## DS Spreadsheets
| Attribute | Description | Type | Units |
| --- | --- | --- | --- |
| sample\_id | Sample identification | char | NaN |
| well\_name | Official location name | char | NaN |
| top\_latitude | Latitude at ground surface (latitude) | double | deg |
| top\_longitude | Longitude at ground surface (longitude) | double | deg |
| top\_depth | Depth to top of sample | double | ft |
| bottom\_depth | Depth to bottom of sample. Blank where not recorded, but samples generally span 1ft of core depth | double | ft |
| lith\_type | Lithology of core sample | char | NaN |
| lith\_type\_Description | Description of Lith\_type abbreviations | char | NaN |
| strat\_unit\_name | Name of parent stratigraphic unit | char | NaN |
| strat\_unit\_name\_Description | Description of strat\_unit\_name abbreviations | char | NaN |
| W\_SAMPLE\_remarks | Description/comments | char | NaN |
| location\_type | Type of sample location, i.e. borehole, test pit etc. | char | NaN |
| ref\_elevation | Reference elevation at the top of borehole or excavation (undisturbed ground surface) | double | ft |
| test\_type | Test procedure (all direct-shear tests) | char | NaN |
| sample\_prep | Physical preparation of sample | char | NaN |
| sample\_moisture | Moisture conditions | char | NaN |
| sample\_drainage | Drainage conditions during test | char | NaN |
| sample\_consolid | State of consolidation prior to shear | char | NaN |
| p\_phi (deg) | Peak phi (angle of interval friction) | double | deg |
| p\_c (psf) | Peak C (cohesion) | double | psf |
| p\_c (kPa) | Peak C (cohesion) | double | kPa |

## Thermochronometry
| Sample Information Tab | Unnamed: 1 | Unnamed: 2 | Unnamed: 3 |
| --- | --- | --- | --- |
| Attribute | Description | Type | Units |
| Sample | Sample identification | char | NaN |
| Latitude | Latitude at sample location | double | deg |
| Longitude | Longitude at sample location | double | deg |
| Elevation | Elevation of the sample location | double | m |
| Mineral | Mineral and thermochronometry system analyzed | char | NaN |
| Mean Age | Mean age of replicates, ± two standard error | double | Ma |
| NaN | NaN | NaN | NaN |
| Raw data tab | NaN | NaN | NaN |
| Attribute | Description | Type | Units |
| Name | Grain identification | char | NaN |
| U | Measured Uranium concentration | double | ppm |
| U SD | Standard deviation of measured Uranium concentration | double | ppm |
| Th | Measured Thorium concentration | double | ppm |
| Th SD | Standard deviation of measured Thorium concentration | double | ppm |
| Sm | Measured Samarium concentration | double | ppm |
| Sm SD | Standard deviation of measured Samarium concentration | double | ppm |
| He | Measured Helium concentration | double | ncc |
| He error | Instrumental error of Helium concentration measurement | double | ncc |
| He | Measured Helium concentration in ncc/g | double | ncc/g |
| Shape | Morphology of apatite grains: nn = a grain with two unbroken euhedral tips; pp = a grain with both tips broken such that they are roughly perpendicular to the c-axis; np = a grain with one unbroken tip and one tip broken roughly perpendicular to the c-axis; multigrain = multiple apatite grains degassed for 4He within one packet due to low single-grain 4He yield. | char | NaN |
| Effective Uranium (eU) | eU = [U] + 0.234[Th] + 0.005[Sm] | double | ppm |
| Mass | Mass of grain | double | mg |
| FT | Alpha-ejection correction | double | NaN |
| Radius | Radius of grain | double | um |
| Length | Length of grain | double | um |
| Uncorrected Age | Measured age | double | Ma |
| Corrected Age | Measured age divided by alpha-ejection correction | double | Ma |
| Age Error | Propogated instrumental uncertanties of measured age | double | Ma |