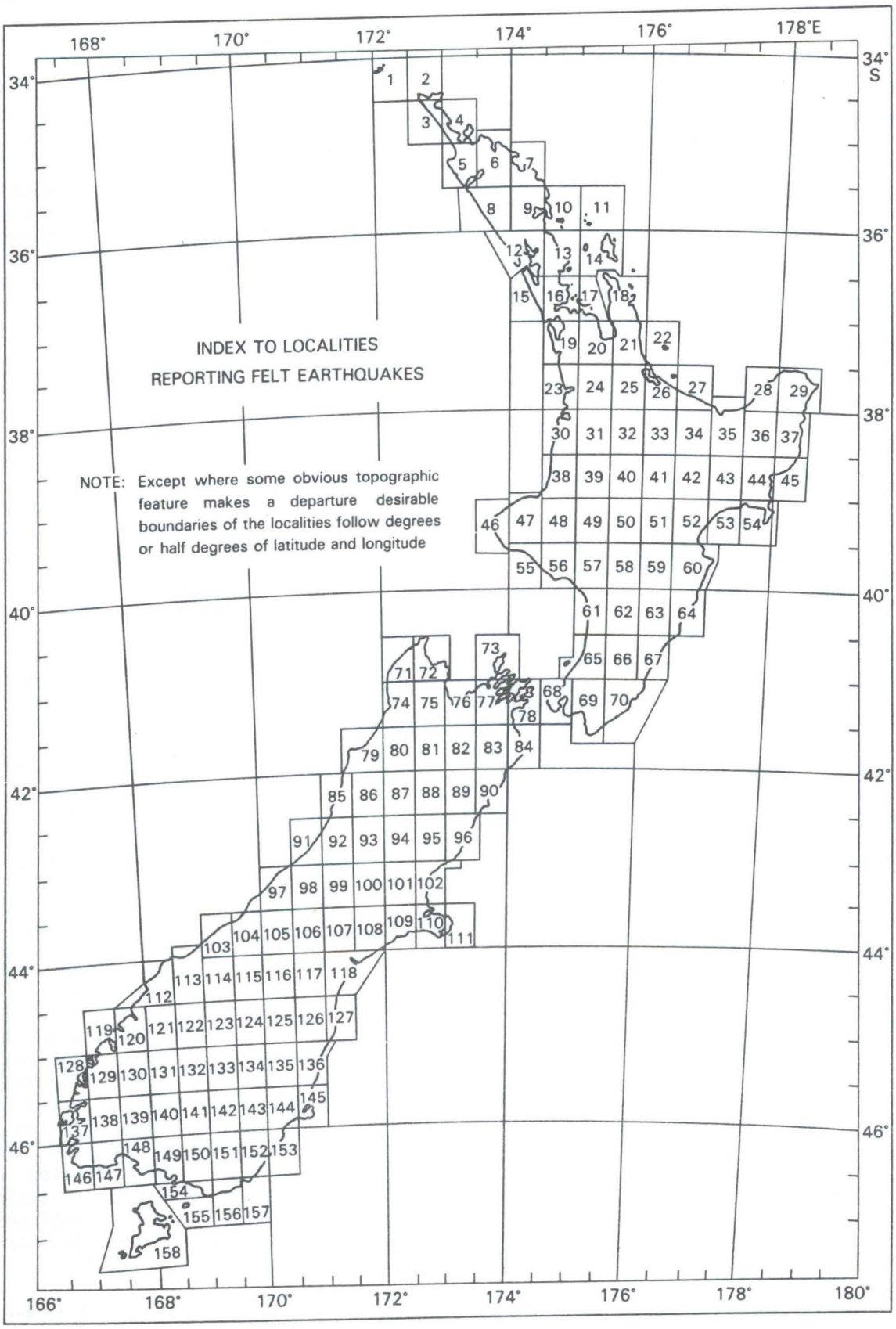
The land area of New Zealand has been divided into 'localities', mostly bounded by half-degree lines of latitude and longitude, but varied as necessary to avoid splitting obvious geographic or structural units (see map overleaf). Each locality has a number and a name, usually that of the principal population centre within it. The names are listed opposite the map. In most localities there are at least two well-separated reporters, but there are still some sparsely populated parts of the country without observers, notably in Southland.

The first part of this section gives, for each felt earthquake, its reference number (85/ is omitted), origin, the intensities reported from named places and the numbers of the localities within which these places lie. The intensities on the Modified Mercalli scale have been assigned by the Observatory, on the basis of the New Zealand version set out in the N.Z. Journal of Geology and Geophysics, 9:122-9 (1966). When there is insufficient information to assign a scale value, the observer's comment, shortened if necessary, is listed in quotes ('...'). The word 'felt' indicates that no detailed information is available.

Small felt earthquakes ($M_L$<3·7) which occur during long sequences may have no individually calculated origin if, in the opinion of the analyst, their foci lie very close to that of a stronger shock of the sequence. Such reports are assigned the reference number of the stronger shock with a suffix added. Thus a suffix 'n' indicates that a report refers to the nth extra earthquake associated with a reference number. For example, $1099_2$ is the second earthquake, reported as felt and instrumentally confirmed, but with no calculated origin, associated with reference number 1099. The original felt reports are acknowledged in information lines following the Summary of Data for the worked origin, Ref. 1099, as well as appearing at the end of the list of "Places reporting Felt Earthquakes". The existence of reports related to other associated earthquakes is indicated in the body of this list by an asterisk following the reference number.

In the second list, "Earthquakes Felt in Standard Localities", the localities which have reported shocks during the year are presented in alphabetical order, each followed by the reference numbers of the shocks felt and their respective maximum reported intensities within that locality. By comparing the reports from neighbouring localities, it is possible to form a truer estimate of the incidence of the felt effects than would be possible from a simple list of places reporting each shock. Reports of shocks with assigned origins appear in this list, identified by the Reference-Number-plus-Suffix notation described above.

Finally, reported shocks that cannot be instrumentally confirmed, and reports from places in the south-west Pacific not acknowledged elsewhere are listed.




Standard Reporting Localities

## STANDARD REPORTING LOCALITIES

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Three Kings | 41 | Taupo | 81 | Glenhope | 121 | Glenorchy |
| 2 | Te Reinga | 42 | Te Whaiti | 82 | Wairau | 122 | Arrowtown |
| 3 | Ninety Mile Beach | 43 | Tuai | 83 | Awatere | 123 | Wanaka |
| 4 | Doubtless Bay | 44 | Whakapunaki | 84 | Cape Campbell | 124 | St Bathans |
| 5 | Kaitaia | 45 | Gisborne | 85 | Greymouth | 125 | Kurow |
| 6 | Kaikohe | 46 | Cape Egmont | 86 | Reefton | 126 | Duntroon |
| 7 | Bay of Islands | 47 | New Plymouth | 87 | Maruia | 127 | Waimate |
| 8 | Dargaville | 48 | Whangamomona | 88 | Hanmer | 128 | Secretary Is. |
| 9 | Whangarei | 49 | Ohakune | 89 | Clarence | 129 | Doubtful Sound |
| 10 | Bream Head | 50 | Chateau | 90 | Kaikoura | 130 | Te Anau |
| 11 | Moko Hinau | 51 | Kaweka | 91 | Hokitika | 131 | Livingstone Mts |
| 12 | Kaipara | 52 | Napier | 92 | Kumara | 132 | Kingston |
| 13 | Warkworth | 53 | Wairoa | 93 | Arthur's Pass | 133 | Alexandra |
| 14 | Barrier Islands | 54 | Mahia | 94 | Lake Sumner | 134 | Poolburn |
| 15 | Helensville | 55 | Hawera | 95 | Culverden | 135 | Ranfurly |
| 16 | Auckland | 56 | Waverley | 96 | Cheviot | 136 | Oamaru |
| 17 | Waiheke | 57 | Wanganui | 97 | Franz Josef | 137 | Resolution Island |
| 18 | Coromandel | 58 | Taihape | 98 | Hari Hari | 138 | Pillans Pass |
| 19 | Pukekohe | 59 | Ruahine | 99 | Whitcombe Pass | 139 | Monowai |
| 20 | Mercer | 60 | Hastings | 100 | Lake Coleridge | 140 | Mossburn |
| 21 | Thames | 61 | Bulls | 101 | Oxford | 141 | Waikaia |
| 22 | Mayor Is. | 62 | Palmerston North | 102 | Rangiora | 142 | Roxburgh |
| 23 | Raglan | 63 | Dannevirke | 103 | Haast | 143 | Lawrence |
| 24 | Hamilton | 64 | Porangahau | 104 | Bruce Bay | 144 | Outram |
| 25 | Matamata | 65 | Otaki | 105 | Mount Cook | 145 | Dunedin |
| 26 | Tauranga | 66 | Masterton | 106 | Tekapo | 146 | Puysegur Point |
| 27 | Whakatane | 67 | Castlepoint | 107 | Mount Somers | 147 | Poteretere |
| 28 | Te Kaha | 68 | Wellington | 108 | Ashburton | 148 | Tuatapere |
| 29 | East Cape | 69 | Featherston | 109 | Rakaia | 149 | Invercargill |
| 30 | Kawhia | 70 | Martinborough | 110 | Christchurch | 150 | Gore |
| 31 | Te Kuiti | 71 | Mount Stevens | 111 | Akaroa | 151 | Clinton |
| 32 | Tokoroa | 72 | Takaka | 112 | Big Bay | 152 | Balclutha |
| 33 | Rotorua | 73 | D'Urville Island | 113 | Jackson's Bay | 153 | Waihola |
| 34 | Murupara | 74 | Karamea | 114 | Makarora | 154 | Bluff |
| 35 | Opotiki | 75 | Motueka | 115 | Lake Ohau | 155 | Ruapuke |
| 36 | Motu | 76 | Nelson | 116 | Pukaki | 156 | Tahakopa |
| 37 | Tolaga Bay | 77 | Blenheim | 117 | Fairlie | 157 | Owaka |
| 38 | Mokau | 78 | Picton | 118 | Timaru | 158 | Stewart Is. |
| 39 | Taumarunui | 79 | Westport | 119 | George Sound | 159 | Chatham Islands |
| 40 | Tokaanu | 80 | Murchison | 120 | Milford | | |

