Explanation of columns in flatfile

CuspID	=	GeoNet event identification number
Origin time	=	Origin time of earthquake in UTC
Record	=	Record name
Mw	=	Moment magnitude
MwUncert	=	Uncertainty in moment magnitude estimate
TectClass	=	Tectonic classification, either 'crustal', 'interface', or 'slab'
Mech	=	Focal mechanism, as defined by McVerry et al., (2006)
		S → strike-slip, with rake angle δ, $-33 \leq \delta \leq 33$, $147 \leq \delta \leq 180$, $-180 \leq \delta \leq -147$
		N → normal, $-146 \leq \delta \leq -34$
		R → reverse, $67 \leq \delta \leq 123$
		O → oblique with a reverse component, $34 \leq \delta \leq 66$, $124 \leq \delta \leq 146$
		U → unknown
PreferredFaultPlane	=	1 if one fault plane orientation is preferred out of the two conjugate fault planes in the moment tensor
	=	0 if the preferred fault plane is unknown
Strike	=	Strike angle (degrees).
		If PreferredFaultPlane = 1, this is the likely fault strike, otherwise it is only one of two possible strikes
Dip	=	Dip angle (degrees)
Rake	=	Rake angle (degrees)
Location	=	Reference for the preferred location
		special → special studies (see references)
		geonet → standard GeoNet catalogue
		nlloc → relocation using the NonLinLoc algorithm
		simulps → relocation using the SimulPS algorithm
		fdsn → the FDSN catalogue
HypLat	=	Hypocenter latitude
HypLon	=	Hypocenter longitude
StationLat	=	Latitude of recording station
StationLon	=	Longitude of recording station
HypN	=	Northing of hypocenter in NZMG co-ordinates (metres)
HypE	=	Easting of hypocenter in NZMG co-ordinates (metres)
StationN	=	Northing of recording station in NZMG co-ordinates (metres)
StationE	=	Easting of recording station in NZMG co-ordinates (metres)
LENGTH_km	=	Inferred rupture length along strike (km)
WIDTH_km	=	Inferred down-dip rupture width (km)
Repi_km	=	Epicentral distance (km)
Rhyp_km	=	Hypocentral distance (km)
Rjb_km	=	Joyner-Boore distance (km)
Rrup_km	=	Closest distance from station to rupture plane (km)
Rx_km	=	Hanging wall distance metric R_x (km)
Ry_km	=	Hanging wall distance metric R_y (km)
Rvol_km	=	Volcanic path distance (km)
HypDepth_km	=	Hypocenter depth (km)
ZTOR_km	=	Depth to top of rupture plane (km)
HWFW	=	Hanging wall flag
		hw → Station located on hanging wall
		fw → Station located on foot wall
		nu → No hanging wall effects
SiteCode	=	GeoNet station identifier
SiteClass1170	=	NZS1170.5:2004 site classification
Vs30	=	Time-averaged shear-wave velocity in the top 30 m (m/s)
Vs30Uncert	=	Quality of V_{S30} estimate
Tsite	=	Low-strain fundamental site period (s)
TsiteUncert	=	Quality of T_{site} estimate
Z1	=	Depth below ground surface to a shear-wave velocity of 1 km/s (m)
Z1Uncert	=	Quality of Z_1 estimate

Directivity	=	Identified directivity pulse 1 → pulse-like motions have been identified 0 → pulse-like motions have not been identified
Pulse_or	=	Orientation of identified directivity pulse either equals the component orientation in degrees, or -99999 if not applicable
Pulse_T	=	Period of identified directivity pulse either equals the period in seconds, or -99999 if not applicable
S_Trigger_Flag	=	Flag indicating whether the recording triggered between the P and S arrivals 1 → the recording triggered after the P-arrival (beginning of recording may not be captured) 0 → a clear P-arrival was observed
fcButterHP	=	Corner frequency of Butterworth high-pass filter (Hz)
finiLP	=	Initiation frequency of the low-pass sinuosoidal transition filter (Hz)
fmin	=	Minimum usable frequency of the recording (Hz)
fmax	=	Maximum usable frequency of the recording (Hz)
References	=	Published references associated with the event location, moment tensor, fault plane solution etc.

The columns of ground motion data then follow. For example 'f100.0000SA_RotD50' is the spectral acceleration for a SDOF oscillator with resonant frequency of 100 Hz, and the definition of horizontal component is RotD50. Ground motion values of -99999 represent oscillator frequencies outside the minimum usable frequency of a given recording. PSA values are given in units of g, peak ground velocities are given in m/s and Fourier amplitudes are in $g \cdot s$. For the significant duration flatfile, the data are provided for $D_{5-75\%}$, $D_{5-95\%}$ and $D_{20-80\%}$, for the two as-recorded horizontal components (H1 and H2), as well as for the geometric mean (GM). All duration data are provided in units of seconds.