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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 of so by close solar passage, shock heating, or atmospheric entry, exacerbated in the case of some achondrites by anomalous fading.

Sample	Class	Natural TL [krad at 250°C]
QUE 97289	AUB	13 ± 3
GRA 98033	EUC	2.2 ± 0.4
GRA 98098	EUC	<1
GRA 98001	H5	91.9 ± 0.1
QUE 97292	H5	58.2 ± 0.5
QUE 97342	H5	68.8 ± 0.4
MET 96508	L6	12.3 ± 0.1
QUE 97288	L6	34.4 ± 0.6
QUE 97290	L6	9 ± 4
QUE 97347	L6	10.9 ± 0.2
QUE 97360	L6	0.3 ± 0.1
QUE 97090	LL5	15.0 ± 0.1
QUE 97180	LL5	16.8 ± 0.1
QUE 97275	LL5	1.5 ± 0.4
QUE 97321	LL5	1.9 ± 0.2
QUE 97329	LL5	8 ± 2
QUE 97363	LL5	14 ± 0.1
QUE 97395	LL5	1.0 ± 0.2
QUE 97397	LL5	7.9 ± 0.1
QUE 97403	LL5	10.4 ± 0.1

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 JSC and Arkansas sample descriptions.

GRA 98098 has a TL sensitivity similar to Y-75011, a petrologic type 1 and the least equilibrated eucrite in the classification system of Takeda *et al.* (1983, *Proc. 8th Symp. Antarctic Meteor.*, 181-205) and Batchelor and Sears (1991, *GCA*, 55, 3831-3844). GRA 98033 has a TL sensitivity similar to eucrites of petrologic type 5.

Pairings suggested by TL data:

H5: GRA 98001 with GRA 95214 (AMN 21:1).
H5: QUE 97342 with QUE 97292.
L6: QUE 97290 with QUE 94202 group (AMN 19:2).
LL5: QUE 97090, QUE 97180, QUE 97275, QUE 97321, QUE 97329, QUE 97363, QUE 97365, QUE 97397, and QUE 97403 with QUE 97016 group (AMN 22:2).