## PLACES REPORTING FELT EARTHQUAKES

**91 Jan 02 1116 44·31S 168·62E 5km M=4·4**
MM 4 Mahitahi (104);
'mild' 'The Branches' (122).

**153 Jan 04 2355 40·20S 175·25E 12km M=4·0**
MM 4 Waikawa Beach (65);
'felt' Ohingaiti (58).

**165 Jan 05 0848 37·08S 177·10E 12km M=4·9**
MM 4 Mercury Bay Road (18); Whangamata (21);
'felt' Elston (25);
'sharp jolt' Chiltern (18).

**179 Jan 05 1625 38·17S 176·60E 2km M=4·2**
'felt' Kawerau (34).

**182 Jan 05 2011 38·15S 176·63E 2km M=4·3**
'felt' Kawerau (34).

**191 Jan 06 0935 38·15S 176·61E 2km M=4·3**
'felt' Kawerau (34).

**316 Jan 09 0629 40·91S 173·52E 131km M=4·0**
'felt' Titahi Bay [2] (68).

**322 Jan 09 1350 40·00S 176·67E 66km M=4·1**
MM 4 Patoka (52);
'felt' Hastings (60).

**326 Jan 09 1738 41·04S 176·32E 26km M=3·4**
MM 4 Castlepoint (67).

**422 Jan 12 0941 38·93S 175·66E 5km M=3·5**
MM 4 Moerangi Station, Omori (40);
MM 3 Motuoapa (40);
'felt' Kuratau [2] (40).

**423 Jan 12 0948 38·96S 175·72E 4km M=3·5**
MM 4 Moerangi Station, Omori (40);
MM 3 Motuoapa (40);
'felt' Kuratau [2] (40);
'strong' Kuratau (40).

**595 Jan 22 0426 40·87S 172·85E 1km M=4·3**
MM 4 Paturau (71);
'felt' Takaka (72).

**599 Jan 23 1902 38·00S 177·47E 40km M=5·5**
MM 5 Opotiki (35);
MM 4 Edgecumbe, Whakatane [2] (27); Minginui Forest H.Q., Te Whaiti (42); Ormond (44);
'felt' Whakamarama (25); Tauranga (26), Edgecumbe, Pikowai, Whakatane (27), Opotiki, Port Ohope (35); Mahia Beach (54).

**613 Jan 28 0106 38·93S 178·28E 21km M=4·0**
'F4' Gisborne (44).

**618 Jan 30 1132 43·59S 170·55E 12km M=3·9**
MM 5 Lilybank Station (106).

**619 Jan 30 1728 42·39S 174·22E 36km M=4·0**
MM 4 Wellington (68).

**624 Jan 31 0433 46·11S 165·05E 33km M=6·0**
MM 5 Mahitahi (104); West Arm Manapouri (138); Puysegur Point (146); Gore (150); Awarua, Dog Island (154);
MM 4 Paturau (71); Te Anau Downs (130); Cromwell (133); Manapouri West Arm (138); Manapouri (139); Papatowai (156);
'felt' Dunedin (145); Puysegur Point [2] (146); Invercargill (149); Gore (150); Dog Island (154); Stewart Island (158);
'F3-4' Invercargill (149);
'F4' Wanaka (123);
'slight' Invercargill (149); Papatowai (156).

**628 Jan 31 2313 38·10S 176·30E 12km**
MM 4 Rotorua (33).

**639 Feb 05 0742 38·19S 176·06E 5km M=2·1**
MM 5 Rotorua (33);
MM 4 Rotorua [2] (33).

**648 Feb 07 2058 43·69S 170·65E 12km M=4·4**
MM 5 Lilybank Station (106).

**666 Feb 15 1253 44·72S 167·95E 12km M=4·6**
MM 5 Martins Bay (112); Milford Sound (120);
MM 4 Mahitahi (104); Milford Sound [2] (120);
'felt' Hidden Falls, Howden (121).

**685 Feb 26 1150 44·59S 168·92E 12km M=3·5**
MM 4 Mount Aspiring Station (113).

**703 Mar 02 1708 40·35S 177·02E 45km M=3·5**
MM 5 Mount Vernon (60).

**715 Mar 07 0757 40·59S 173·31E 178km M=5·5**
MM 6 Blenheim (77);
MM 5 Opunake (46); Palmerston North (62); Patarau (71); Nelson (76); Greymouth (92);

MM 4 Tongaporutu (38); Purangi (48); Moawhango (50); Hawera (55); Taihape (58); Himatangi Beach (61); Kelburn, Khandallah, Lower Hutt, Wellington (68); Stephens Island (73); Cobb Power Station (75); Richmond (76); Fighting Bay (78); Motunau Homestead (96);
MM 3 Otaki (65); Kilbirnie (68);
'F5' Ahuahu Valley (57);
'F4' Highland Park (68);
'F3' Kairanga (61);
'strong' Christchurch (110);
'jolts' Motueka (76);
'slight' Purunui (65).
'felt' Eltham (47); Okaiawa (55); Wanganui Aerodrome (57); Marton (61); Brooklyn, Karori, Kilbirnie, Miramar, Newtown, Waterloo, Wellington (68); Paturau (71); Tarakohe (72); Cobb Dam (75); Nelson Airport (76); Waitaria Bay (78); Blenheim (77); Spray Point (82).

**716 Mar 08 1422 43·30S 170·49E 12km M=4·0**
MM 5 Whataroa (97).

**724 Mar 10 2224 42·43S 174·21E 12km M=2·9**
'felt' Meriburn (90).

**725 Mar 10 2357 42·32S 173·98E 14km M=4·3**
'felt' Meriburn (90).

**727 Mar 12 0800 37·82S 176·70E 12km M=3·6**
'rolling' Clovelly (27).

**737 Mar 18 0157 41·29S 175·16E 22km M=3·7**
MM 4 Kelburn, Wellington (68);
MM 3 Kelburn [2] (68);
'felt' Kelburn, Lower Hutt, Taita, Tawa, Wellington (68).

**743 Mar 20 0740 39·62S 175·77E 12km M=3·4**
MM 4 Moawhango (58).

**750 Mar 21 2359 38·63S 176·06E 5km M=3·1**
MM 4 Wairakei (41).

**758 Mar 25 1337 43·30S 171·51E 12km M=2·5**
MM 5 Lake Coleridge (100).

**759 Mar 25 1802 44·23S 169·85E 12km M=3·7**
MM 4 Lake Ohau (115).

**761 Mar 25 2353 39·42S 176·81E 61km M=3·2**
MM 5 Patoka (52).

**763 Mar 26 0422 40·35S 175·45E 12km M=3·8**
MM 4 Palmerston North (62);
'felt' Palmerston North (62).

**776 Mar 29 0209 38·05S 176·25E 5km M=2·6**
MM 5 Rotorua (33);
MM 4 Rotorua (33).

**780 Mar 29 1548 43·53S 172·56E 12km M=3·8**
'felt' Christchurch (110).

**781 Mar 30 0155 41·75S 174·72E 11km M=4·0**
MM 3 Waterloo (68).

**787 Apr 01 0339 38·28S 176·48E 12km M=3·0**
MM 5 Waimangu [2] (33);
'felt' Waimangu (33).

**794 Apr 04 1732 37·76S 177·50E 51km M=5·0**
MM 5 Whakatane (27); Te Whaiti (42);
MM 4 Waimana (35);
'rolling' Clovelly (27);
'felt' Opotiki (35).

