

PACIFIC ENGINEERING AND ANALYSIS STRONG-MOTION CATALOG (3/14/01) (TURKEY ONLY)
 Earthquake Station (3)
 No. Location, Date & Time Magnitude (2) No. Description
 Mech, Dip (1) YEAR MODY HRMN M ML MS OTH H/F

0141 Kocaeli, Turkey		1999 0817	7.4 0.0 7.8 6.7	ERD 99999 Afyon Bay	197.6*	Site	Dir\Filename	Filter	PGV	PGD
00		99		99	999.9	Codes		HP	(cm/s)	(cm)
					(km) (4)	(5)		(hz)	(hz) (6)	
							KOCAELI\AFYDWN	0.12	7.0	0.005
							KOCAELI\AFY000	0.08	4.0	0.013
							KOCAELI\AFY090	0.09	6.0	0.016
						B-D	KOCAELI\ATS-UP	0.03	50.0	0.079
						D	KOCAELI\ATS000	0.03	50.0	0.249
							KOCAELI\ATS090	0.02	50.0	0.184
						B-B	KOCAELI\ARCDWN	0.08	50.0	0.086
						B	KOCAELI\ARC000	0.07	50.0	0.218
							KOCAELI\ARC090	0.04	50.0	0.149
						--D	KOCAELI\ATK-UP	0.08	50.0	0.064
						C	KOCAELI\ATK000	0.03	50.0	0.105
							KOCAELI\ATK090	0.02	40.0	0.164
						---	KOCAELI\AYD-UP	0.03	10.0	0.003
							KOCAELI\AYD090	0.02	9.0	0.005
							KOCAELI\AYD180	0.03	8.0	0.007
						--D	KOCAELI\BLK-UP	0.06	20.0	0.007
							KOCAELI\BLK090	0.02	20.0	0.018
							KOCAELI\BLK180	0.03	18.0	0.017
						---	KOCAELI\BRN-UP	0.02	12.0	0.003
							KOCAELI\BRN090	0.07	10.0	0.011
							KOCAELI\BRN180	0.03	10.0	0.010
						A-B	KOCAELI\BTS-UP	0.03	40.0	0.024
							KOCAELI\BTS000	0.03	40.0	0.103
							KOCAELI\BTS090	0.03	40.0	0.089
						--A	KOCAELI\BRS-UP	0.02	12.0	0.025
							KOCAELI\BRS090	0.09	20.0	0.045
							KOCAELI\BRS180	0.07	12.0	0.058
						I-D	KOCAELI\BUR-UP	0.01	50.0	0.048
							KOCAELI\BUR000	0.02	50.0	0.103
							KOCAELI\BUR090	0.08	50.0	0.108
						---	KOCAELI\CNK-UP	0.03	12.0	0.007
							KOCAELI\CNK090	0.03	10.0	0.029
							KOCAELI\CNK180	0.02	12.0	0.025
						A-B	KOCAELI\CNA-UP	0.02	50.0	0.057
						C	KOCAELI\CNA000	0.02	50.0	0.179
							KOCAELI\CNA090	0.02	50.0	0.133
						A-D	KOCAELI\DZC-UP	0.08	20.0	0.229
						C	KOCAELI\DZC180	0.08	20.0	0.312
							KOCAELI\DZC270	0.08	15.0	0.358
						---	KOCAELI\ERG-UP	0.10	20.0	0.054
							KOCAELI\ERG180	0.05	20.0	0.106
							KOCAELI\ERG090	0.05	20.0	0.090
						A-C	KOCAELI\FAT-UP	0.03	50.0	0.128
							KOCAELI\FAT000	0.02	50.0	0.187
							KOCAELI\FAT090	0.012	50.0	0.159
						C-A	KOCAELI\GBZ-UP	0.10	40.0	0.203
						A	KOCAELI\GBZ000	0.03	25.0	0.244
							KOCAELI\GBZ270	0.08	30.0	0.137
						--B	KOCAELI\GYN-UP	0.10	30.0	0.114
							KOCAELI\GYN000	0.15	30.0	0.132
							KOCAELI\GYN090	0.10	25.0	0.119
						A-B	KOCAELI\DRM-UP	0.04	40.0	0.055
							KOCAELI\DRM000	0.02	40.0	0.090
							KOCAELI\DRM090	0.02	40.0	0.083
						--B	KOCAELI\IST-UP	0.02	40.0	0.035
							KOCAELI\IST090	0.20	7.7	0.044
							KOCAELI\IST180	0.07	9.0	0.053

