Amato, J.M., Dumoulin, J.A., Gottlieb, E.S., and Moore, T.E., 2022, Detrital zircon ages from upper Paleozoic–Triassic clastic strata on St. Lawrence Island, Alaska: An enigmatic component of the Arctic Alaska–Chukotka microplate: Geosphere, v. 18, https://doi.org/10.1130/GES02490.1.

SUPPLEMENTAL MATERIAL

Part 1:

Yellow squares on geologic maps are locations of examined thin sections for petrography. See manuscript figure 2 for details of locations.

Part 2:

Concordia diagrams showing U-Pb zircon data from smaller and larger zircon grains in sample DT-84-14/15.

Part 3:

Detrital Py plots used to calculate weighted mean ages as shown in Table 1.

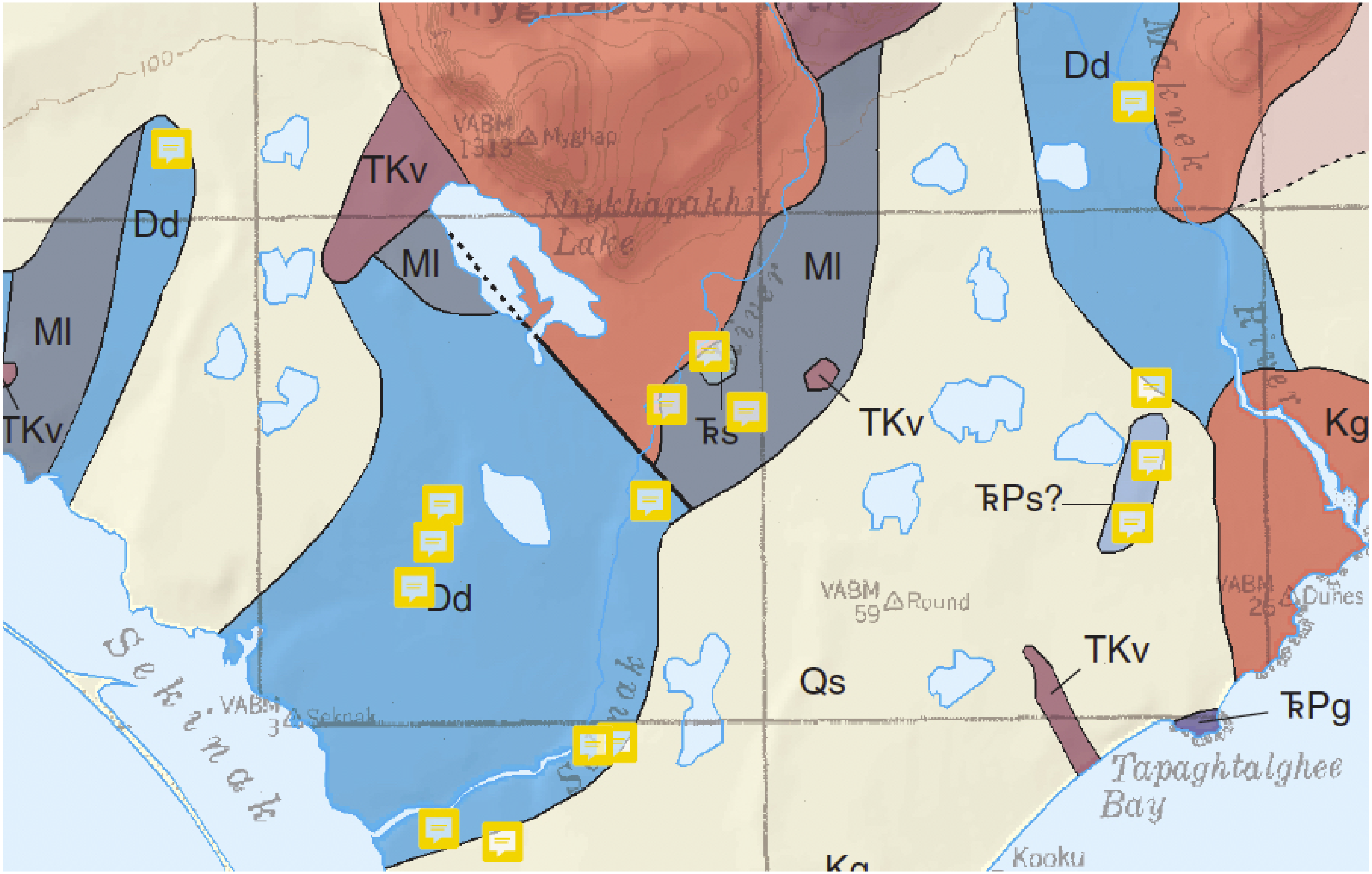
Part 4:

Excel file for detrital zircon data presented in paper

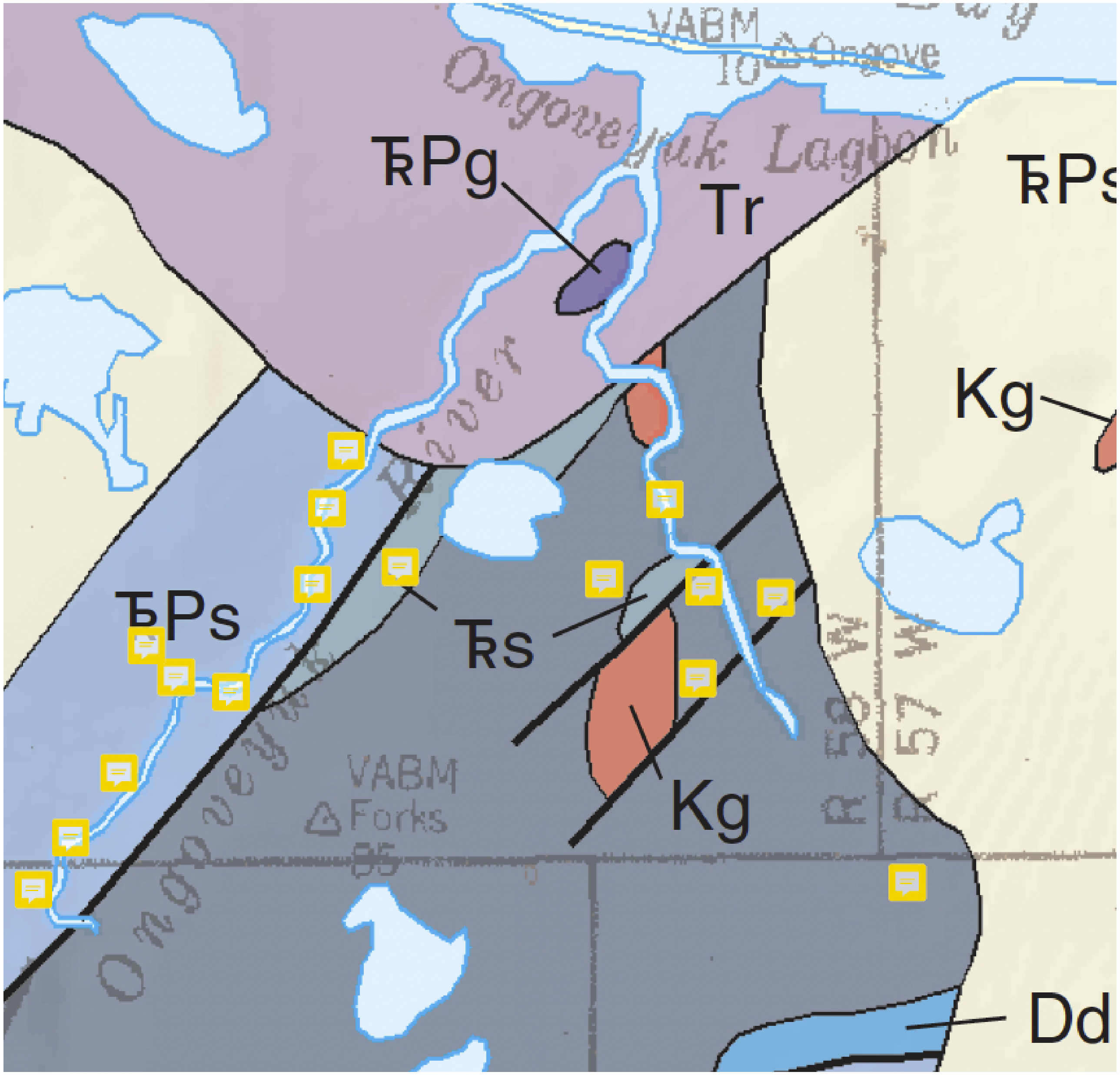
Analytical Methods

Additional details of the methods for the data collected at the Arizona Laserchron Center can be found at: https://sites.google.com/laserchron.org/arizonalaserchroncenter/home