**798 Apr 05 1814 38·51S 175·91E 6km M=3·3**
MM 5 Waihora Road (40).

**803 Apr 07 1156 41·03S 175·82E 2km M=4·4**
MM 5 Masterton (66);
'felt' Masterton (66).

**810 Apr 11 1155 35·75S 179·55E 192km M=6·1**
MM 5 Opotiki (35);
MM 4 Whakatane (27); Opotiki (35); Wairoa (53); Karori (68);
'felt' Tauranga (26); Whakatane (27); Opotiki (35).

**812 Apr 11 1657 37·76S 177·29E 100km M=3·7**
'F4' Ahuahu Valley (57).

**818 Apr 14 2006 38·77S 176·03E 109km M=4·5**
MM 3 Patoka (52).

**828 Apr 19 1612 42·06S 173·85E 58km M=3·3**
'felt' Waitaria Bay (78).

**829 Apr 20 0318 44·53S 167·89E 5km M=4·6**
MM 5 Milford Sound (120);
'felt' Dumpling Hut (120).

**835 Apr 20 1706 40·49S 174·91E 12km M=3·9**
MM 4 Himatangi Beach (61).

**839 Apr 24 1535 38·51S 177·84E 12km M=3·6**
'F4' Gisborne (44).

**844 Apr 25 2327 40·15S 174·97E 16km M=5·0**
MM 5 Uruti (38); Okoia (57); Waikawa Beach (65);
MM 4 Otewa (31); Uruti [2] (38); Maerangi Station (40); Pukeiti (46); Taihape (58); Feilding (62); Palmerston North (62); Kelburn [3], Khandallah (68);
MM 3 Wellington [2] (68);
'F2-3' Kelburn (68);
'felt' Takanganui (38); Wanganui [2] (57); Marton Filter Station (61); Feilding (62); Kelburn, Pukerua Bay, Wellington [2] (68);
'gentle' Lower Retaruke (49).

**848 Apr 26 0648 40·14S 174·89E 12km M=4·4**
MM 5 Waikawa Beach (65);
MM 4 Wellington (68).

**854 Apr 28 2300 37·58S 176·54E 12km M=5·0**
MM 5 Tauranga (26);
MM 4 Tauranga (26);
'felt' Puriri (21); Tauranga [2] (26); Whakatane (27); Opotiki (35).

**860 May 03 0411 40·78S 172·44E 12km M=3·3**
MM 5 Paturau (71).

**865 May 05 0813 39·58S 177·20E 67km M=4·2**
MM 5 Gwavas Forest (59);
MM 4 Mount Vernon (60).

**867 May 06 1710 37·69S 179·73E 33km M=5·9**
MM 4 Opotiki (35); Mount Vernon (60); Dannevirke (63);
'F 2' Gisborne (44);
'felt' Gisborne (45); Mahia Beach (54); Wellington (68).

**869 May 06 1748 37·41S 179·89E 33km M=4·4**
MM 4 Wairoa (53).

**901 May 09 2217 41·33S 174·47E 28km M=3·9**
MM 4 Kelburn (68);
'felt' Kelburn (68).

**913 May 13 2125 41·05S 174·25E 51km M=4·0**
MM 4 Wellington [2] (68);
'felt' Kelburn (68).

**962 May 28 0844 38·05S 176·25E 5km M=2·6**
MM 5 Rotorua [2] (33);
'felt' Rotorua City (33).

**967 May 30 0745 40·16S 176·32E 68km M=3·7**
MM 4 Mount Vernon (60).

**973 May 31 1944 40·68S 175·60E 28km M=4·1**
MM 5 Pahiatua (62);
MM 4 Palmerston North (62);

**979 Jun 02 2302 37·94S 176·51E 5km M=3·0**
MM 4 Rotorua (33).

**984 Jun 06 0729 39·74S 174·42E 130km M=4·0**
MM 3 Wainuiomata (68).

**1005 Jun 10 1300 41·28S 172·02E 1km M=3·3**
MM 5 Arapito (74).

**1009 Jun 11 1245 38·69S 175·76E 12km M=2·9**
MM 4 Waihora Road (40).

**1011 Jun 12 0204 45·13S 167·67E 86km M=5·1**
MM 5 Queenstown (132); Centre Island (148);
MM 4 Cromwell (133);
'felt' Alexandra, Clyde (133); Monowai (139); Dunedin (145).

**1012 Jun 12 1140 41·29S 172·06E 1km M=3·2**
MM 4 Arapito (74).

**1034 Jun 22 1633 39·36S 177·52E 5km M=4·4**
MM 4 Wairoa [2] (53).

**1038 Jun 24 1244 37·53S 179·98W 33km M=4·4**
'felt' Pikowai (27).

**1039 Jun 24 1246 40·75S 172·66E 12km M=3·7**
'felt' Bainham (72).

**1045 Jun 25 1957 44·88S 167·89E 82km M=4·7**
MM 5 Manapouri (139);
'sharp' Queenstown (132).

**1052 Jun 28 0849 43·49S 170·50E 12km M=3·7**
MM 4 Erewhon (107).

**1053 Jun 28 1854 37·82S 179·67E 33km M=5·8**
MM 4 Whakatane (27); Opotiki (35); Te Whaiti (42);
MM 3 Hicks Bay (29);
'felt' Hicks Bay (29).

**1057 Jun 30 0217 38·65S 176·11E 5km M=3·2**
MM 4 Taupo (41).

**1062 Jul 01 0757 43·75S 169·69E 20km M=3·1**
MM 4 Paringa (103);
'felt' Paringa (103).

**1099 Jul 16 0903 38·43S 176·15E 12km M=2·9**
'felt' Waikite (33).

**1100 Jul 16 1415 38·42S 176·16E 12km M=3·4**
MM 5 Ngakuru (33).

**1101 Jul 16 2330 38·30S 176·10E 12km**
'felt' Ohakuri (33).

**1103 Jul 17 0830 39·49S 175·70E 12km M=4·0**
MM 5 Moawhango (58).

**1107 Jul 18 2349 43·68S 170·59E 12km M=3·6**
MM 4 Erewhon Station (107).

**1110 Jul 19 1433 38·77S 177·42E 41km M=5·7**
MM 5 Whakatane (27); Wairoa (33); Waimana (35); Minginui (42); Ormond (44); Gisborne (45); Patoka (52); Whakatu (60);
MM 4 Whakatane (27); Rotorua [2] (33); Opotiki (35); Motouapa (40); Taupo (41); Gisborne (45); Patoka (52); Moawhango (58); Taradale (60); Dannevirke (63);
'strong' Galatea (34); Waipaoa River (36);
'severe' Manutuke (44);
'sharp' Te Karaka (36);
'severest' Te Whaiti (42);
'felt' Whakatane (27); Sylval Lodge (33); Wainui (35); Gisborne (45); Mahia Beach (54); Wellington (68).

**1113 Jul 19 1642 38·78S 177·46E 67km M=4·6**
MM 4 Wairoa (33);
'felt' Te Whaiti (42).

**1114 Jul 19 1650 38·77S 177·50E 76km M=4·6**
'felt' Te Whaiti (42).

**1115 Jul 19 1722 38·76S 177·42E 44km M=3·9**
'felt' Te Whaiti (42).

**1117 Jul 19 1915 38·75S 177·45E 48km M=3·9**
'felt' Te Whaiti (42).

**1120 Jul 20 0111 38·54S 177·54E 48km M=4·5**
MM 5 Gisborne (45).

**1123 Jul 20 1814 36·31S 178·36E 256km M=4·7**
MM 4 Wairoa (53).

**1124 Jul 20 1911 38·82S 177·41E 41km M=5·1**
MM 4 Whakatane (27); Opotiki (35); Ormond (44); Gisborne [2] (45);
'F3' Gisborne (44);
'felt' Gisborne (45); Mahia Beach (54).

**1125 Jul 20 1913 38·73S 177·65E 19km M=4·8**
MM 4 Ormond (35);
'slight' Gisborne (44);
'felt' Mahia Beach (54).

**1129 Jul 23 0152 39·48S 175·70E 12km M=3·4**
MM 4 Moawhango (58).

**1137 Jul 25 0453 39·48S 175·65E 12km M=4·1**
MM 5 Moawhango (58).

**1147 Jul 30 1204 38·74S 177·47E 33km M=4·2**
MM 4 Te Whaiti (42);
MM 3 Wairoa (53).

**1149 Jul 31 0931 41·52S 174·02E 4km M=2·8**
MM 4 Blenheim (77).

**1150 Jul 31 2220 38·58S 175·97E 1km M=3·8**
MM 5 Taupo (41);
MM 4 Waihora Road (40).

**1154 Aug 02 1910 42·36S 172·19E 1km M=4·7**
MM 5 Murchison (80); Springs Junction (87);
MM 4 Westport (79); Dobson (85); Maruia (87).

