Republic of Lebanon
National Council for Scientific Research

Provisional Seismological Bulletin

from the

NATIONAL SEISMIC NETWORK

May

2004

Prepared by
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GENERAL BULLETIN INFORMATION

The National Centre for Geophysical Research is a governmental agency established 1975 in Lebanon by the National Council for Scientific Research (CNRS). The mission of the Centre, among other assignments, is the monitoring of seismic activity within the national territory. Currently, the national seismic network is under deployment; it has been officially registered as GRAL, an acronym for Geophysical Research Arrays of Lebanon. Station coordinates and status are given below.

Since 1993, the Centre has been participating in a regional initiative by the UNESCO and the USGS known as RELEMR, i.e. Reducing Earthquake Losses in the Eastern Mediterranean Region.

Within this framework, the Centre routinely contributes to the database set up for this purpose and maintained by the Euro-Mediterranean Seismological Centre (EMSC). For coherence, the Centre has adopted the recommended seismic analysis system SEISAN developed by Jens Havskov and Lars Ottemoller from the University of Bergen, Norway.

The localization program currently used for locating earthquakes is Hypocenter (Lienert et al.,1986). Plane parallel layers are assumed for local and regional events, while the IASPEI travel time tables are used for distant events.

The velocity model used for all local and regional events is the one currently adopted by the RELEMR initiative.

P-wave velocity (km/sec)	**depth to top of layer (km)**
6.2	**0.0**
6.8	**14.0**
8.05	**34.0**
8.25	**50.0**
8.5	**80.0**

Magnitudes are calculated from the coda duration. The coda wave magnitude is estimated via the formula:

Mc = 0.08 + 1.63 * log10(T) + 0.0009 * D.

where T is the coda duration (sec) and D is the epicentral distance (km). The coefficients above were adopted at the outset of our Centre in 1980 and thus are still in use for the sake of continuity.

All available coda values are used for magnitude calculations. No station corrections are used for either travel times or magnitudes calculations. The Vp/Vs velocity ratio used in both layered models above is 1.74.

As a general policy, neither depths, nor epicenters, are fixed unless stated otherwise since this might restrict later use of the data. Consequently, some event locations might be unrealistic such as zero depth earthquakes or teleseismic locations off by 1000 km. However, the locations are based on the available data and reflect the localization procedure and the models used.

STATIONS USED

The stations listed below are operated by the National Centre for Geophysical Research. They constitute the basic setup of the National Seismic Network of Lebanon.

However, readings from other cooperating agencies are also used in locating the events and thus more stations may appear in the event lists than in the station list; it is worth mentioning the systematic use of arrival times from the Cypriot seismic network CSS and the Syrian seismic network SNSN in order to constrain events corresponding to an active zone off the Lebanese shorelines.

STATION	LATITUDE	LONGITUDE	HEIGHT(m)	NAME	COMMENTS
BHL	3354.25N	3539.25E	1000	BHANNES	Opened May 1980
HWQ	3416.68N	3556.78E	1161	HAWQA	Opened Jan 2001
MATL	3329.32N	3519.78E	5	MATARIH	Opened Nov 2000
FKH	3414.13N	3624.11E	1170	FAKEHEH	Scheduled 2003
RCY	3329.08N	3549.13E	1360	RACHAYA	Scheduled 2003
DWR	3323.13N	3524.08E	420	DWEIR	Scheduled 2003

MACROSEISMIC DATA

Macroseismic data, if available, are included in the bulletin.

MONTHLY EPICENTER MAPS

Maps will be found on the last page.

ELECTRONIC PUBLICATION

This provisional bulletin will be available for download in pdf format on:
http://www.cnrs.edu.lb/geophysicalresearch/

REFERENCES

Havskov, J. and Ottemoller, L.(2001). SEISAN: The Earthquake Analysis Software. -version 7.2-
Institute of Solid Earth Physics, University of Bergen.
http://www.ifjf.uib.no/seismo/software/seisan.html

Lienert, B.R., Berg, E. and Frazer, L.N.(1986). Hypocenter: An earthquake location method using centered, scaled, and adaptively least squares. Bull. Seism. Soc. Am., 76.,
pp 771-783.

Abbreviations:

TIME:	Origin time in UTC (hr. min. and sec.) or data file onset time if event is not located.
LAT:	Latitude of epicenter
LON:	Longitude of epicenter
DEPTH:	Focal depth in kilometer (trailing F indicates fixed depth)
AGENCY:	GRL throughout the bulletin, aka. Geophysical Research Lebanon
MAGNITUDES:	Up to 3 different magnitudes can be given followed by type and and reporting agency, e.g. 3.1 MC GRL - coda magnitude calculated according to GRL standard parameters.
RMS:	Root mean square value of travel time residuals
STAT:	Station code
CO:	Component; S:short period, L:long period, B:broadband.
DIST:	Epicenter distance (km)
AZI:	Azimuth from source to station
PHAS:	Phase; The first letter characterizes onset E(mergent) or I(mpulsive)
P:	Polarity (C for compression, D for dilatation)
HR:	Hour
MN:	Minute
SECON:	Seconds
TRES:	Residual (seconds)
CODA:	Signal duration in seconds
AMPL:	Ground Amplitude (0.5*(peak to peak)), (nm) at period PERI
PERI:	Period where amplitude is measured
BAZ:	Back azimuth (station to event)
ARES:	Back azimuth residual
VELO:	Apparent phase velocity (km/sec)
WT:	Weight of phase in the location
*:	An asterisk before the phase arrival time implies a potential timing error. If an S phase is read, differential S-P times will be used in the hypocenter location.