ERD 99999 Izmit 99	5.0 5.0	B-A A	KOCAELI\IZT-UP KOCAELI\IZT180 KOCAELI\IZT090	0.10 0.10 0.10	30.0 30.0 30.0	0.146 0.152 0.220	13.1 22.6 29.8	6.66 9.81 17.12
ERD 99999 Iznik 99	29.7 29.7	--D C	KOCAELI\IZN-UP KOCAELI\IZN180 KOCAELI\IZN090	0.10 0.10 0.07	25.0 25.0 25.0	0.079 0.098 0.136	6.8 16.0 28.8	4.26 7.73 17.44
ERD 99999 Kutahya 99	144.6 144.6	--D C	KOCAELI\KUT-UP KOCAELI\KUT090 KOCAELI\KUT180	0.10 0.02 0.09	20.0 13.0 12.0	0.023 0.060 0.049	5.1 19.7 9.9	1.67 20.08 3.92
ERD 99999 Manisa 99	342.4* 999.9	---	KOCAELI\MNSDMN KOCAELI\MNS000 KOCAELI\MNS090	0.10 0.08 0.07	6.0 5.0 5.0	0.005 0.012 0.006	1.4 3.0 2.8	0.78 1.21 1.85
ITU 99999 Maslak 99	63.9 63.9	--A A	KOCAELI\MSK-UP KOCAELI\MSK000 KOCAELI\MSK090	0.03 0.09 0.03	50.0 50.0 50.0	0.030 0.044 0.040	5.7 6.6 6.5	7.24 6.52 9.24
ITU 99999 Mecidiyekoy 99	62.3 62.3	--B B	KOCAELI\MCD--V KOCAELI\MCD000 KOCAELI\MCD090	0.10 0.06 0.05	60.0 50.0 50.0	0.028 0.054 0.068	6.3 6.2 8.8	4.68 4.75 10.11
ERD 99999 Sakarya 99	3.4 3.4	A-B B	KOCAELI\SKR-UP KOCAELI\SKRXXX KOCAELI\SKR090	-99. 0.04 0.10	40.0 20.0 20.0	0.376 0.011 0.036	79.5 1.2 4.4	70.52 0.74 1.55
ERD 99999 Tekirdag 99	174.1 174.1	--A -	KOCAELI\TKR-UP KOCAELI\TKR180 KOCAELI\TKR090	0.10 0.10 0.10	30.0 30.0 30.0	0.035 0.035 0.004	2.8 2.8 0.1	1.29 1.29 0.12
ERD 99999 Tokat 99	373.3* 999.9	---	KOCAELI\TKT-UP KOCAELI\TKT090 KOCAELI\TKT180	0.04 0.03 0.10	10.0 10.0 10.0	.0004 .0011 .0009	0.1 0.2 0.1	0.12 0.19 0.14
ERD 99999 Tosya 99	459.3* 999.9	---	KOCAELI\TOS-UP KOCAELI\TOS090 KOCAELI\TOS180	0.03 0.03 0.02	16.0 10.0 12.0	0.004 0.008 0.011	1.8 4.0 5.9	2.32 2.93 12.61
ERD 99999 Usak 99	204.6* 999.9	---	KOCAELI\USK-UP KOCAELI\USK090 KOCAELI\USK180	0.01 0.02 0.02	12.0 12.0 12.0	0.004 0.016 0.011	1.1 5.8 2.8	1.60 11.22 4.84
KOERI 99999 Yapi Kredi 99	62.6 62.6	E-A -	KOCAELI\YKP-UP KOCAELI\YKP000 KOCAELI\YKP090	0.015 0.03 0.02	50.0 50.0 50.0	0.027 0.039 0.037	6.4 8.0 6.5	6.62 10.62 12.15
KOERI 99999 Yarimca 99	4.4 4.4	B-D C	KOCAELI\YPT-UP KOCAELI\YPT060 KOCAELI\YPT330	0.07 0.07 0.03	50.0 50.0 50.0	0.268 0.349 0.054	65.7 62.1 7.2	29.55 57.01 50.97
ITU 99999 Zeytinburnu 99	63.1 63.1	--D C	KOCAELI\ZYF-UP KOCAELI\ZYF000 KOCAELI\ZYF090	0.03 0.06 0.04	50.0 50.0 50.0	0.054 0.108 0.110	7.2 18.5 15.2	8.56 12.98 18.20
ERD 99999 Bolu 99	17.6 17.6	A-D C	DUZCE\BOL-UP DUZCE\BOL000 DUZCE\BOL090	0.05 0.05 0.05	20.0 20.0 50.0	0.203 0.728 0.822	17.3 56.4 62.1	14.29 23.07 13.55
ERD 99999 Duzce 99	8.2 8.2	A-D C	DUZCE\DZC-UP DUZCE\DZC180 DUZCE\DZC270	0.06 0.06 0.08	50.0 50.0 50.0	0.357 0.348 0.535	22.6 60.0 83.5	19.40 42.09 51.59
ERD 99999 Kutahya 99	169.5 169.5	--D C	DUZCE\KUT-UP DUZCE\KUT090 DUZCE\KUT180	0.05 0.03 0.04	12.0 12.0 12.0	0.009 0.022 0.016	2.7 9.5 5.0	2.92 5.88 2.56
LAMONT 362 Lamont 362 99	27.4 27.4	--A B	DUZCE\362-V DUZCE\362-N DUZCE\362-E	0.06 0.06 0.03	50.0 50.0 50.0	0.020 0.042 0.026	4.4 9.2 7.7	4.28 8.07 10.12
LAMONT 375 Lamont 375 99	8.2 8.2	--B -	DUZCE\375-V DUZCE\375-N DUZCE\375-E	0.06 0.15 0.10	50.0 50.0 50.0	0.193 0.970 0.514	9.5 36.5 20.2	6.20 5.48 7.49
LAMONT 531 Lamont 531 99	11.4 11.4	--A -	DUZCE\531-V DUZCE\531-N DUZCE\531-E	0.06 0.06 0.05	50.0 50.0 50.0	0.066 0.159 0.118	7.3 12.9 14.0	7.53 7.85 9.52
LAMONT 1058 Lamont 1058 99	0.9 0.9	--A B	DUZCE\1058-V DUZCE\1058-N	0.05 0.06	50.0 50.0	0.070 0.073	16.8 13.5	11.65 12.69