**1157 Aug 04 1557 41·73S 172·30E 2km M=3·1**
MM 4 Murchison (80).

**1170 Aug 14 2026 40·13S 175·64E 33km M=4·0**
MM 4 Sandon Road (62).

**1195 Aug 25 1254 40·02S 174·98E 12km M=4·2**
MM 4 Himatangi (61);
'F4' Ahuahu Valley (57);
'jolt' Wanganui (57).

**1206 Aug 31 0105 37·47S 176·16E 2km M=3·5**
MM 5 Waihi (21);
MM 4 Karangahake [2] (21).

**1236 Sep 12 1210 39·93S 176·77E 33km M=3·7**
MM 4 Whakata (60).

**1237 Sep 12 1253 45·43S 166·95E 33km M=5·2**
MM 5 Te Anau Downs (130); Manapouri West Arm (138); Centre Island (148); Leasks Bay (158);
'sharp' 'The Branches' (122); Te Anau Downs (130);
'felt' Te Anau (130); Invercargill (139); Gore (150); Fiordland.

**1241 Sep 14 0254 37·97S 177·09E 77km M=5·2**
MM 5 Opotiki (35).

**1246 Sep 16 2347 37·76S 176·92E 7km M=4·8**
MM 4 Kopeopeo (27); Waimana (35);
MM 3 Opotiki (35).

**1247 Sep 17 1608 37·70S 176·94E 12km M=4·5**
MM 5 Opotiki (35).

**1261 Sep 22 2155 42·18S 172·83E 72km M=4·7**
MM 4 Cheviot (96); Okuti Valley (110);
'felt' Christchurch (110).

**1267 Sep 24 1722 37·94S 176·52E 5km M=2·5**
MM 5 Rotorua (33);
MM 4 Rotorua (33).

**1273 Sep 26 0727 34·64S 178·02W 33km M=7·0**
MM 5 Cape Runaway (29); Opotiki, Waimana (35); Te Whaiti (42); Chateau (48); Patoka (52); Palmerston North (62); Wellington (68); Maruia (87);
MM 4 Waihi Beach, Waihi (21); Whakatane (27); Reporoa (33); Tahunga (43); Gisborne [2] (45); Table Flat (58); Clifton Station, Mount Vernon (60); Himatangi Beach (61); Waikava Beach (65); Castlepoint Lighthouse, Tinui (67); Kelburn, Strathmore, Wellington (68); Nelson (76);
MM 3 Taupo (41); Ormond (44); Lower Hutt (68); Arapito (74);
'F4' Kelburn (68);
'F3' Gisborne (44); Kairanga (61);
'swaying' Rotorua (33);
'felt' Te Ranga (26); Sylvan Lodge (33); Mahoetahi (34); Gisborne (45); Mahia Beach (54); Wanganui (57); Bunnythorpe, Palmerston North (62); Raumati (65); Hataitai, Miramar, Mount Victoria, Wellington (68); Christchurch (110); Dunedin (145).

**1280 Sep 30 1502 45·12S 167·63E 119km M=5·1**
MM 5 Te Anau Downs (130); Manapouri West Arm (138);
'light' Te Anau Downs (130).

**1300 Oct 15 0433 40·93S 175·05E 8km M=3·4**
'strong' Waikanae [2] (65).

**1304 Oct 19 0437 39·33S 177·70E 33km M=4·5**
MM 4 Patoka (52); Wairoa (53);
'felt' Mahia Beach (54).

**1312 Oct 23 1646 38·15S 176·26E 12km M=2·7**
MM 5 Rotorua, Tihiotonga (33);
MM 4 Old Taupo Road, Rotorua (33);
'felt' Rotorua (33).

**1325 Nov 01 1444 38·73S 177·10E 52km M=5·1**
MM 5 Reporoa (33); Te Whaiti (42); Kairoa (43); Gisborne (45);
MM 4 Waimana (35); Ormond (44);
'felt' Gisborne (45); Hawkes Bay

**1334 Nov 04 0806 45·23S 167·24E 5km M=3·9**
MM 5 Te Anau Downs (130).

**1339 Nov 07 1912 35·42S 178·77W 33km M=6·2**
MM 4 Patoka (52);
MM 3 Te Whaiti (42).
'felt' Gisborne (45); Kelburn, Taita, Wellington (68).

**1341 Nov 08 1320 41·12S 172·76E 11km M=3·7**
'felt' Cobb Dam (75).

**1343 Nov 08 1941 42·75S 171·61E 12km M=4·6**
MM 5 Ross (91); Inchbonnie (92);
MM 4 Greymouth (92); Arthur's Pass, Otira (93);
'F3' Hokitika (91);
'felt' Otira (93).

**1346 Nov 11 1451 38·62S 178·30E 26km M=3·6**
'felt' Mahia Beach (54).

**1362 Nov 17 1301 38·16S 176·23E 1km M=2·1**
MM 4 Tihiotonga (33).

**1365 Nov 19 0959 41·43S 172·21E 5km M=3·8**
'felt' Cobb Dam (75).

**1367 Nov 20 0637 38·95S 176·48E 65km M=4·5**
MM 4 Te Whaiti (42).

**1368 Nov 20 1221 41·11S 172·57E 5km M=3·9**
MM 5 Cobb River Power Station (75).

**1369 Nov 20 1353 41·97S 172·78E 72km M=4·5**
'felt' Nelson (76).

**1370 Nov 20 1850 41·08S 172·73E 5km**
'felt' Cobb Dam (75).

**1376 Nov 22 0151 41·08S 172·73E 5km**
'felt' Cobb Dam (75).

1377 Nov 22 0842 39·49S 175·81E 5km M=3·9
MM 4 Moawhango (58).

1384 Nov 25 0447 39·05S 176·75E 12km M=3·2
MM 5 Ngapouri Road, Waikite Valley (33).

1403 Nov 30 1839 43·71S 169·69E 5km M=3·6
MM 4 Mahitahi (104).

1407 Dec 01 1105 41·61S 174·60E 16km M=4·3
MM 4 Wellington [2] (68);
'felt' Berhampore, Highbury, Island Bay, Miramar [2], Newtown, Strathmore Park, Tawa, Wellington (68); Nelson (76); Blenheim (77).

1456 Dec 15 0416 40·12S 174·97E 12km M=4·0
'felt' Wanganui (57); Lower Hutt (68).

1485 Dec 29 0544 41·47S 174·61E 7km M=3·7
'felt' Island Bay (68); Queen Charlotte Sound, Tory Channel (78).

1490 Dec 31 0245 43·70S 170·67E 12km M=3·6
MM 4 Erewhon Station (107).

The following shocks were felt during a sequence, but did not meet other criteria for full analysis. Their foci lie close to that of the stronger shock listed beside them.

| Date | Time | Place | Intensity | Assumed Focus | Ref. |
|---|---|---|---|---|---|
| Jul 16 | 0819 | Waikite (33) | 'felt' | 85/1099 | 85/1099[1] |
| Jul 16 | 0905 | Waikite (33) | 'felt' | 85/1099 | 85/1099[2] |
| Jul 16 | 0907 | Waikite (33) | 'felt' | 85/1099 | 85/1099[3] |
| Jul 16 | 0957 | Waikite (33) | 'felt' | 85/1099 | 85/1099[4] |

## EARTHQUAKES FELT IN STANDARD LOCALITIES

Localities within which earthquakes were felt are listed in alphabetical order, each preceded by its number on the reference map. The figure following the name of the locality is the number of the epicentre followed by the maximum intensity (in brackets) reported within the district covered by the locality name. An asterisk (*) indicates that the particular intensity was not evaluated from the standard questionnaire. The location of the earthquake, the instrumental magnitude and the actual places at which it was reported felt may be found from the table of 'Places Reporting Felt Earthquakes'.