May 1 2004 Hour: 10:25 0.9 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ			IPG		1026	7.73								
HWQ	SZ			IPG		1026	8.98								
BHL	SE			ISG		1026	17.26								
HWQ	SE			ISG		1026	19.62								

May 1 2004 Hour: 13: 4 1.5 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			IPG		13 5	13.89								
BHL	SN			ISG		13 5	37.65								
HWQ	SN			ISG		13 5	21.61								
BHL	SZ			IPG		13 5	22.72								

May 2 2004 Hour: 10:12 52.2 Lat: 34.36N Lon: 34.61E Depth: 15 Agency: REL Local
Magnitudes: 3.0MC REL **Rms: 1.5 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	109.0	117	IPG		1013	10.34	1.2	56			222	-75	33.7	1.0
BHL	SN	109.0	117	ISG		1013	22.33	0.6							1.0
HWQ	SZ	123.6	94	IPG		1013	12.27	0.9							1.0
HWQ	SN	123.6	94	ISG		1013	22.91	-2.6							1.0

May 2 2004 Hour: 12:13 1.5 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			IPG		1214	12.85								
BHL	SZ			IPG		1214	18.53								
HWQ	SE			ISG		1214	22.43								
BHL	SN			ISG		1214	34.46								

May 2 2004 Hour: 12:42 1.3 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ			IPG		1243	34.34								
HWQ	SZ			IPG		1243	25.67								
BHL	SN			ISG		1243	50.38								
HWQ	SN			ISG		1243	36.01								

May 4 2004 Hour: 9: 9 29.7 Lat: 33.39N Lon: 34.52E Depth: 33 Agency: REL Local
Magnitudes: 2.7MC REL **Rms: 0.9 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MATL	SZ	76.21	82	IPG		9 9	43.02	0.7	38						1.0
BHL	SZ	119.6	61	IPG		9 9	46.89	-1.7							1.0
BHL	SE	119.6	61	ISG		910	2.29	-0.2							1.0
HWQ	SZ	164.6	53	IPG		9 9	55.98	0.9							1.0
HWQ	SE	164.6	53	ISG		910	14.24	0.3							1.0

May 4 2004 Hour: 10:28 0.7 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			IPG		1029	20.56								
HWQ	SE			ISG		1029	32.29								
BHL	SN			ISG		1029	30.01								

May 4 2004 Hour: 11:40 19.3 Lat: 33.63N Lon: 35.65E Depth: 15 Agency: REL Local
Magnitudes: 2.2MC REL **Rms: 0.8 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	30.46	1	IPG		1140	24.17	-0.6	20			54	-99	19.2	1.0
BHL	SN	30.46	1	ISG		1140	27.80	-1.1							1.0
HWQ	SZ	76.98	21	IPG		1140	32.39	0.8							1.0
HWQ	SN	76.98	21	ISG		1140	41.58	0.9							1.0

May 5 2004 Hour: 5:57 29.9 Lat: 35.95N Lon: 37.28E Depth: 15 Agency: REL Local
Magnitudes: 3.4MC REL Rms: 1.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	221.7	214	IPG		558	3.47	0.0	80			33	0	27.1	1.0
HWQ	SE	221.7	214	ISG		558	27.02	-1.3							1.0
BHL	SN	271.2	214	ISG		558	42.30	1.3							1.0

May 5 2004 Hour: 10: 3 56.0 Lat: 33.81N Lon: 36.80E Depth: 14 Agency: REL Local
Magnitudes: 3.1MC REL Rms: 1.8 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	93.84	303	IPG		10 4	11.07	0.3	64			291	168	72.7	1.0
HWQ	SE	93.84	303	ISG		10 4	23.16	1.4							1.0
BHL	SZ	106.2	276	IPG		10 4	11.56	-1.0							1.0
BHL	SN	106.2	276	ISG		10 4	26.49	1.6							1.0

May 5 2004 Hour: 13:12 1.6 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			IPG		1312	51.05								
HWQ	SE			ISG		1312	56.76								
BHL	SZ			IPG		1312	52.41								

May 6 2004 Hour: 14:50 24.4 Lat: 34.15N Lon: 35.60E Depth: 15 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	27.30	170	IPG		1450	29.68	0.2	38			36	46	22.0	1.0
BHL	SN	27.30	170	ISG		1450	32.86	-0.4							1.0
HWQ	SZ	34.84	65	IPG		1450	30.70	0.1							1.0
HWQ	SE	34.84	65	ISG		1450	35.16	0.0							1.0

May 7 2004 Hour: 4:27 14.9 Lat: 34.06N Lon: 35.49E Depth: 15 Agency: REL Local
Magnitudes: 2.2MC REL Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	22.61	139	IPG		427	19.61	0.3	20			282	-36	63.1	1.0
BHL	SN	22.61	139	ISG		427	22.31	-0.3							1.0
HWQ	SZ	48.42	60	IPG		427	23.16	0.1							1.0
HWQ	SE	48.42	60	ISG		427	28.90	-0.1							1.0