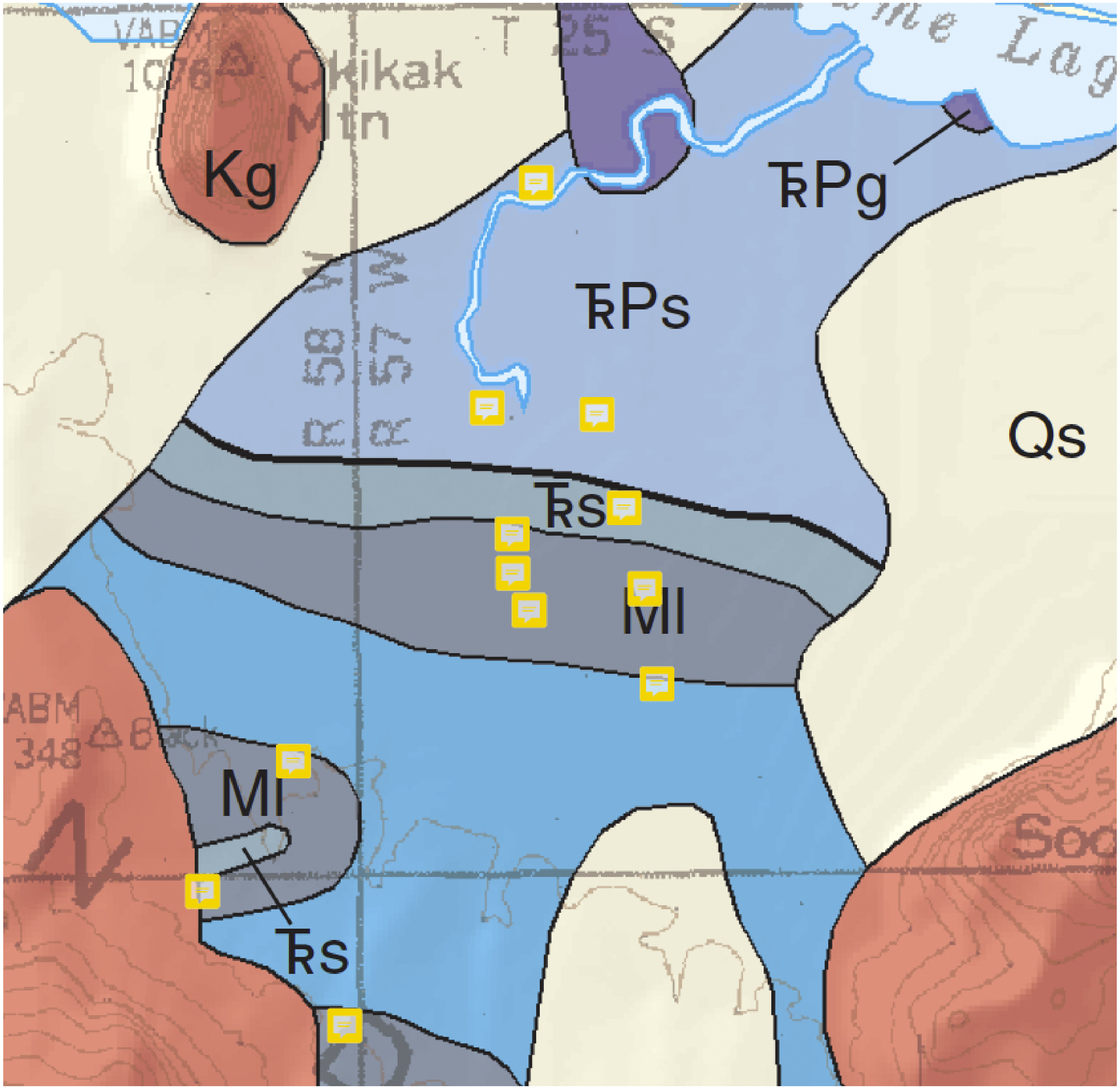
Locations of Petrography Samples: Sekinak Lagoon Region



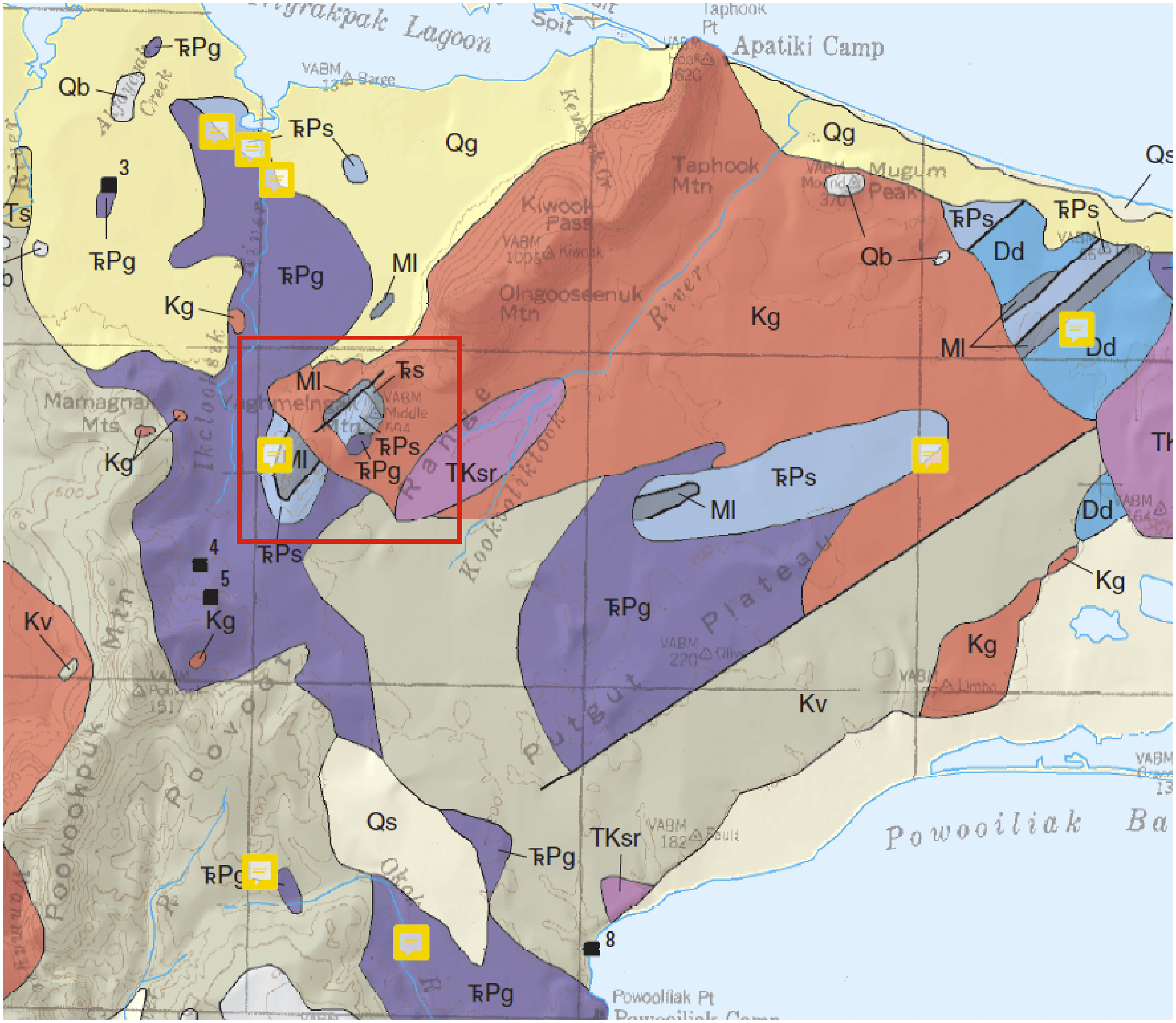
Locations of Petrography Samples: Ongoveyuk Lagoon Region



