

eM-AGE Report v1.0

Sample Information

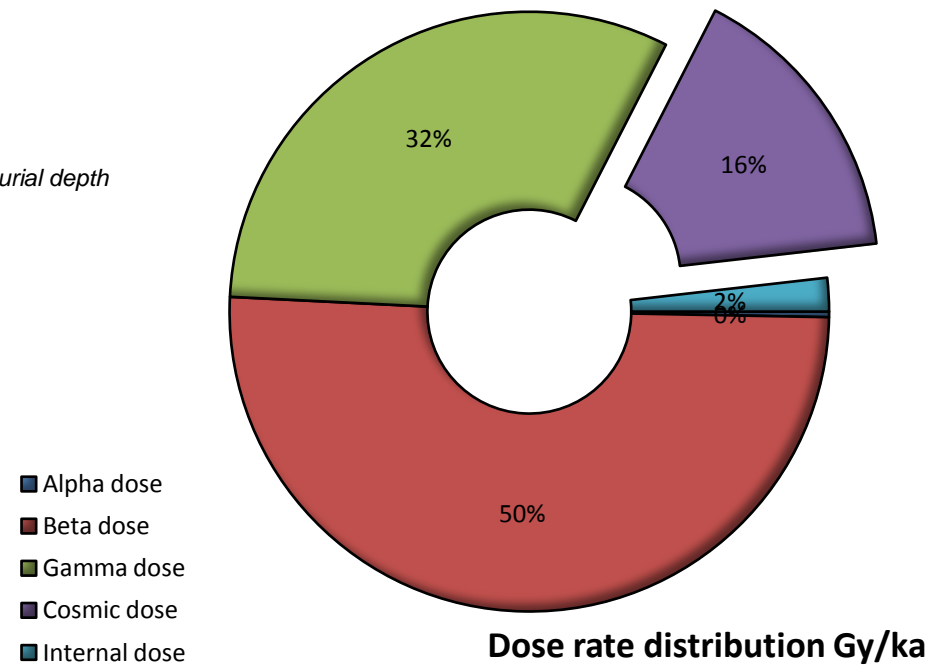
| | | | | | |
|--------------|------------|---------------------|---------------------------|------------------|--------|
| Sample Name | SAR-2.binx | Altitude (m.a.s.l.) | 100 ± 1 | Type of material | Quartz |
| Project Name | Unknown | Burial depth (cm) | 15 ± 2 | | |
| | | Sample Coordinates | 60° 0.0000', 100° 0.0000' | | |

Dose rate information

| | | |
|---------------------------------------|---------------------------|---|
| | Gy·ka⁻¹ | |
| Alpha dose rate ^{(2) (3)} | 0.00 ± 0.00 | Alpha dose rate by U, Th, K concentrations |
| Beta dose rate ^{(4) (5) (8)} | 0.84 ± 0.07 | Beta dose rate by U, Th, K concentrations |
| Gamma dose rate | 0.53 ± 0.04 | Gamma dose rate by U, Th, K concentrations |
| Cosmic dose rate ⁽⁷⁾ | 0.26 ± 0.03 | Cosmic dose rate by sample coordinates and burial depth |
| Internal dose rate | 0.03 ± 0.01 | Internal dose rate by user |
| TOTAL dose rate ⁽¹⁾ | 1.66 ± 0.09 | |
| Water content (%) ⁽⁸⁾ | 11.25 ± 3.75 | |
| a-value ⁽⁹⁾ | 0.04 ± 0.01 | |

Equivalent dose information

| | |
|-------------------------|-----------------------------|
| Type of analysis | Single Aliquot |
| Type of protocol | OSL |
| Grain size MIN-MAX | 180-212 µm |
| Etching size MIN-MAX | 10-15 µm |
| Reader name (Dose rate) | Unknown (0.1 ± 0.002 Gy/ka) |
| Number of files | 1 |
| Number of total data | 24 |
| Number of selected data | 20 |
| Equivalent dose (Gy) | 8.58 ± 0.13 |