May 7 2004 Hour: 10:36 3.7 Lat: 33.49N Lon: 35.06E Depth: 0 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MATL	SZ	24.83	89	IPG		1036	7.95	0.3							1.0
BHL	SZ	71.83	50	IPG		1036	14.69	-0.6	51						1.0
BHL	SN	71.83	50	ISG		1036	23.24	-0.6							1.0
HWQ	SZ	120.0	43	IPG		1036	23.24	0.2							1.0
HWQ	SN	120.0	43	ISG		1036	38.05	0.7							1.0

May 7 2004 Hour: 22:28 0.8 Agency: REL Regional

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			EPN		2229	49.05								
BHL	SZ			EPN		2229	42.62								

May 8 2004 Hour: 11:57 4.3 Lat: 32.90N Lon: 35.12E Depth: 33 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 1.8 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MATL	SZ	68.43	16	IPG		1157	17.48	1.5	31						1.0
BHL	SZ	122.2	24	IPG		1157	22.30	-1.3							1.0
BHL	SN	122.2	24	ISG		1157	35.39	-2.5							1.0
HWQ	SZ	171.2	26	IPG		1157	30.45	-0.3							1.0
HWQ	SN	171.2	26	ISG		1157	52.79	2.5							1.0

May 9 2004 Hour: 3:55 45.1 Lat: 34.51N Lon: 38.97E Depth: 27 Agency: REL Local
Magnitudes: 3.7MC REL Rms: 0.9 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	279.0	265	IPG		356	28.30	1.1	111			57	-26	46.9	1.0
HWQ	SE	279.0	265	ISG		356	58.99	0.7							1.0
BHL	SZ	312.7	258	IPG		356	31.63	-0.5							1.0
BHL	SN	312.7	258	ISG		357	5.63	-1.3							1.0

May 9 2004 Hour: 8:23 7.8 Lat: 35.12N Lon: 37.31E Depth: 33 Agency: REL Local
Magnitudes: 3.2MC REL Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	156.0	234	IPG		823	31.56	-0.4	70			53	0	30.0	1.0
HWQ	SN	156.0	234	ISG		823	50.34	0.5							1.0
BHL	SZ	203.2	229	IPG		823	39.33	0.5							1.0
BHL	SN	203.2	229	ISG		824	1.29	-0.5							1.0

May 10 2004 Hour: 15: 3 55.6 Lat: 34.19N Lon: 35.53E Depth: 15 Agency: REL Local
Magnitudes: 2.5MC REL Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	33.90	160	IPG		15 4	1.90	0.3	29			35	54	47.0	1.0
BHL	SN	33.90	160	ISG		15 4	5.79	-0.3							1.0
HWQ	SZ	39.36	76	IPG		15 4	2.13	-0.3							1.0
HWQ	SN	39.36	76	ISG		15 4	7.74	0.3							1.0

May 11 2004 Hour: 8:19 25.0 Lat: 33.57N Lon: 36.19E Depth: 4 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 1.7 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	61.31	307	IPG		819	33.27	-1.7	32			94	-32	12.8	1.0
BHL	SN	61.31	307	ISG		819	40.60	-1.7							1.0
HWQ	SZ	81.14	344	IPG		819	39.81	1.7							1.0
HWQ	SE	81.14	344	ISG		819	49.59	1.7							1.0

May 11 2004 Hour: 10:11 1.0 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ			IPG		1012	32.80								
BHL	SN			ISG		1012	46.80								
HWQ	SZ			IPG		1012	32.39								
HWQ	SN			ISG		1012	46.32								

May 12 2004 Hour: 14:46 0.1 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ			IPG		1446	59.79								
BHL	SE			ISG		1447	4.65								
HWQ	SN			ISG		1447	6.41								

May 12 2004 Hour: 17:13 3.6 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ			IPG		1713	51.66								
HWQ	SN			ISG		1713	59.35								
BHL	SN			ISG		1713	59.75								
HWQ	SZ			IPG		1713	51.27								

May 12 2004 Hour: 17:18 3.7 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ			IPG		1719	24.37								
BHL	SN			ISG		1719	32.82								
HWQ	SN			ISG		1719	32.08								

May 12 2004 Hour: 22:10 50.5 Lat: 33.92N Lon: 35.40E Depth: 49 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.6 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	23.09	94	IPG		2210	57.69	-0.9	38			357	83	24.4	1.0
BHL	SE	23.09	94	ISG		2211	4.43	-0.1							1.0
HWQ	SZ	63.91	51	IPG		2211	3.08	0.9							1.0
HWQ	SE	63.91	51	ISG		2211	10.92	0.1							1.0

May 13 2004 Hour: 12:58 35.3 Lat: 33.73N Lon: 35.20E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 1.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MATL	SZ	29.66	156	IPG		1258	40.79	0.7							1.0
BHL	SZ	45.98	66	IPG		1258	41.07	-1.6	37						1.0
BHL	SE	45.98	66	ISG		1258	47.71	-0.5							1.0
HWQ	SZ	91.55	49	IPG		1258	49.73	-0.3							1.0
HWQ	SN	91.55	49	ISG		1259	2.59	1.6							1.0