Locations of Petrography Samples: Tomname Lagoon region



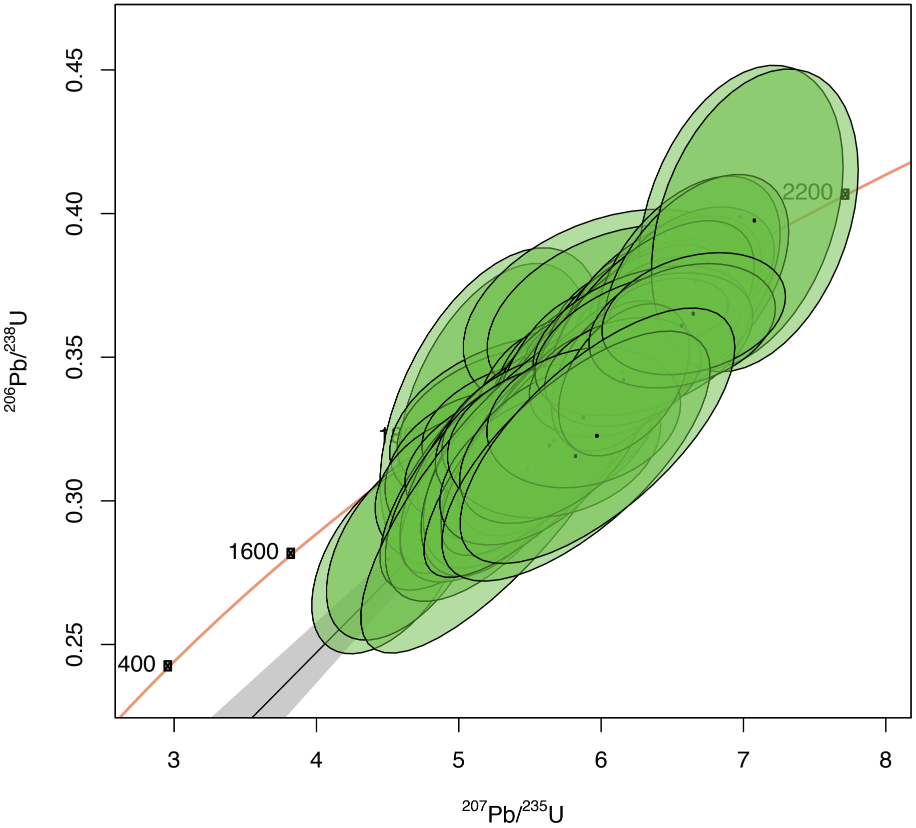
Locations of Petrography Samples: western part of the island



Detrital zircon data from sample DT-84-14/15

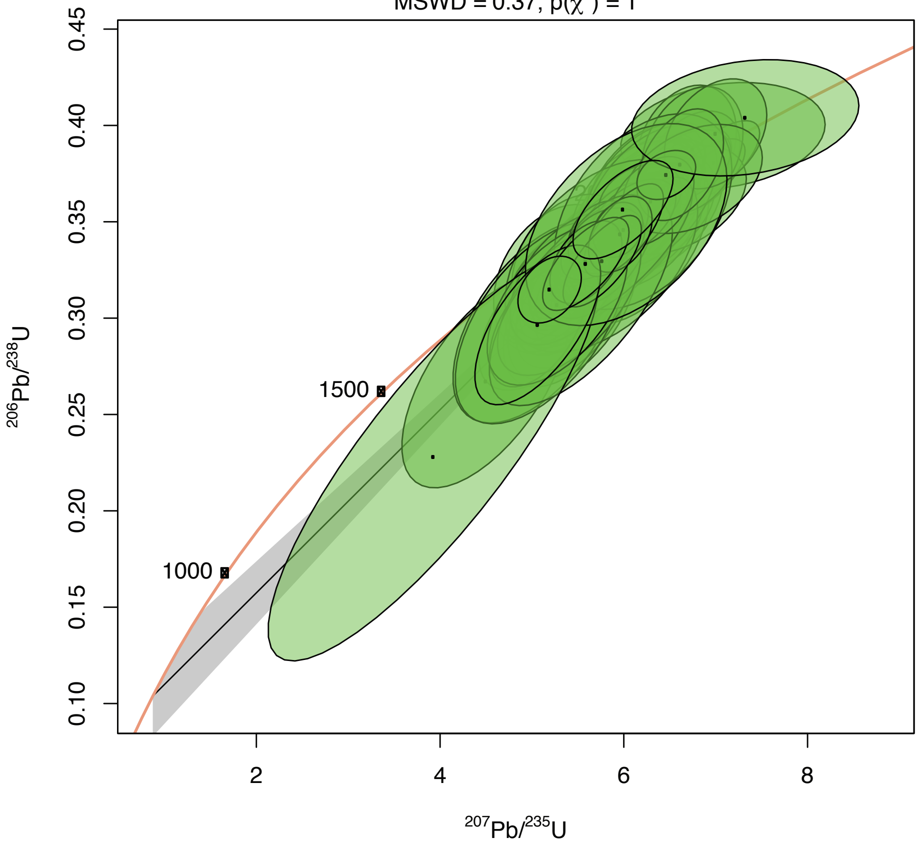
Concordia diagram of smaller grains

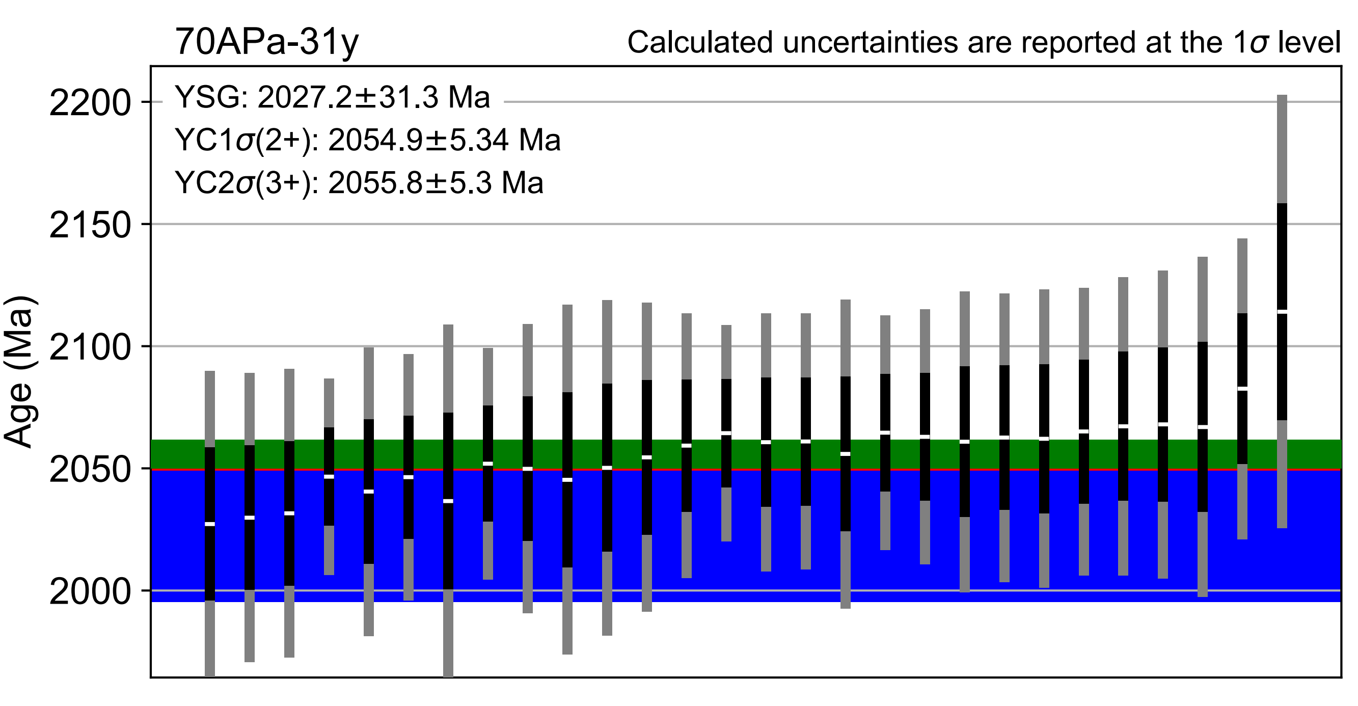
lower intercept = 475 ± 166 | 326 Ma (n=110)
upper intercept = 2051.6 ± 11.9 | 23.3 Ma
MSWD = 0.32, p(χ^2) = 1