IM Concentrations

U (ppm) 1.00 ± 0.20

Th (ppm) 5.00 ± 0.50

K (%) 0.00 ± 0.00

Rb (ppm) 1.00 ± 0.10

Internal dose

By user (Gy/ka) 0.03 ± 0.01

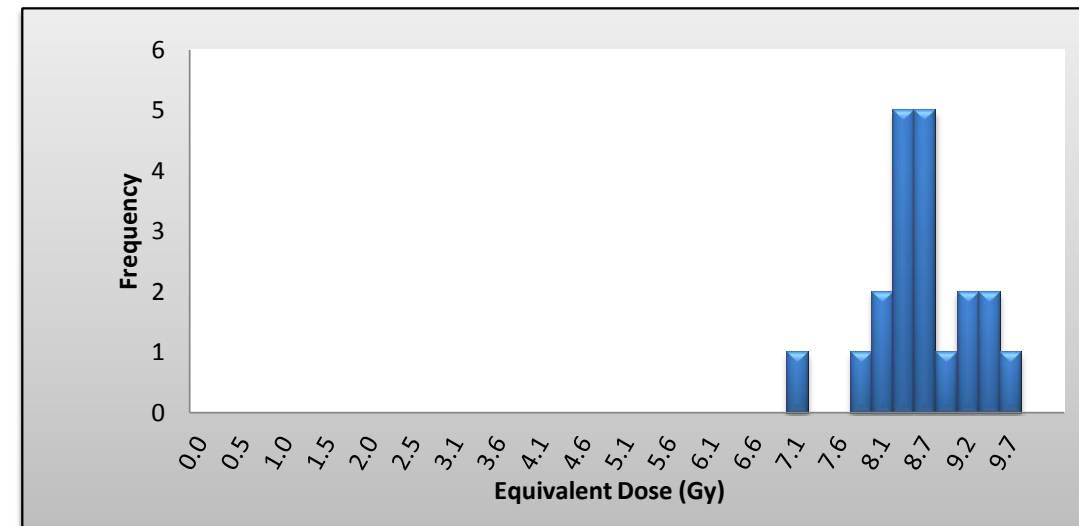
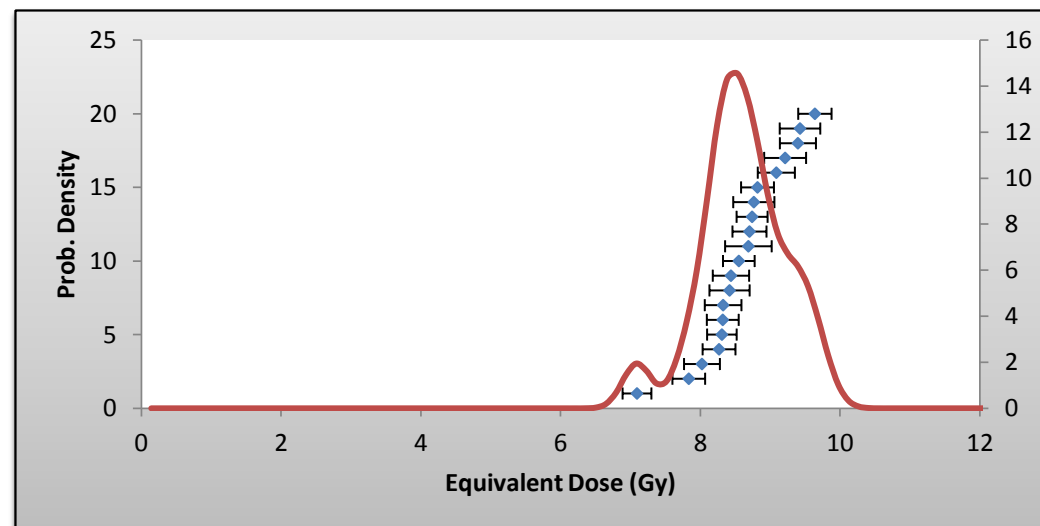
Results Final age (ka) **5.17 ± 0.29**

(10) Central Age Model

Overdispersion (%) **16.54**

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Graphs



References

- | | |
|--|----------------------------|
| (1) Conversion factor | Guerin et al. (2011) |
| (2) Grain size attenuation factor (for Alpha dose) | Brennan et al. (1991) |
| (3) Etching attenuation factor (for Alpha dose) | Bell (1980) |
| (4) Grain size attenuation factor (for Beta dose) | Guerin et al. (2012) |
| (5) Etching attenuation factor (for Beta dose) | Bell (1979) |
| (6) Cosmic dose rate procedure | Prescott and Hutton (1994) |
| (7) Absorbed dose fraction for ⁸⁷ Rb beta particles | Readhead (2002a; b) |
| (8) Water content correction factor | Aitken and Xie (1990) |
| (9) a-value | Aitken (1985a, b) |
| (10) Common/Central Age Model | Galbraith et al. (1999) |

Selected Data

| # | Disc | Grain | ED (Gy) |
|----|------|-------|-------------|
| 1 | 1 | 0 | 9.40 ± 0.26 |
| 2 | 3 | 0 | 8.32 ± 0.23 |
| 3 | 5 | 0 | 8.74 ± 0.22 |
| 4 | 6 | 0 | 8.33 ± 0.26 |
| 5 | 7 | 0 | 8.42 ± 0.29 |
| 6 | 8 | 0 | 8.55 ± 0.23 |
| 7 | 9 | 0 | 9.43 ± 0.29 |
| 8 | 10 | 0 | 8.27 ± 0.24 |
| 9 | 11 | 0 | 9.09 ± 0.27 |
| 10 | 13 | 0 | 8.31 ± 0.21 |

| # | Disc | Grain | ED (Gy) |
|----|------|-------|-------------|
| 11 | 14 | 0 | 8.82 ± 0.24 |
| 12 | 15 | 0 | 7.83 ± 0.23 |
| 13 | 16 | 0 | 8.44 ± 0.26 |
| 14 | 17 | 0 | 8.77 ± 0.29 |
| 15 | 18 | 0 | 9.21 ± 0.30 |
| 16 | 19 | 0 | 8.69 ± 0.33 |
| 17 | 20 | 0 | 8.02 ± 0.26 |
| 18 | 21 | 0 | 7.09 ± 0.21 |
| 19 | 22 | 0 | 8.70 ± 0.24 |
| 20 | 23 | 0 | 9.64 ± 0.24 |