May 13 2004 Hour: 23:14 36.2 Lat: 33.22N Lon: 35.14E Depth: 19 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.7 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MATL	SZ	34.19	31	IPG		2314	42.64	0.3	58						1.0
BHL	SZ	89.21	32	IPG		2314	49.74	-0.7							1.0
BHL	SE	89.21	32	ISG		2315	0.00	-0.9							1.0
HWQ	SZ	138.7	32	IPG		2314	58.04	0.4	53						1.0
HWQ	SE	138.7	32	ISG		2315	14.39	0.9							1.0

May 14 2004 Hour: 10:22 2.9 Lat: 33.72N Lon: 35.51E Depth: 47 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.8 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	24.10	32	IPG		1022	9.70	-1.0	47			213	0	34.4	1.0
BHL	SN	24.10	32	ISG		1022	17.02	0.6							1.0
HWQ	SZ	73.56	33	IPG		1022	16.46	1.0							1.0
HWQ	SN	73.56	33	ISG		1022	24.27	-0.6							1.0

May 14 2004 Hour: 16:10 48.9 Lat: 33.63N Lon: 36.21E Depth: 15 Agency: REL Local
Magnitudes: 2.5MC REL Rms: 1.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	59.71	300	IPG		1610	59.62	0.9	28			203	83	77.9	1.0
BHL	SN	59.71	300	ISG		1611	5.70	-0.2							1.0
HWQ	SZ	75.46	341	IPG		1611	2.22	1.2							1.0
HWQ	SN	75.46	341	ISG		1611	8.03	-1.9							1.0

May 14 2004 Hour: 16:34 18.4 Lat: 37.18N Lon: 29.12E Depth: 14 Agency: REL Regional
Rms: 0.6 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	695.2	120	EPN		1635	49.58	0.1							1.0
BHL	SN	695.2	120	SN		1636	56.08	-0.7							1.0
HWQ	SZ	696.6	116	EPN		1635	50.47	0.8							1.0
HWQ	SE	696.6	116	SN		1636	57.86	0.7							1.0
MATL	SZ	697.5	124	EPN		1635	49.17	-0.5							1.0

May 16 2004 Hour: 10:21 27.2 Lat: 34.38N Lon: 34.88E Depth: 0 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	89.07	126	IPG		1021	41.75	0.2	31			307	1	37.0	1.0
BHL	SN	89.07	126	ISG		1021	52.00	-0.2							1.0
HWQ	SZ	99.24	96	IPG		1021	43.01	-0.2							1.0
HWQ	SN	99.24	96	ISG		1021	55.31	0.2							1.0

May 16 2004 Hour: 11:53 0.1 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			IPG		1154	32.65								
HWQ	SE			ISG		1154	43.84								
BHL	SE			ISG		1154	56.98								

May 16 2004 Hour: 14:57 52.5 Lat: 33.82N Lon: 36.69E Depth: 15 Agency: REL Local
Magnitudes: 2.9MC REL **Rms: 0.1 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	85.02	307	IPG		1458	6.04	0.0	45			290	163	25.0	1.0
HWQ	SE	85.02	307	ISG		1458	16.19	0.1							1.0
BHL	SZ	96.09	276	IPG		1458	7.46	-0.2							1.0
BHL	SN	96.09	276	ISG		1458	18.94	0.1							1.0

May 16 2004 Hour: 15: 0 5.5 Lat: 33.81N Lon: 36.70E Depth: 0 Agency: REL Local
Magnitudes: 3.2MC REL **Rms: 0.1 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	86.77	307	IPG		15 0	19.39	-0.1	76						1.0
HWQ	SE	86.77	307	ISG		15 0	30.02	0.1							1.0
BHL	SZ	97.44	276	IPG		15 0	21.14	-0.1							1.0
BHL	SN	97.44	276	ISG		15 0	32.76	-0.1							1.0
MATL	SZ	132.2	255	IPG		15 0	27.02	0.2							1.0

May 16 2004 Hour: 15:17 1.5 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ			IPG		1518	15.18								
HWQ	SE			ISG		1518	24.00								
BHL	SN			ISG		1518	26.35								
HWQ	SZ			IPG		1518	7.13								

May 16 2004 Hour: 15:23 56.6 Lat: 33.80N Lon: 36.72E Depth: 0 Agency: REL Local
Magnitudes: 3.0MC REL **Rms: 0.1 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	88.74	307	IPG		1524	10.75	-0.2	56						1.0
HWQ	SE	88.74	307	ISG		1524	21.65	0.2							1.0
BHL	SZ	99.05	277	IPG		1524	12.53	0.0							1.0
BHL	SN	99.05	277	ISG		1524	24.27	-0.1							1.0
MATL	SZ	133.3	255	IPG		1524	18.24	0.2							1.0

May 16 2004 Hour: 15:24 45.3 Lat: 33.79N Lon: 36.69E Depth: 0 Agency: REL Local
Magnitudes: 3.1MC REL **Rms: 0.0 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	87.72	309	IPG		1524	59.48	0.0	60						1.0
HWQ	SE	87.72	309	ISG		1525	9.92	0.0							1.0
BHL	SZ	96.78	278	IPG		1525	0.88	0.0							1.0
BHL	SN	96.78	278	ISG		1525	12.48	0.0							1.0
MATL	SZ	130.5	256	IPG		1525	6.36	0.0							1.0