| | | |
|---|---|---|
| 133 | Alexandra | 624 (4),1011 (4). |
| 122 | Arrowtown | 91 (3*),1237 (5*). |
| 93 | Arthur's Pass | 1343 (4). |
| 112 | Big Bay | 666 (5). |
| 77 | Blenheim | 715 (6),1149 (4),1407 (4*). |
| 154 | Bluff | 624 (5). |
| 104 | Bruce Bay | 91 (4), 624 (5), 666 (4),1403 (4). |
| 61 | Bulls | 715 (4), 835 (4), 844 (4*),1195 (4),1273 (4). |
| 46 | Cape Egmont | 715 (5), 844 (4). |
| 67 | Castlepoint | 326 (4),1273 (4). |
| 50 | Chateau | 715 (4). |
| 96 | Cheviot | 715 (4),1261 (4). |
| 110 | Christchurch | 715 (5*), 780 (4*),1261 (4),1273 (4*). |
| 18 | Coromandel | 165 (4). |
| 63 | Dannevirke | 867 (4),1110 (4). |
| 145 | Dunedin | 624 (4*),1011 (4*),1273 (4*). |
| 73 | D'Urville Island | 715 (4). |
| 29 | East Cape | 1053 (3),1273 (5). |
| 97 | Franz Josef | 716 (5). |
| 45 | Gisborne | 867 (4*),1110 (5),1120 (5),1124 (4),1273 (4),1325 (5), 1339 (4*). |
| 121 | Glenorchy | 666 (4*). |
| 150 | Gore | 1237 (4*). |
| 85 | Greymouth | 1154 (4). |
| 103 | Haast | 1062 (4). |
| 60 | Hastings | 322 (4*), 703 (5), 865 (4), 867 (4), 967 (4),1110 (5), 1236 (4). |
| 55 | Hawera | 715 (4). |
| 91 | Hokitika | 1343 (5). |
| 149 | Invercargill | 624 (4*). |
| 113 | Jackson's Bay | 685 (4). |
| 90 | Kaikoura | 724 (4*), 725 (4*). |
| 74 | Karamea | 1005 (5),1012 (4),1273 (3). |
| 132 | Kingston | 1011 (5),1045 (5*). |
| 92 | Kumara | 715 (5),1343 (5). |
| 100 | Lake Coleridge | 758 (5). |
| 115 | Lake Ohau | 759 (4). |
| 54 | Mahia | 599 (4*), 867 (4*),1110 (4*),1124 (4*),1125 (4*),1273 (4*), 1304 (4*),1346 (4*). |
| 87 | Maruia | 1154 (5). |
| 66 | Masterton | 803 (5). |
| 25 | Matamata | 165 (4*), 599 (4*). |
| 120 | Milford | 666 (5), 829 (5). |
| 38 | Mokau | 715 (4), 844 (5). |
| 139 | Monowai | 624 (4),1011 (4*),1045 (5),1237 (4*). |
| 36 | Motu | 1110 (5*). |
| 75 | Motueka | 715 (4),1341 (4*),1365 (4*),1368 (5),1370 (4*),1376 (4*). |

| | | |
|---|---|---|
| 107 | Mount Somers | 1052 (4),1107 (4),1490 (4). |
| 71 | Mount Stevens | 595 (4), 624 (4), 715 (5), 860 (5). |
| 80 | Murchison | 1154 (5),1157 (4). |
| 34 | Murupara | 179 (4*), 182 (4*), 191 (4*),1110 (5*),1273 (4*). |
| 52 | Napier | 322 (4), 761 (5), 818 (3),1110 (5),1273 (5),1304 (4), 1339 (4). |
| 76 | Nelson | 715 (5),1369 (4*),1407 (4*). |
| 47 | New Plymouth | 715 (4*). |
| 49 | Ohakune | 844 (3*). |
| 35 | Opotiki | 599 (5), 794 (4), 810 (5), 854 (4*), 867 (4),1053 (4), 1110 (5),1124 (4),1125 (4),1241 (5),1246 (4),1247 (5), 1273 (5),1325 (4). |
| 65 | Otaki | 153 (4), 715 (3), 844 (5), 848 (5),1273 (4),1300 (5*). |
| 62 | Palmerston North | 715 (5), 763 (4), 844 (4), 973 (5),1170 (4),1273 (5). |
| 78 | Picton | 715 (4), 828 (4*),1485 (4*). |
| 138 | Pillans Pass | 624 (5),1237 (5),1280 (5). |
| 146 | Puysegur Point | 624 (5). |
| 33 | Rotorua | 628 (4), 639 (5), 776 (5), 787 (5), 962 (5), 979 (4), 1099 (4*),1100 (5),1101 (4*),1110 (5),1113 (4),1267 (5), 1273 (4),1312 (5),1325 (5),1362 (4),1384 (5). |
| 59 | Ruahine | 865 (5). |
| 158 | Stewart Is. | 624 (4*),1237 (5). |
| 156 | Tahakopa | 624 (4). |
| 58 | Taihape | 153 (4*), 743 (4), 844 (4),1103 (5),1110 (4),1129 (4), 1137 (5),1273 (4),1377 (4). |
| 72 | Takaka | 595 (4*), 715 (4*),1039 (4*). |
| 41 | Taupo | 750 (4),1057 (4),1150 (5),1273 (3). |
| 26 | Tauranga | 599 (4*), 810 (4*), 854 (5),1273 (4*). |
| 130 | Te Anau | 624 (4),1237 (5),1280 (5),1334 (5). |
| 31 | Te Kuiti | 844 (4). |
| 42 | Te Whaiti | 599 (4), 794 (5),1053 (4),1110 (5),1113 (4*),1114 (4*), 1115 (4*),1117 (4*),1147 (4),1273 (5),1325 (5),1339 (3), 1367 (4). |
| 106 | Tekapo | 618 (5), 648 (5). |
| 21 | Thames | 165 (4), 854 (4*),1206 (5),1273 (4). |
| 40 | Tokaanu | 422 (4), 423 (4), 798 (5), 844 (4),1009 (4),1110 (4), 1150 (4). |
| 43 | Tuai | 1273 (4),1325 (5). |
| 148 | Tuatapere | 1011 (5),1237 (5). |
| 82 | Wairau | 715 (4*). |
| 53 | Wairoa | 810 (4), 869 (4),1034 (4),1123 (4),1147 (3),1304 (4). |
| 123 | Wanaka | 624 (4*). |
| 57 | Wanganui | 715 (5*), 812 (4*), 844 (5),1195 (4*),1273 (4*),1456 (4*). |
| 68 | Wellington | 316 (4*), 619 (4), 715 (4), 737 (4), 781 (3), 810 (4), 844 (4), 848 (4), 867 (4*), 901 (4), 913 (4), 984 (3), 1110 (4*),1273 (5),1339 (4*),1407 (4),1456 (4*),1485 (4*). |
| 79 | Westport | 1154 (4). |
| 44 | Whakapunaki | 599 (4), 613 (4*), 839 (4*), 867 (2*),1110 (5*),1124 (4), 1125 (3*),1273 (3),1325 (4). |
| 27 | Whakatane | 599 (4), 727 (4*), 794 (5), 810 (4), 854 (4*),1038 (4*), 1053 (4),1110 (5),1124 (4),1246 (4),1273 (4). |
| 48 | Whangamomona | 715 (4). |

## UNCONFIRMED FELT REPORTS

The following shocks reported to the Observatory as having been felt cannot be confirmed by any instrumental record, although in some cases they were reported by more than one observer.

| | | | |
|---|---|---|---|
| Jan 30 | 11h 00m - Jan 31 11h 00m | Ardlogie (126) | 'felt' |
| Jan 31 | 04h 33m - 04h 35m (two earthquakes) | Puysegur Point (146) | 'felt' |
| Jan 31 | 19h 30m | Lake Tarawera (33) | MM 4 |
| Jan 31 | 22h 50m | Rotorua (33) | MM 4 |
| Feb 01 | 04h 40m | Mintaro 3 (120) | 'felt' |
| Feb 01 | 05h 04m | Centre Island (148) | MM 4 |
| Feb 25 | 11h 07m | Ponsonby (16) | 'felt' |
| Feb 27 | 04h 10m | Rotorua (33) | MM 4 |
| | (same earthquake) | Rotorua (33) | MM 3 |
| Mar 01 | 00h 40m | Blenheim (77) | 'small' |
| Mar 02 | 17h 30m | Ahuahu Valley (57) | 'F4' |
| Mar 07 | 08h 15m | Table Flat (58) | MM 4 |
| Mar 15 | 04h 10m | Himatangi Beach (61) | MM 4 |
| Mar 29 | 01h 24m | Upper Wairau (88) | MM 4 |
| Mar 30 | 18h 56m | Whakatane (27) | 'felt' |
| Mar 31 | 07h 17m | Whakatane (27) | 'felt' |
| Apr 03 | 13h 58m | Patoka (52) | MM 4 |
| Apr 05 | 08h 05m | Pukewhinau (67) | 'slight' |
| Apr 24 | 12h 00m - Apr 25 12h 00m ( 3 earthquakes ) | Ahuahu Valley (57) | 'felt' |
| May 06 | 16h 10m | Mahia Beach (54) | 'felt' |
| May 06 | 16h 15m | Lake Rotoiti (81) | 'felt' |
| Jun 17 | 02h 18m | Monowai (139) | 'felt' |
| Jul 20 | 02h 35m | Gisborne (44) | 'F5' |
| Aug 02 | 12h 04m | Dobson (85) | MM 3 |
| Aug 06 | 17h 05m | Auckland (16) | MM 3 |
| Aug 28 | 11h 40m | Ahuahu Valley (57) | 'F4' |
| Sep 12 | 13h 06m | Invercargill (139) | 'F3' |
| Sep 26 | 10h 00m | Waihi (21) | MM 4 |
| Oct 17 | 03h 26m | Forest Research (33) | MM 4 |
| Oct 24 | 18h 45m | Auckland (16) | MM 4 |
| Nov 02 | 14h 35m | Gisborne (45) | MM 4 |

