

**Table 4**

**Natural Thermoluminescence (NTL) Data for Antarctic Meteorites**

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The measurement and data reduction methods were described by Hasan *et al.* (1987, *Proc. 17th LPSC*, E703-E709; 1989, *LPSC XX*, 383-384). For meteorites whose TL lies between 5 and 100 krad, the natural TL is related primarily to terrestrial history. Samples with NTL <5 krad have TL levels below that which can reasonably be ascribed to long terrestrial ages. Such meteorites have had their TL lowered by heating within the last million years or so by close solar passage, shock heating, or atmospheric entry, exacerbated in the case of some achondrites by anomalous fading. We suggest meteorites with NTL >100 krad are candidates for unusual orbital/thermal histories (Benoit and Sears, 1993, *EPSL*, 120, 463-471).

<b>Sample</b>	<b>Class</b>	<b>Natural TL [krad at 250 °C]</b>
GEO 99101	H4	47.0 ± 1.0
EET 99412	H5	43.0 ± 1.0
EET 99413	H5	10.9 ± 0.3
EET 99414	H5	61.0 ± 1.0
EET 99416	H5	9.9 ± 0.1
EET 99420	H5	1.2 ± 0.1
EET 99422	H5	97.7 ± 0.1
EET 99423	H5	1.5 ± 0.1
GEO 99100	H5	0.4 ± 0.1
MIL 99300	H5	27.1 ± 0.3
MIL 99303	H5	29.6 ± 0.5
MIL 99304	H5	0.5 ± 0.1
QUE 99003	H5	49.0 ± 1.0
QUE 99004	H5	70.2 ± 0.1
QUE 99008	H5	24.8 ± 0.1
QUE 99009	H5	64.0 ± 2.0
QUE 99014	H5	23.5 ± 0.1
QUE 99027	H5	60.6 ± 0.6
ALH 99505	H6	35.4 ± 0.7
EET 99410	H6	6.5 ± 0.1
EET 99411	H6	20.2 ± 0.3
QUE 99002	H6	34.5 ± 0.7
ALH 99506	L5	113.0 ± 0.5
EET 99424	L5	1.5 ± 0.1
MIL 99306	L5	51.2 ± 0.1
MIL 99309	L5	86.6 ± 0.8
MIL 99310	L5	38.0 ± 0.4
MIL 99319	L5	40.5 ± 0.4
MIL 99320	L5	42.8 ± 0.3
MIL 99323	L5	29.8 ± 0.5

<b>Sample</b>	<b>Class</b>	<b>Natural TL</b> [krad at 250 °C]
QUE 99010	L5	112.0 ± 0.5
QUE 99029	L5	7.2 ± 2.0
EET 99409	L6	0.6 ± 0.1
GEO 99129	L6	0.6 ± 0.1
MIL 99305	L6	14.0 ± 0.1
MIL 99318	L6	8.3 ± 0.1
QUE 99028	L6	101.0 ± 1.0
MIL 99301	LL6	65.8 ± 0.1
MIL 99308	LL6	0.5 ± 0.1
EET 99400	HOW	6.4 ± 0.5

The quoted uncertainties are the standard deviations shown by replicate measurements on a single aliquot.

**COMMENTS:** The following comments are based on natural TL data, TL sensitivity, the shape of the induced TL glow curve, classifications, and sample descriptions.

QUE 99029 and EET 99424 have very low TL sensitivity compared with other equilibrated ordinary chondrites and may be extensively shocked.

**Pairings suggested by TL data:**

H5: QUE 99008 with QUE 99014

L5: MIL 99319 with MIL 99320