May 16 2004 Hour: 15:31 22.2 Lat: 33.83N Lon: 36.69E Depth: 7 Agency: REL Local
Magnitudes: 3.3MC REL **Rms: 0.1 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	84.83	306	IPG		1531	36.04	0.1	86						1.0
HWQ	SN	84.83	306	ISG		1531	46.12	0.0							1.0
BHL	SZ	96.18	275	IPG		1531	37.69	-0.1							1.0
BHL	SN	96.18	275	ISG		1531	49.35	0.0							1.0
MATL	SZ	131.7	254	IPG		1531	43.51	0.0							1.0

May 16 2004 Hour: 15:34 24.7 Lat: 33.74N Lon: 36.66E Depth: 15 Agency: REL Local
Magnitudes: 2.9MC REL Rms: 0.4 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	89.31	312	IPG		1534	38.31	-0.5	49			294	162	15.9	1.0
HWQ	SN	89.31	312	ISG		1534	48.97	-0.3							1.0
BHL	SZ	95.26	281	IPG		1534	39.96	0.3							1.0
BHL	SN	95.26	281	ISG		1534	51.34	0.6							1.0

May 16 2004 Hour: 15:42 38.5 Lat: 33.80N Lon: 36.71E Depth: 7 Agency: REL Local
Magnitudes: 3.1MC REL Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	88.27	307	IPG		1542	52.68	-0.2	64						1.0
HWQ	SE	88.27	307	ISG		1543	3.59	0.1							1.0
BHL	SZ	98.43	277	IPG		1542	54.55	0.1							1.0
BHL	SN	98.43	277	ISG		1543	6.14	-0.1							1.0
MATL	SZ	132.7	255	IPG		1543	0.06	0.1							1.0

May 16 2004 Hour: 15:50 17.4 Lat: 33.89N Lon: 36.67E Depth: 15 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.6 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	79.65	303	IPG		1550	30.62	0.5	32			67	-55	31.4	1.0
HWQ	SE	79.65	303	ISG		1550	40.12	0.6							1.0
BHL	SZ	94.07	271	IPG		1550	31.51	-0.7							1.0
BHL	SN	94.07	271	ISG		1550	42.72	-0.5							1.0

May 16 2004 Hour: 16:47 1.4 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SE			ISG		1647	49.69								
BHL	SZ			IPG		1647	40.72								
BHL	SN			ISG		1647	52.23								
HWQ	SZ			IPG		1647	39.70								

May 16 2004 Hour: 17: 5 56.1 Lat: 33.81N Lon: 36.71E Depth: 0 Agency: REL Local
Magnitudes: 3.3MC REL Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	87.97	307	IPG		17 6	10.05	-0.2	79						1.0
HWQ	SE	87.97	307	ISG	C	17 6	20.98	0.2							1.0
BHL	SZ	98.60	277	IPG		17 6	11.80	-0.2							1.0
BHL	SN	98.60	277	ISG		17 6	23.56	-0.2							1.0
MATL	SZ	133.1	255	IPG		17 6	17.82	0.3							1.0

May 16 2004 Hour: 17:14 41.4 Lat: 33.78N Lon: 36.76E Depth: 15 Agency: REL Local
Magnitudes: 3.2MC REL Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	93.03	307	IPG		1714	56.02	-0.1	71						1.0
HWQ	SE	93.03	307	ISG		1715	6.91	0.0							1.0
BHL	SZ	103.0	278	IPG		1714	57.80	0.3							1.0
BHL	SN	103.0	278	ISG		1715	9.48	0.0							1.0
MATL	SZ	136.3	257	IPG		1715	2.20	-0.2							1.0

May 16 2004 Hour: 17:37 35.0 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SE			ISG		1738	13.76								
BHL	SZ			IPG		1738	4.82								
BHL	SN			ISG		1738	16.37								
HWQ	SZ			IPG		1738	4.26		29						

May 16 2004 Hour: 18: 1 0.2 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SE			ISG		18 1	46.05								
BHL	SN			ISG		18 1	48.77								

May 16 2004 Hour: 18: 6 0.1 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ			IPG		18 7	8.53								
HWQ	SE			ISG		18 7	35.92								
BHL	SN			ISG		18 7	21.19								
HWQ	SZ			IPG		18 7	21.50								

May 16 2004 Hour: 19:59 53.2 Lat: 33.81N Lon: 36.71E Depth: 0 Agency: REL Local
Magnitudes: 3.2MC REL **Rms: 0.2 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	87.51	306	IPG		20 0	7.09	-0.2	71						1.0
HWQ	SE	87.51	306	ISG		20 0	17.94	0.2							1.0
BHL	SZ	98.32	276	IPG		20 0	8.96	-0.1							1.0
BHL	SN	98.32	276	ISG		20 0	20.61	-0.2							1.0
MATL	SZ	133.0	255	IPG		20 0	14.85	0.2							1.0

May 16 2004 Hour: 20: 9 0.1 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SE			ISG		2010	8.78								
BHL	SZ			IPG		20 9	59.85								
BHL	SN			ISG		2010	11.39								
HWQ	SZ			IPG		20 9	58.72		36						