## REPORTS FROM OUTSIDE NEW ZEALAND

The Observatory sometimes receives reports of earthquakes felt on islands of the south-west Pacific and other places beyond the limits of its systematic reporting network. The intensities are usually those of the observers, and not those assigned by the Observatory. In 1985 the following reports were received.

| | | | |
|---|---|---|---|
| Jan 02 | 09h 18m | Raoul Island | 'felt' |
| Jan 04 | 02h 18m | Raoul Island | 'strong' |
| Mar 02 | 10h 44m | Raoul Island | 'felt' |
| Mar 12 | 10h 53m | Raoul Island | 'MM 3' |
| May 17 | 00h 37m | Raoul Island | 'felt' |
| May 22 | 09h 17m | Raoul Island | 'felt' |
| May 29 | 15h 15m | Raoul Island | 'felt' |
| May 29 | 15h 21m | Raoul Island | 'felt' |
| May 29 | 15h 26m | Raoul Island | 'felt' |
| May 29 | 15h 39m | Raoul Island | 'felt' |
| May 30 | 12h 29m | Raoul Island | 'felt' |
| Jun 03 | 12h 06m | Apia | 'MM 3-4' |
| Jun 08 | 01h 25m | Raoul Island | 'felt' |
| Jun 12 | 17h 27m | Raoul Island | 'felt' |
| Jun 21 | 04h 31m | Raoul Island | 'felt by every one' |
| Jul 06 | 03h 37m | Raoul Island | 'strong' |
| Aug 14 | 04h 11m | Raoul Island | 'felt' |
| Aug 15 | 13h 16m | Raoul Island | 'felt' |
| Sep 11 | 17h 48m | Apia | 'MM 2-3' |
| Sep 15 | 09h 19m | Raoul Island | 'felt' |
| Sep 21 | 22h 11m | Raoul Island | 'felt' |
| Sep 26 | 07h 29m | Raoul Island | 'felt' |
| Oct 11 | 19h 30m | Raoul Island | 'felt' |

## TUAMOTU ARCHIPELAGO NUCLEAR EXPLOSIONS

Nuclear explosions at the French nuclear test sites in the Tuamotu Archipelago are often recorded at Rarotonga (RAR). The P-wave is usually not recorded but the T-waves have a rather distinctive signature with a very emergent onset, followed after a few seconds by a more prominent burst of energy which reaches its maximum and decays before the arrival of a smaller "echo" trailing the main energy by some 110 seconds. Although other teleseismic readings from the New Zealand instrumental networks are published by the International Seismological Centre, these T-wave observations are not.

Because the emergent first arrival cannot always be seen clearly when the explosions are relatively small, the instant of arrival is not recorded here. Instead, an inferred origin time is listed, based on the estimated travel time from the test site to Rarotonga, and indications that it is common practice to detonate tests exactly on the minute.

A means of estimating the magnitudes of these explosions has been devised, based on a comparison of maximum amplitudes of T-waves recorded at Rarotonga with magnitude estimates from the United States National Earthquake Information Service. (**W.D.Smith, 1987**: Underground nuclear explosions recorded at Rarotonga: estimation of $m_b$ from T-phase amplitude. **Geophys. J. R. astr. Soc.** 90: 35-42.) These magnitudes are given, together with the N.E.I.S. and I.S.C. estimates where these are available. The maximum recorded trace amplitude at Rarotonga (in millimetres) is also listed.

| DATE | TIME h m | AMPLITUDE millimetres | mb (T-wave) | mb (N.E.I.S.) | mb (I.S.C.) |
|---|---|---|---|---|---|
| Apr 30 | 17 29 | 4·5 | 5·12 | 4·5 | 4·5 |
| May 08 | 20 28 | 22·5 | 5·82 | 5·7 | 5·6 |
| Jun 03 | 17 30 | 4·0 | 5·07 | 5·2 | 5·1 |
| Jun 07 | 17 40 | 2·0 | 4·77 | | |
| Oct 24 | 17 50 | 1·0 | 4·47 | | |
| Oct 26 | 16 35 | 6·0 | 5·25 | 5·4 | 5·3 |
| Nov 24 | 16 01 | 2·2 | 4·81 | 4·7 | |
| Nov 26 | 17 42 | 14·7 | 5·64 | 5·8 | |

## PUBLICATIONS BY STAFF MEMBERS

During 1985 the following papers by members of the Seismological Observatory staff were published:

S-297 **REYNERS, M.** and **HODDER, S.**: The Motu River Earthquake of 8 March 1984.
**Bulletin of the New Zealand National Society for Earthquake Engineering, Vol. 18, No. 1,** 41-45.

The Motu River earthquake of 8 March 1984 (M = 6.4) was the largest event to occur at the Hikurangi Margin of New Zealand since 1973. It originated in the upper part of the subducted Pacific plate at a depth of 73 kilometres, and appears typical of previous larger events in the region. The earthquake was widely felt, and has provided valuable data on the spatial distribution of intensity from intermediate depth events.

The earthquake produced records of strong ground motion at nine sites within 152 kilometres of the epicentre, though the accelerograms of only one site were of sufficient amplitude to permit digitisation. The distribution of recorded peak accelerations correlates reasonably well with the pattern of S-wave radiation expected from a double-couple point source. A strong-motion instrument near the mouth of the Motu River recorded a relatively short-duration, moderate amplitude motion of extremely monochromatic frequency content. It is likely that a site resonance dominates the data at this location, thus severely limiting the usefulness of the accelerograms for earthquake source studies.

S-298 **WEBB, T. H., WESNOUSKY, S. G.** and **HELMBERGER, D.V.**: A body-wave analysis of the 1966 Gisborne, New Zealand, earthquake.
**Tectonophysics, 113**: 271-282.

The $M_L$ = 6.2 Gisborne earthquake of March 4, 1966 occurred along the East Coast of the North Island, New Zealand. Modeling of P and S body waves shows that the focal mechanism of this event is consistent with northwestward thrusting of the Pacific Plate beneath the North Island ($\phi$ = 249°, $\delta$ = 25° and $\lambda$ = 131°). The focal depth is constrained to 18 km, significantly less than the values of 25-30 km computed from local network data. Estimates of the scalar moment, source duration and stress-drop for the event are 4 x $10^{24}$ dyne-cm, 2-3 s, and 20-120 bar, respectively. Cross-correlation errors of synthetic to observed waveforms were computed for all possible P and T axis locations and slip vector orientations and contoured on a projection of the focal sphere. The error contour at which the synthetic waveforms distinctly diverged from the observed waveforms was established by eye. The procedure shows that the analysis of long-period body waves, at least in this case, provides much better constraint on focal mechanism orientation than does first motion data alone.

S-299 **WEBB, T. H.** and **KANAMORI, H.**: Earthquake focal mechanisms in the eastern transverse ranges and San Emigdio Mountains, Southern California and evidence for a regional decollement.
**Tectonophysics, 113**: 271-282.

Earthquake focal mechanisms obtained from P-wave first motions are presented for the Eastern Transverse Ranges and the San Emigdio Mountains in Southern California. The former region shows a predominance of strike-slip faulting whereas Quaternary faults in the region show thrust motion. We suggest that the observed strike-slip mode of deformation cannot continue indefinitely without the occurrence of more thrust faulting. Fault deformation in the San Emigdio Mountains inferred from focal mechanisms is in accord with displacements across Quaternary faults in the area. This study and a search of the literature has yielded 19 mechanisms with shallow-dipping nodal planes. Previous workers have interpreted such mechanisms as evidence for a regional decollement. If such a regional decollement exists, these data give some indication of its regional extent. Slip directions inferred from the focal mechanisms with shallow-dipping nodal planes show some regional consistency, but this pattern cannot be entirely explained with current tectonic models. A comparison of the stress drop of an event having a shallow-dipping nodal plane with an event with steeper planes gave inconclusive results.