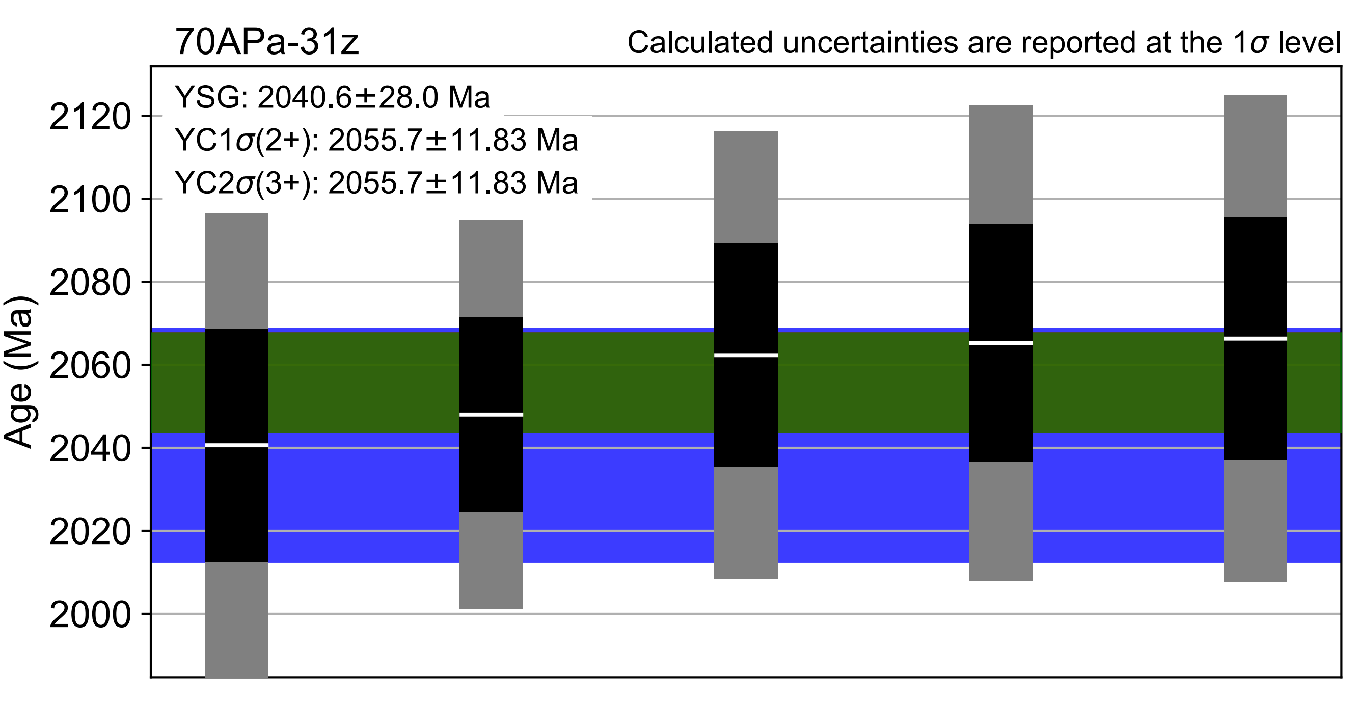


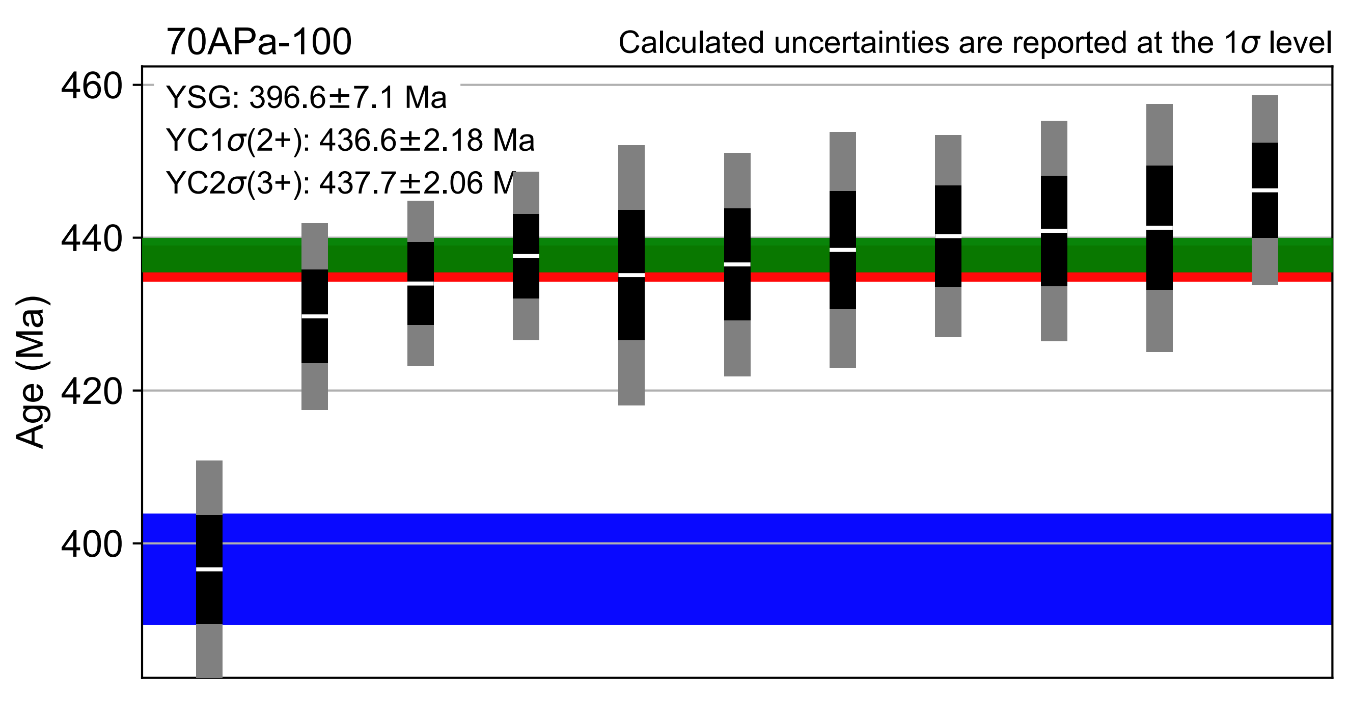
Concordia diagram of larger grains

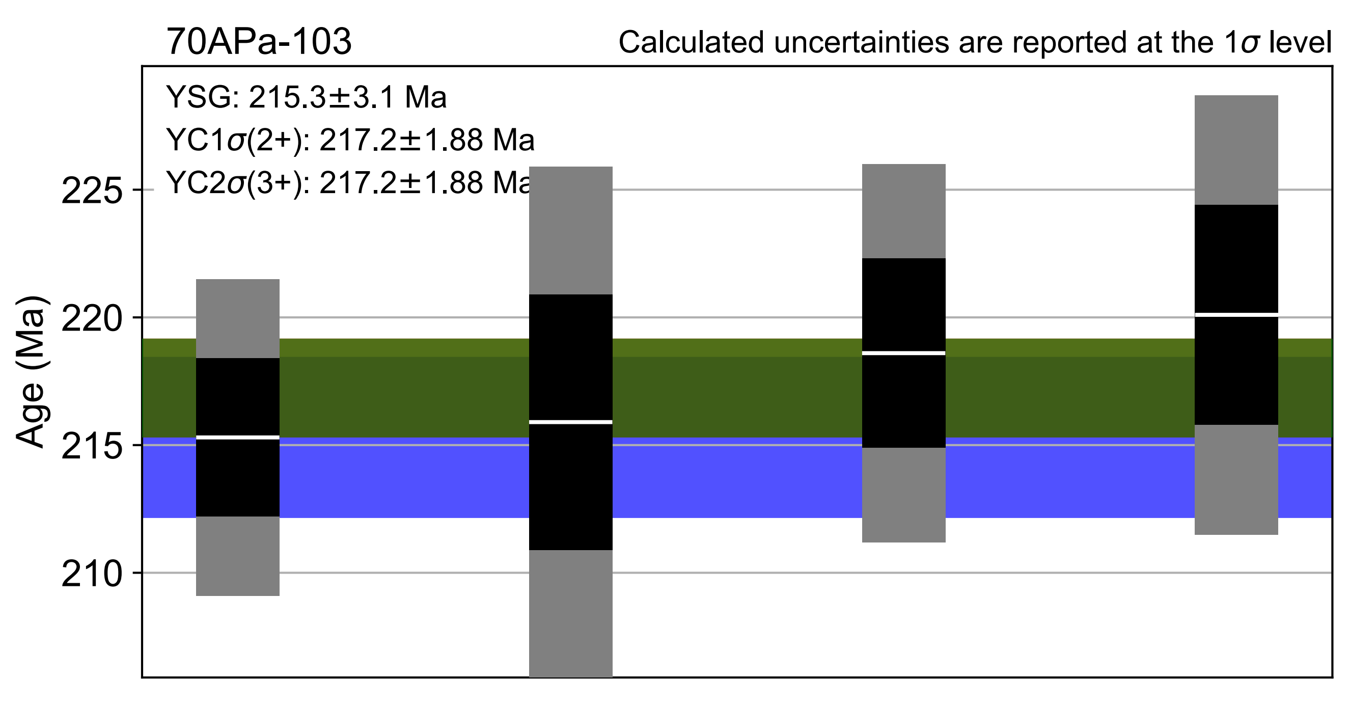
lower intercept = 637 ± 128 | 250 Ma (n=110)
upper intercept = 2061.4 ± 10.9 | 21.4 Ma
MSWD = 0.37, p(χ^2) = 1