May 16 2004 Hour: 20:23 0.1 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SE			ISG		2023	47.90								
BHL	SE			ISG		2023	49.54								

May 17 2004 Hour: 2:34 40.7 Lat: 33.80N Lon: 36.76E Depth: 15 Agency: REL Local
Magnitudes: 3.2MC REL **Rms: 0.1 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	92.14	305	IPG		234	55.22	0.0	76						1.0
HWQ	SE	92.14	305	ISG		235	6.04	0.0							1.0
BHL	SZ	103.4	277	IPG		234	56.74	-0.1							1.0
BHL	SN	103.4	277	ISG		235	8.83	0.0							1.0
MATL	SZ	137.6	256	IPG		235	1.94	0.1							1.0

May 17 2004 Hour: 2:42 26.8 Lat: 33.79N Lon: 36.69E Depth: 0 Agency: REL Local
Magnitudes: 3.1MC REL **Rms: 0.1 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	87.09	308	IPG		242	40.77	-0.1	63						1.0
HWQ	SE	87.09	308	ISG		242	51.33	0.1							1.0
BHL	SZ	96.59	278	IPG		242	42.36	0.0							1.0
BHL	SN	96.59	278	ISG		242	53.85	-0.1							1.0
MATL	SZ	130.6	255	IPG		242	47.96	0.1							1.0

May 17 2004 Hour: 5: 3 24.1 Lat: 33.99N Lon: 35.56E Depth: 15 Agency: REL Local
Magnitudes: 2.5MC REL **Rms: 0.6 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	12.45	137	IPG		5 3	26.84	-0.5	29			336	19	29.5	1.0
BHL	SN	12.45	137	ISG		5 3	29.35	-0.4							1.0
HWQ	SN	47.92	47	ISG		5 3	38.89	0.8							1.0

May 17 2004 Hour: 5:47 49.2 Lat: 34.00N Lon: 35.76E Depth: 18 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.4 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	14.71	224	IPG		547	52.56	-0.5	34			44	0	30.1	1.0
BHL	SN	14.71	224	ISG		547	56.15	0.3							1.0
HWQ	SZ	35.10	29	IPG		547	55.96	0.5							1.0
HWQ	SE	35.10	29	ISG		547	59.93	-0.3							1.0

May 17 2004 Hour: 9: 8 1.4 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			IPG		9	8 55.53								
HWQ	SN			ISG		9	9 11.27								
BHL	SE			ISG		9	9 6.84								

May 17 2004 Hour: 11:58 25.5 Lat: 33.80N Lon: 36.70E Depth: 0 Agency: REL Local
Magnitudes: 3.3MC REL Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	87.37	307	IPG		1158	39.51	-0.1	82						1.0
HWQ	SN	87.37	307	ISG		1158	50.16	0.1							1.0
BHL	SZ	97.50	277	IPG		1158	41.19	-0.1							1.0
BHL	SN	97.50	277	ISG		1158	52.80	-0.1							1.0
MATL	SZ	131.9	255	IPG		1158	46.92	0.1							1.0

May 17 2004 Hour: 12:12 7.1 Lat: 33.81N Lon: 36.72E Depth: 15 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	88.28	306	IPG		1212	20.97	-0.1							1.0
HWQ	SE	88.28	306	ISG		1212	31.72	0.3							1.0
BHL	SZ	99.08	276	IPG		1212	22.59	-0.1	36			25	-70	14.6	1.0
BHL	SN	99.08	276	ISG		1212	34.14	-0.1							1.0

May 18 2004 Hour: 2:31 34.5 Lat: 34.79N Lon: 33.91E Depth:217 Agency: REL Local
Magnitudes: 4.0MC REL Rms: 0.6 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	188.2	121	IPG		232	11.29	1.0							1.0
MATL	SZ	194.8	137	IPG		232	10.73	0.1							1.0
HWQ	SZ	195.6	106	IPG		232	10.34	-0.5	171						1.0
HWQ	SN	195.6	106	ISG		232	37.73	0.0							1.0

May 18 2004 Hour: 6:25 45.3 Lat: 34.19N Lon: 35.51E Depth: 15 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	33.78	158	IPG		625	51.48	0.2	39			3	25	75.5	1.0
BHL	SN	33.78	158	ISG		625	55.45	-0.3							1.0
HWQ	SZ	41.02	75	IPG		625	52.41	0.0							1.0
HWQ	SN	41.02	75	ISG		625	57.71	0.1							1.0

May 18 2004 Hour: 13:17 44.6 Lat: 34.20N Lon: 35.39E Depth: 15 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	40.88	143	IPG		1317	52.50	0.9	32			319	-3	19.4	1.0
BHL	SN	40.88	143	ISG		1317	56.35	-0.4							1.0
HWQ	SZ	52.40	80	IPG		1317	53.05	-0.2							1.0
HWQ	SE	52.40	80	ISG		1317	59.53	-0.2							1.0

May 18 2004 Hour: 17:13 28.9 Lat: 34.33N Lon: 35.25E Depth: 15 Agency: REL Local
Magnitudes: 2.5MC REL Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	59.83	142	IPG		1713	38.87	0.1	28			316	-4	40.5	1.0
BHL	SN	59.83	142	ISG		1713	46.01	0.0							1.0
HWQ	SZ	64.11	95	IPG		1713	39.34	0.0							1.0
HWQ	SE	64.11	95	ISG		1713	46.97	-0.1							1.0