-- **GLEDHILL, K. R.:** Using the 6809 Microprocessor to Detect Earthquakes. **Proceedings of NELCON 85.**

An earthquake detection algorithm has been implemented on a Motorola MC6809 microprocessor which uses frequency domain techniques in a real-time detection system. Real-time operation is possible because the method of calculating the spectral points, and the data format, have been adapted to suit the architecture of the microprocessor. A test period of 10 days resulted in a detection reliability of greater than 95%, with a false detection rate of less than 10% (241 earthquakes total sample).

-- **ROBINSON, R.:** Seismic Properties of the Ngawha Geothermal Field.

Contribution to "The Ngawha geothermal field: new and updated scientific investigations" (compiled and edited by M.A. Mongillo): **DSIR GEOTHERMAL REPORT NUMBER 8.**

A report on a reconnaissance seismic survey of the Ngawha Geothermal field, conducted in March 1982.

E 167 **New Zealand Seismological Report, 1983.**

## OBSERVATORY SERVICES

### PUBLICATIONS

The Seismological Observatory issues the following series of publications:

1. E-bulletins. These consist of the 'New Zealand Seismological Reports', containing summaries of the data used for each origin determination, lists of origins, felt intensity data, and brief accounts of the principal earthquakes of the year. They also contain details of the instruments used to record earthquakes and descriptions of Observatory practices.

2. S-bulletins. These are mostly reprints of papers by members of the Observatory staff, but occasionally they have included material not published elsewhere, such as the Eiby-Muir near-earthquake tables, and a descriptive account of the Observatory and its work issued to conference delegates. Their automatic circulation is not now as widespread as in the past, but they are usually available from the Observatory on request.

3. P-bulletins. These were limited-circulation listings of micro-earthquakes located by the Pukaki network. With the winding up of the Pukaki Network this series of bulletins has ended, but it is possible that a similar series will be started to report results from the network surrounding the Clyde dam when enough stations are operational.

Copies of any of this material may be purchased from the Observatory. In suitable cases the Observatory may be able to enter into agreements for a free exchange of publications on a continuing basis.

## EARTHQUAKE CATALOGUE

The Observatory has a master file of some 25,000 earthquake origins and associated information stored on magnetic tape. From this, lists of earthquakes within particular geographical areas of New Zealand or in categories defined in other ways can be made available to researchers. Full details have been published elsewhere (W. D. Smith, 1976: 'A Computer File of New Zealand Earthquakes'; Bull. N.Z. Natl. soc. Earthq. Eng., Vol. 9, No. 2, pp.136-7, or N.Z. J. Geol. Geophys., Vol.19, No.3, pp.393-4). Criteria that may be specified are dates, magnitudes, focal depths, intensities and regions bounded in a number of different ways. Because of the dangers inherent in the use of incompletely assessed data, it is recommended that users should discuss their search criteria with the Observatory.

## THE NEW ZEALAND TIME SERVICE

Until 1987 the Seismological Observatory was responsible for the New Zealand Time Service, which distributes accurate time for civil and scientific purposes, both by radio and by land-line. The Observatory used three Hewlett-Packard double-oven quartz--crystal oscillators, with a measured stability exceeding two parts in $10^{11}$. From these suitable signals for wider distribution were generated by electronic subdivision. Stand-by power supplies and duplicated equipment ensured that failures were rare.

In 1985 the most accurate source of time in New Zealand was, as it still is in 1988, the caesium beam primary frequency standard at the Physics and Engineering Laboratory at Lower Hutt, which is periodically compared by flying clock with the standards at the U.S. National Bureau of Standards and other time-keeping observatories. The Observatory clocks were kept in close agreement with the P.E.L. standard by daily comparison, followed, if necessary, by correction. (The comparison was made indirectly by comparing both the P.E.L. standard and the Time Service clocks with a synchronisation pulse transmitted by the national television network TV One. Details of the method may be found in P.E.L. Report No. 600 "Frequency and Time in New Zealand via the T.V. Sync. Pulses".)

The signals transmitted by the Time Service are an approximation (to the accuracy specified below) to Coordinated Universal Time (UTC), which is basically atomically kept time, adjusted when necessary by one second steps (leap seconds) to keep it in near agreement with the astronomically determined time known as UT1. Adjustments are normally made at the end of June or December.

The error of the signals leaving the Observatory seldom exceeded 100 microseconds, but delays were introduced by the circuits between the Obsrvatory and the individual radio transmitters. A typical delay (that for station 2YA) was 1.8 milliseconds.

A formal discussion of time-scales is to be found in the Time Service Reports, Series 11, of the U.S. Naval Observatory. To the precision required for the great majority of civil purposes the distinctions between them are of no consequence.

The most widely used NZ time signals are the six 'pips' transmitted by those stations of the Broadcasting Corporation of New Zealand that carry the National Programme. The beginnings of the pips mark the 55th to 60th seconds of a particular minute, and each consists of 150 ms of 1 kHz tone, except when the pip indicates an exact hour and its length is doubled. Signals are transmitted on each hour and at 22h 58m and 22h 59m U.T.

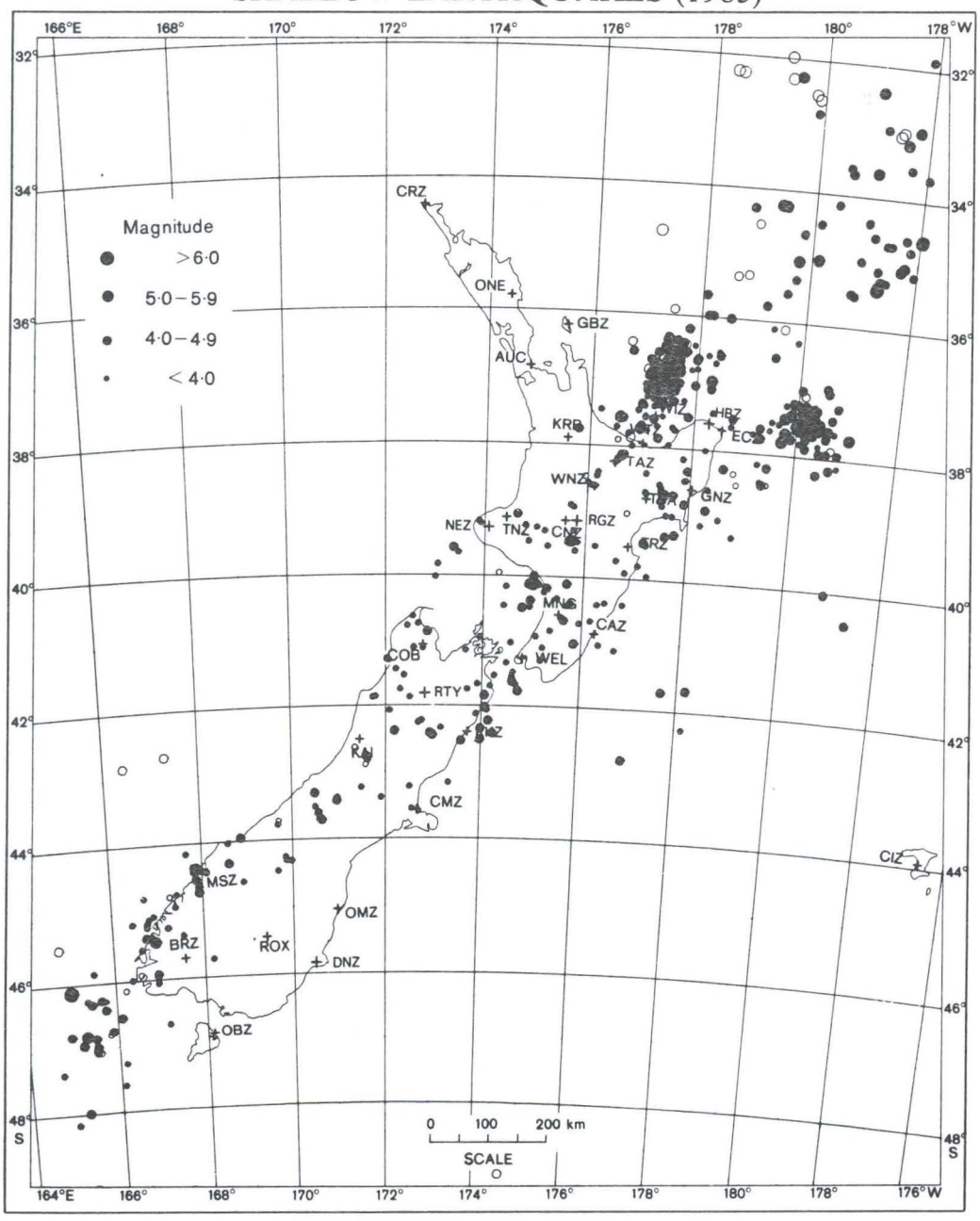
Time-pips originating at the Time Service are also transmitted by some commercial stations of the Broadcasting Corporation of New Zealand, by Radio Windy (Wellington) on 891 kHz and by Radio Rhema (Christchurch, Nelson and Wellington) on 1503 kHz, but signals from other private stations are not under Time Service control, and cannot be recommended for navigational or scientific purposes.