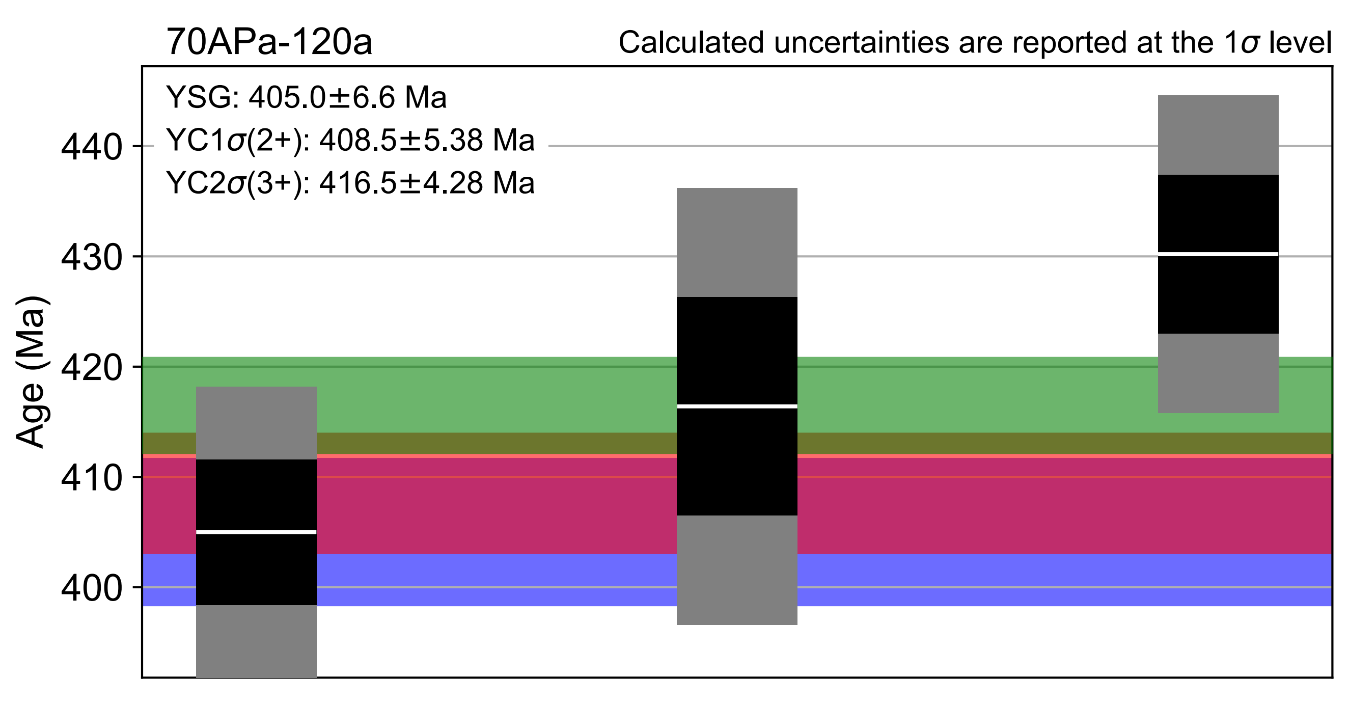


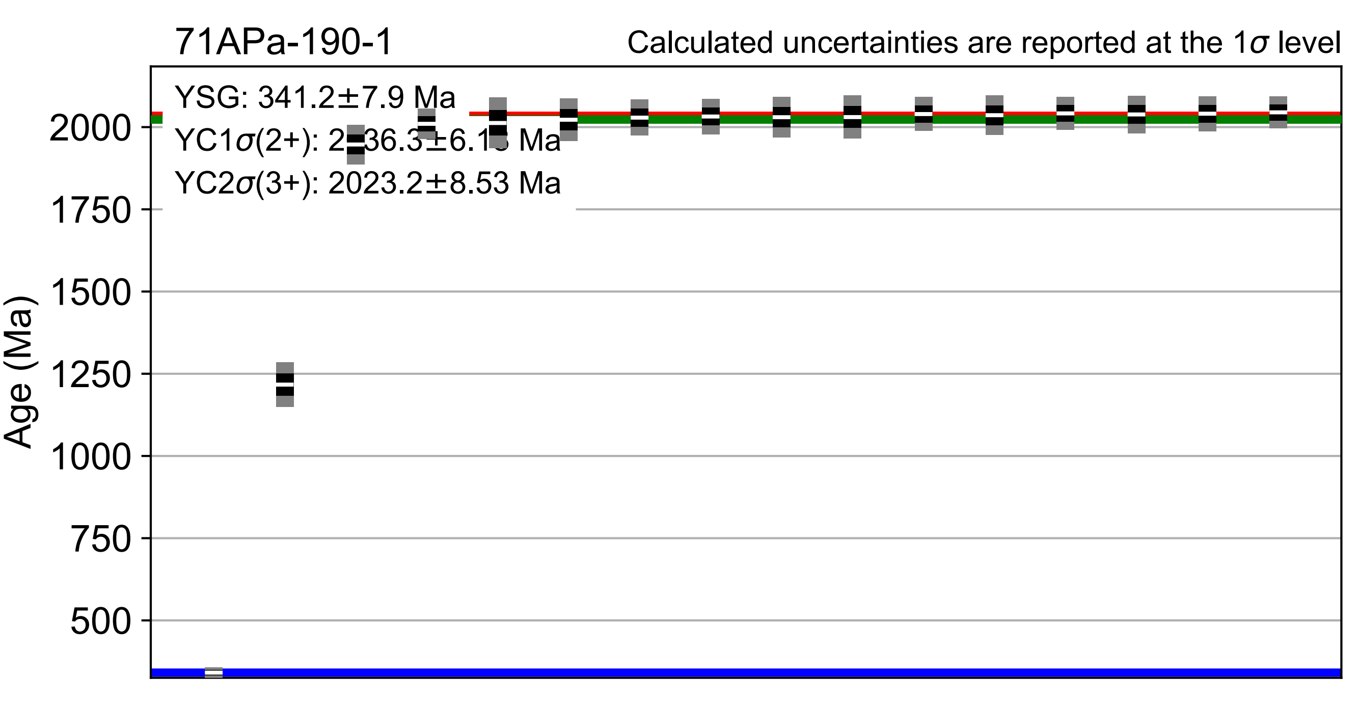

70APa-31y
Calculated uncertainties are reported at the 1σ level
YSG: 2027.2±31.3 Ma
YC1σ(2+): 2054.9±5.34 Ma
YC2σ(3+): 2055.8±5.3 Ma
Age (Ma)
2200
2150
2100
2050
2000

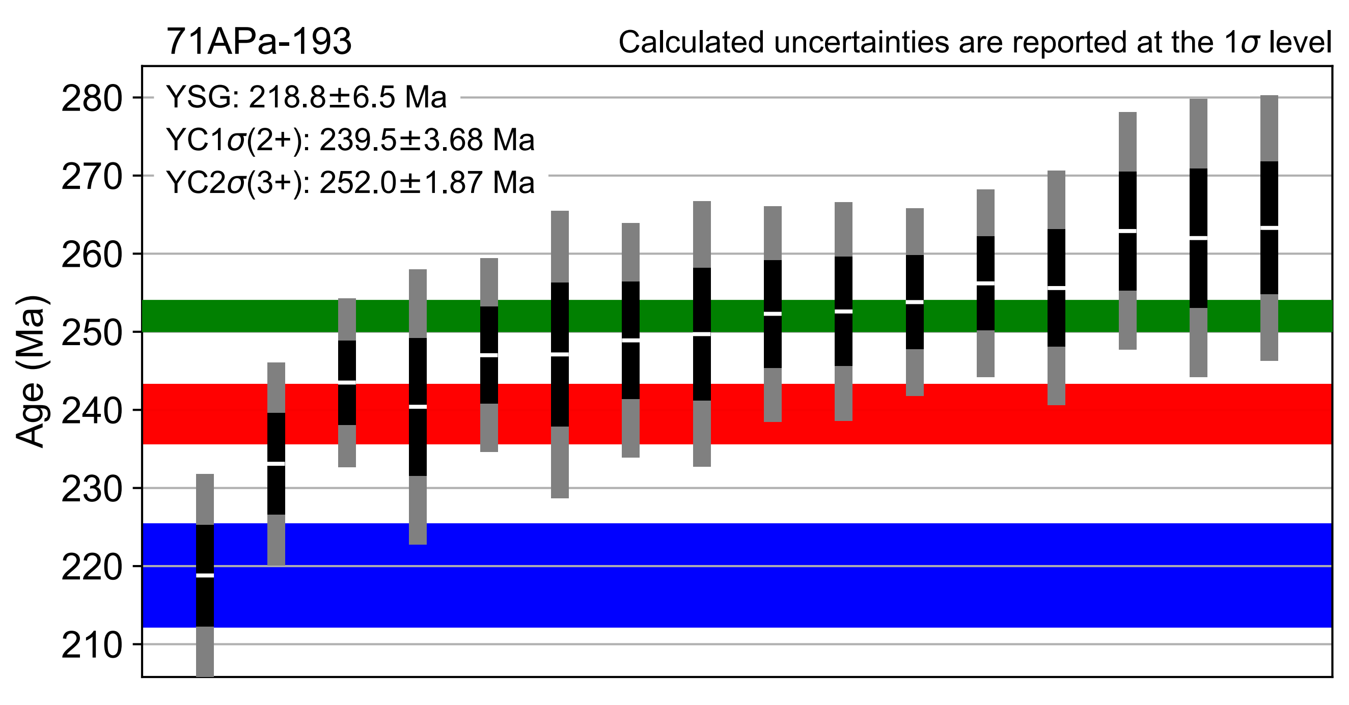

70APa-31z
Calculated uncertainties are reported at the 1σ level
YSG: 2040.6±28.0 Ma
YC1σ(2+): 2055.7±11.83 Ma
YC2σ(3+): 2055.7±11.83 Ma
Age (Ma)
2120
2100
2080
2060
2040
2020
2000