May 19 2004 Hour: 9:40 25.0 Lat: 33.87N Lon: 36.31E Depth: 15 Agency: REL Local
Magnitudes: 2.5MC REL Rms: 1.4 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	56.35	323	IPG		940	35.74	1.4							1.0
HWQ	SN	56.35	323	ISG		940	42.50	1.3							1.0
BHL	SZ	61.23	273	IPG		940	33.71	-1.3	30			43	-49	12.1	1.0
BHL	SN	61.23	273	ISG		940	41.03	-1.4							1.0

May 19 2004 Hour: 14:17 20.3 Lat: 33.86N Lon: 36.74E Depth: 15 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	86.76	303	IPG		1417	34.28	0.2	41			72	-49	28.8	1.0
HWQ	SE	86.76	303	ISG		1417	44.63	0.4							1.0
BHL	SZ	100.6	273	IPG		1417	35.58	-0.5							1.0
BHL	SN	100.6	273	ISG		1417	47.57	-0.2							1.0

May 19 2004 Hour: 14:43 35.5 Lat: 33.72N Lon: 36.11E Depth: 15 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 1.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	47.39	296	IPG		1443	42.68	-0.8				121	4	51.6	1.0
BHL	SE	47.39	296	ISG		1443	50.42	1.1							1.0
HWQ	SZ	64.32	346	IPG		1443	47.16	1.2	44						1.0
HWQ	SN	64.32	346	ISG		1443	52.17	-1.5							1.0

May 20 2004 Hour: 11:29 26.8 Lat: 33.87N Lon: 35.68E Depth: 39 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 2.0 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	4.922	333	IPG		1129	34.23	1.3							1.0
HWQ	SZ	52.07	28	IPG		1129	39.13	2.5	34						1.0
HWQ	SE	52.07	28	ISG		1129	41.49	-2.4							1.0
MATL	SZ	52.79	218	IPG		1129	35.11	-1.5							1.0

May 20 2004 Hour: 15:14 39.4 Lat: 33.79N Lon: 36.70E Depth: 15 Agency: REL Local
Magnitudes: 2.6MC REL Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	87.82	308	IPG		1514	53.15	-0.1							1.0
HWQ	SE	87.82	308	ISG		1515	3.61	0.0							1.0
BHL	SZ	97.39	278	IPG		1514	54.56	-0.1	32			252	155	57.0	1.0
BHL	SN	97.39	278	ISG		1515	6.19	0.2							1.0

May 21 2004 Hour: 14:30 25.3 Lat: 33.93N Lon: 36.02E Depth: 15 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	33.59	266	IPG		1430	31.27	0.0	45			37	-48	17.8	1.0
BHL	SN	33.59	266	ISG		1430	35.21	-0.4							1.0
HWQ	SZ	39.47	351	IPG		1430	32.21	0.1							1.0
HWQ	SN	39.47	351	ISG		1430	37.42	0.3							1.0

May 23 2004 Hour: 10:10 23.8 Lat: 33.37N Lon: 36.54E Depth: 15 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	101.4	306	IPG		1010	39.99	0.3	38			148	22	53.9	1.0
BHL	SN	101.4	306	ISG		1010	52.09	0.7							1.0
HWQ	SZ	114.8	331	IPG		1010	40.93	-0.7							1.0
HWQ	SE	114.8	331	ISG		1010	54.61	-0.3							1.0

May 23 2004 Hour: 12: 8 35.8 Lat: 34.18N Lon: 35.48E Depth: 15 Agency: REL Local
Magnitudes: 3.0MC REL Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	34.58	152	IPG		12 8	42.59	0.7	57			217	-99	43.1	1.0
BHL	SE	34.58	152	ISG		12 8	46.72	0.3							1.0
HWQ	SZ	44.21	76	IPG		12 8	42.96	-0.3							1.0
HWQ	SE	44.21	76	ISG		12 8	48.21	-0.7							1.0

May 24 2004 Hour: 17:21 52.7 Lat: 34.37N Lon: 35.24E Depth: 15 Agency: REL Local
Magnitudes: 2.8MC REL Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	64.26	144	IPG		1722	2.97	-0.2				335	11	24.4	1.0
BHL	SE	64.26	144	ISG		1722	10.64	-0.2							1.0
HWQ	SZ	65.60	99	IPG		1722	3.57	0.2	40						1.0
HWQ	SE	65.60	99	ISG		1722	11.41	0.2							1.0

May 24 2004 Hour: 20:17 0.1 Agency: REL Local

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			IPG		2017	49.44								
BHL	SN			ISG		2018	6.69								
HWQ	SN			ISG		2018	4.03								
BHL	SZ			IPG		2017	51.96								

May 24 2004 Hour: 20:27 1.1 Lat: 34.56N Lon: 35.82E Depth:144 Agency: REL Local
Magnitudes: 3.3MC REL Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	33.48	160	IPG		2027	20.15	0.0	74						1.0
HWQ	SN	33.48	160	ISG		2027	34.20	-0.1							1.0
BHL	SZ	74.51	192	IPG		2027	22.31	0.4							1.0
BHL	SN	74.51	192	ISG		2027	37.44	0.1							1.0
MATL	SZ	127.3	201	IPG		2027	25.30	-0.3							1.0