0143 Duzce, Turkey
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1999 1112 7.1 7.2 7.3 6.5

K = Cretaceous (< 145my bp).
F = Franciscan Formation (Cretaceous/Late Jurassic).
J = Jurassic (< 210my bp).
T = Triassic (<255my bp).
Z = Permian or older (> 255my bp).
Igneous or meta-igneous:
V = Volcanic (extrusive).
N = Intrusive.
G = Granitic.

A, B and C are codes from a previous Geomatrix classification scheme that have been superceded.

THIRD LETTER: Geotechnical subsurface characteristics (used all earthquake except the Chi-Chi, Taiwan of 9/20/99)

A = Rock. Instrument on rock ($V_s > 600$ mps) or < 5m of soil over rock.
B = Shallow (stiff) soil. Instrument on/in soil profile up to 20m thick overlying rock.
C = Deep narrow soil. Instrument on/in soil profile at least 20m thick overlying rock, in a narrow canyon or valley no more than several km wide.
D = Deep broad soil. Instrument on/in soil profile at least 20m thick overlying rock, in a broad valley.
E = Soft deep soil. Instrument on/in deep soil profile with average $V_s < 150$ mps.

THIRD LETTER (NUMBER): Central Weather Bureau (CWB) of Taiwan Site Categories (used only for the Chi-Chi, Taiwan earthquake of 9/20/99)

1 = Hard site.
2 = Medium site.
3 = Soft soil site.

USGS 1-LETTER SITE CLASSIFICATIONS

Average shear wave velocity to a depth of 30m is:

A = > 750 m/s
B = 360 - 750 m/s
C = 180 - 360 m/s
D = < 180 m/s

Lower case letter indicates a questionable site classification for the Chi-Chi, Taiwan earthquake stations.