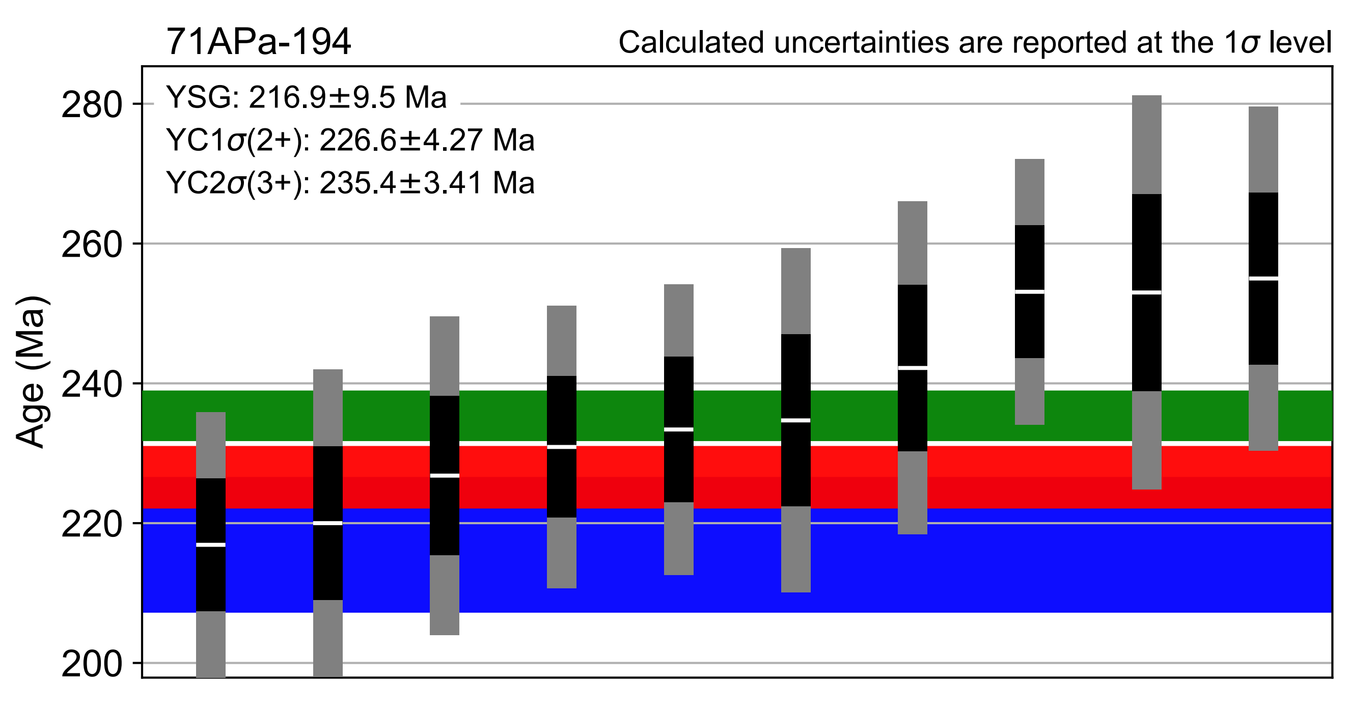

70APa-100
Calculated uncertainties are reported at the 1σ level
YSG: 396.6±7.1 Ma
YC1σ(2+): 436.6±2.18 Ma
YC2σ(3+): 437.7±2.06 Ma
Age (Ma)
460
440
420
400

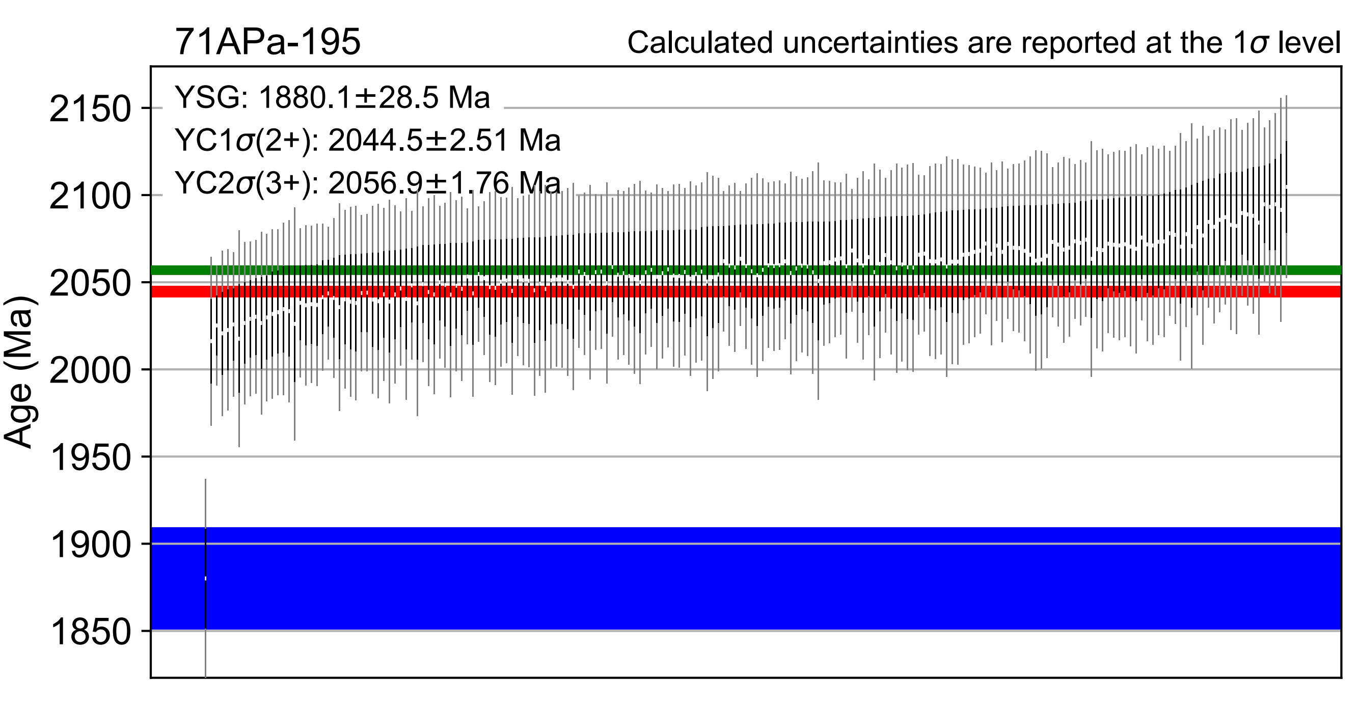

70APa-103
Calculated uncertainties are reported at the 1σ level
YSG: 215.3±3.1 Ma
YC1σ(2+): 217.2±1.88 Ma
YC2σ(3+): 217.2±1.88 Ma
Age (Ma)
225
220
215
210