May 26 2004 Hour: 13:53 29.1 Lat: 33.91N Lon: 35.65E Depth: 19 Agency: REL Local
Magnitudes: 2.3MC REL Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	0.914	135	IPG		1353	31.92	-0.4	21			315	0	22.1	1.0
BHL	SE	0.914	135	ISG		1353	34.91	0.2							1.0
HWQ	SE	49.28	34	ISG		1353	43.87	0.2							1.0

May 27 2004 Hour: 12: 7 51.3 Lat: 33.28N Lon: 35.17E Depth: 0 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MATL	SZ	27.02	33	IPG		12 7	55.46	-0.2	37						1.0
BHL	SN	82.05	33	ISG		12 8	14.10	-0.3							1.0
HWQ	SZ	131.5	33	IPG		12 8	12.77	0.2							1.0
HWQ	SE	131.5	33	ISG		12 8	28.50	0.3							1.0

May 27 2004 Hour: 13:59 56.7 Lat: 34.18N Lon: 35.47E Depth: 16 Agency: REL Local
Magnitudes: 2.7MC REL Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	35.20	151	IPG		14 0	3.30	0.4	38			331	0	28.1	1.0
BHL	SN	35.20	151	ISG		14 0	7.30	-0.2							1.0
HWQ	SZ	45.02	76	IPG		14 0	3.93	-0.4							1.0
HWQ	SE	45.02	76	ISG		14 0	10.22	0.2							1.0

May 28 2004 Hour: 10:14 1.5 Agency: REL Regional

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			EPN		1015	36.72								
BHL	SZ			EPN		1015	38.06								

May 28 2004 Hour: 12:41 31.9 Agency: REL Regional

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			EP		1241	50.87								
BHL	SZ			EP		1241	56.81								
MATL	SZ			EP		1242	1.35								

May 29 2004 Hour: 9:49 0.8 **Agency: REL Local**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ			IPG		950	17.56								
BHL	SN			ISG		950	20.64								
HWQ	SN			ISG		950	22.65								

May 29 2004 Hour: 14:31 32.5 Lat: 34.19N Lon: 35.53E Depth: 15 Agency: REL Local
Magnitudes: 2.5MC REL **Rms: 0.3 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BHL	SZ	34.22	160	IPG		1431	39.01	0.5	28			298	-41	27.1	1.0
BHL	SN	34.22	160	ISG		1431	43.10	0.1							1.0
HWQ	SZ	39.91	76	IPG		1431	39.30	-0.1							1.0
HWQ	SE	39.91	76	ISG		1431	44.03	-0.5							1.0

May 30 2004 Hour: 5:38 2.5 Lat: 32.91N Lon: 35.65E Depth: 13 Agency: REL Local
Magnitudes: 3.2MC REL **Rms: 0.4 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MATL	SZ	70.86	335	IPG		538	14.47	0.3							1.0
BHL	SZ	110.2	0	IPG		538	20.42	0.0							1.0
BHL	SE	110.2	0	ISG		538	33.51	-0.2							1.0
HWQ	SZ	154.1	10	IPG		538	27.93	0.5	65						1.0
HWQ	SN	154.1	10	ISG		538	45.92	0.0							1.0

May 30 2004 Hour: 17:22 22.7 Lat: 34.37N Lon: 35.29E Depth: 15 Agency: REL Local
Magnitudes: 2.6MC REL **Rms: 0.1 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
HWQ	SZ	61.13	99	IPG		1722	32.79	0.1							1.0
HWQ	SN	61.13	99	ISG		1722	40.19	0.1							1.0
BHL	SZ	61.58	147	IPG		1722	32.78	0.0	31			348	21	21.3	1.0
BHL	SN	61.58	147	ISG		1722	40.12	-0.1							1.0

May 31 2004 Hour: 17:25 51.3 Lat: 32.90N Lon: 35.65E Depth: 15 Agency: REL Local
Magnitudes: 3.7MC REL **Rms: 1.0 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MATL	SZ	71.74	335	IPG		1726	2.41	-0.4							1.0
BHL	SZ	111.2	0	IPG		1726	8.34	-0.3							1.0
BHL	SE	111.2	0	ISG		1726	21.95	0.4							1.0
HWQ	SZ	155.1	10	IPG		1726	15.46	0.3	127						1.0
HWQ	SE	155.1	10	ISG		1726	34.26	1.5							1.0

May 31 2004 Hour: 23:52 38.7 Lat: 32.00N Lon: 35.60E Depth: 13 Agency: REL Local
Magnitudes: 3.7MC REL **Rms: 0.7 secs**

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MATL	SZ	167.4	351	IPG		2353	6.37	0.5							1.0
BHL	SZ	211.6	1	IPG		2353	12.38	-0.6	131						1.0
BHL	SN	211.6	1	ISG		2353	39.57	1.3							1.0
HWQ	SZ	255.1	7	IPG		2353	18.65	-1.3							1.0
HWQ	SE	255.1	7	ISG		2353	49.95	-0.5							1.0

Seismic Events 0f May 2004 as recorded by the GRAL network

Magnitudes:

Unknown +

M = 1 •

M = 2 •

M = 3 •

M = 4 •