The more extended signal intended for navigational purposes formerly transmitted by Wellington Radio on 417.5 kHz (call sign ZMO) between 22h 54m and 23h 00m each day was not broadcast in 1985.

In addition to the radio time signals, hourly signals are sent to New Zealand Railways by land-line.

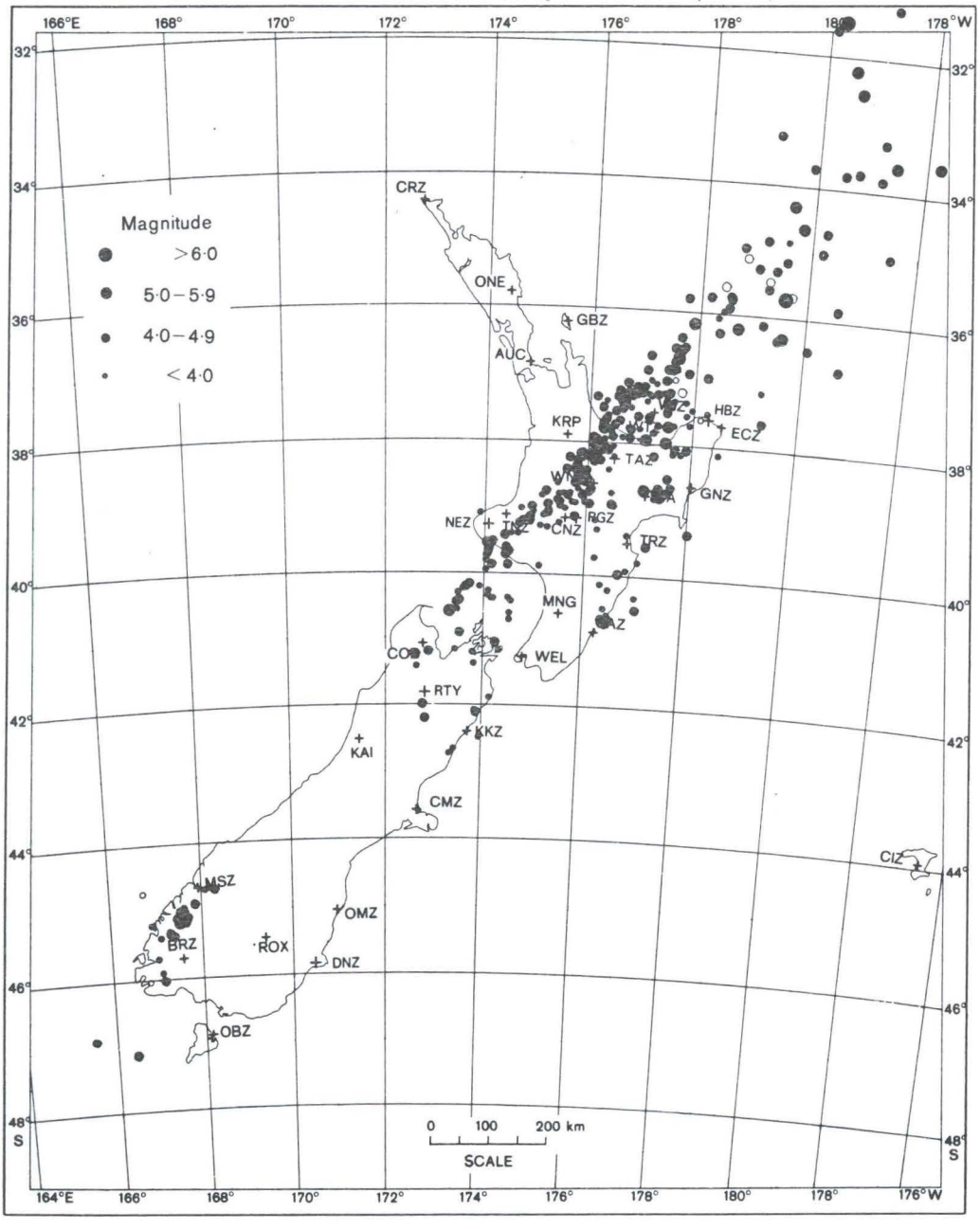
# LIST OF MAPS 1985

# SHALLOW EARTHQUAKES (1985)

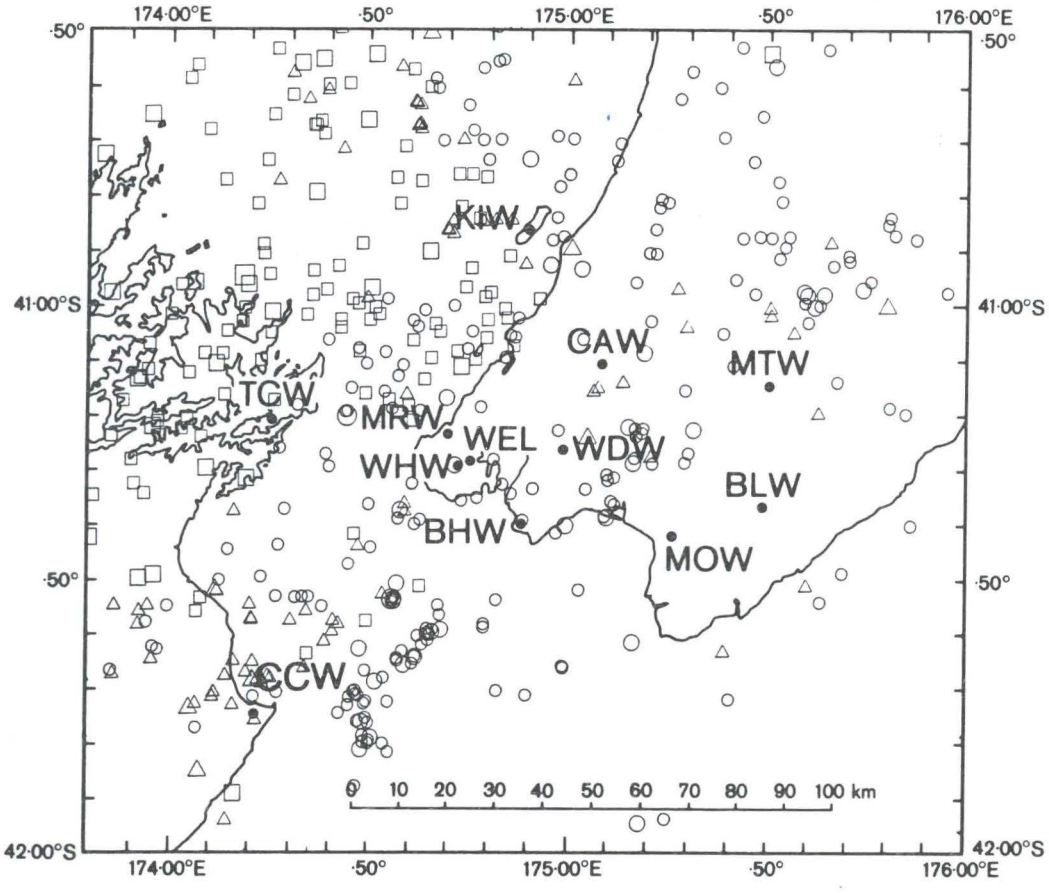



This map shows the instrumentally determined epicentres of all earthquakes whose focal depths are less than 40km. Shocks with a standard error greater than 2·0 sec., and those that have been recorded at only four or fewer stations are shown by open circles. The size of the circle is an indication of instrumental magnitude. When several shocks have the same epicentre, the largest is shown.

# DEEP FOCUS EARTHQUAKES (1985)




This map shows the instrumentally determined epicentres of all earthquakes having focal depths of 40 km or more. Shocks with a standard error greater than 2·0 sec., and those that have been recorded at only four or fewer stations are shown by open circles. The size of the circle is an indication of instrumental magnitude. When several shocks have the same epicentre, the largest is shown.




Magnitude

△ ○ □ ⩾4.0

△ ○ □ 3.0–3.9

△ ○ □ 2.0–2.9

This map shows the instrumentally determined epicentres of earthquakes recorded by the Wellington network. Shocks with depths <20 km are shown by triangles, those with depths of 20–40 km by circles and those with depths >40 km by squares.