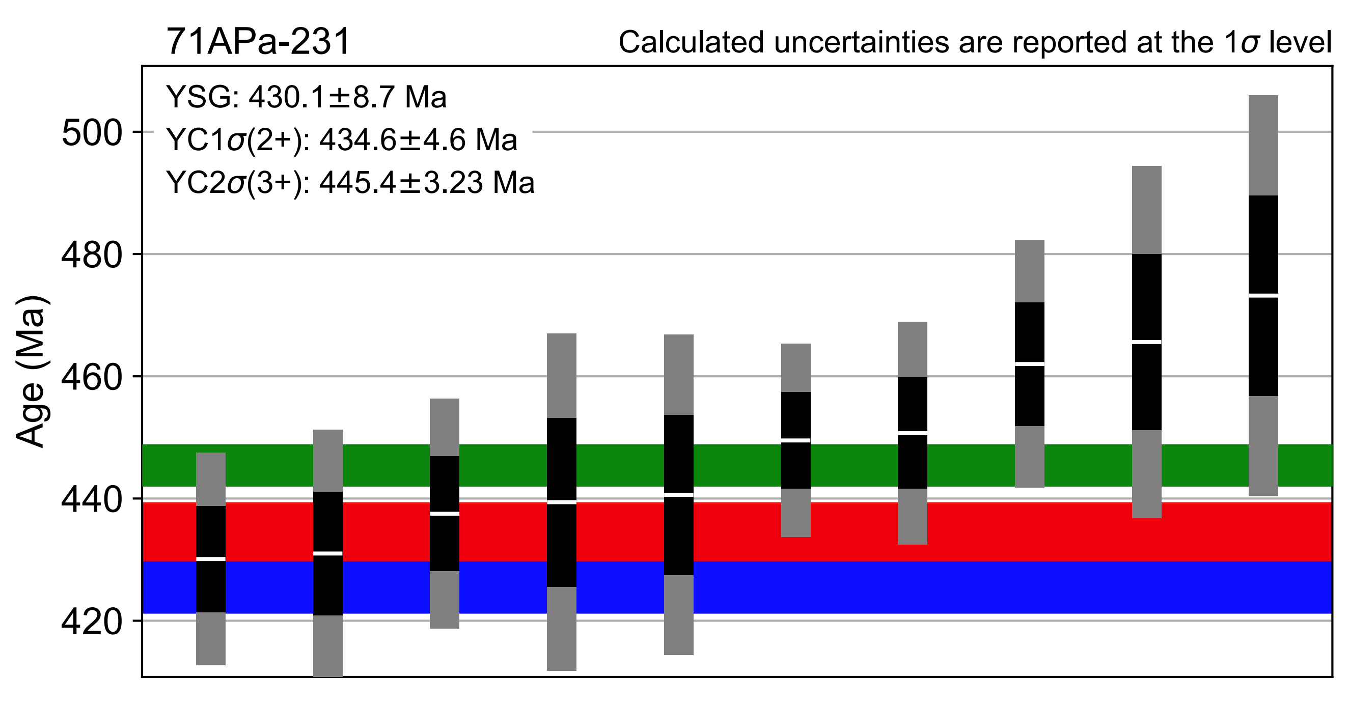

70APa-120a
Calculated uncertainties are reported at the 1σ level
YSG: 405.0±6.6 Ma
YC1σ(2+): 408.5±5.38 Ma
YC2σ(3+): 416.5±4.28 Ma
Age (Ma)
440
430
420
410
400

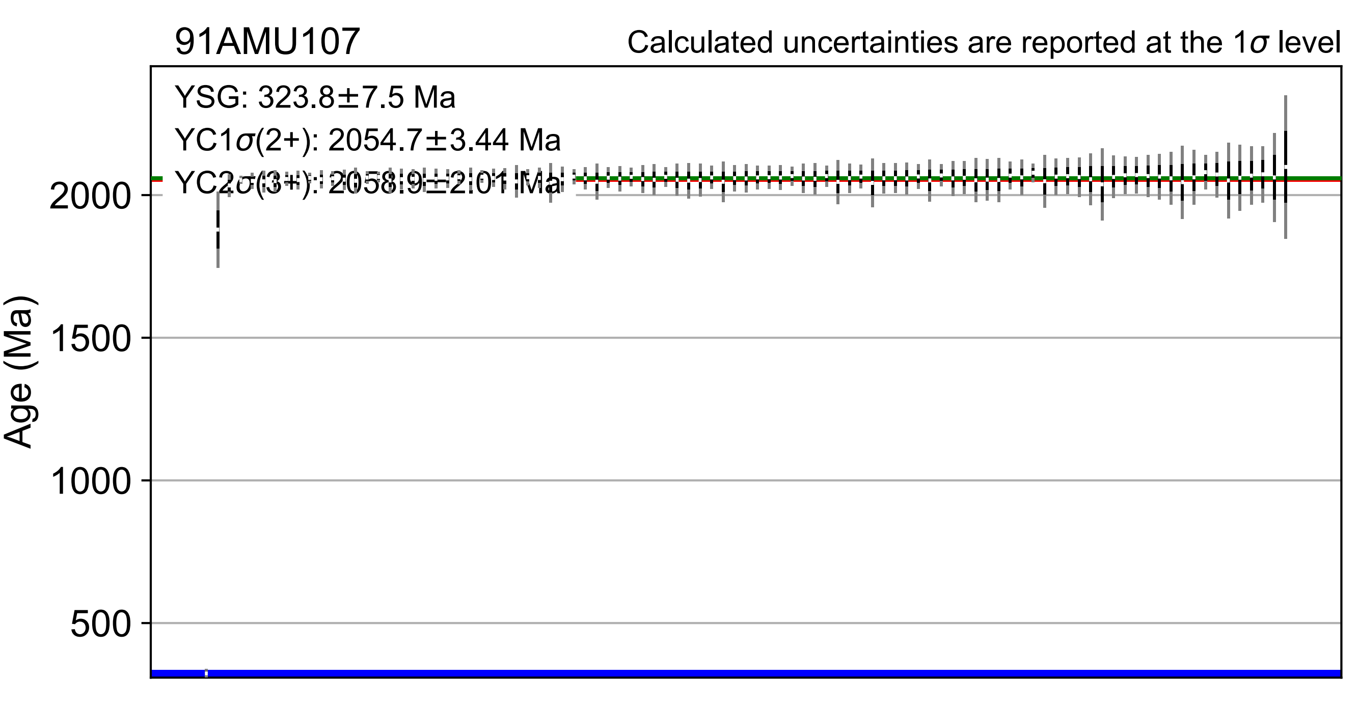

71APa-190-1
Calculated uncertainties are reported at the 1σ level
YSG: 341.2±7.9 Ma
YC1σ(2+): 2036.3±6.1[illegible] Ma
YC2σ(3+): 2023.2±8.53 Ma
Age (Ma)
2000
1750
1500
1250
1000
750
500

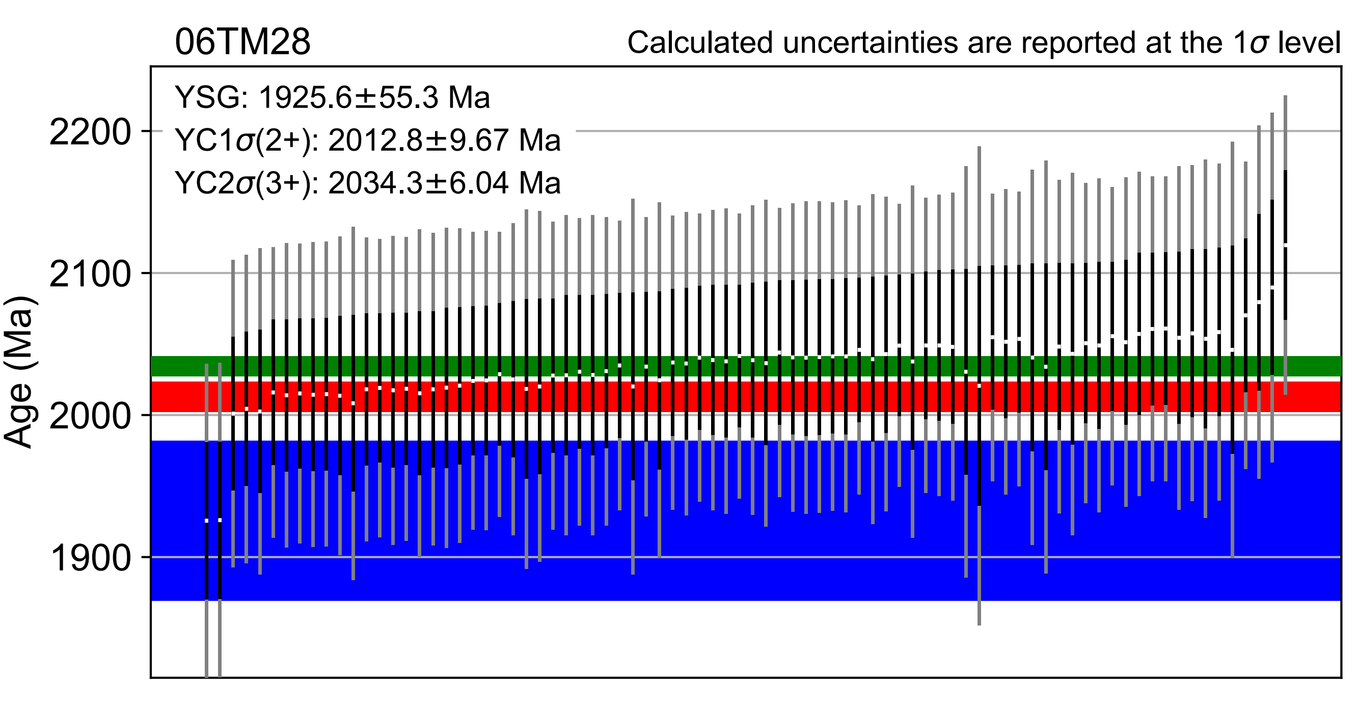

71APa-193
Calculated uncertainties are reported at the 1σ level
YSG: 218.8±6.5 Ma
YC1σ(2+): 239.5±3.68 Ma
YC2σ(3+): 252.0±1.87 Ma
Age (Ma)
280
270
260
250
240
230
220
210

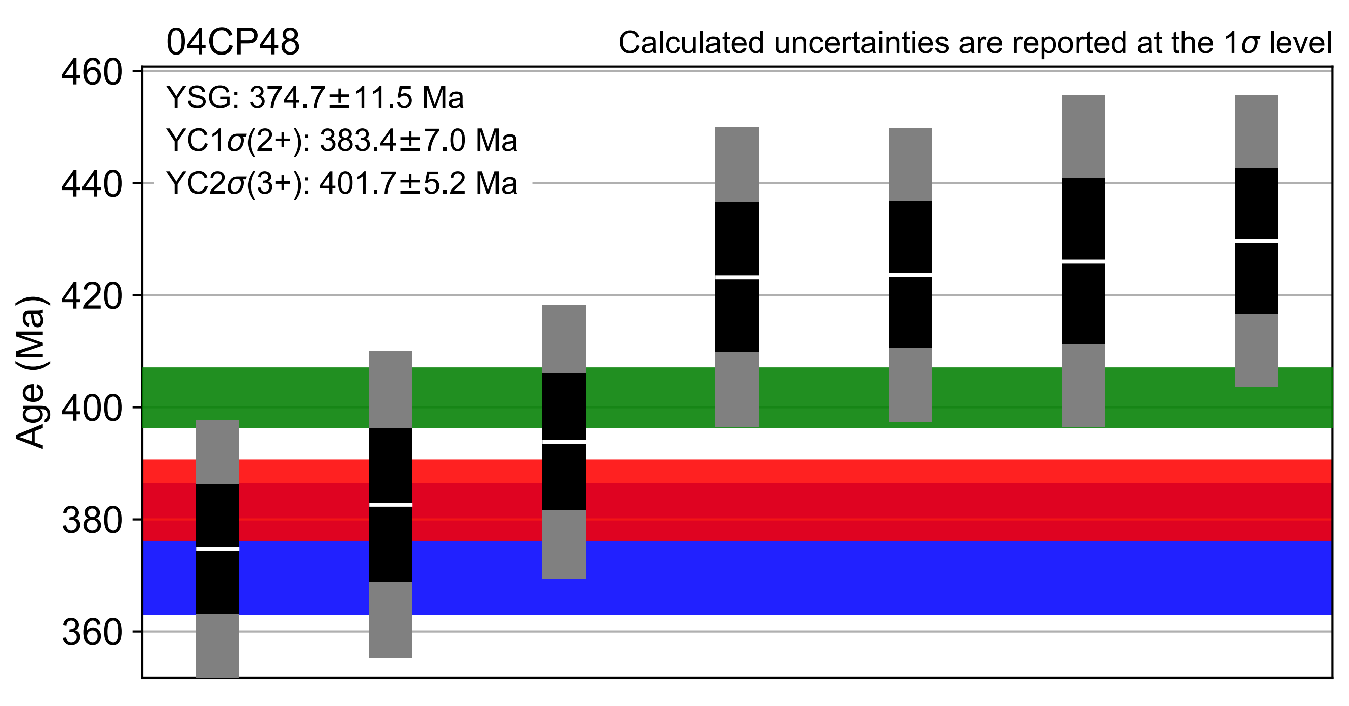

71APa-194
Calculated uncertainties are reported at the 1σ level
YSG: 216.9±9.5 Ma
YC1σ(2+): 226.6±4.27 Ma
YC2σ(3+): 235.4±3.41 Ma
Age (Ma)
280
260
240
220
200

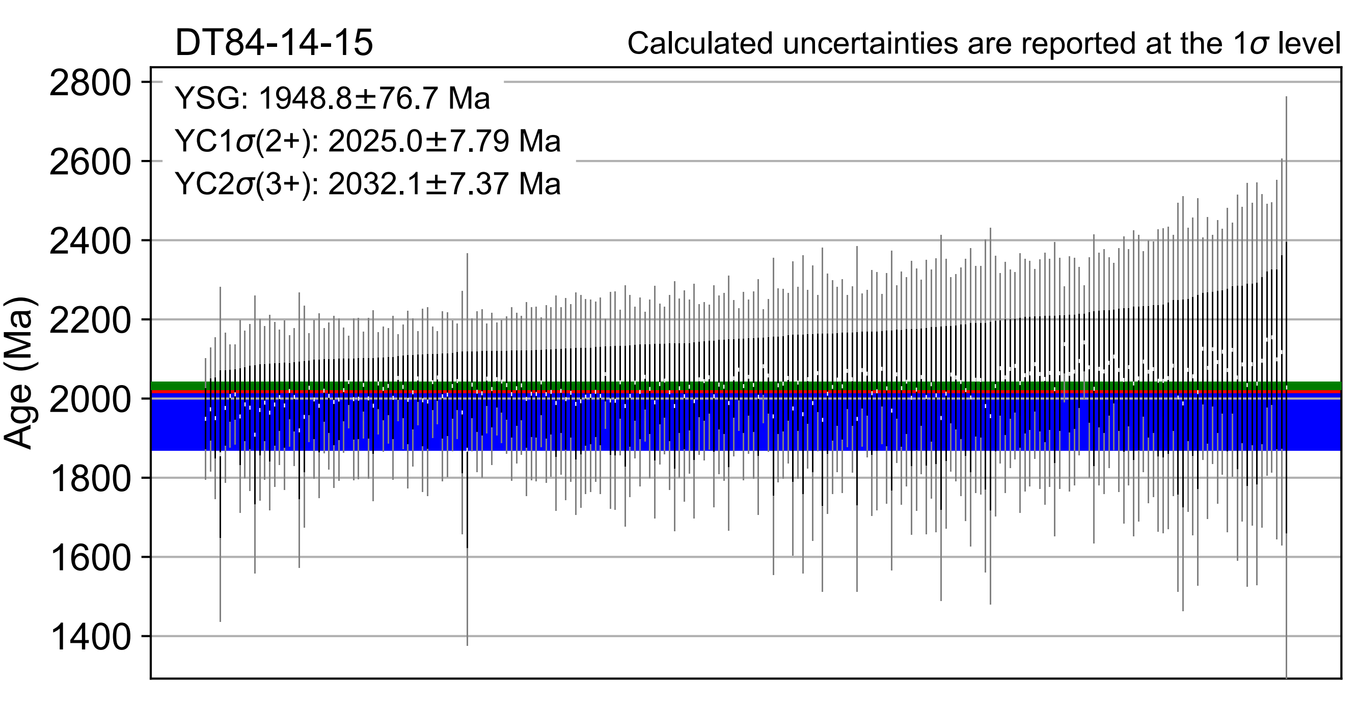

71APa-195
Calculated uncertainties are reported at the 1σ level
YSG: 1880.1±28.5 Ma
YC1σ(2+): 2044.5±2.51 Ma
YC2σ(3+): 2056.9±1.76 Ma
Age (Ma)
2150
2100
2050
2000
1950
1900
1850


71APa-231
Calculated uncertainties are reported at the 1σ level
YSG: 430.1±8.7 Ma
YC1σ(2+): 434.6±4.6 Ma
YC2σ(3+): 445.4±3.23 Ma
Age (Ma)
500
480
460
440
420


91AMU107
Calculated uncertainties are reported at the 1σ level
YSG: 323.8±7.5 Ma
YC1σ(2+): 2054.7±3.44 Ma
YC2σ(3+): 2058.9±2.01 Ma
Age (Ma)
2000
1500
1000
500


06TM28
Calculated uncertainties are reported at the 1σ level
YSG: 1925.6±55.3 Ma
YC1σ(2+): 2012.8±9.67 Ma
YC2σ(3+): 2034.3±6.04 Ma
Age (Ma)
2200
2100
2000
1900


04CP48
Calculated uncertainties are reported at the 1σ level
YSG: 374.7±11.5 Ma
YC1σ(2+): 383.4±7.0 Ma
YC2σ(3+): 401.7±5.2 Ma
Age (Ma)
460
440
420
400
380
360


DT84-14-15
Calculated uncertainties are reported at the 1σ level
YSG: 1948.8±76.7 Ma
YC1σ(2+): 2025.0±7.79 Ma
YC2σ(3+): 2032.1±7.37 Ma
Age (Ma)
2800
2600
2400
2200
2000
1800
1600
1400